Ag Ed. 539
Facilities and Curriculum Project
Richard Wolfe
Project Advisor:
Dr. Bill Kellogg
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Proposal</td>
<td>1</td>
</tr>
<tr>
<td>Project Proposal Summary</td>
<td>2</td>
</tr>
<tr>
<td>Course Outlines</td>
<td>3</td>
</tr>
<tr>
<td>Citizenship Guidelines</td>
<td>4</td>
</tr>
<tr>
<td>Safety Course Materials</td>
<td>5</td>
</tr>
<tr>
<td>Electrical Course Materials</td>
<td>6</td>
</tr>
<tr>
<td>Welding Course Materials</td>
<td>7</td>
</tr>
<tr>
<td>Ag Mechanics Tests and Finals</td>
<td>8</td>
</tr>
<tr>
<td>Small Engines 1-2 Curriculum Development</td>
<td>9</td>
</tr>
<tr>
<td>Small Engines 3-4 Curriculum Development</td>
<td>10</td>
</tr>
<tr>
<td>ROP Small Engines Tech Curriculum Development</td>
<td>11</td>
</tr>
<tr>
<td>Small Engines Course Materials</td>
<td>12</td>
</tr>
<tr>
<td>Figures 1 – 14: Davis High School</td>
<td>13</td>
</tr>
<tr>
<td>Figures 15 – 28: Johansen High School</td>
<td>14</td>
</tr>
<tr>
<td>Figures 29 – 46: Beyer High School</td>
<td>15</td>
</tr>
</tbody>
</table>
Section 1

Project Proposal
First-Year Teacher Internship Project Proposal
AGED 539

"The Proposal"

Quality Criteria Number Addressed:

Goal or Purpose of the Project: To re-establish quality Agriculture Mechanics programs in the Modesto City Schools District as it relates to facilities, equipment and curriculum at Johansen, Davis and Beyer high schools.

Specific Objectives to Accomplish (Be as detailed as possible):
- Organize a safe work environment for all students at each school.
  - Repair/replace unsafe or out of date equipment
  - Establish safe/clean areas for each piece of equipment and tools
- Identify facility strengths and promote them.
  Identify specific content areas that would best promote the facility. Certain shops in the Modesto High Schools are suited for general Ag. Mechanics, but others are better suited for the individual content areas like metal fabrication, power equipment repair or building construction.
- Revise or create curriculum that promotes student, program and facility requirements.
  The approved curriculum in the Modesto City Schools District does not include specific areas of instruction such as small engines and compact power equipment. My goal is to create a new Small Engine course to better suit the students and facilities at Beyer high school in Modesto.
- Purchase new equipment and materials that better assist student learning and complement any changes made to the Ag. Mechanics program.

Estimated number of hours on this project: 1000 hours.
Estimated expenditures ($) on this project (your costs): $0.

Proposed timeline for completion of the project:
This project will be completed by the end of spring quarter 2008.

Progress Report: How will you inform the Cal Poly faculty of your progress on a regular basis?
- I will e-mail weekly reports to my graduate advisor on my project progress.

For Office Use Only:
Project Approved By: ________________________________.
Date of Approval: ________________________________.
Quarter student will enroll in AGED 539: ________________________________.
Section 2

Project Proposal Summary
History

Over the duration of my career, I have taught at four of the seven high schools within the Modesto City Schools District. Prior to accepting my first position, I knew Modesto City Schools needed tremendous improvement in the area of agricultural mechanics instruction and facilities. My first year of teaching was an 80 percent contract split between Fred C. Beyer High School, Grace Davis High School and Modesto High School. At each of these schools, I taught Ag Mechanics 1-2 and moved between the campuses throughout the duration of the regular school day. The demanding nature of the contract, coupled with the limited equipment and onsite resources, made this first year of teaching a challenge.

My primary concern at Beyer and Davis High Schools was the safety of my students. Due to the cluttered shop environment – the facilities, prior to my arrival, had been used as storage, classroom space and working-laboratories – along with the unkempt, poorly maintained equipment, there were very real, relevant dangers that had to be addressed immediately. (Figure 1-4) Machines were missing safety guards, equipment was not properly secured, there was not sufficient, safe workspace and overall, the shops presented serious hazards if used in their existing state. (Figure 30)

Modesto High School, on the other hand, had a functional shop given its semi-active ag mechanics program. Unlike Beyer and Davis High School, I would not need to invest the same amount of time and energy into ensuring its basic functionality. However, there was substantial room for improvement to ensure that the students
received the best possible ag mechanics education with the equipment and facilities available.

During my first two years of teaching, I developed and implemented a rigorous redevelopment program to address the safety and functionality issues in the Beyer, Davis and Modesto High Schools shops, which will be discussed more in-depth later. This system was implemented a fourth time when I began teaching at Peter Johansen High School in my third year with Modesto City Schools District. The Johansen High School shop displayed evidence of severe mismanagement. (Figure 17) As the only fabrication shop on campus, it was important to refurbish the facilities and rejuvenate interest in the program.

Unlike the other three high schools, Johansen exhibited signs of student abuse and disrespect, with fist holes punched in the shop walls and tools stolen. (Figure 15) Ultimately, while there were underlying similarities between this and the other three high schools – specifically, the need to implement a structured, safe program – there was also a need for institutional oversight and greater student responsibility.

**Project Objective Review**

*Objective #1 – Organize a safe work environment for all students at each school.*

*Part A – Repair and/or replace unsafe or out-of-date equipment*

*Part B – Establish safe and clean areas for each piece of equipment and tools*
The first priority, at each of the four sites, was to immediately address the most pressing safety issues. At Davis, Beyer and Johansen High Schools I worked in partnership with my fellow ag teachers, along with site administrators and support staff, to determine the best approach for maintaining and storing non-ag mechanics and shop-related items. Before I could even make the spaces safe, I first had to get all the clutter out. (Figure 32) That process required buy-in from others, in particular my co-workers and the janitorial/custodial staff, to modify their existing habits and use the newly designated storage space. This issue existed at Modesto High School as well, but to a much lesser extent.

As you can imagine, changing behaviors is a process that takes time, vigilance and patience. The reality was, I would take two steps forward and one step back. Being at three school sites within the day meant that my co-workers only had to address my requests when I was there; when I left to go to the next campus, it became very easy to fall back into old behavior patterns – I, along my requests to not clutter the shop, became out-of-site, out-of-mind.

Throughout that first year, my goal was for the Beyer and Davis High School shops to be dedicated solely to student instruction and laboratories. (Figures 11,13) All other non-instructional equipment was relocated, new supply storage was created and I continued on my quest to pleasantly remind other ag teachers, as well as custodians, to not leave items in the shop.

Once the bulk of the non-shop-related clutter was addressed, I methodically inspected each piece of equipment and all tools at each of the four sites. I created a
system for evaluating what items were in proper, safe working order, what needed repair and which pieces should be replaced all together. Each of the schools had major, as well as multiple minor repair and replacement issues.

The size limitations of the Davis High School shop made it apparent early on that it would best be used primarily as a welding-skills facility. A limited amount of woodworking equipment was available, but using those pieces safely meant regularly rearranging the shop. As such, my first-year emphasis was on creating the safest and most efficient welding work-areas.

To accomplish this goal, I replaced the missing sections of welding curtains in each of the welding booths, repaired all the welding leads to each welder, refurbished – when possible – or replaced the oxyacetylene regulators and torch assemblies, built dividers between each welding station, and created welding station organizational systems. (Figure 12) The latter involved painting lines on the shop floor around each station, building personal protective equipment storage containers and creating PPE storage protocol for students to follow. (Figure 14)

Once the foundation was built, it also became important to have the best-possible equipment for the students. A limited number of usable welders were at Davis, and as such, seven additional units were purchased during my first year. (Figure 5) In addition, it was essential that there were more-than-sufficient numbers of PPE items, so I acquired additional welding gloves, leathers and welding helmets.
Chaos and disorganization were the greatest challenges at Beyer High School. The process of cleaning and establishing new storage facilities was a long and arduous one, as was working in partnership with teachers and custodial staff to no longer use the shop as their personal dumping ground. (Figure 29,34) Once the shop was free of all the unnecessary items, it became essential to conduct a thorough inventory of all equipment and tools. (Figure 35-37) My hunch was that the shop had adequate supplies but the issue was finding them in the many wall cabinets. It was also apparent, once the shop was clean, that I would need places for my students to sit. In all the years of piling up junk, the school had literally lost sight of the fact that there were no desks in the shop for classroom instruction. (Figure 33) I first used tables from the cafeteria and over the years, have acquired desks from the junk piles of other schools, so I now have seating for 30 students. (Figure 39)

As at Davis High School, I created a system for inspecting equipment and determining what worked, needed repair or should be replaced. At the same time, I began re-arranging the expansive shop storage units, developing a methodical system for tools, based on their type and frequency of use.

Ultimately, I was able to repair the vast majority of the major equipment and invested resources in purchasing large numbers of hand-tools, as well as more personal protective equipment.

Johansen High School was very similar in nature to Beyer High School – most of the large equipment, such as welders, were already in the shop and in reasonably
Richard Wolfe
AGED 539
Project Proposal Summary

good working order. However, hand tools were limited in number, due to – as previously stated – theft and mismanagement. (Figure 16) In addition, the shop itself was atrocious – in total disarray, with fist holes in the walls, broken cabinets with doors off the hinges, scrap material littering the facility, and a cluttered shop that did not lend itself to a safe environment. (Figure 19-20)

While I was able, eventually, to determine that the equipment that was there worked properly, I had to undertake a substantial cleaning regimen, in conjunction with the inventory system, to even physically get to the welders. Once I had cleaned and determined what was actually in the shop, I needed to purchase the most basic of hand tools to begin building storage systems.

Thousands of dollars were invested in rebuilding the most basic and fundamental aspects of the Johansen ag mechanics program. The school also possessed the least amount of personal protective equipment and subsequently, buying these items was essential before we could begin building the infrastructure needed to make the shop functional.

Out of my four high schools, Modesto High School’s shop was in the best working order upon my arrival. As with the others, it had been used as a secondary storage facility, which was addressed with my co-workers and the custodial staff. Overall, though, the equipment was still functional and an adequate supply of hand tools existed for students to safely learn. I did have to perform basic maintenance and repair work on a few welders and plasma cutters, as well as build additional instructional aides, such as electrical boards. Ultimately, my focus at Modesto High
School was on revamping curriculum and creating a classroom and laboratory program that met my students’ needs.

It is important to note that during my first three years of teaching, I dedicated countless hours to the redevelopment of each of these shops. A substantial portion of my time was used to purchase the tools and equipment necessary to ensure that my students had the safest education possible, learning on state-of-the-art machines. To ensure this was the case, I had to follow the Modesto City Schools District purchasing policy, which includes a requisite process and a bid system. All of the purchases made for the shops ran through the district’s ROP Program, which functions autonomously from the individual high schools. In evaluating the time and energy spent on this project, aside from the hours spent physically building and repairing items in the shop, I spent the next largest amount of my time navigating the layers upon layers of systems established by the district for purchasing equipment.

Ultimately, I have accomplished my intended objective to organize a safe work environment for all students at each school, which in turn has enabled me to develop stronger agricultural mechanics programs.

*Objective # 2 - Identify facility strengths and promote them.*

*Part A - Identify needs of students at individual sites*

*Part B - Identify specific content areas that would best promote facility and site strengths*
While I undertook the time-consuming process of assessing each school's programs and subsequently, taking the necessary steps to creating the safest and most effective agricultural mechanics programs, I also assessed the overall strengths of each site. At each of the four schools I considered aspects such as:

- Facilities – size, layout, existing equipment, potential for growth
- Curriculum – student demand, local industry demand of student skill set, courses historically offered, courses currently approved for instruction by Modesto City Schools District
- Resources – available funding, available allocated time at each site

Each site possessed unique strengths and challenges and working in partnership with the existing ROP Director, Rodney Owens, I created a reasonable plan for program development and implementation.

At Modesto High School I determined that one of their strengths lay in equipment construction by advanced students, particularly large pieces of agricultural equipment. Based on that school's demographics, a number of students came from farm families and as such, had a familiarity with all types of agricultural machinery. Advanced students had the well-rounded understanding of welding fundamentals and equipment production; introductory students had a general idea of how equipment was assembled but seemed to lack the core knowledge of some of the basic fundamentals needed to be better fabricators.
Richard Wolfe  
AGED 539  
Project Proposal Summary

While many of the students at Modesto High School came from an agricultural background, just as many students were from poor, urban pockets of West Modesto. They possessed limited knowledge of the fundamental skills integrated into an agricultural mechanics program. Both groups of students needed the same instruction in welding fundamentals, but for entirely different reasons.

The agricultural and business community serving Modesto High School also placed reasonable demands on our program, thus serving as the final factor in determining our programmatic focus. Businesses including Flory Industries, Dakota Ag Welding and Billington Machining supported Modesto High’s efforts and sought to hire our graduates for full-time welding employment. As a result, my efforts were in developing course work for the introductory welding class as part of the agricultural mechanics pathway.

Beyer High School’s greatest strength was the facility infrastructure, which included adequate ventilation, existing arc welding and oxyacetylene booths and a shop layout that lent itself to programmatic expansion. Even more so, though, was the limited interest in the mechanics program that ultimately allowed me to essentially start from scratch with a large facility.

At the beginning of my tenure with Beyer, I taught Ag Mechanics 1-2. Student interest was marginal at best – I saw a 50% reduction in my class after the first semester. The lack of demand was apparent and upon surveying the students, as
Richard Wolfe  
AGED 539  
Project Proposal Summary  

well as fellow ROP instructors on campus, the crux of the issue was apparent – students’ interest was in engines.

The demand problem was enhanced by direct competition; there was another metal fabrication and welding class taught by the Industrial Technology Department. The IT program generated greater interest based on the perceived difference between an ag and non-ag course. After collaborating with Gary Brenner, the campus 31-year veteran auto shop teacher, we created a complementary set of courses that met student need and led to the evolution of the Beyer program away from welding and into small engines.

The greatest strength of the Davis High School ag mechanics program was similar to Beyer High School in that it had superb facility capacity for building arc welding and oxyacetylene booths. The difference, though, was in total physical space, with the Davis shop providing roughly 1,000 square feet of space. This meant that I had to get creative in terms of making the most out of the area available and, as previously stated, why the programmatic focus was welding skill not equipment construction.

The adage from the movie Field of Dreams applies to Davis High School – “if you build it, they will come.” Student interest in the ag mechanics program was marginal, at best, my first year. As we developed the shop, added equipment and created a highly functional workspace, student demand grew. (Figure 6-14) What
Richard Wolfe  
AGED 539  
Project Proposal Summary

started my first year with two periods of Ag Mechanics 1-2, grew the following year to two periods of Ag Mechanics 1-2 and one period of Ag Mechanics 3-4.

The program’s growth was also fed, in large part, by support from Bambacino Steel, a local welding and fabrication corporation. Their willingness to recruit students into their workforce, coupled with their demand for a skilled labor pool, fueled students’ desire to learn both fundamental and advanced welding.

Lastly, Johansen High School’s shop had been created for metal fabrication. The facility had the most modern welding booths and point-source ventilation systems. (Figure 18) In addition, the school possessed quad-bench oxyacetylene welding tables, which leveraged the limited total space of the facility. (Figure 21,22)

The long-standing history of the metal shop meant student interest for the program was deeply rooted. To meet their needs, I focused my efforts on providing them with the most conducive learning environment possible. (Figure 23-28) This meant continuing the structural ag welding curriculum with state-of-the-art equipment and updated curriculum.

Objective #3 - Revise or create curriculum that promotes student, program and facility requirements.

Conducting student needs assessments at each of the schools, along with evaluating facility capacity, indicated that at Modesto High School, Davis High School and Johansen High School, maintaining the existing agricultural mechanics curriculum, with a welding emphasis, was the best course of action. However, at
Richard Wolfe  
AGED 539  
Project Proposal Summary

Beyer High School, as previously mentioned, it became necessary to develop an entirely new curriculum to satisfy student demand, leverage facility strengths and ultimately ensure program survival.

Students expressed overwhelming interest in a small engines program. As stated earlier, I worked in collaboration with Gary Brenner, auto-shop teacher, to evaluate his program's strengths and how I could differentiate the small engines curriculum. Together, Gary and I determined how best to create a complimentary system that ensured students' specific interest was met. Once Gary and I outlined our process, I then went to our Ag Advisory Committee to enlist their suggestions and support.

Based on the feedback received from committee members, I updated the curriculum for Ag Advisory Committee approval. The group approved the proposal for submission to the Modesto City Schools Board of Trustees who subsequently gave their approval of the final curriculum. This process introduced small engines into the Modesto City Schools District for the first time.

Through the District's ROP Department resources were found using Carl Perkins funding to provide 75 instructional engines, along with $15,000 for the necessary hand tools to conduct small engines lab work. (Figure 38) The process to ascertain the money to provide instructional materials was the most time consuming, taking nearly two years. (Figure 44) I began instruction without any of the equipment or textbooks, using electronic resources and borrowed equipment from Gary's shop and Merced College.
Richard Wolfe  
AGED 539  
Project Proposal Summary

During that first year of instruction I also refreshed my small engines skill set by enrolling in a course at Merced College as well as completing the Briggs and Stratton Vocational Instructor Factory Service Program in Milwaukee, Wisconsin. The latter meant access to Briggs and Stratton’s community donations program and following my participation, Beyer received donated instructional materials and teaching equipment such as carburetors, magnetos, pistons and hundreds of miscellaneous engine parts.

Student interest in the program was such that in the first year I taught two periods of Small Engines 1-2 and in the second year, three periods of Small Engines 1-2. A testament to student success in the program is that in our third year of the program’s existence, and our second year of having a Small Engines Team, we were able to win our first State Finals Competition. (Figure 45-46) On the heels of that victory, interest in the class soared and as a result, I wrote additional curriculum – following the same process as before – for an advanced Small Engines class. To date, I annually turn away 45-60 students from the small engines program.

Objective #4 - Purchase new equipment and materials that better assist student learning and complement any changes made to the program.

After I determined the most appropriate programmatic focus for each school, based on facility assessment, student interest and existing resources, to complete the process of getting all programs on track, it was important that new materials and equipment be purchased. While each campus had different equipment and
material needs, the process for ascertaining those items was the same through Modesto City Schools District.

The primary funding source for all four schools was the District’s ROP Program. To make any purchase, regardless of price, I had to assemble a materials/equipment request list that outlined type, quantity and curricular purpose for the items. Those lists were submitted to the ROP Director for review and approval. Following his approval the lists were then passed along to the District’s purchasing department, who made the decision – based on the price estimates I provided – whether or not items could be bought outright or had to undergo the District’s bid process. Approximately 20% of my requests underwent the bid process, which took an additional month for the items to be bought. In total, from start to finish, this process would take, on average, four months.

At Davis High School, with our emphasis on welding fundamentals, I purchased nine new welders: six arc welders, two MIG welders and one TIG welder. I focused our requisitions on different types and brands of welding equipment to ensure that students had the opportunity to become proficient using various makes and models. The new welders meant purchasing the materials to build and expand arc welding booths, benches, curtains and electrical capacity. (Figure 11) The latter required getting additional permission from the District to expand the shop’s electrical system, working in partnership with district electricians to meet all necessary federal and state safety standards.
All new welders meant new personal protective equipment as well, including welding helmets, gloves and leathers. I also purchased additional eye protection, ear protection and other general shop PPEs to have on hand when students worked on non-welding activities. In total, approximately $50,000 was invested in updating and retrofitting the Davis High School ag mechanics program.

Modesto High School, having the most active and modern ag mechanics program, required the least amount of investment in new equipment and materials. Having said that, I purchased two plasma cutters and had two arc welders repaired to round out the equipment availability. As with all four schools, I invested in additional PPEs to ensure more than adequate supplies were always available to students. In addition, I bought new instructional materials and textbooks. In total, $10,000 was spent to round out the Modesto High School ag mechanics program.

Given the state of the Johansen High School shop, significant investments were made to get the program on track. In terms of large equipment, I purchased a metal-cutting band saw, five bench grinders, storage lockers and high-pressure cylinder tanks. Even more money was spent to replace hundreds of hand tools, which included wrenches, hammers, handsaws, squares, and tape measures. Essentially, I had to buy all the tools needed for the day-to-day activities of an ag mechanics shop. As previously mentioned, I also purchased the materials necessary to create lockable storage for all the tools and PPEs. Overall, the ROP Program spent $30,000 to bring the Johansen High School ag mechanics program back into working order.
Of the four high schools, the greatest amount of money was spent at Beyer High School, given our transition from welding to small engines. In essence, an entirely new shop had to be created with the purchasing of 75 new engines, hand tools for a class of 30 students, textbooks and other instructional materials. The program's success meant the need, in our second year, to buy more advanced items and as such, I bought two John Deere ride-on lawn mowers and a walk-behind to teach transmission and electrical theory. (Figure 43)

I have further expanded our programmatic options by purchasing a CNC plasma cam, which allows us to fabricate brackets, covers and other small engines components. (Figure 42) I also bought a precision milling and lathing machine to aide in the fabrication of precision small engine parts. (Figure 40) Ultimately, Modesto City Schools has invested $80,000 in the creation and development of Beyer High School's small engines program. (Figure 41)

Summary

I have spent the past seven years developing agricultural mechanics programs for four high schools with the Modesto City Schools District. Each site has its strengths and challenges. Working in collaboration with my fellow ag teachers, staff, administrators, the local ag industry, students and parents, I have built and grown programs that provide students with the skills needed to become contributing members of our local workforce.
I focused my efforts on leveraging each school’s existing assets – both physical and programmatic – and connecting with students to determine their needs and interest. At the same time, I reached out to businesses within Modesto to evaluate their needs relative to employee capacity. Finally, I shared my findings with my school and district administrators, demonstrating the genuine need for revised and new ag mechanics programs.

The process has been one filled with hard work, commitment to my students and a willingness to overcome challenges. The results have been overwhelmingly rewarding and I continue to see the potential for growth within each of the programs I helped invigorate. I am confident, based on my work with the support of others, that Modesto City Schools’ high schools will have robust and relevant ag mechanics programs well into the future.
Section 3

Course Outlines
COURSE TITLE: AGRICULTURAL SMALL ENGINE TECHNOLOGY

TEXTBOOK: “Small Gas Engines”

OTHER REQUIRED MATERIALS:
- Safety glasses
- Coveralls (if desired)
- Combination lock (if you want a locker)
- 3 ring binder

MAJOR UNITS OF INSTRUCTION:
- Safety and Shop Practices
- Two and Four Stroke Theory
- Tool identification
- Horse Power and Torque
- Engine Components
- Ignition Systems
- Valve Train
- Compression and Fuel
- Precision Measuring Instruments
- Carburetion
- Service
- Individual Projects

TEACHER: Mr. Wolfe

Method of Grading and Scale:
- 100 - 90% = A
- 89 - 80% = B
- 79 - 70% = C
- 69 - 60% = D
- 59% and below = F

Extra Credit Policy:
Only given to students who have 85% of work completed and have at least a “C” average in class.

Attendance: Unexcused absences and tardies will be counted against the final grade.

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

Other:
Make-up tests will be given within three (3) days of return and only, before school or after school as per teachers schedule allows.

Students must obtain 5 FFA activity points per Semester for full FFA / participation credit
Activities will be posted.

Homework Practices
All class work will be done in class.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.

Parent Signature ____________________________ Date ____________________________
MODESTO CITY SCHOOLS
COURSE INFORMATION SHEET
Beyer High School 2003 - 2004

COURSE TITLE: Ag Mechanics 1-6 / ROP Welding

TEACHER: Mr. Wolfe

TEXTBOOK: “Ag Mechanics-Fundamental & Application”

OTHER REQUIRED MATERIALS:
Safety glasses
3 ring binder
Combination lock (suggested, not required)
Coveralls (if desired, student must have PPE)

Method of Grading and Scale:
100 - 90% = A
89 - 80% = B
79 - 70% = C
69 - 60% = D
59% and below = F

Extra Credit Policy:
Only given to students who have 85% of work completed and have at least a “C” average in class.

MAJOR UNITS OF INSTRUCTION:
Shop safety
Tool identification
Rope work
Measurement
Electricity
Plumbing
Concrete
Oxy-Acetylene welding
Arc welding
Wood working
Sheet metal work

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

GRADING/EVALUATION POLICY:

Types of Evaluation and Weighted Value:
20% - Class work
20% - Tests/quizzes
40% - Shop work/projects
10% - Notebook
10% - Participation /FFA

Other:
Make-up tests will be given within three (3) days of return and only during lunches, before school or after school as per teachers schedule allows.

Students must obtain 3 FFA activity points per Semester for full FFA / participation credit
Activities will be posted.
Homework Practices (including frequency)
All class work will be done in class.

Description of Final Examination
(Including weighted values in semester grade):
Comprehensive final to include major units of instruction and will be 10% of your grade.

Other:
Attendance is very important as we don’t do much out of class work.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.
MODESTO CITY SCHOOLS
COURSE INFORMATION SHEET
Davis High School 2004 - 2005

COURSE TITLE: Ag Mechanics 5-8
TEXTBOOK: “Ag Mechanics-Fundamental & Application”

OTHER REQUIRED MATERIALS:
Coveralls
Safety glasses
Combination lock (if you want a locker)

TEACHER: Mr. Wolfe

Method of Grading and Scale:
100 - 90% = A
89 - 80% = B
79 - 70% = C
69 - 60% = D
59% and below = F

Extra Credit Policy:
Only given to students who have 85% of work completed and have at least a “C” average in class.

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

Other:
Make-up tests will be given within three (3) days of return and only during lunches, before school or after school.

Homework Practices (including frequency)
All class work will be done in class.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.
COURSE TITLE: Ag Mechanics 1-6 / ROP Welding

TEXTBOOK: “Ag Mechanics-Fundamental & Application”

OTHER REQUIRED MATERIALS:
Safety glasses
3 ring binder
Combination lock (suggested, not required)
Coveralls (if desired, student must have PPE)

TEACHER: Mr. Wolfe

Method of Grading and Scale:
100 - 90% = A
89 - 80% = B
79 - 70% = C
69 - 60% = D
59% and below = F

Extra Credit Policy:
Only given to students who have 85% of work completed and have at least a “C” average in class.

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

Other:
Make-up tests will be given within three (3) days of return and only during lunches, before school or after school as per teachers schedule allows.

Students must obtain 3 FFA activity points per Semester for full FFA / participation credit.
Activities will be posted.

Homework Practices (including frequency)
All class work will be done in class.

Other:
Attendance is very important as we don’t do much out of class work.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.
Section 4

Citizenship Guidelines
MODESTO CITY SCHOOLS
CITIZENSHIP MARK GUIDELINES
(Board Policy 5132, Student Conduct Code, 7-12)

Course Title: Ag Mechanics 1-6 / ROP Welding          Teacher: Mr. Wolfe

1. **Attends class daily:** Four or more unexcused absences will result in an unsatisfactory citizenship mark.

2. **Comes to class on time:** Tardy number three will result in a one-hour detention. Tardy number four will result in a two-hour detention. Tardy number five or more unexcused tardies in a quarter will result in an unsatisfactory citizenship mark and a Saturday School referral. Students must be in their seats when the bell rings.

3. **Comes to class with necessary materials:** Three or more infractions per quarter will result in an unsatisfactory citizenship mark.

4. **Turns in assignments/homework/projects on time:** Academic work will count toward academic grade - not citizenship

5. **Does own work when independent work is required: does not cheat:** Any cheating episode will result in an unsatisfactory grade. It will also result in a "0" grade on the paper exam involved.

6. **Exercises reasonable care of school property:** Students are expected to treat public property as they would treat their own. A single incident resulting in damage to school property will result in an unsatisfactory citizenship mark.

7. **Shows respect for others:** My classroom is an area of free ideas and discussion. Students are expected to respect the individual rights of others. Any student who deliberately harasses another student will receive an unsatisfactory citizenship mark.

8. **Does not disrupt class: exercises good conduct:** My goal is for the students to learn as much Agriculture and Science as possible. If a student’s conduct impedes this goal, an unsatisfactory will result.

9. **Other rules unique to this classroom:** Any unsafe conduct will result in your dismissal from the class.

**EXPECTATIONS FOR OUTSTANDING CITIZENSHIP MARKS**

- Politeness and Respect towards others
- Involvement in class discussions and activities
- Willingness to do the best possible job every day and go beyond what is required
MODESTO CITY SCHOOLS
CITIZENSHIP MARK GUIDELINES
(Board Policy 5132, Student Conduct Code, 7-12)

Course Title: Small Engines
Teacher: Mr. Wolfe

1. **Attends class daily:** Three or more unexcused absences will result in an unsatisfactory citizenship mark.

2. **Comes to class on time:** Tardy number three will result in a one hour detention. Tardy number four will result in a two hour detention. Tardy number five or more unexcused tardies in a quarter will result in an unsatisfactory citizenship mark and a Saturday School referral. Students must be in their seats when the bell rings. Detentions will be served with Mr. Wolfe and will focus on labor intensive educational activities to improve the Ag Department and its facilities.

3. **Comes to class with necessary materials:** Three or more infractions per quarter will result in an unsatisfactory citizenship mark.

4. **Turns in assignments/homework/projects on time.** Academic work will count toward academic grade - not citizenship.

5. **Does own work when independent work is required; does not cheat:** Any cheating episode will result in an unsatisfactory citizenship grade. It will also result in a “0” grade on the paper exam involved.

6. **Exercises reasonable care of school property:** Students are expected to treat public property as they would treat their own. A single incident resulting in damage to school property due to reckless or careless behavior will result in an unsatisfactory citizenship mark and the possible replacement cost for the item.

7. **Shows respect for others:** My classroom is an area of free ideas and discussion. Students are expected to respect the individual rights of others. Any student who deliberately harasses another student will receive an unsatisfactory citizenship mark.

8. **Does not disrupt class; exercises good conduct:** My goal is for the students to learn as much Agriculture and Science as possible. If a student’s conduct impedes this goal, an unsatisfactory will result.

9. **Other rules unique to this classroom:** Any unsafe conduct will result in your dismissal from the class. Cursing, rough housing, or any general bad conduct will result in a one hour detention, or comparable, at the instructors discretion.

**EXPECTATIONS FOR OUTSTANDING CITIZENSHIP MARKS**
- Politeness and Respect towards others
- Involvement in class discussions and activities
- Willingness to do the best possible job every day and go beyond what is required

By signing below, I [Printed Parent Name] have read and reviewed all course expectations with my student and understand all requirements and policies of this course.

Parent/Guardian Signature ___________________ Date ________ Relationship ________
Section 5

Safety Course Materials
SAFETY RULES

General Rules
1. “Horseplay”, running and whistling will not be allowed at any time in the shop.
   Expl. These are the major sources of accidents in school shop classes.
2. Obtain the instructor’s permission before operating any power equipment for any purpose.
   Expl. The instructor’s job is to give advice on how a job can be safely done. This experience and know-how can eliminate mistakes and prevent injuries.
3. Protect your eyes at all times. Wear the appropriate type of eye protection – goggles, facemasks, welding hoods and other devices are all available for your safety. Use them.
   Expl. Eyesight is the most valuable tool a man has to work with and cannot be replaced once lost.
4. Do nothing to a power tool while it is running, except the job for which it was intended.
   Expl. Cleaning, oiling, adjusting, measuring, etc. should all be done when the machine is “OFF”.
5. Keep hands away from all moving parts of machinery. Never attempt to slow or stop the machine with your hand.
   Expl. This form of carelessness has cost many workers their fingers.
6. Before operating any machine, check to see if the guards are in position and working properly.
   Expl. Guards are required by law, and are intended to protect you from being injured.
7. Keep a firm grip on any portable tool, and do not lay it aside while it is still in motion.
   Expl. Portable tools have a habit of “running away” when they are left running on the ground. They could run into you!
8. Do not talk to a person who is operating a machine.
   Expl. Talking to the operator may distract him enough to cause an accident.
9. Stay out of the safety zones around the machines.
   Expl. Safety zones are to prevent more than one person from operating a machine. More than this number can cause confusion and an accident.
10. If you find something wrong with the tools or equipment, report it to the instructor immediately.
Expl. Damaged tools and equipment can cause damaged students. By reporting the problem, the instructor can correct it before someone is hurt.

11. When cleaning any machine, always use a brush and not your hands. Expl. Splinters of wood or metal and cuts from the tool itself are all sources of possible blood poisoning.

12. Work or stock should not be places in vises or clamps, or stored so that it sticks out into aisles. Expl. Work that interferes with normal movement is dangerous, because someone may walk into it.

13. Long pieces of wood or metal should be carried by two or more students. Expl. Long lengths of stock are awkward and could cause an accident if not handled carefully.

14. Burning clothing should be smothered quickly. Expl. If other clothing or a blanket is handy, use them to smother the fire. If not, roll on the ground or floor. NEVER RUN FOR HELP!

15. Extinguish oil flames with the correct type of extinguisher – never use water on an oil fire. Expl. Water causes oil fires to spread. Use sand, dirt, foam, C02, or a chemical fire extinguisher.

16. Oily or greasy rags must be kept in suitable containers. Expl. They often cause fires by spontaneous combustion.

17. All paints and paint supplies must be stored according to local ordinances and state law. Expl. Paints and paint thinners are flammable and must be kept safe from fires.

18. The storage of gasoline and the use of gasoline as a cleaner is strictly prohibited in the farm shop. Expl. Gasoline is extremely dangerous to use as a cleaner because it is highly flammable. Storage of gasoline in the farm shop voids insurance and it must be stored according to local ordinances and state law. Use cleaning fluid instead of gasoline.

19. Observe all fire drill instructions. Expl. When everyone knows where they are to go in case of fire, there is less confusion and less danger of injuries due to panic.

20. Never attempt to lift materials that are too heavy for your strength. Expl. Heavy lifting can cause strains that will result in permanent injury. Lift loads with your legs – not your back.
21. Never wear gloves, loose clothing, neckties or loose sleeves while operating any machine. Expl. Loose clothing may become caught in a machine and cause serious injury.

22. Do not leave oil cans on the benches or tables of machines. Expl. Many a mechanic has been poked in the face while bending over to examine work.

23. Keep all electrical cords free of oil to prevent shorts, and make sure the equipment is properly grounded before using it. Expl. Electrical shocks are always dangerous and could be fatal under wet working conditions.

24. Let the tool do the work. Never force any tool to cut more quickly than it is able. Expl. “Man-handling” equipment can ruin your work; break tools and is a hazard to the operator.

25. Always clean all the tools before replacing them in the storage cabinet. Expl. Grease and oil make tools difficult to handle and work with carefully.

26. Report all injuries to the instructor immediately. Expl. The instructor is required to report accidents and will be able to help you prevent infection.

27. Immediately clean grease or spilled oil from the floor. Expl. Falls are the number one hazard in America

**Additional / Misc.**

**GENERAL SHOP SAFETY**

1. Keep all tools and service equipment in good condition.
2. Use personal protective equipment, goggles, face shields, gloves as situation requires.
3. Keep floors and benches clean to reduce fire and tripping hazards.
4. Clean up spilled oil, grease, or fuel immediately so as to prevent possible injury.
5. Clean up as you go while doing a job, and clean the area completely after the job is done.
6. Keep trash picked up and placed in proper containers.
7. Check wiring on electrical equipment to make sure it is safe and in proper working order.
8. Don’t use tools or service equipment unless you have had adequate instruction.
10. Use tools and serve equipment for the jobs they were designed to do.
11. Know where the fire extinguishers are and the proper class of extinguisher to use on class A, B and C fires.
12. Know where the first aid kit is and how to utilize what is in it.

SPECIFIC SAFETY RULES

Grinding Machines, Portable and Stationary.

1. Workers in the shop should not closely watch another person using the grinder.
   Expl. Particles from a grinding wheel may fly quite a distance and injure curious bystanders.

2. The tool rest should be adjusted as close to the grinding wheel as is practical (about 1/8"") and never placed below the center of the wheel.
   Expl. This will prevent the work piece from becoming wedged between the tool rest and the wheel.

3. Do not use pliers, tongs or rags to hold work against the grinding wheel.
   Expl. A person cannot hold work steady enough in this manner to insure against accidents, and rags can be caught and wrapped around the shaft of the wheel.

4. As a general rule grinding should never be done on the side of a small wheel – ½" or less in width.
   Expl. This could result in undercutting the wheel and may result in the wheel shattering. When a wheel “explodes” at high speeds, particles of abrasive are thrown in all directions at high speeds.

5. All tools, with a few exceptions, should be held against the rotation of the wheel.
   Expl. The tool can not be pulled out of your hand in this manner.

6. The operator should stand to one side when the grinder starts.
   Expl. If, for any reason, the wheel shatters, the operator will be clear of flying particles.

7. Beware of flying sparks and caution fellow workers when using the portable grinder in their presence.
   Expl. Sparks can cause serious injury. Common courtesy demands that we look out for the welfare of others.
IN GENERAL

STATIONARY GRINDERS AND CHOP SAW

1. Always wear eye protection.
2. Keep shields in place.
3. Check for a defective wheel before installing a new one.
4. Use compression washers and flanges on each side of the wheel.
5. Make sure the speed of the grinder does not exceed the recommended speed for the wheel.
6. Set the tool rest slightly above center and from 1/6 to 1/8 inch from the face of the grinding wheel.
7. When starting the grinder, step to one side of the wheel.
8. Grind only on the face of the wheel.
9. Protect your fingers and hand.
10. Grind or cut with moderate pressure.
11. Secure work on chop saw table properly.

PORTABLE GRINDERS.

1. Hold the grinder firmly with both hands.
2. Before starting to grind be sure that everyone within range is wearing eye protection.
3. Let the grinder come to a complete stop before laying it down.
4. Guard against blows to the wheel, either from dropping the grinder, from other shop tools, or by engaging the wheel too quickly or abruptly to the work.

Drill Press

1. When feeding the drill by hand, the pressure should be eased when you feel the drill breaking through the work piece.
Exp. Just as the drill starts to break through, it has a tendency to “corkscrew” and feed itself more rapidly and exert more pressure than the work/holding device can stand.

2. Never leave the chuck key in the chuck.
Exp. It’s easy to forget about the chuck key, and just as easy to have it fly across the room and injure someone when the drill is turned on.

3. Use the proper cooling solution for each drilling operation. Never use lubricating oil. Use cutting oil.
Exp. Improper use of coolants may cause the drill bit to bur.

4. Use the proper speed for the drill bits and different metals.
Expl. Using high speeds with large drills makes control difficult and will burn the drill. Use the speed indicated by the manufacturer.

5. Never use a dull drill bit.
Expl. Keep the bits sharp for efficient work. They are less apt to break.

In General

DRILL PRESSES

1. Wear eye protection
2. Secure work properly
3. Prevent tool breakage
4. Use only sharp tools
5. Remove keys from chucks
6. Keep shields in place
7. Use correct speeds

PORTABLE DRILLS

1. Keep a firm grip on the drill with both hands
2. Pull the plug when changing drills.
3. Don’t lock the switch in the on position
4. Never hold small work pieces in your hand.

Table Saw

1. Always use a push - stick when ripping stock.
   Expl. This keeps your hands and fingers away from the blade.

2. Never reach over the saw to get pieces of stock - walk around.
   Expl. You could be thrown off balance and fall across the saw.

3. Cracked or warped saw blades must be discarded immediately.
   Expl. Such blades can fly apart and kill someone.

4. When cutting stock to length, either remove the ripping fence or provide clearance to prevent binding or “kick-backs”.
   Expl. It is not considered good practice to use the ripping fence as a stop block since short pieces will wedge between the saw and the fence.

5. Stay by the saw until it has coasted to a complete stop.
   Expl. Someone could lay a hand or a cord on the saw without knowing it is still turning.
6. The saw should never extend more than $\frac{1}{4}$ inch above the material when
cross-cutting or ripping.
Expl. The exposed portion of the blade is an additional hazard and it may bind
easier.

7. Certain setups must be checked by the instructor before the power is turned
on.
Expl. Such work, as dadoing, bevel work and radial cutting are especially
difficult to set up and hazardous if not done correctly.

8. The shortest piece of stock you can crosscut with the regular fences supplied
with the machine is eight inches.
Expl. Under no conditions should the hands be closer than three inches to the
saw.

9. It is dangerous for the operator or anyone else to stand in the line with the
saw blade when it is in operation.
Expl. Always stand to the left or right because the force of a piece thrown may
cause serious injury.

10. The saw should be stopped before clearing away scrapes from the table top.
Expl. It is very easy to push some of the scrapes into the saw blades. Should this
happen they are either thrown in the line of the saw or they wedge in the throat
of the saw.

11. Never pile material or tools on the saw table.
Expl. As every machine has a certain amount of vibration, materials are quite
apt to shift into the moving saw.

12. Stock should never be pulled through the saw by the operator. The operator
should never leave the operating side of the saw or switch. **Note:** If boards
are too long to handle alone, get a helper to tail off.

13. Stock should never be re-sawed without special permission of the instructor.
Expl. Re-sawing is one of the most hazardous operations on the table saw and
without special skill one will almost inevitably burn the blade.

14. Round stock should never be cut on the circular saw without special
permission of the instructor.
Expl. Round stock has a tendency to spin when cut on the circular saw. This
causes the wood to be thrown from the table or will bind itself in the saw. A V-
block jig is necessary.
15. Stock should never be lowered over the saw without special permission of the instructor.
Explanatory. There is a great tendency for the saw to kick the stock back when dropped over the saw. This operation necessitates the dispensing of all guards and is, therefore, an operation that should be done only by the instructor.

16. Stock should never be cut without the use of a guide or fence. Freestanding cutting is never permitted.
Explanatory. There is too much tendency for the blade to bind in the work and cause injury by kickback or kicking the material up into the air.

17. Always lower the saw below the table after using it.
Explanatory. It is impossible for the saw to be of any hazard whatsoever when it is below the table.

Radial Arm Saw

1. Grip the saw handle firmly with one hand and hold the stock being cut with the other hand.
Explanatory. The saw will have maximum distance from the hand holding the stock, and a firm grip prevents the saw from jumping forward as it comes in contact with stock.

2. Make a cut by pulling the saw through the stock and make sure the saw is returned to the “home” position.
Explanatory. The blade is designed to bite the wood downward against the table as it is pulled through the material being cut.

3. Wait until the blade comes to complete stop before removing pieces and ends.
Explanatory. This keeps the operators hands away from the revolving blade.

4. When ripping, push the stock against the rotation of the blade, make sure the kickback is operating and in place.
Explanatory. This prevents the stock you are ripping from being pushed back toward the operator.

5. Do not rip narrow pieces of stock with the radial arm saw.
Explanatory. There is too much danger in getting hands near the saw blade even though a push stick is used.

Portable Hand Circular and Saber Saw

1. Use parallel planks or boards to protect the electric cord lying on the ground or floor.
Expl. Sharp wheels from a cart or wheelbarrow may cut the cord causing a short.

2. Always disconnect the saw before changing blades or making adjustments. Expl. The tool cannot be operated without power.

**Power Spray Painting and Air Lines.**

1. Air pressure for spray painting should be kept below 50 lbs. per square inch. (Preferably 30 – 35 lbs per square inch) Expl. Over 50 lbs. per square inch is dangerous, as equipment is not made to withstand such high pressures. Use specified pressure for material and equipment.

2. Never look into the end of a spray gun or air nozzle while it is connected to the air line. Expl. If the valve is released liquid or air will be blown into the eyes and may cause permanent injury.

3. Keep all fire away from painting area. Expl. Be especially careful with lacquers and lacquer thinners, as they are highly flammable. An exhaust fan should be provided for the painting area.

4. Always use a respirator while spray painting. Expl. Inhaling paint spray from the air may injure the operator’s health.

5. Always place all rags having paint or linseed oil on them in a metal can provided for that purpose. Expl. Such rags are likely to cause a spontaneous fire. Organic oils (ie. Linseed oil) are more likely to spontaneously combust.

6. Never blow air from a nozzle around one’s head or directly on other parts of a person’s body. Expl. The air pressure is usually over 100 lbs. per square inch and will tear and puff the skin. Eardrums are easily broken by this high pressure if blown around the head.

**Electric Arc Welding**

1. Never watch the arc or the arc reflection of an electric welder. Expl. The ultra-violet rays which are produced by the arc will cause a sever eye burn.
2. Always protect the hands with gloves and the body with proper clothing when arc welding. Button up shirt collar and roll down sleeves. Expl. Severe burns will result from the exposure to the rays or from sparks.

3. Warn persons around you to protect their eyes before you start to weld. Use curtains or partitions to shield others. Expl. Protect them from arc “flashes”.

4. Do not lay the electrode holder on your work. Expl. It may short out causing a flash.

5. Either wear pants (or coveralls) without cuffs or turned down to prevent hot metal or sparks from lodging in cuffs or in shoes. Expl. Sparks may ignite clothing or may drop into shoes causing burns.

6. Do not weld metal directly on concrete floor. Expl. Heat from the arc will cause the moisture in the concrete to change to steam blowing out small pieces of the concrete floor.

7. Do not attempt to weld any closed container. Expl. It may have a combustible material in it, traces of which may volatilize and explode.

8. When changing electrodes, be sure you are insulated from your work. Expl. To prevent electric shock.

9. Do not weld near flammable materials such as oil, grease, rags, etc. Expl. Hot sparks or metal may cause a fire.

10. Make sure there is adequate ventilation when welding galvanized metal. Expl. Fumes given off may make you sick.

Oxy-Acetylene Equipment

1. Oxygen and acetylene cylinders must be fastened securely to a welding truck, cylinder rack or the wall while in use. Expl. The cylinders are easy to knock over causing a leaky seam or faulty valve or broken toes.

2. Never use oil or grease on any welding fitting or handle oxygen cylinder or apparatus with oily hands or gloves. Expl. This will keep dirt away from the fitting and will protect the valves and threads.

3. Always keep caps securely screwed on all tanks not in use.
Expl. This will keep dirt away from the fitting and will protect the valves and threads.

4. Before the welding torch, hose, regulators or cylinders are used, be very certain they are all free of dirt.
   Expl. Obstructions of any kind are dangerous. If the dirt is of an oily nature, a violent explosion may occur. Cylinders should be "cracked" in order to free the fitting of dirt before attaching regulators. This is done by opening the tank valve for an instant.

5. Always open cylinder valves slowly and stand to one side.
   Expl. If high pressure is suddenly released, it is liable to damage the regulator and pressure gages and blow them out into your face.

6. Never put your hands on welding fittings (threads).
   Expl. Often times there is enough oil present in the skin to be hazardous.

7. Use the proper wrench to tighten or loosen all fittings.
   Expl. The fittings are made of brass and therefore, are comparatively soft.

8. Oxygen or acetylene should not be used as a pressure supply (to blow out oil lines, gasoline lines, gas tanks, etc.)
   Expl. Both these gasses may be explosive under conditions for which they are not intended.

9. Use soapy water to test for leaks around cylinder valves or fitting of equipment. Do not use a match or other flame.
   Expl. Small bubbles will expose the leaks; there will be less chance for a fire.

10. Keep the hose free from the flame or sparks. Do not allow pieces of metal to fall on it or let people walk on it.
    Expl. An injured hose presents a dangerous situation. If a hose develops a leak, do not use it. Do not attempt to repair a leaky hose with tape.

11. Be careful not to direct the flame against either cylinder.
    Expl. An explosion right beside you may be fatal.

12. Never store cylinders near a stove, forge or other source of heat.
    Expl. Excessive heat will increase the temperature and pressure within the cylinders and cause an explosion.

13. Never lay down or hang up a lighted torch.
    Expl. The hose may be kicked and change the direction of the flame.

14. Always be sure that the regulator screw is in a fully released position before turning on the tank valves.
Expl. The sudden force of a high pressure may seriously damage or break a regulator.

15. No container which contains or has contained flammable such as thinners, cleaners or solvents should be present in the vicinity where welding is being done.
Expl. Sparks may fly many feet and set fire to anything that will burn.

16. The welding area should be well ventilated.
Expl. This is especially important when welding galvanized steel or aluminum. The ensuing fumes are very toxic and can make you quite ill.

17. Do not cut material in such a position that sparks or cut out sections will fall on one's legs, feet or the hoses or tanks.
Expl. Injury to the operator or damage to equipment may result.

18. Always use a friction lighter to light the welding torch or cutting torch.
Expl. Do not use a match as you may be burned when the gas is ignited.

19. Always keep the space between the operator and cylinders clear.
Expl. In cases of emergency it is important to be able to turn off tank valves quickly.

20. Do not gesture or point carelessly with a lit welding torch.
Expl. You may burn yourself, another worker or your equipment.

21. Always turn off the acetylene torch valve first; then turn off the oxygen valve.
Expl. The fuel supply (acetylene) is cut off, and the oxygen flushes out the mixing chamber. This will eliminate the popping when shutting down a torch.

**ARC WELDING**

1. Wear a helmet with a number 10 shade.
2. Protect yourself from burns.
3. Protect others (cover)
4. Prevent fires and explosions.
5. Provide ventilation.
6. Protect your eyes and face at all times when chipping slag.
7. Guard against severe shock or electrocution.
8. Keep the equipment in good condition
9. Treat eye and skin burn promptly
10. Weld outside if possible.
IN GENERAL
OXY – ACETYLENE WELDING

1. Safeguard the fuel supply
2. Prevent equipment fires.
3. Wear goggles (number 4 lens generally)
4. Be sure the regulator are closed before opening the cylinder valves.
5. Prevent burns.

Cold Metal Work

1. Use sharp tools in cutting cold metal
   Expl. Rough jagged edges result when dull tools are used.

2. Always fasten pipe or mild steel securely before starting work.
   Expl. Slipping may result in injury to operator, equipment or stock.

3. Always remove burrs on pipe or mild steel (and rough or pointed edges on sheet metal) with grinder, reamer or file.
   Expl. Sharp edges may cause a serious injury.

Hand Tools

1. Do not use wrenches which are badly worn, chewed or sprung.
   Expl. Wrenches in such condition are likely to slip and smash knuckles.

2. Adjustable wrenches should always be used with the adjustable jaw facing the direction of the pull.
   Expl. Proper use of adjustable wrenches reduces slipping.

3. Never carry tools with sharp edges in the pocket.
   Expl. They can be dangerous to others as well as to yourself.

4. Cut away from yourself when using sharp hand tools.
   Expl. There is less tendency to cut yourself should the tool slip.

5. Never use a file without a handle.
   Expl. The tang may go through your hand if you slip.

6. “Mushroom” ends on chisels and other tools must be ground off.
   Expl. Chips from the mushroom ends may fly off and injure someone.
7. Keep the hands behind the screwdriver point. 
Expl. The screwdriver may slip and cut the operator’s hand.

8. No hammers with loose handles or chipped faces should be permitted in the shop. 
Expl. Loose heads often come off when the danger is greatest. More chops readily come off of a hammer head already marred or chipped.

HAND TOOLS Cont....

A. Hand tools in general
1. Select the right tool for the job
2. Use it in the right way
3. Keep it in good condition
4. Store it safely when it is not in use.

B. Chisels and punches
1. Don’t use chisels and punches for prying
2. Select the proper sized tool for the job

2. Files
a. Always use a handle on all files

3. Knives
a. Keep blades sharp
b. Cut away from the body
c. Never pry with a knife
d. Store knives safely

4. Screwdrivers
a. Use screwdrivers only for driving screws
b. Reshape screwdrivers properly
c. Don’t hold parts in your hand
d. Use screwdrivers with insulation handles for electrical work

5. Hammers
a. Wear eye protection
b. Check the fit and condition of the handle
c. Select the right size for the job
d. Grip the handle close to the end
e. Prevent injuries to others
f. Keep your hammer face parallel with your work

6. Wrenches
a. Use wrenches that fit
b. Don’t extend the length of a wrench  
c. Pull on the wrench  
d. Replace damaged wrenches  
e. Keep the open jaws of adjustable wrenches facing you  
f. Use pipe wrenches only for pipe or round stock  

7. Pliers and Cutters  
a. Do not use pliers as a wrench  
b. Guard against eye injuries when cutting with pliers or cutters  
c. Wear eye protection when cutting with bolt cutters  

CHEMICALS AND CLEANING EQUIPMENT  

1. Never clean with gasoline  

2. Follow the manufacturers instructions on cleaning agents.  

3. Work in well ventilated areas when cleaning.  

4. Keep solvents away from the sparks and flame.  

5. Never heat solvents or mix solvent  

6. Wipe up spills promptly.  

7. Store solvents in their original containers or in sealed metal cans properly labeled.  

8. If a commercially made parts washer is used, close the lid when you are finished cleaning.  

9. Never destroy the fusible link that closes the lid automatically on a parts washer in case of fire.  

10. Protect your skin and eyes when working with strong, concentrated cleaning solutions by wearing face shield and rubber gloves.  

11. Avoid accidental poisoning, wash your hands and arms before eating.  

12. If a solvent is splashed in your eyes, flush them thoroughly with water keeping your eyelids open.  

13. Do not rinse dirt into solvent tank, only oily and greasy parts may be washed in the solvent tank.  

14. Clean off equipment before bringing it into the shop.
Fire Extinguishers

1. Use appropriate fire extinguisher for the appropriate fire.
2. Class A extinguishers are used on fires involving ordinary combustibles, such as wood, cloth, and paper.
3. Class B extinguishers are used on fires involving liquids, greases, and gases.
4. Class C extinguishers are used on fires involving energized electrical equipment.
5. Class D extinguishers are used on fires involving metals such as magnesium, titanium, zirconium, sodium, and potassium.
6. Class K extinguishers are used on fires involving liquid cooking medias like fat, lard and oils.
Section 6

Electrical Course Materials
Multiple Choice (circle the correct answer) 1pt. Each

1. The passing of __________________ from atom to atom is what makes electricity flow.
   A. Protons                     C. Neutrons
   B. Nucleus                    D. Electrons

2. An example of a good conductor is:
   A. Plastic                    C. Paint
   B. Copper                     D. Rusted Metal

3. Electrical flow is measured in:
   A. Amps                       C. Watts
   B. Volts                      D. Ohm’s

4. Electrical pressure is measured in:
   A. Amps                       C. Watts
   B. Volts                      D. Ohm’s

5. Electrical resistance is measured in:
   A. Amps                       C. Watts
   B. Volts                      D. Ohm’s

6. Electrical work is measured in:
   A. Amps                       C. Watts
   B. Volts                      D. Ohm’s

7. Which of the following is the correct equation?
   A. W = VxA
   B. V = WxA
   C. A = VxW
   D. V = AxW

8. The abbreviation N.E.C. stands for:
   A. National Electrical Carrier
   B. Natural Electrical Conductor
   C. National Electrical Code
   D. National Energy Circuit

9. The most common method of producing electrical energy in large quantities to serve the home, farm, and business is:
   A. Light                       C. Chemical
   B. Pressure                    D. Magnetic

10. A G.F.C.I is designed to protect against __________________.
    A. Short Circuits              C. Faults
    B. Circuit Overload           D. High Voltage
True or False 1pt. Each

11. T  F  The neutral wire should be connected to the gold colored terminals.
12. T  F  The neutral wire should run from the source, directly to the load.
13. T  F  15 Milliamps can be fatal.
14. T  F  No. 12 is rated for 10-ampere circuits.
15. T  F  The higher the AWG number, the larger the wire size.
16. T  F  Electrical Cable is made to be ran in conduit.
17. T  F  12-2 w/g cable has 4 wires inside the sheath (ex. Romex)
18 T  F  Fuses are designed to be used again after a circuit overload.
19. T  F  High voltage and low amps will definitely kill you.
20. T  F  Aluminum has more electrical resistance than Copper.

Calculations (show all of your work!!) 2pts. Each

21. How many Amps is there with 20 Watts and 10 Volts

22. How many Volts is there with 20 Watts and 10 Amps?

23. How many Watts is there with 5 Volts and 10 Amps?

24. How many kWh will you use if you use 275 Watts for 2 hours?  
(Hint: 1kWh = using 1000w for 1 hour)

25. How much will your electric bill be if you used 3000 watts for 10 hours and the cost was 10 cents / kWh.
Electrical Circuit Wiring

Directions: Wire this circuit to allow the receptacle to be hot all the time and the switch to control the light. Draw the wire connections to the correct terminal or wire. Each correct connection is worth 2pts, 20pts total.

Total Score On Wiring _____
Electricity Unit Project

Directions: Wire the circuit as diagram shows.

Specifications: The duplex receptacle will be HOT all the time
The switch will control the light.

SCORE CARD
1. Switch, light, and duplex receptacle in correct location. ____ (10)
2. Cable in correct condition. ____ (10)
3. Wires stripped to proper depth. ____ (10)
4. Wires around terminals correctly. ____ (10)
5. Wire nuts properly connected. ____ (10)
6. Properly grounded ____ (10)
7. Circuit wired properly ____ (30)
8. Craftsmanship ____ (10)

Total ____ (100)
Section 7

Welding Course Materials
Welding Unit Notes

Definition:
Welding = to permanently join together metallic parts by heating to their melting point, and allowing the metals to flow together.

Processes
1. OXYACETYLENE WELDING
2. SHEILDDED METAL ARC WELDING (SMAW)

OXYACETYLENE EQUIPMENT AND SAFETY

OXYACETYLENE WELDING: Mixing oxygen and acetylene gases together to make a highly flammable mixture in order to produce a flame hot enough to melt steel.

Gas Cylinders

1. Oxygen Cylinders
   a) Oxygen is not a flammable or toxic gas.
   b) Oxygen readily supports combustion.
   c) Common size oxygen cylinders hold about 244 cu. ft. of oxygen at 2,000 to 2,600 lbs. per square inch (psi) pressure.
   d) Because of their high pressure, they can explode if dropped, struck, heated, or arced with an arc welder.
   e) The cylinder valve, which allows the flow of gas from the cylinder to the regulator, is protected when not in use with a threaded cylinder cap.
   f) The cylinder cap has two holes on its side designed to cause
a cylinder with a broken-off valve to spin instead of take off like a missile from the jet effect of the escaping, high pressure gas.

2. Acetylene Cylinders

a) Acetylene is a colorless gas (a compound of carbon and hydrogen).

Cylinder picture

b) Acetylene has a pungent smell due largely to impurities.

c) Acetylene is flammable and highly explosive when mixed with oxygen.

d) Acetylene is explosive when compressed above 15 psi, but is very stable in acetone.

e) Acetylene cylinders are filled with a porous form of concrete in which all the air is removed by filling the pore spaces with acetone.

f) Large acetylene cylinders can hold around 275 cu. ft. of acetylene at 250 psi.

g) If acetylene is withdrawn too quickly, removing all the available acetylene, the cylinder pressure gauge will read empty; but after the cylinder is not used for a while, more usable acetylene will come out of the solution.
h) Acetylene cylinders must be kept upright for about eight hours before use and during use in order to prevent acetone loss.

**Gas Regulators**

**Purpose:** Gas regulators reduce the high cylinder pressures to low, hose pressures suitable for welding and cutting applications.

**Identification of the Parts of a Gas Regulator**

1) **Inlet (cylinder valve connection)**  
   a) Oxygen inlets have right-handed threads.  
   b) Acetylene inlets have left-handed threads and their nuts are notched on the outside.

2) **Pressure Adjusting Screw**  
   a) Decreasing the pressure (out) is counterclockwise.  
   b) Increasing the pressure (in) is clockwise.

3) **Cylinder (high) Pressure Gauge**  
   a) Oxygen cylinder gauge reads 0-4000 psi.  
   b) Acetylene cylinder gauge reads 0-400 psi.

4) **Working (low) Pressure Gauge**  
   a) Oxygen working gauge reads 0-200 psi.  
   b) Acetylene working gauge reads 0-30 psi.

5) **Outlet (connection for hoses)**
a) Oxygen outlets have right-handed threads.
b) Acetylene outlets have left-handed threads.

**Torch Body**
The torch controls the mixture of oxygen and acetylene to produce the desired flame.

**Identification of the parts of the torch:**

![Torch pic]

**Check Valves**

a. Check valves allow the gases to flow in only one direction to prevent backflow.

b. Check valves are necessary safety devices attached between the hoses and the regulator outlets.

**Oxyacetylene Welding Equipment Set-up & Adjustment**

**Cylinder hook up**
1. Place the oxygen and acetylene cylinders side by side in a vertical position and secure them from falling.

2. Remove the cylinder valve protection caps and store them for reuse later when the cylinders are empty.

3. Briefly "crack" the cylinder valves (slightly open) to blow out any dust or dirt that may be lodged there, so it does not enter the regulators
4. Hook up correct regulator to cylinder.

Adjusting the Torch

Pressurizing the System

a. Close both control valves on the torch handle clockwise, finger tight only.

b. Verify that the regulator screws are turned out and loose.

c. Standing to one side of the regulator, slowly open the oxygen cylinder valve until the pressure gauge responds, then open the valve all the way.

d. Slowly open the acetylene cylinder valve 1/2 turn or one turn of the wrist.

e. Open the torch oxygen valve 1/8 turn and then screw in the oxygen regulator valve until the desired working pressure is indicated on the regulator working pressure gauge. Close the torch oxygen valve.

f. Open the torch acetylene valve 1/8 turn and then screw in the acetylene regulator valve until the desired working pressure is indicated on the regulator working pressure gauge. Close the torch acetylene valve.

Lighting and Adjusting the Torch

a. Be sure all protective clothing and goggles (No. 5 shaded lens) are on before proceeding to light the torch.

b. Hold the torch in one hand and the striker (spark lighter) in the other.

c. Open the torch acetylene valve no more than 1/4 turn and ignite the gas with the striker.

d. Open the torch acetylene valve until the flame is no longer smoking.

Different Types of Flames

1. Carburizing flame (excess amount of acetylene):

   a) Open the torch oxygen valve until a feathered cone
exists in the flame.

b) Three flame zones are present. They are the inner cone, the acetylene feather, and the outer envelope.

2. Neutral flame (equal amounts of oxygen and acetylene):

a) Open the torch oxygen valve until the acetylene feather disappears and only the inner cone and outer envelope exist.

b) When the feathery edges of the inner cone disappear, a neutral flame is present.

3. Oxidizing flame (excess amount of oxygen):

1) Open the torch oxygen valve beyond a neutral flame to a point where the flame is pale blue.

2) The inner cone will be shorter, will become slightly pointed, and the flame will be more noisy than the neutral flame.

Oxyacetylene Equipment Shut-down and Storage

1. Torch Shut-down:

a. First, turn off the torch acetylene valve. If a small flame remains on the tip, the acetylene valve is leaking.
b. Turn off the torch oxygen valve last.

2. Depressurize the system:
   a. Close both cylinder valves.
   b. Open the torch acetylene valve to depressurize the acetylene gauges and hose.
   c. Close the torch acetylene valve.
   d. Open the torch oxygen valve to depressurize the oxygen gauges and hose.
   e. Close the torch oxygen valve.
   f. Turn out the adjusting screws on the oxygen and acetylene regulator valves.

Oxyacetylene Fusion Welding Procedures

1. Hold the torch at a 90 degree work angle and a 30 degree to 45 degree lead angle, with the inner cone of the flame 1/16 to 1/8 inch above the base metal.

2. Hold that position over a spot just inside the right edge of the base metal until a molten puddle is established.

3. Move the torch in a series of arcs or circles to make the puddle circular in shape and about 1/4 inch in diameter.

4. Advance the torch from right to left across the base metal at a speed that will maintain a uniform puddle size and shape.
   a) If advanced too rapidly, the puddle will become too small and may be lost completely.
   b) If advanced too slowly, the puddle will become too large and may burn through the base metal.

Oxyacetylene Welding Problems

1. Backfire (popping noise)
a. Backfire is a momentary burning back of the flame into the tip ending with a loud pop (explosion at the tip).

b. The causes can include the following:

1) Insufficient gas velocity (open torch valves more).

2) Overheated tip (hold tip farther away from the work or change the lead angle).

3) Inadvertently moving the torch tip into the molten puddle (clean out the tip).

4) Sparks flying into the tip.

5) Improper seals or grommets within the torch (examine and replace).

2. Flashback (popping with shrill squealing or hissing)

a. Flashback is an explosion occurring at the tip accompanied by gases burning back into the hoses and regulator.

b. The symptoms are as follows:

1) The flame goes out with a pop.

2) A loud squealing or hissing noise occurs.

3) Black smoke and sparks emerge from the tip.

c. The action required to remedy the problem is as follows:

1) Quickly close the torch valves and shut down the regulators and cylinder valves; allow the apparatus to cool.

2) Do not relight until the cause has been found and remedied.

d. Possible causes could be any of the following:

1) Clogged tip

2) Improper oxygen-acetylene gas mixture ratio

3) Loose connections

4) Kinked hose
SHEILDED METAL ACR WELDING (SMAW)

SMAW = An arc welding machine joins two metals together by generating an electric arc between a coated metal electrode and a base metal. The heat of the electric arc melts the metal which mixes with the molten deposits of the coated electrode. The coating of the electrode produces a gas which shields the weld from the atmosphere and helps to maintain the weld shape. This coating is later removed in the form of slag. The slag coating over the weld insulates the hot weld from contaminants in the air during cooling.

Equipment Used in Arc Welding

1. Power Supplies
   a. The power supply of the arc welding apparatus must maintain a relatively constant current with only a slight change in voltage.
   b. Varying voltage and current will result in an uneven arc that creates splatters and uneven welds.
   c. There are three main types of power supplies.

   1) Generators
      a) Generator powered arc welding machines run on direct current.
      b) These welding machines are commonly used in industry and are noisy, expensive to purchase, and costly to operate.

   2) Transformers
a) These machines are generally the cheapest to purchase and run on an alternating current.

3) Rectifiers

a) The rectifier is a more versatile arc welding power supply that can be run on either direct or alternating current.

2. Ground Clamp

a. The ground clamp completes the full electrical circuit.

b. The ground clamp must be securely fastened to the metal being welded or to an adjoining workbench or piece of metal.

3. Electrode Holder (or Stinger)

a. The stinger receives the amperage and directs it through the electrode to form the arc.

4. Electrode

a. The electrode consists of an internal metal core and an outer coating called flux which shields the weld. The core melts into the molten base metal to produce the metal bond.

C. Protective clothing must be worn at all times when welding. The heat created during arc welding creates flying molten sparks and ultraviolet and infrared rays that can burn the skin.

a. Leather Gloves
b. Body Protection
   - Coveralls
c. Footwear.
   - Leather boots should be worn while arc welding.
Arc Welding Helmets and Shields

NEVER LOOK AT THE ARC WITH THE NAKED EYE. Helmets and shields are equipped with special filtered lenses that reduce the intensity of the light and prevent the ultraviolet and infrared rays from reaching the eyes.

1) The welding helmet fits on the head using a plastic adjustable headband.

Different Shades of Lenses for Different Applications

1) Shade 5 is used for light spot welding.
2) Shades 6 and 7 are suitable for welding with up to 30 amperes.
3) Shade 8 is for welding with 30-75 amperes.
4) Shade 10 can be used when welding with 75-200 amperes.
5) Shade 12 is used when welding with 200-400 amperes.
6) Shade 14 is required when welding with over 400 amperes.

d. Cover glasses are clear lenses that are used to stop flying slag or metal, thus protecting the filter lenses.

7. Additional Welding Equipment

a. Slag Hammer or Chipping Hammer - The slag hammer is used to remove slag from the weld for proper cooling.

b. Wire Brush - If a second pass is to be made with the arc, the wire brush must be used to remove all slag fragments from the welding area. If not removed, the weld will not be solid and residual stresses will result.

Selecting a Welding Electrode

It is very important that the appropriate electrode be selected for a given welding operation. Poor electrode selection will cause difficulty in completing a good welding job.

A. The American Welding Society (AWS) has developed the following electrode classification system:
The Welding Process

Starting the Arc:

There are two methods that can be used to start or strike the arc:

1) The scratching motion method requires that the electrode be brought down at an angle to the plate very similar to scratching a match.

2) The tapping method requires that the rod be held directly above the work. The rod is brought down and touches on the base metal.

Factors that contribute to a good weld

1. Amperage = Amount of heat directed at the weld
2. Length of Arc = The distance between the end of the electrode and the base metal. (Needs to be about the thickness of the electrode)
3. Angle of electrode = (Straight up, and 20° in the direction of travel)
4. Speed of travel = (Allowing a weld 3 x the rod thickness)

All of these factors are different for different situations.

Examples of Welds:
Welding Unit Notes

Definition:
Welding = ____________________________

Processes
1. ____________________________
2. SHEILD METAL ACR WELDING (SMAW)

OXYACETYLENE EQUIPMENT AND SAFETY

OXYACETYLENE WELDING: Mixing oxygen and acetylene gases together to make a highly flammable mixture in order to ____________________________

Gas Cylinders

1. Oxygen Cylinders
   a) Oxygen is not a flammable or toxic gas.
   b) ____________________________
   c) Common size oxygen cylinders hold about 244 cu. ft. of oxygen at ____________________________ per square inch (psi) pressure.
   d) Because of their high pressure, they can explode if dropped, struck, heated, or arced with an arc welder.
   e) The cylinder valve, which allows the flow of gas from the cylinder to the regulator, is protected when not in use with a threaded cylinder cap.
   f) The cylinder cap has two holes on its side designed to cause
g) If acetylene is withdrawn too quickly, removing all the available acetylene,
but after the cylinder is not used for a while, more usable acetylene will come out of the solution.

h) Acetylene cylinders must be kept upright for about eight hours before use and during use in order to prevent acetone loss.

**Gas Regulators**

**Purpose:**

---

**Identification of the Parts of a Gas Regulator**

1) **Inlet (cylinder valve connection)**
   a) 
   b) Acetylene inlets have and their nuts are notched on the outside.

2) **Pressure Adjusting Screw**
   a) Decreasing the pressure
   b) Increasing the pressure

3) **Cylinder (high) Pressure Gauge**
   a) Oxygen cylinder gauge reads
   b) Acetylene cylinder gauge reads

4) **Working (low) Pressure Gauge**
   a) Oxygen working gauge reads
3. Briefly "crack" the cylinder valves (slightly open) to blow out any dust or dirt that may be lodged there, so ____________________________________________________________________________.

4. Hook up correct regulator to cylinder.

**Pressurizing the System**

   a. Close both control valves on the torch handle clockwise, finger tight only.

   b. Verify that the regulator screws are turned out and loose.

   c. Standing to one side of the regulator, slowly open the oxygen cylinder valve until the pressure gauge responds, then open the valve all the way.

   d. ____________________________________________________________________________.

   e. Open the torch oxygen valve 1/8 turn and then screw in the oxygen regulator valve until the desired working pressure is indicated on the regulator working pressure gauge. Close the torch oxygen valve.

   f. Open the torch acetylene valve 1/8 turn and then screw in the acetylene regulator valve until the desired working pressure is indicated on the regulator working pressure gauge. Close the torch acetylene valve.

**Lighting and Adjusting the Torch**

   a. Be sure all protective clothing and goggles (No. 5 shaded lens) are on before proceeding to light the torch.

   b. Hold the torch in one hand and the striker (spark lighter) in the other.

   c. ____________________________________________________________________________.

   d. Open the torch acetylene valve until the flame is no longer smoking.

**Different Types of Flames**

1. Carburizing flame (excess amount of acetylene):
2. Depressurize the system:

a. 

b. Open the torch acetylene valve to depressurize the acetylene gauges and hose.

c. Close the torch acetylene valve.

d. Open the torch oxygen valve to depressurize the oxygen gauges and hose.

e. 

f. Turn out the adjusting screws on the oxygen and acetylene regulator valves.

Oxyacetylene Fusion Welding Procedures

1. Hold the torch at a 90 degree work angle and a 30 degree to 45 degree lead angle, with the inner cone of the flame 1/16 to 1/8 inch above the base metal.

2. Hold that position over a spot just inside the right edge of the base metal until a molten puddle is established.

3. Move the torch in a series of arcs or circles to make the puddle circular in shape and about 1/4 inch in diameter.

4. Advance the torch from right to left across the base metal at a speed that will maintain a uniform puddle size and shape.

    a) If advanced too rapidly, the puddle will become too small and may be lost completely.

    b) If advanced too slowly, the puddle will become too large and may burn through the base metal.

Oxyacetylene Welding Problems

1. Backfire (popping noise)

    a. Backfire is a momentary burning back of the flame into the tip
SHEILDED METAL ARC WELDING (SMAW)

SMAW = An arc welding machine joins two metals together by generating an electric arc between a coated metal electrode and a base metal. The heat of the electric arc melts the metal which mixes with the molten deposits of the coated electrode. The coating of the electrode produces a gas which shields the weld from the atmosphere and helps to maintain the weld shape. This coating is later removed in the form of slag. The slag coating over the weld insulates the hot weld from contaminants in the air during cooling.

Equipment Used in Arc Welding

1. Power Supplies
   a. The power supply of the arc welding apparatus must maintain a relatively constant current with only a slight change in voltage.
   b. Varying voltage and current will result in an uneven arc that creates splatters and uneven welds.
   c. There are three main types of power supplies.
      1) 
         a) Generator powered arc welding machines run on direct current.
         b) These welding machines are commonly used in industry and are noisy, expensive to purchase, and costly to operate.
      2) 

Arc Welding Helmets and Shields

NEVER LOOK AT THE ARC WITH THE NAKED EYE. Helmets and shields are equipped with special filtered lenses that reduce the intensity of the light and prevent the ultraviolet and infrared rays from reaching the eyes.

1) The welding helmet fits on the head using a plastic adjustable headband.

Different Shades of Lenses for Different Applications
(The higher the number the darker the lenses.)

1) Shade 5 is used ________________________________.
2) Shades 6 and 7 are suitable for welding with up __________________________.
3) Shade 8 is for welding with ____________________________.
4) Shade 10 can be used when welding with ____________________________.
5) Shade 12 is used when welding with ____________________________.
6) Shade 14 is required when welding with over ____________________________.

d. Cover glasses are clear lenses that are used to stop flying slag or metal, thus protecting the filter lenses.

7. Additional Welding Equipment

a. Slag Hammer or Chipping Hammer - The slag hammer is used to remove slag from the weld for proper cooling.

b. Wire Brush - If a second pass is to be made with the arc, the wire brush must be used to remove all slag fragments from the welding area. If not removed, the weld will not be solid and residual stresses will result.

Selecting a Welding Electrode

It is very important that the appropriate electrode be selected for a given welding operation. Poor electrode selection will cause difficulty in completing a good welding job.

A. The American Welding Society (AWS) has developed the following electrode classification system:
MIG WELDING
Intro
By: Mr. Wolfe

MIG Definition
- MIG = Metal Inert Gas
  Other Names:
  - GMAW = Gas Metal Arc Welding
- Outer Shield Welding Process

Why Know How to MIG
MIG is widely used in most industry sectors and accounts for more than 50% of all weld metal deposited

History of MIG Welding
- Metal inert gas (MIG) welding was first patented in the USA in 1949 for welding aluminium. The arc and weld pool formed using a bare wire electrode was protected by helium gas, readily available at that time. From about 1952 the process became popular in the UK for welding aluminium using argon as the shielding gas, and for carbon steels using CO₂, CO₂ and argon-CO₂ mixtures.

WHAT IT DOES
- The "Metal" in Gas Metal Arc Welding refers to the wire that is what is used to start the arc. It is shielded by inert gas and the feeding wire also acts as the filler rod. As a semi-automatic process, it is fairly easy to learn and use.

MIG Welding Benefits
- All position capability
- Higher deposition rates than SMAW
- Less operator skill required
- Long welds can be made without starts and stops
- Minimal post weld cleaning is required
MIG Lap Weld on 12 ga

Settings of the MIG welder
- Type of Gas and adjustments
- Voltage / Amp Setting
- Wire speed
- Contact tips (MIG tips)
- Motion of welding
- Weld Position

Why The Gas?
Shielding gases such as argon and carbon dioxide are used to prevent the atmosphere from contaminating the welding arc and molten base metal. One of the main functions of the arc is to produce heat. The heat of the arc melts the surface of the base metal and the end of the electrode. The electric arc has a temperature that ranges from 3,000 to 10,000 °F.

Why The Gas?
In addition to general shielding of the arc and the weld pool, the shielding gas performs a number of important functions:
- Forms the arc plasma.
- Stabilizes the arc roots on the material surface.

Why The Gas
Thus, the shielding gas will have a substantial effect on the stability of the arc and the behavior of the weld pool, in particular, its penetration. A General purpose shielding gas for MIG welding are mixtures of argon, oxygen and CO₂, and or special gas mixtures may contain helium.
The Right Gas for the Job

Normally used for the various materials are:
- steels
  - CO 2
  - argon +2 to 5% oxygen
  - argon +5 to 25% CO 2
- non-ferrous (aluminum)
  - argon
  - argon / helium

Regulate Your Gas

- The inert gas is in a tank like oxygen is. The tank is hooked to a regulator and is measured in CFM (cubic feet per min) not PSI

What to set the CFM at

Depending on the conditions you should have the regulator set at a range from 10 – 25 CFH.
- 10 CFH indoors / calm conditions
- 25 CFH outdoors / Windy

Voltage and Amp Adjustment

Voltage / Amp Settings

- MIG welders are typically DC + welders only.

AKA:
- DCEP or (Direct Current Electrode Positive)
- Reverse polarity

Current of MIG Welders

- Reason for DC +
  Penetration:
  - DCEN = Least penetration
  - AC = medium (can be more spatter also),
  - DCEP = most penetration.
Voltage / Amp Settings
Some welder adjustments are in Volts, some in Amps and some only have fixed settings.

Fully Adjustable

Voltage and Amp adjustments
Adjusting the voltage knob 5 volts will increase amps by about 100.

Voltage Adjustment
- You don’t need to move the knob much!

Wire Speed
Wire Speed does two things

#1 Determines how much “fill” is in a weld

Less wire speed

More wire speed

Wire Speed
#2 It also fine adjusts the voltage of the machine. The more wire speed, the more voltage.
Wire Speed

Stickout is the length of unmelted electrode extending from the tip of the contact tube when you stop welding. Changing the stickout - which occurs with variations in the distance of the contact tube to the workpiece - causes the voltage and amperage to vary, as well as changes the shape of the weld bead.

Contact Tips or MIG Tips

What Contact Tips Do

- The contact tip is what supplies the wire with electricity.
- The size of the tip depends on the size of the wire you are using.
  - Examples
    - .025
    - .030
    - .035
    - .045

Wire Speed

Generally, maintain a stickout of 1/2 to 3/4 in. Note that when starting a weld, a short stickout helps ensure a good, hot start. A longer stickout - once you've established the arc - can help bridge a gap when encountering poor fit-up. A long stickout also promotes poor starts. For critical welds, maintain a constant stickout.

Contact tips

You can buy tips in different lengths and for different wire sizes.

Contact tips

Most of the time you want the contact tip to be flush with the nozzle. It is OK to have it recessed, or sticking out up to 3/8".
Motion of welding

A drag or pull gun technique will give you a bit more penetration and a narrower bead. A push gun technique will give you a bit less penetration, and a wider bead. Pushing the puddle is what you will be doing.

Motion of welding

Much like Oxy welding you will push the weld while using small "U" shape motions.

Position

Yes this sucks

Position of Weld

- The position on weld will determine Gas flow, wire speed, voltage and motion.

Overall tips

- 1. Keep a 1/4 - 3/8 in stickout (electrode extending from the tip of the contact tube.)
- 2. For thin metals, use a smaller diameter wire. For thicker metal use a larger wire and a larger machine. See machine recommendations for welding capacity.
- 3. Use the correct wire type for the base metal being welded. Use stainless steel wires for stainless steel, aluminum wires for aluminum, and steel wires for steel.
- 4. Use the proper shielding gas. CO2 is good for penetrating welds on steel, but may be too hot for thin metal. Use 75% Argon/25% CO2 for thinner steels.
Overall tips

- 5. For best control of your weld bead, keep the wire directed at the leading edge of the weld pool.
- 6. When welding out of position (vertical, horizontal, or overhead welding), keep the weld pool small for best weld bead control, and use the smallest wire diameter size you can.

Overall Tips

- 7. Be sure to match your contact tube, gun liner, and drive rolls to the wire size you are using.
- 8. Clean the gun liner and drive rolls occasionally, and keep the gun nozzle clean of spatter. Replace the contact tip if blocked or feeding poorly.
- 9. Keep the gun straight as possible when welding, to avoid poor wire feeding.

Overall tips

- 10. Use both hands to steady the gun when you weld. Do this whenever possible. (This also applies to Stick and TIG welding, and plasma cutting.)
- 11. Keep wire feeder hub tension and drive roll pressure just tight enough to feed wire, but don’t overtighten.
- 12. A drag or pull gun technique will give you a bit more penetration and a narrower bead. A push gun technique will give you a bit less penetration, and a wider bead.
Definitions
1. MIG =
   Other Names:
2. GMAW =

   OR
3.

Fill in the blank:

4. MIG is widely used in ___________ and accounts for more than __________ metal deposited.

5. Metal inert gas (MIG) welding was ___________ in the USA in 1949 for welding aluminium. The arc and weld ___________ a bare wire electrode was protected by helium gas, readily available at that time. From about ___________ in the UK for welding aluminium using argon as the shielding gas, and for carbon steels using CO₂. CO₂ and argon-CO₂ mixtures.

6. The "Metal" in Gas Metal Arc Welding refers to ___________. It is shielded by inert gas and the feeding wire also acts as the filler rod. As a semi-automatic process, it is fairly easy to learn and use.

MIG Welding Benefits

__________________________
Higher deposition rates than SMAW

Long welds can be made without starts and stops

Settings of the MIG welder
- Type of Gas and adjustments
- Wire speed
- 
- Weld Position

Why The Gas? (Fill in the blank)

1. Shielding gases such as argon and carbon dioxide are used to ________________.

One of the main functions of the arc is to produce heat. The heat of the arc melts the surface of the base metal and the end of the electrode. The electric arc has a temperature that ranges from 3,000 to 10,000 °F

2. In addition to general shielding of the arc and the weld pool, the shielding gas performs a number of important functions:
   - ________________
   - Stabilizes the arc roots on the material surface.

3. Thus, the shielding gas will have a
   ________________ of the arc and the behavior of the weld pool, in particular, it’s penetration. A General purpose shielding gas for MIG welding are mixtures of argon, oxygen and CO₂, and or special gas mixtures may contain helium.
4. Normally used for the various materials are:
   Steels
   - CO 2
   - argon + 5 to 25% CO 2
   Non-ferrous (aluminum)
   - argon / helium

5. The _____________ is in a tank like oxygen is. The tank is hooked to a regulator and is measured in _____ (cubic feet per min) not PSI.

6. Depending on the conditions you should have the regulator set at a range from 10 – 25 CFM.
   • _____________ indoors / calm conditions
   • _____________ outdoors / Windy

Voltage / Amp Settings

- MIG welders are typically _____________ welders only.
  AKA:
- ________________________________
- Reverse polarity

1. Reason for DC +
   Penetration:
   - DCEN = ________________________________
   - AC = _____________ (can be more spatter also),
   - DCEP = ________________________________.

2. Some welder adjustments are in _____________, some in _____________ and some only have fixed settings.
3. Adjusting the ________________ will increase amps by about ___________ amps.

**Wire Speed**

Wire Speed does two things:

#1 ________________________________

#2 ________________________________

1. Stickout is the __________________________ extending from the tip of the contact tube when you stop welding. Changing the stickout - which occurs __________________________ to the workpiece - causes the voltage and amperage to vary, as well as changes the shape of the weld bead.

2. Generally, maintain a stickout of 1/2 to 3/4 in. Note ________________a weld, a short stickout helps ensure a good, hot start. A longer stickout - once you've established the arc - can ________________ when encountering poor fit-up. A Long stickout also ________________. For critical welds, maintain a constant stickout.

**Contact tips**

1. You can buy tips in ________________ and for different wire sizes.

2. The contact tip is what ________________ with electricity.
   - The size of the ________________ on the size of the wire you are using.
Examples

.025

.035

3. Most of the time you want the contact tip to be _______ with the nozzle. It is OK to have it recessed, or sticking out up to ________.

Motion of welding

1. A drag or _________ technique will give you a bit more ____________________________.

2. A push gun technique will ________________ penetration, and a _____________ bead. 
Pushing the puddle is what you will be doing.

3. Much like Oxy welding you will push the weld while using small "U" shape motions.

  Draw the motion in the box

  

Position of Weld
The position on weld will determine __________, wire speed, __________ and ______________.
Overall tips

1. Keep a ________________ in stickout (electrode extending from the tip of the contact tube.)

2. For thin metals, use a ________________. For thicker metal use a larger wire and a larger machine. See machine recommendations for welding capacity.

3. Use the ________________ base metal being welded. Use stainless steel wires for stainless steel, aluminum wires for aluminum, and steel wires for steel.

4. Use the proper shielding gas. ________________ penetrating welds on steel, but may be too hot for thin metal. Use 75% Argon/25% CO2 for thinner steels.

5. For best control of your weld bead, keep the ________________ of the weld pool.

6. When welding out of position (vertical, horizontal, or overhead welding), keep the weld pool ________________ weld bead control, and use the smallest wire diameter size you can.

7. Be sure to match your contact tube, ________________, and drive rolls to the wire size you are using.

8. Clean the gun liner and ________________, and keep the gun ________________ of spatter. Replace the contact tip if blocked or feeding poorly.

9. Keep the gun straight as possible when welding, to avoid poor wire feeding.
10. Use ________________ when you weld. Do this whenever possible. (This also applies to Stick and TIG welding, and plasma cutting.)

11. Keep ________________ and ________________ pressure just tight enough to feed wire, but don't overtighten.

12. A drag or pull gun technique will give you a bit more penetration and a narrower bead. A push gun technique will give you a bit less penetration, and a wider bead.
Cost of Welding Rod

The following questions will be answered using a box of electrodes and actual costs.

1. How many electrodes in one box?

2. How much does a box cost?

3. How many pounds does 1 box weigh?

4. How much does 1 pound cost?

5. How much does 1 electrode cost?

6. How many inches is 1 electrode?

7. How much does 1” of electrode cost?
Receiver Trailer Hitch Plans

Side of tubing: Drill all holes before welding. Copy all angles from example hitch.

[Diagram showing dimensions and annotations]
Top view of bar stock: Drill and bend before welding.
Copy the example hitch to bend to the correct degree.
<table>
<thead>
<tr>
<th>Name</th>
<th>Oxy Welds</th>
<th>Arc Welds</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriga, Xavier</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beihn, Jess</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Davis, Brian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foll, Nick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonzalez, Carlos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Martinez, Michael</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McLain, John</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mendez, Javier</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mendonza, Luis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pal, Ryan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roman, Eric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segman, Cody</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smith, David</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamayo, Francisco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thorson, Chris</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torres, Manual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilkinson, Matt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speg, Sean</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Period 1 Welding

<table>
<thead>
<tr>
<th>Name</th>
<th>Oxy Welds</th>
<th>Arc Welds</th>
<th>Total Score</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acevedo, Raymond</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arzate, Santiago</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crandall, Jimmy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Espinosa, Gabriel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friesen, Ronald</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallardo, Gabriel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greer, Steve</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardrick, Aaron</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hernandez, Alexandria</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hernandez, Frankie</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hughes, Paul</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnson, Ashley</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lampros, John</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listman, Johanuna</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loaiza, Manual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maggard, Jesse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marroquin, Eddie</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meza, Josh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molina, Jose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phan, Andrew</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richardson, Alec</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soliz, Joe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suelzle, Brandon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomicich, Blaze</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valencia, Marlene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West, Andrew</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Williams, Kevin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zuidervaart, Katie</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Fusion Oxy</td>
<td>Brazing Oxy</td>
<td>Arc Welding 6013</td>
<td>Arc Welding 6011</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
<td>-------------</td>
<td>-------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Alcantar, Rick</td>
<td>10.10</td>
<td>9.9</td>
<td>9.9</td>
<td>9.9</td>
</tr>
<tr>
<td>Barzan, Sean</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Beach, Matt</td>
<td>10.89</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Camden, Justin</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Castellanos, Victor</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Crist, Matt</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Davis, Chris</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Gilson, Drew</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Guevara, Artie</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Kiggins, Randal</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Lewis, Colin</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Lewis, Kieth</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Madsen, Bryan</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>McGee, Philip</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Munoz, Vincent</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Muchler, Brandon</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Peters, Vincent</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Raposaas, Charley</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Schmidt, Jarod</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Silva, Frank</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Sisemore, Bryce</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Slattery, Jimmy</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Wabil, Kyle</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Zuidervelt, Steven</td>
<td>10.99</td>
<td>10.9</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Total Score</td>
<td>9.9</td>
<td>9.9</td>
<td>9.9</td>
<td>9.9</td>
</tr>
</tbody>
</table>
Welding Skill Test
100pts.

Directions: Construct the project exactly as shown with the correct welds.

Circle the TWO welds you want graded!!
(OR I will pick the two)
You will be graded on: Correct construction of project, quality of weld and effort!

#1 6013 TEE Fillet 50 pts. ________

#2 6013 LAP Fillet 50 pts. ________

#3 6013 Butt Fillet 50 pts. ________

TOTAL ________
Welding Final
100pts.

Directions: Construct the projects exactly as shown with the correct welds.

You will be graded on: Correct construction of project, quality of weld and effort!

#1 7014 TEE Fillet 25 pts. ______

#2 Oxy LAP Fillet 25 pts. ______

#3 Mystery Rod Stringer Bead 25 pts. ______

#4 Oxy Puddle w/Rod 25 pts. ______

TOTAL ______
Welding Skill Test Final
300 pts.

Directions: Construct the project exactly as shown with the correct welds.

You will be graded on: Correct construction of project, quality of weld and effort!

#1 6013 TEE Fillet 20 pts. ________
#2 6013 LAP Fillet 20 pts. ________
#3 6013 LAP Fillet 20 pts. ________
#4 Oxy Butt Fillet 20 pts. ________
#5 Oxy Lap Fillet 20 pts. ________
#6 Oxy Lap Fillet 20 pts. ________
#7 Oxy Tee Fillet 20 pts. ________
#8 Arc Tack Sheet to thick 20 pts. ________

The last 140 pts will be based on your effort cleaning the shop after you are finished with the welding.

TOTAL ________
1. Arc Tee Fillet 7014
2. Arc Lap Fillet 6011
3. Arc Thick to thin 7014
4. Oxy Butt Fillet
5. Oxy Tee Fillet
6. MIG Sheet Metal Tee
7. MIG Sheet Metal Butt
8. Arc Your choice of Rod pipe to plate
9. MIG Lap Fillet
10. MIG Tee Fillet
11. Mystery Rod Stringer Bead
Ag. Mechanics Tests and Finals
Ag. Mechanics 1-2
Fall Semester Final

Directions: Read all sections carefully. Do not write on this test!!

Tool ID Section
Directions: Use the corresponding Tool ID question sheet and scan-tron to mark the correct name for the tool for each question number.

1. A. Fresno Float  B. Mag Bull Float
   C. Wood Bull Float  D. Concrete Edger

2. A. Fresno Float  B. Mag Bull Float
   C. Wood Bull Float  D. Concrete Edger

3. A. Fresno Float  B. Hand Trowel
   C. Groover  D. Concrete Edger

4. A. Vise-grip Pliers  B. Lineman Pliers
   C. Slip joint Pliers  D. Water Pump Pliers

5. A. Pin Punch  B. Drift Punch
   C. Nail Set  D. Center Punch

6. A. Pin Punch  B. Drift Punch
   C. Nail Set  D. Center Punch

7. A. Ratchet Handle  B. Slide Bar Handle
   C. Speed Handle  D. Wrench

8. A. Woodworkers Vise  B. Hog Ringer
   C. Anvil  D. Acme Comical Tool

9. A. Vise-grip Pliers  B. Lineman Pliers
   C. Slip joint Pliers  D. Bolt Cutters

10. A. Line level  B. Contractors String Level
    C. Chalk Line  D. Bubble Level

11. A. Dividers  B. Compass
    C. Soap Stone  D. Scribe
12. A. Line level  B. Contractors String Level  C. Chalk Line  D. Bubble Level
13. A. Crow Bar  B. Wrecking Bar  C. Pry Bar  D. Wexford Bar
14. A. Crow Bar  B. Wrecking Bar  C. Pry Bar  D. Wonder Bar
15. A. Nail Puller  B. Lineman Pliers  C. Slip joint Pliers  D. Bolt Cutters
16. A. Drill Bit  B. Tapered Shank Twist Drill  C. Expansive Bit  D. Carbide-tipped Masonry Drill
17. A. Circular Saw Bit  B. Hole Saw  C. Key Hole Saw  D. Carbide-tipped Masonry Drill
18. A. Drill Bit  B. Tapered Shank Twist Drill  C. Expansive Bit  D. Carbide-tipped Masonry Drill
19. A. Line level  B. Protractor  C. Sliding T-bevel  D. Plumb Bob
20. A. Tape Measure  B. Steel Tape  C. Chalk Line  D. Surveyor's Steel Tape
21. A. Line Level  B. Contractors Level  C. Farm Level  D. Bubble Level
22. A. Dividers  B. Scratch Owl  C. Soap Stone  D. Scribe
23. A. Scratch Awl  B. Scratch Owl  C. Pin Punch  D. Scribe
24. A. Dividers  B. Scratch Owl  C. Soap Stone  D. Scribe
25. A. Tensioner  B. Turn Buckel  C. Tie Rod  D. Eye Hook
26. A. Brad Nailer  B. Staple Gun  C. Hammer Stapler  D. Nail Gun
27. A. Brad Nailer  B. Staple Gun  
    C. Hammer Stapler  D. Nail Gun  
28. A. Crow Bar  B. Wrecking Bar  
    C. Pry Bar  D. Wonder Bar  
29. A. Twist Drill Bit  B. Tapered Shank Twist Drill  
    C. Expansive Bit  D. Auger Bit  
30. A. Hand Drill  B. Screw Extractor  
    C. Bit Brace  D. Speed Handle  
31. A. Straight Shank Drill  B. Tapered Shank Twist Drill  
    C. Expansive Bit  D. Carbide-tipped Masonry Drill  
32. A. Star Drill  B. Tapered Shank Twist Drill  
    C. Straight Shank Bit  D. Hand Drill Bit  
33. A. Star Drill  B. Tapered Shank Twist Drill  
    C. Hand Drill Bit  D. Straight Shank Twist Drill  
34. A. Nail Puller  B. Lineman Pliers  
    C. Slip joint Pliers  D. Bolt Cutters  
35. A. Long Nose Pliers  B. Lineman Pliers  
    C. Slip joint Pliers  D. Electricians Pliers  
36. A. Nail Puller  B. Lineman Pliers  
    C. Slip joint Pliers  D. Bolt Cutters  

Measurement Section
Mark the letter of the correct measurement for each question

37. 
   A. 9 3/8"  B. 9 6/16"  
   C. 9 1/4"  D. 9 3/4"  
38. 
   A. 10 3/8"  B. 9 11/16"  
   C. 9 1/4"  D. 10 3/4"
Woodworking

Mark the correct answer for each question on scan-tron. All work will be done on scratch piece of paper.

41. Screws are sized by length in:
   A. Gauge Numbers  B. Inches
   C. Penny Sizes    D. Diameter

42. Nails are sized by length in:
   A. Gauge Numbers  B. Inches
   C. Penny Sizes    D. Diameter

43. Nails are sized by shank thickness in:
   A. Gauge Numbers  B. Inches
   C. Penny Sizes    D. Diameter

44. Screws are sized by shank thickness in:
   A. Gauge Numbers  B. Inches
   C. Penny Sizes    D. Diameter

Given Formula: \[ BF = \frac{T'' \times W'' \times L'}{12} \times \text{number of pieces} \]

45. How many Board Feet do you have if you get 4 pieces of 2x4 that are 8 feet long?
   A. 23.3 Bf  B. 21.3 Bf
   C. 121.6 Bf  D. 36.4 Bf
46. How many Board feet are there in 5 - 4x 6's in 12 foot lengths?
   A. 120 Bf  B. 421.3 Bf
   C. 121.6 Bf  D. 233.4 Bf

**Electrical Section**
Mark the correct answer for each question on scan-tron. All work will be done the scratch piece of paper.

47. The passing of _________________ from atom to atom is what makes electricity flow.
   A. Protons  B. Neutrons
   C. Nucleus  D. Electrons

48. Electrical flow is measured in:
   A. Amps  B. Watts
   C. Volts  D. Ohm's

49. Electrical pressure is measured in:
   A. Amps  B. Watts
   C. Volts  D. Ohm's

50. Electrical resistance is measured in:
   A. Amps  B. Watts
   C. Volts  D. Ohm's

51. Electrical work is measured in:
   A. Amps  B. Watts
   C. Volts  D. Ohm's

52. Which of the following is the correct equation?
   A. W = V x A  B. A = V x W
   C. V = W x A  D. V = A x W

53. How many Amps is there with 20 Watts and 10 Volts
   A. 5 A  C. 10 A
   B. 2 A  D. 4 A

54. How many Volts is there with 20 Watts and 10 Amps?
   A. 200 V  B. 100 V
   C. 2 V  D. 4 V

55. How many Watts is there with 5 Volts and 10 Amps?
   A. 500 W  B. 50 W
   C. 2 W  D. 5 W
56. How many kWh will you use if you use 1675 Watts for 12 hours?  
(Hint: 1kWh = using 1000w for 1 hour)  
A. 20.1 kWh  B. 20100 kWh  
C. 201 kWh  D. 2.01 kWh

57. Which type of electricity flows electrons in two directions?  
A. AC  B. DC  
C. DC -  D. AC/DC

58. Which type of electricity flows electrons in one direction?  
A. AC  B. DC  
C. DC -  D. AC/DC

59. What is a hertz?  
A. AC  B. One amp per second  
C. DC  D. One cycle per second

60. A G.F.C.I is designed to protect against __________________.  
A. Short Circuits  B. Faults  
C. Circuit Overload  D. High Voltage

61. Which is true about stranded wire?  
A. Carries Higher Amps  B. Has More Surface Area  
C. More Flexible  D. All of the above

62. No. 10 wire is rated for how many amps?  
A. 10 A  B. 20 A  
C. 30 A  D. 15 A

63. No. 14 wire is rated for how many amps?  
A. 10 A  B. 20 A  
C. 30 A  D. 15 A

Welding Section  
Mark the correct answer for each question on scan-tron.

64. A common oxygen cylinder has about how much volume of gas in it?  
A. 250 cuft  B. 450 cuft  
C. 30 cuft  D. 105 cuft

65. How much pressure does a full acetylene cylinder have in it?  
A. 250 psi  B. 450 psi  
C. 2000psi  D. 350 psi
66. A common acetylene cylinder has about how much volume of gas in it?
   A. 250 cuft  
   B. 450 cuft  
   C. 30 cuft  
   D. 105 cuft

67. How much pressure does a full oxygen cylinder have in it?
   A. 250 psi  
   B. 450 psi  
   C. 2000 psi  
   D. 350 psi

68. At what pressure does acetylene begin to become unstable?
   A. 15 psi and above  
   B. 10 psi and above  
   C. 20 psi and below  
   D. 20 psi and above

69. Oxygen fittings have what types of threads?
   A. Left Handed  
   B. Right Handed  
   C. Torch Threads  
   D. Fine Threads

70. Acetylene fittings have what types of threads?
   A. Left Handed  
   B. Right Handed  
   C. Torch Threads  
   D. Fine Threads

71. Check valves are to prevent what?
   A. Leaks  
   B. Wrong gases from entering the torch  
   C. Back-flow  
   D. Fine particles from entering the torch

72. An excess amount of oxygen will cause what type of flame?
   A. Carburizing  
   B. Oxydizing  
   C. Neutral  
   D. Big

73. A balanced amount of oxygen and acetylene will cause what type of flame?
   A. Carburizing  
   B. Oxydizing  
   C. Neutral  
   D. Carbonalizing

74. An excess amount of acetylene will cause what type of flame?
   A. Carburizing  
   B. Oxydizing  
   C. Neutral  
   D. Huge

75. What does SMAW stand for?
   A. Stupid Men At Work  
   B. Shielded Metal Arc Welding  
   C. Shielded Metallic Arc Welding  
   D. Shielded Material Arc Welding

76. What type of power supply (welder) produces only DC power?
   A. Generator  
   B. Rectifier  
   C. Transformer  
   D. A and B
77. What type of power supply (welder) produces DC and AC power?
   A. Generator    B. Rectifier
   C. Transformer  D. A and B

78. What type of power supply (welder) produces only AC power?
   A. Generator    B. Rectifier
   C. Transformer  D. A and C

79. What does the circled digit position represent?
   7018
   A. Electricity Type Needed    B. Type of Flux
   C. Recommended Weld Position  D. Strength of the Weld

80. What does the circled digit position represent?
   7018
   A. Electricity Type Needed    B. Type of Flux
   C. Recommended Weld Position  D. Strength of the Weld

81. What does the circled digit position represent?
   7018
   A. Electricity Type Needed    B. Type of Flux
   C. Recommended Weld Position  D. Strength of the Weld

82. What does this number in this position represent?
   7018
   A. Flat and Horizontal positions    B. All positions
   C. Vertical positions only          D. Weld position
83. What does this number in this position represent?

7018

A. Strength  B. All positions
C. 70,000 of tensile strength  D. Weld position

84. The correct shade of lens for arc welding is
A. #5  B. #10
C. #3  D. #15

85. The correct shade of lens for Oxy-acetylene welding is
A. #5  B. #10
C. #3  D. #15

86. A factor that contributes to a good weld is:
A. Amps  B. Angle
C. Speed  D. All of these

87. Correct arc length is approximately:
A. 1/8"  B. 3/8"
C. ½"  D. ¼"

88. Injury to eyes can result from which of the following?
A. Flying Slag  B. Sparks
C. Watching the arc  D. All of the above

89. Never do a second weld pass if:
A. The first weld was poor  B. The weld has not cooled
C. The slag has not been removed  D. If the first pass was a different rod

90. Gas leaks are checked with:
A. Compressed Air  B. Open Flame
C. Soapy Water  D. Teflon
Tool ID Section

Directions: Using the corresponding answer sheet and scantron, select the correct name for the tool.
Semester Final Electrical Circuit Wiring

Directions: Wire this circuit to allow the receptacle to be hot all the time and the switch to control the light. Draw the wire connections to the correct terminal or wire. Each correct connection is worth 1pt, 10pts total.

Total Score On Wiring _____
Ag. Mechanics 1-2
End of the Year Final

Directions: Read all sections carefully. Do not write on this test!!

1. Nails are sized by length in:
   A. Gauge Numbers B. Inches
   C. Penny Sizes    D. Diameter

2. Which type of electricity flows electrons in two directions?
   A. AC           B. DC
   C. DC -         D. AC/DC

3. When Oxy welding, what should the oxygen pressure gauge be set at?
   A. 5 psi        B. 45 psi
   C. 35psi        D. 20 psi

4. What does the circled digit position represent?

   7018

   A. Electricity Type Needed   B. Type of Flux
   C. Recommended Weld Position D. Strength of the Weld

5. In electrical wiring, what color screw does the black wire hook to?
   A. Silver       B. Green
   C. Gold         D. Red

6. How many volts are normally available out of a duplex receptacle?
   A. 110          B. 220
   C. 440          D. 1000kWh

7. Finish the sentence correctly
   The white wire (neutral) runs straight from the source to the _________.
   A. Switch       B. Load
   C. Wall         D. Toe on my right foot

8. When bending the wire into a hook to go around a screw on a receptacle, the hook should be bent to the _________.
   A. Left         B. Right
   C. Out          D. In
9. How many electrical terminals (screws) are there on a typical light receptacle?
   A. One                  B. Two
   C. Three                D. Four

10. When oxy welding, the weld should be done by ________ the puddle / weld.
    A. Pushing              B. Pulling
    C. Lifting              D. Gouging

11. If the torch starts to pop, it is because the torch is___________.
    A. Hot                  B. Dirty
    C. Not enough gas flow  D. All of the above

12. The filler rod should be melted by the ________ when welding.
    A. Torch cone           B. Puddle
    C. The person next to you D. I don't know because I didn't weld all year.

13. The proper amps a welder should be at when using 6013 while doing a butt weld is ____.
    A. 110
    B. 130
    C. 90
    D. 150

14. When arc welding, the weld should be done by ________ the puddle / weld.
    A. Pushing              B. Pulling
    C. Lifting              D. Gouging

15. The correct arc length for welding is about ________ of an inch.
    A. 1/8
    B. ½
    C. ¾
    D. 5/8

Mark the letter of the correct measurement for each question
16. 

A. 9 3/8”    B. 9 6/16”
C. 9 ¼”      D. 9 ¾”

17. 

A. 10 3/8”    B. 9 11/16”
C. 9 ¼”      D. 10 ¾”
18. 
A. 10 3/8"
B. 10 3/16"
C. 11 5/16"
D. 10 5/16"

19. 
A. 9 3/8"
B. 9 6/16"
C. 9 ¼"
D. 9 ¾"

20. A typical handsaw will cut on the ____________ stroke.
A. Forward
B. Back
C. Left
D. Right

Given Formula: \( BF = \frac{T}{12} \times \frac{W}{12} \times L \times \text{number of pieces} \)

21. How many Board Feet do you have if you get 4 pieces of 2x4 that are 8 feet long?
A. 23.3 Bf
B. 21.3 Bf
C. 121.6 Bf
D. 36.4 Bf

22. A factor that contributes to a good weld is:
A. Amps
B. Angle
C. Speed
D. All of these

23. Injury to eyes can result from which of the following?
A. Flying Slag
B. Sparks
C. Watching the arc
D. All of the above

24. Never do a second weld pass if:
A. The first weld was poor
B. The weld has not cooled
C. The slag has not been removed
D. If the first pass was a different rod

25. Gas leaks are checked with:
A. Compressed Air
B. Open Flame
C. Soapy Water
D. Teflon
Attach the correct wire to the correct question number

Duplex Receptacle

26. 28.
27. 29.

Light

30. 31.

Switch

32.
33.

Side view of Electrical Board
<table>
<thead>
<tr>
<th>Tool ID</th>
<th>A.</th>
<th>B.</th>
<th>C.</th>
<th>D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.</td>
<td>Vise-grip Pliers</td>
<td>Lineman Pliers</td>
<td>Water Pump Pliers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slip joint Pliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>Pin Punch</td>
<td>Drift Punch</td>
<td>Center Punch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nail Set</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>Pin Punch</td>
<td>Drift Punch</td>
<td>Center Punch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nail Set</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>Ratchet Handle</td>
<td>Slide Bar Handle</td>
<td>Wrench</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speed Handle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>Woodworkers Vise</td>
<td>Hog Ringer</td>
<td>Acme Comical Tool</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anvil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>Vise-grip Pliers</td>
<td>Lineman Pliers</td>
<td>Bolt Cutters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slip joint Pliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>Line level</td>
<td>Contractors String Level</td>
<td>Bubble Level</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chalk Line</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.</td>
<td>Dividers</td>
<td>Compass</td>
<td>Scribe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soap Stone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.</td>
<td>Line level</td>
<td>Contractors String Level</td>
<td>Bubble Level</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chalk Line</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.</td>
<td>Nail Puller</td>
<td>Lineman Pliers</td>
<td>Bolt Cutters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slip joint Pliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>Long Nose Pliers</td>
<td>Lineman Pliers</td>
<td>Electricians Pliers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slip joint Pliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45.</td>
<td>Nail Puller</td>
<td>Lineman Pliers</td>
<td>Bolt Cutters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slip joint Pliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>Dividers</td>
<td>Scratch Owl</td>
<td>Scribe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soap Stone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>Scratch Awl</td>
<td>Scratch Owl</td>
<td>Scribe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pin Punch</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
48. A. Dividers  
   C. Soap Stone  
   B. Scratch Owl  
   D. Scribe  

49. A. Line level  
   C. Sliding T-bevel  
   B. Protractor  
   D. Plumb Bob  

50. A. Circular Saw Bit  
    C. Key Hole Saw  
    B. Hole Saw  
    D. Carbide-tipped Masonry Drill  

51. A. Crow Bar  
    C. Pry Bar  
    B. Wrecking Bar  
    D. Wonder Bar  

52. A. Tubing Wrench  
    C. Adjustable Wrench  
    B. Open End Wrench  
    D. Box end wrench  

53. A. Joint socket  
    C. Universal Joint  
    B. Universal joint socket  
    D. Wobble Socket  

54. A. Joint socket  
    C. Universal Joint  
    B. Universal joint socket  
    D. Wobble Socket  

55. A. 8 pt Socket  
    C. 12 pt Socket  
    B. 6 pt Socket  
    D. Wobble Socket  

56. A. 8 pt Socket  
    C. 12 pt Socket  
    B. 6 pt Socket  
    D. Wobble Socket  

57. A. 8 pt Socket  
    C. 12 pt Socket  
    B. 6 pt Socket  
    D. Wobble Socket  

58. A. Socket Adapter  
    C. 4 pt Socket  
    B. Ratchet Adaptor  
    D. Wobble Socket  

59. A. Extension bar  
    C. Ratchet handle  
    B. Slide Bar Handle  
    D. Bar Handle  

60. A. Tubing wrench  
    C. Flex handle  
    B. Combination Wrench  
    D. Speed handle  

61. A. Plastic mallet  
    C. Rawhide mallet  
    B. Rubber mallet  
    D. All of the above
62. A. Dead Blow hammer  
   C. Rawhide mallet  
   B. Rubber mallet  
   D. All of the above  

63. A. Claw hammer  
   C. Curved Claw hammer  
   B. Straight Claw hammer  
   D. Framing hammer  

64. A. Hand Sledge hammer  
   C. Framing hammer  
   B. Engineers hammer  
   D. Hand drilling hammer  

65. A. Hand Sledge hammer  
   C. Framing hammer  
   B. Engineers hammer  
   D. Hand drilling hammer  

66. A. Hand Sledge hammer  
   C. Framing hammer  
   B. Engineers hammer  
   D. Hand drilling hammer  

67. A. Flat File  
   C. Double Cut file  
   B. Single Cut file  
   D. Three square file  

68. A. Flat File  
   C. Double Cut file  
   B. Single Cut file  
   D. Three square file  

69. A. Wood Rasp  
   C. Double Cut file  
   B. Single Cut file  
   D. Big File  

Questions 70 – 100 are worth a total of 30pts. In order for you to get them right, you must work cleaning the shop for the rest of the period. Points will be deducted if you are seen standing, doing nothing or sitting down. Do not go anywhere until the instructor says to go.
Ag. Mechanics 1-2
Pre-Test

Directions: Read all sections carefully. Do not write on this test!!

1. Nails are sized by length in:
   A. Gauge Numbers  B. Inches
   C. Penny Sizes    D. Diameter

2. Which type of electricity flows electrons in two directions?
   A. AC  B. DC
   C. DC - D. AC/DC

3. When Oxy welding, what should the oxygen pressure gauge be set at?
   A. 5 psi  B. 45 psi
   C. 35 psi D. 20 psi

4. What does the circled digit position represent?
   \[ 7018 \]
   A. Electricity Type Needed  B. Type of Flux
   C. Recommended Weld Position D. Strength of the Weld

5. In electrical wiring, what color screw does the black wire hook to?
   A. Silver  B. Green
   C. Gold    D. Red

6. How many volts are normally available out of a duplex receptacle?
   A. 110  B. 220
   C. 440   D. 1000kWh

7. Finish the sentence correctly
   The white wire (neutral) runs straight from the source to the ________.
   A. Switch  B. Load
   C. Wall    D. Toe on my right foot
8. When bending the wire into a hook to go around a screw on a receptacle, the hook should be bent to the _____________.
   A. Left  B. Right  
   C. Out  D. In
9. How many electrical terminals (screws) are there on a typical light receptacle?
   A. One  B. Two  
   C. Three  D. Four
10. When oxy welding, the weld should be done by ___________ the puddle / weld.
    A. Pushing  B. Pulling  
    C. Lifting  D. Gouging
11. If the torch starts to pop, it is because the torch is _____________.
    A. Hot  B. Dirty  
    C. Not enough gas flow  D. All of the above
12. The filler rod should be melted by the ____________ when welding.
    A. Torch cone  B. Puddle  
    C. The person next to you  D. I don't know because I didn't weld all year.
13. The proper amps a welder should be at when using 6013 while doing a butt weld is ___.
    A. 110  B. 130  
    C. 90  D. 150
14. When arc welding, the weld should be done by ___________ the puddle / weld.
    A. Pushing  B. Pulling  
    C. Lifting  D. Gouging
15. The correct arc length for welding is about __________ of an inch.
    A. 1/8  B. 1/2  
    C. 3/4  D. 5/8

Mark the letter of the correct measurement for each question 16.

A. 9 3/8”  B. 9 6/16”  
C. 9 ¼”  D. 9 ¾”
17.
A. 10 3/8”  B. 9 11/16”
C. 9 1/4”  D. 10 3/4”

18.

A. 10 3/8”  B. 10 3/16”
C. 11 5/16”  D. 10 5/16”

19.

A. 9 3/8”  B. 9 6/16”
C. 9 1/4”  D. 9 3/4”

20. A typical handsaw will cut on the _____________ stroke.
    A. Forward  B. Back
    C. Left  D. Right

Given Formula: \(BF = \frac{T” \times W” \times L’}{12} \times \text{number of pieces}\)

21. How many Board Feet do you have if you get 4 pieces of 2x4 that are 8 feet long?
    A. 23.3 Bf  B. 21.3 Bf
    C. 121.6 Bf  D. 36.4 Bf

22. A factor that contributes to a good weld is:
    A. Amps  B. Angle
    C. Speed  D. All of these

23. Injury to eyes can result from which of the following?
    A. Flying Slag  B. Sparks
    C. Watching the arc  D. All of the above

24. Never do a second weld pass if:
    A. The first weld was poor  B. The weld has not cooled
    C. The slag has not been removed  D. If the first pass was a different rod

25. Gas leaks are checked with:
    A. Compressed Air  B. Open Flame
    C. Soapy Water  D. Teflon
Measurement Answer Sheet
Part A

1. ______  
2. ______  
3. ______  
4. ______  
5. ______  
6. ______  
7. ______  
8. ______  
9. ______  
10. ______ 
11. ______ 
12. ______ 
13. ______ 
14. ______ 
15. ______ 
16. ______ 
17. ______ 
18. ______ 
19. ______ 
20. ______ 
21. ______ 
22. ______ 
23. ______ 
24. ______ 
25. ______ 
26. ______ 
27. ______ 
28. ______ 
29. ______ 
30. ______ 
31. ______ 
32. ______ 
33. ______ 
34. ______ 
35. ______ 
36. ______ 
37. ______ 
38. ______ 
39. ______ 
40. ______ 
41. ______ 
42. ______ 
43. ______ 
44. ______ 
45. ______ 
46. ______ 
47. ______ 
48. ______ 
49. ______ 
50. ______ 
51. ______ 
52. ______ 
53. ______ 
54. ______ 
55. ______ 
56. ______ 
57. ______ 
58. ______ 
59. ______ 
60. ______ 
61. ______ 
62. ______ 
63. ______ 
64. ______ 
65. ______ 
66. ______ 
67. ______ 
68. ______
Part A

DIRECTIONS: MATCH EACH NUMBER GIVEN IN THE BOX WITH THE MEASUREMENT ON THE RULER. MAKE SURE THAT YOU REDUCE ALL FRACTIONS. FOR EXAMPLE, IF YOU WERE TO RECORD 2/16" FOR QUESTION #1, I WOULD MARK THE ANSWER WRONG. THE CORRECT ANSWER WOULD BE 1/8". BE SURE TO INCLUDE WHOLE NUMBERS.
Multiple Choice (circle the correct answer) 1pt. Each

1. The passing of ____________ from atom to atom is what makes electricity flow.
   A. Protons       C. Neutrons
   B. Nucleus       D. Electrons

2. An example of a good conductor is:
   A. Plastic       C. Paint
   B. Copper        D. Rusted Metal

3. Electrical flow is measured in:
   A. Amps          C. Watts
   B. Volts         D. Ohm’s

4. Electrical pressure is measured in:
   A. Amps          C. Watts
   B. Volts         D. Ohm’s

5. Electrical resistance is measured in:
   A. Amps          C. Watts
   B. Volts         D. Ohm’s

6. Electrical work is measured in:
   A. Amps          C. Watts
   B. Volts         D. Ohm’s

7. Which of the following is the correct equation?
   A. W = VxA       C. A = VxW
   B. V = WxA       D. V = AxW

8. The abbreviation N.E.C. stands for:
   A. National Electrical Carrier       C. National Electrical Code
   B. Natural Electrical Conductor      D. National Energy Circuit

9. The most common method of producing electrical energy in large quantities to serve the home, farm, and business is:
   A. Light       C. Chemical
   B. Pressure     D. Magnetic

10. A G.F.C.I is designed to protect against ____________.
    A. Short Circuits       C. Faults
    B. Circuit Overload     D. High Voltage
True or False 1pt. Each

11. T  F  The neutral wire should be connected to the gold colored terminals.
12. T  F  The neutral wire should run from the source, directly to the load.
13. T  F  15 Milliamps can be fatal.
14. T  F  No. 12 is rated for 10-ampere circuits.
15. T  F  The higher the AWG number, the larger the wire size.
16. T  F  Electrical Cable is made to be run in conduit.
17. T  F  12-2 w/g cable has 4 wires inside the sheath (ex. Romex)
18 T  F  Fuses are designed to be used again after a circuit overload.
19. T  F  High voltage and low amps will definitely kill you.
20. T  F  Aluminum has more electrical resistance than Copper.

Calculations (show all of your work!!) 2pts. Each

21. How many Amps is there with 20 Watts and 10 Volts

\[
\begin{array}{c}
\text{W} \\
\text{V} \\
\text{A}
\end{array}
\]

22. How many Volts is there with 20 Watts and 10 Amps?

23. How many Watts is there with 5 Volts and 10 Amps?

24. How many kWh will you use if you use 275 Watts for 2 hours?
   (Hint: 1kWh = using 1000w for 1 hour)

25. How much will your electric bill be if you used 3000 watts for 10 hours and the cost was 10 cents / kWh.
Electrical Circuit Wiring

Directions: Wire this circuit to allow the receptacle to be hot all the time and the switch to control the light. Draw the wire connections to the correct terminal or wire. Each correct connection is worth 2pts, 20pts total.

Total Score On Wiring _____
Small Engines 1-2
Curriculum Development
COURSE TITLE: AGRICULTURAL SMALL ENGINE REPAIR 1-2

COURSE NUMBER: 142

RECOMMENDED GRADE LEVEL: 9-12

ABILITY LEVEL: Unsectonned

DURATION: 2 Semesters

CREDIT: 5-10 Units/Semester

GRADING FORMAT: Standard 0-4 Grade Points

MEETS GRADUATION REQUIREMENTS IN: Practical Arts

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Enochs, Beyer, Davis, Downey, Elliott, Johansen, Modesto

CBEDS CODE: 4030

MEETS UC AND CSU ENTRANCE REQUIREMENTS: No

CREDENTIAL REQUIREMENTS: Single Subject in: Ag, Industrial Ed & Technology, Ag Mechanics, Engine Performance & Technology or Small Engine Service & Repair

Course Description: This course is designed to educate students about the fast growing industry of small engines and compact power equipment. There is a large demand for small engine technicians in the areas of lawn, garden, farm and construction equipment. This course places emphasis on overhaul, repair, adjustment, and troubleshooting of lawnmowers, chainsaws, and other agricultural compact power equipment.

Recommended Prerequisites: None

Credential Requirements:

Date Matched Against State Framework:
Model Curriculum Standards, and State Curriculum Guides: October 15, 2005

Board Approved: February 6, 2006

REVIEW CYCLE: 2005-06 through 2009-2010
REQUIRED TEXTBOOK: Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004
### SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate length of instruction for each unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Career Opportunities/FFA Leadership/Gender Equity</td>
<td>1</td>
</tr>
<tr>
<td>B. Safety and Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>C. Theory</td>
<td>2.5</td>
</tr>
<tr>
<td>D. Tools</td>
<td>3</td>
</tr>
<tr>
<td>E. Two and Four Stroke Engines</td>
<td>2</td>
</tr>
<tr>
<td>F. Basic Systems</td>
<td>1</td>
</tr>
<tr>
<td>G. Ignition Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>H. Fuel Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>I. Components</td>
<td>2</td>
</tr>
<tr>
<td>J. Valves</td>
<td>1.5</td>
</tr>
<tr>
<td>K. Cylinders</td>
<td>1</td>
</tr>
<tr>
<td>L. Pistons</td>
<td>1</td>
</tr>
<tr>
<td>M. Rod and Crankshaft</td>
<td>1</td>
</tr>
<tr>
<td>N. Bearings and Seals</td>
<td>1</td>
</tr>
<tr>
<td>O. Lubrication</td>
<td>1</td>
</tr>
<tr>
<td>P. Electrical Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>Q. Project Disassembly</td>
<td>3.5</td>
</tr>
<tr>
<td>R. Project Assembly</td>
<td>5</td>
</tr>
<tr>
<td>S. Frame</td>
<td>.5</td>
</tr>
<tr>
<td>T. Service</td>
<td>1</td>
</tr>
<tr>
<td>U. Consumer/Shop Practices</td>
<td>1</td>
</tr>
<tr>
<td>V. Computer Applications</td>
<td>.5</td>
</tr>
</tbody>
</table>

**Total Number of Weeks** 36 Weeks
INSTRUCTIONAL MATERIALS

Basic Text(s):

Small Gas Engines Alfred C. Roth, Goodheart-Wilcox, 2004
(ISBN 1-59070-183-6)
  Workbook (ISBN 1-59070-184-4),
  Video Set (ISBN M-S200) Full Set, Volume Discount

Supplementary Text(s):

Vanguard V-Twin Overhead Valve (OHV) Engines - 272144, Briggs and Stratton

Service Tools Catalog – MS-8746, Briggs and Stratton

Repair Manual for Intek V-twin overhead valve (OHV) engines 273521, Briggs and Stratton

Twin Cylinder (opposed twin) L-head (side valve) built after 1981_271172, Briggs and Stratton

Single Cylinder L-head (side valve) engines built after 1981 270962, Briggs and Stratton

Single Cylinder Overhead Valve (OHV) Engines built after 1981, 272147, Briggs and Stratton
EXPECTATIONS FOR STUDENT LEARNING

1.0 GOAL: The student will be able to demonstrate competency in lifelong career planning skills, develop leadership abilities, and develop an awareness of programs offered in higher education without regard to race, sex, national origin, or handicap as they relate to agricultural compact power equipment.

1.1 Develop leadership abilities in educational, vocational, civic, recreational, and social activities through involvement in student organizations such as the Future Farmers of America. (6.12.1)

1.2 Identify personal traits (strengths, values and weaknesses). (6.12)

1.3 Listen to guest speaker on trade and technical education after high school. (6.12)

1.4 Identify at least three possible career choices in the small engine repair field. (6.13)

1.5 Demonstrate that opportunities in the small engine repair field are available without regard to race, sex, national origin, or handicap. (6.7)

1.6 Demonstrate an understanding of the role of a small engine mechanic in the agriculture industry. (6.7)

2.0 GOAL: Demonstrate attitudes, behaviors, and personal characteristics valued by employers.

2.1 The student will demonstrate the following: (6.7)

A. Responsibility
B. Dependability
C. Promptness
D. Willingness to learn new skills
E. Attentiveness during instruction
F. Getting along with others
G. Respect for others
H. Honesty and integrity
I. Pride in work
J. Flexibility
K. Not being defensive when corrected
L. Working up to capacity
M. Being pleasant and cheerful
N. Showing strong motivation to succeed
O. Good personal appearance
P. Organized
Q. Constructively assisting others
R. Work evaluation
3.0 GOAL: The student will understand correct safety practices, and tool use, consistent with industry requirements.

3.1 Satisfactorily complete the district's safety program. (6.8)
3.2 Pass shop safety tests and demonstrate shop safety. (6.8.1)
3.3 Obtain parental acknowledgment of safety requirements and conduct expectations. (6.8)
3.4 Demonstrate the safe use of all power equipment. (6.8.1)
3.5 Follow cleanup and storage procedures. (6.8.1)
3.6 Identify tools and their safe uses on a tool test. (6.8.1)

4.0 GOAL: The student will understand physical science concepts related to small engine design and operation including energy forms, static inertia, dynamic inertia, force, torque, horsepower, power vacuum, and atmosphere pressure.

4.1 Explain theory of inertia. (6.6)
4.2 Identify types of engines by their design. (6.6.1)
4.3 Compute displacement. (6.14.1)
4.4 Explain energy forms. (6.6.1)
4.5 Define and calculate force, torque, power, and horsepower. (6.6.1)
4.6 Explain ratios. (6.14)
4.7 Explain atmosphere pressure as it relates to engine operation. (6.6)
4.8 Define vacuum. (6.6)

5.0 GOAL: The student will understand two cycle and four cycle engine operating principles.

5.1 Explain the four stroke cycle. (6.6)
5.2 Explain the two stroke cycle. (6.6)
5.3 Demonstrate the four stroke cycle on a shop engine and describe the sequence of combustion. (6.6.1)
5.4 Name the parts and explain the function on a four cycle engine. (6.6.1)
5.5 Name the parts and explain the function on a two cycle engine. (6.6.1)
6.0 GOAL: The student will understand the principles of the fuel, electrical and ignition system.

6.1 Explain the principles of the fuel system. (6.6)
6.2 Explain the principles of the ignition and electrical system. (6.6)
6.3 Identify part of a simple fuel system and explain their function. (6.6.1)
6.4 Identify the parts of a simple point ignition system and explain their function. (6.6.1)

7.0 GOAL: The student will understand the physical science of electricity, principles of magneto ignition, principles of battery ignition, and principles of spark plugs in a manner consistent with industry standards.

7.1 Explain the theory of basic magneto system. (6.6)
7.2 Overhaul a magneto system and perform a tune-up. (6.6.1)
7.3 Demonstrate a knowledge of how the capacitive discharge system works. (6.6)
7.4 Explain and perform an ignition system repair on a small engine ignition system. (6.6.1)
7.5 Clean and gap a spark plug. (6.6.1)
7.6 Identify the components of a battery ignition system and explain the function of each part. (6.6)

8.0 GOAL: The student will understand carburetion systems, fuel types, fuel mixtures, fuel pumps and filters, physical science of fuel systems, diaphragms and float-type carburetion theory, troubleshooting and repair, air cleaner, servicing, and governor repair and adjustments consistent with related industry standards.

8.1 Identify the parts of a typical fuel system. (6.6)
8.2 Identify different types of fuels used—unleaded, leaded, fuel mix. (6.6.1)
8.3 Explain the carburetor theory and circuits. (6.6)
8.4 Overhaul a basic carburetor and name the parts. (6.6.1)
8.5 Explain fuel pump operation and overhaul a fuel pump. (6.6.1)
8.6 Explain the venturi principle and how it is used in carburetion. (6.6.1)
8.7 Service a diaphragm type of carburetor and make all adjustments. (6.6.1)
8.8 Service fuel and air filters. (6.6.1)
8.9 Identify types of air filter systems. (6.6.1)
8.10 Identify different types of governor systems and explain their operation. (6.6.1)
8.11 Adjust mixture (air-fuel). (6.6.1)

9.0 GOAL: The student will understand the components of an engine.
9.1 Identify different types of engines according to design. (6.6.1)
9.2 Identify component parts of an engine. (6.6.1)
9.3 Explain and describe the two and four stroke sequence of combustion. (6.6)

10.0 GOAL: The student will disassemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.
10.1 Identify the correct manual and procedures for disassembling the project engine. (6.5.2)
10.2 Demonstrate proper organization of disassembled parts in regard to placement and order of assembly. (6.5.2)
10.3 Fill out an engine specification sheet showing measurements of critical components. (6.11.1)
10.4 Identify OEM part specifications in proper service manuals for project engine. (6.6.1)
10.5 Demonstrate how to identify worn or damaged parts using the manual and specification sheet. (6.11)

11.0 GOAL: The student will understand cylinder reconditioning process and techniques.
11.1 Use a micrometer to measure a cylinder. (6.14.1)
11.2 Hone a cylinder. (6.6.1)
11.3 Identify a cylinder in need of repair. (6.6.1)

11.4 Look up specifications to be used in cylinder reconditioning. (6.6.1)

12.0 GOAL: The student will understand piston and piston ring construction, design, operation, troubleshooting, repair, and replacement with industry standards.

12.1 Remove and replace pistons and rings and measure ring end gap. (6.6.1)

12.2 Measure piston with a micrometer. (6.14.1)

12.3 Identify piston ring by name and function. (6.6.1)

12.4 Identify piston pin types and keeper. (6.6.1)

12.5 Remove and replace a piston pin. (6.6.1)

12.6 Identify piston damage and determine if replacement is necessary. (6.6.1)

12.7 Look up specifications to be used in piston and ring service. (6.5.2)

13.0 GOAL: The student will understand connecting rod and crankshaft construction, design, inspection repair, and replacement consistent with industry standards.

13.1 Service lower end of engine (bearings and crank). (6.6.1)

13.2 Perform engine measurements on crankshaft and connecting rods. (6.14.1)

13.3 Identify types of connecting rods. (6.6.1)

13.4 Identify assembly marks on rod caps. (6.6.1)

13.5 Explain how crankshaft operates and what its function is. (6.6)

13.6 Look up specifications to be used in piston and ring service. (6.5.1)

14.0 GOAL: The student will understand bearing and seal removal, inspection, measurement, installation, consistent with industry skill level requirements.

14.1 Identify types of engine bearings. (6.6.1)

14.2 Measure and inspect bearings. (6.14.1)

14.3 Install and torque bearing caps. (6.6.1)

14.4 Inspect seals. (6.6.1)
14.5 Replace seals.(6.6.1)
14.6 Identify types of bearings. (6.6.1)

15.0 GOAL: The student will understand friction, viscosity, lubrication types and specifications, and two cycle and four cycle lubrication systems in a manner consistent with industry standards.

15.1 Explain friction, viscosity, and oil classification. (6.5,6.6)
15.2 Identify three types of lubrication systems. (6.5,6.6)
15.3 Explain how the two cycle oil system works. (6.6)

16.0 GOAL: The student will understand components and operation of L-Head and Over Head valve train design.

16.1 Explain the function of a valve train and their components. (6.6.1)
16.4 Explain the operating sequence and valve timing. (6.6.1)
16.6 Identify the different type of valve configurations. (6.6)
16.7 Troubleshoot the valve train. (6.6)

17.0 GOAL: The student will demonstrate an understanding of engine diagnosis, tune-up, carburetion repair, ignition repair, major engine repair.

17.1 Look up specifications in book.(6.5.2,6.6.1,6.14.1)
17.2 Disassemble engine according to specifications. (6.6.1)
17.3 Refurbish valves. (6.6.1)
17.4 Replace rings. (6.6.1)
17.5 Measure parts with micrometer. (6.14.1)
17.6 Reassemble engine, torquing all necessary parts. (6.6.1)
17.7 Replace all necessary gaskets and seals. (6.6.1)
17.8 Rebuild ignition system. (6.6.1)
17.9 Service and rebuild a carburetor. (6.6.1)
17.10 Troubleshoot an engine in the areas of carburetor ignition, starting, and compression. (6.6.1)

17.11 Perform a complete tune-up. (6.6.1)

17.12 Make all necessary adjustments to the engine to make it run correctly. (6.6)

18.0 GOAL: The student will understand basic walk-behind frame repair and maintenance and blade service.

18.1 Perform frame maintenance. (6.5.1)

18.2 Service belts and chains. (6.5.1)

18.3 Service blades. (6.5.1)

19.0 GOAL: The student will demonstrate entry-level skills in oil changing, lube servicing, filter service, blade and hub servicing, and chain servicing.

19.1 Change oil on a motor. (6.5.1)

19.2 Service filters. (6.5.1)

19.3 Sharpen a blade. (6.5.1)

19.4 Change a blade. (6.5.1)

19.5 Grease zerk fittings on a motor and frame. (6.5.1)

20.0 GOAL: The student will understand detail information required on engine disassembly.

20.1 Demonstrate how to develop an engine specification sheet. (6.5.2, 6.11)

21.0 GOAL: The student will assemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.

21.1 Identify the correct manual and procedures for assembling the project engine. (6.5.2)

21.2 Demonstrate proper organization of assembling parts in regard to placement and order of assembly. (6.5.2)
21.3 Identify parts, tools, patterns and torque specifications in proper service manuals for project engine. (6.6.1)

22.0 GOAL: The student will understand computer usage in the field.

22.1 Demonstrate computer applications in industry as they pertain to parts, tools, service, and inventory. (6.11)

23.0 GOAL: The student will complete individual SOE projects in addition to assigned class curriculum.

23.1 Satisfactorily complete the individual SOE projects. (6.13.1)

23.2 Complete a record book for SOE project. (6.11, 6.13.2)

24.0 GOAL: The student will identify and select the proper tool for a specific application. The student will correctly use tools and equipment to perform a job to manufactures specification.

24.1 Identify hand and power tools by their proper names and explain their proper use. (6.6.1)

24.2 Properly use service manuals/parts books to look up parts and specifications. (6.5.2)
NAME OF BOOK: Small Gas Engines

AUTHOR(S): Alfred C. Roth

PUBLISHER: Goodheart-Wilcox

COPYRIGHT DATE: 2004

ISBN #: 1-59070-183-6

PRICE: $37.98

DEPARTMENT: Agriculture

CLASS: Agricultural Small Engine Repair 1-2, 3-4

GENERAL DESCRIPTION:
Text provides clear, hands-on directions when working with small gas engines.

ASSURANCE OF SOCIAL APPROPRIATENESS: The selection committee has determined that the materials comply with the State of California Standards for Evaluation of Instructional Materials with Respect to Social Content.

APPROVED BY:

Selection Committee:
Richard Wolfe, Roger Dickson, and approved by District Agriculture Advisory Committee

Rodney L. Owen, Director
School-to-Career Education

V. Lynn Lysko
Director, Curriculum & Staff Development, 7-12
Equipment Needed:

Air tools
Basic mechanics hand tools--Society of Automotive Engineers (SAE) and metric
Battery charger
Bearing press
Bench Vises
Bearing puller set
Body tools--assorted
Boring machine
Bushing drivers
Camcorder
Carburetor synchronizers
Compression tester
Computer with printer
Cylinder bore gauge
Double flaring set
Drill press
Electronic test equipment
Expendable supplies
Student tool sets
Glass bead machine
Grinders--hand
Hard seat grinder
Hydraulic Jack
Jack stands
Lathe / Mill combo
Lubrication equipment
Micrometers--in/out/telescope
Oil drain equipment
Overhead projector
Paint spray gun
Parts washer
Pedestal grinder
Project engines
  Compressed Air
  Regulator
  Ring compressor
  Seat cutter
  Soldering gun
  Solvent tank
  Spark plug cleaner
  Specialty tools
  Steam cleaner
  Tap and die sets--SAE and metric
  Test engines

Torque wrenches
Tubing cutter
Vacuum gauge
Vacuum pressure tester
Valve knurler
Valve grinder
Valve seat grinder
Valve spring compressor
VCR and monitor
Class set Fluke
Volt-ohm meters
Work tables

Agricultural Small Engine Repair 1-2 (12)
Small Engines 3-4
Curriculum Development
MOGDESTO CITY SCHOOLS
COURSE OUTLINE

COURSE TITLE: AGRICULTURAL SMALL ENGINE REPAIR 3-4
COURSE NUMBER: 143
RECOMMENDED GRADE LEVEL: 10-12
ABILITY LEVEL: Unsectioned
DURATION: 2 Semesters
CREDIT: 5-10 Units/Semester
GRADING FORMAT: Standard 0-4 Grade Points
MEETS GRADUATION REQUIREMENTS IN: Practical Arts
REQUIRED FOR GRADUATION: No
SCHOOLS OFFERED: Beyers, Davis, Downey, Enochs, Johansen, Modesto
CBEDS CODE: 4030
MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No
MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: No
CREDENTIAL REQUIREMENTS: Single Subject in: Ag, Industrial Ed & Technology, Ag Mechanics, Engine Performance & Technology or Small Engine Service & Repair

Course Description: This course is designed to enhance the students former knowledge about the fast growing industry of small engines and compact power equipment. This course places emphasis on advanced techniques of overhauling, repairing, adjusting, and troubleshooting of two and four-stroke agricultural compact power equipment.

Recommended Prerequisites: Agricultural Small Engine Repair 1-2

Date Matched Against State Framework
Model Curriculum Standards, and State Curriculum Guides: October 15, 2005
Board Approved: February 6, 2006

REVIEW CYCLE: 2005-06 through 2009-2010
REQUIRED TEXTBOOK: Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004
**SUMMARY OF MAJOR UNITS OF INSTRUCTION**

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate length of instruction for each unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Career Opportunities/FFA Leadership/Gender Equity</td>
<td>1</td>
</tr>
<tr>
<td>B. Safety and Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>C. Tools</td>
<td>2</td>
</tr>
<tr>
<td>D. Two and Four Stroke Engine and Performance</td>
<td>2</td>
</tr>
<tr>
<td>E. Basic Charging Systems</td>
<td>2</td>
</tr>
<tr>
<td>F. Ignition Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>G. Fuel &amp; Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>H. Manufactures of Small Engines</td>
<td>2</td>
</tr>
<tr>
<td>I. Valves and Valve Train Performance</td>
<td>2.5</td>
</tr>
<tr>
<td>J. Cylinders</td>
<td>1</td>
</tr>
<tr>
<td>K. Pistons</td>
<td>1</td>
</tr>
<tr>
<td>L. Rod and Crankshaft</td>
<td>1</td>
</tr>
<tr>
<td>M. Bearings and Seals</td>
<td>1</td>
</tr>
<tr>
<td>N. Accessory Electrical Systems</td>
<td>2.5</td>
</tr>
<tr>
<td>O. Project Disassembly</td>
<td>1</td>
</tr>
<tr>
<td>P. Project Assembly</td>
<td>2</td>
</tr>
<tr>
<td>Q. Lawn Mower Tractor (LMT) Frame</td>
<td>2</td>
</tr>
<tr>
<td>R. Two Stroke and 4 Stroke Service</td>
<td>1</td>
</tr>
<tr>
<td>S. Consumer/Shop Practices</td>
<td>1</td>
</tr>
<tr>
<td>T. Computer Applications</td>
<td>1</td>
</tr>
<tr>
<td>U. Individual Projects</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Number of Weeks: 36 Weeks
INSTRUCTIONAL MATERIALS

Basic Text(s):

Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004,
(ISBN 1-59070-183-6),
Workbook (ISBN 1-59070-184-4),
Video Set (ISBN M-S200) Full Set, Volume Discount

Supplementary Text(s):

Vanguard V-Twin Overhead Valve (OHV) Engines - 272144, Briggs and Stratton

Service Tools Catalog – MS-8746, Briggs and Stratton

Repair Manual for Intek V-twin overhead valve (OHV) engines 273521, Briggs and Stratton

Twin Cylinder (opposed twin) L-head (side valve) built after 1981 271172, Briggs and Stratton

Single Cylinder L-head (side valve) engines built after 1981 270962, Briggs and Stratton

Single Cylinder Overhead Valve (OHV) Engines built after 1981, 272147, Briggs and Stratton
EXPECTATIONS FOR STUDENT LEARNING

1.0 GOAL: The student will be able to demonstrate competency in lifelong career planning skills, develop leadership abilities, and develop an awareness of programs offered in higher education without regard to race, sex, national origin, or handicap as they relate to agricultural compact power equipment.

1.1 Students will recognize traits of effective leaders and businessmen in the industry, by visiting small engine repair facilities and complete a report about choosing a career within the field of agricultural engines. (6.12)

1.2 Develop leadership abilities in educational, vocational, civic, recreational, and social activities through involvement in student organizations such as the Future Farmers of America. (6.12.1)

1.3 Identify personal traits (strengths, values and weaknesses). (6.12)

1.4 Listen to guest speaker on trade and technical education after high school. (6.12)

1.5 Identify at least three possible career choices in the small engine repair field. (6.13)

1.6 Demonstrate that opportunities in the small engine repair field are available without regard to race, sex, national origin, or handicap. (6.7)

1.7 Demonstrate an understanding of the role of a small engine mechanic in the agriculture industry. (6.7)

1.8 Develop a resume and complete a job application. (6.12)

1.9 Correctly fill out and use repair order forms. (6.11.1)

2.0 GOAL: Demonstrate attitudes, behaviors, and personal characteristics valued by employers.

2.1 The student will demonstrate the following: (6.7)

A. Responsibility
B. Dependability
C. Promptness
D. Willingness to learn new skills
E. Attentiveness during instruction
F. Getting along with others
G. Respect for others
H. Honesty and integrity
I. Pride in work
2.1 Continued:

J. Flexibility
K. Not being defensive when corrected
L. Working up to capacity
M. Being pleasant and cheerful
N. Showing strong motivation to succeed
O. Good personal appearance
P. Organized
Q. Constructively assisting others
R. Work evaluation

3.0 GOAL: The student will understand correct safety practices, and tool use, consistent with industry requirements.

3.1 Satisfactorily complete the district's safety program. (6.8)
3.2 Pass shop safety tests and demonstrate shop safety. (6.8.1)
3.3 Obtain parental acknowledgement of safety requirements and conduct expectations. (6.8)
3.4 Demonstrate the safe use of all power equipment. (6.8.1)
3.5 Follow cleanup and storage procedures. (6.8.1)
3.6 Identify tools and their uses on a tool test. (6.8.1)

4.0 GOAL: The student will understand physical science concepts related to small engine design and performance including energy forms, efficiency, static inertia, dynamic inertia, force, torque, horsepower, in both two and four stroke engines.

4.1 Explain theory of inertia. (6.6)
4.2 Explain how component weight and design affects engine efficiency. (6.6.1)
4.3 Compute displacement. (6.14.1)
4.4 Define and calculate force, torque, power, and horsepower. (6.6.1)
4.5 Explain and calculate ratios. (6.14)
4.6 Explain how turbos, and blowers work and are used in the small engine industry. (6.6.1)
4.7 Explain atmosphere pressure as it relates to engine operation. (6.6)
5.0 GOAL: The student will understand two cycle and four cycle engine operating principles.

5.1 Explain the four stroke cycle. (6.6)

5.2 Explain the two stroke cycle. (6.6)

5.3 Describe the sequence of combustion in a two and four stroke engine. (6.6.1)

5.4 Name the parts and explain the function on a four cycle engine. (6.6.1)

5.5 Name the parts and explain the function on a two cycle engine. (6.6.1)

6.0 GOAL: The student will understand the principles of the fuel, electrical charging and ignition system.

6.1 Explain the principles of the fuel system. (6.6)

6.2 Explain the principles of electrical flow. (6.6)

6.3 Explain the principles of the ignition and electrical system. (6.6)

6.4 Identify the different types of charging systems and their output. (6.6.1)

6.5 Demonstrate how to troubleshoot a charging system using a volt meter, DC shunt (6.9)

6.6 Demonstrate how to test DC amperage output of an alternator or stator. (6.9)

6.7 Explain a function of a diode, voltage regulator and other charging components. (6.6.1)

6.8 Identify the parts of a simple point ignition system and explain their function. (6.6.1)

7.0 GOAL: The student will understand the physical science of electricity, principles of magneto ignition, principles of battery ignition, and principles of spark plugs in a manner consistent with industry standards.

7.1 Explain the theory of basic magneto system. (6.6)

7.2 Overhaul a magneto system and perform a tune-up. (6.6.1)

7.3 Demonstrate a knowledge of how the capacitive discharge system works. (6.6)
7.4 Explain and perform an ignition system repair on a small engine ignition system. (6.6.1)

7.5 Clean and gap a spark plug. (6.6.1)

7.6 Identify the components of a basic electronic ignition system and explain the function of each part. (6.6)

---

8.0 GOAL: The student will understand carburetion systems, fuel types, fuel mixtures, fuel pumps, filters, carburetion theory, troubleshooting and repair, air cleaner, servicing, and governor repair and adjustments consistent with related industry standards.

8.1 Identify the parts of a typical fuel system. (6.6)

8.2 Identify different types of fuels used—unleaded, leaded, fuel mix. (6.6.1)

8.3 Explain the function and principals of octane and additives in fuel. (6.6)

8.4 Explain the carburetor theory and circuits. (6.6)

8.5 Overhaul a performance carburetor and name the parts. (6.6.1)

8.5 Explain fuel pump operation and overhaul a fuel pump and accelerator pump. (6.6.1)

8.6 Explain the venturi principle and how it is used in carburetion. (6.6.1)

8.7 Explain the differences in throttle controlling devices inside the carburetor including slide, plate and cylinder type of controls. (6.6.1)

8.8 Service fuel and air filters. (6.6.1)

8.9 Adjust mixture (air-fuel). (6.6.1)

---

9.0 GOAL: The student will properly identify different models, types, designs, components and manufactures of small engines.

9.1 Identify different types of engines according to design, make and model. (6.6.1)

9.2 Identify the different types of components from different manufactures. (6.6.1)

9.3 Troubleshoot problems within several different makes, model and type of engines. (6.6)
10.0 GOAL: The student will troubleshoot, repair, and replace valves, seats, valve guides, and springs consistent with industry skill level requirements.

10.1 Service upper end and valve train and measure stem clearance. (6.6.1)
10.2 Demonstrate removal and installation of a valve. (6.6.1)
10.3 Inspect and clean a valve. (6.6.1)
10.4 Explain valve failures and their causes. (6.6.1)
10.5 Grind a valve and seat. (6.6.1)
10.6 Identify the parts of a valve. (6.6.1)
10.7 Lapp a valve. (6.6.1)
10.8 Adjust valve clearance. (6.6.1)
10.9 Demonstrate a multi-angle valve cut and explain the effects on air flow. (6.6.1)

11.0 GOAL: The student will understand cylinder reconditioning process and techniques.

11.1 Use a micrometer to measure a cylinder. (6.14.1)
11.2 Hone a cylinder. (6.6.1)
11.3 Identify a cylinder in need of repair. (6.6.1)
11.4 Look up specifications to be used in cylinder reconditioning. (6.6.1)

12.0 GOAL: The student will understand piston and piston ring construction, design, operation, troubleshooting, repair, and replacement with industry standards.

12.1 Remove and replace pistons and rings and measure ring end gap. (6.6.1)
12.2 Measure piston with a micrometer. (6.14.1)
12.3 Identify piston ring by name and function. (6.6.1)
12.4 Identify piston pin types and keeper. (6.6.1)
12.5 Remove and replace a piston pin. (6.6.1)
12.6 Identify piston damage and determine if replacement is necessary. (6.6.1)
12.7 Look up specifications to be used in piston and ring service. (6.5.2)
12.8 Explain different shapes of pistons and their uses. (6.6.1)
12.9 Explain how piston weight and design effects efficiency, combustion and performance. (6.6.1)

13.0 GOAL: The student will understand connecting rod and crankshaft construction, design, inspection repair, and replacement consistent with industry standards.
13.1 Service lower end of engine (bearings and crank). (6.6.1)
13.2 Perform engine measurements on crankshaft and connecting rods. (6.14.1)
13.3 Identify types of connecting rods. (6.6.1)
13.4 Identify assembly marks on rod caps. (6.6.1)
13.5 Explain how crankshaft operates and what its function is. (6.6)
13.6 Look up specifications to be used in piston and ring service (6.5.1)

14.0 GOAL: The student will understand bearing and seal removal, inspection, measurement, installation, consistent with industry skill level requirements.
14.1 Identify types of engine bearings. (6.6.1)
14.2 Measure and inspect bearings. (6.14.1)
14.3 Install and torque bearing caps. (6.6.1)
14.4 Inspect seals. (6.6.1)
14.5 Replace seals. (6.6.1)
14.6 Identify types of bearings. (6.6.1)

15.0 GOAL: The student will understand friction, viscosity, lubrication types and specifications, and two cycle and four cycle lubrication systems in a manner consistent with industry standards.
15.1 Explain friction, viscosity, and oil classification. (6.5.6.6)
15.2 Identify the different types of lubrication systems. (6.5.6.6)
15.3 Explain how the two cycle oil system works. (6.6)
15.4 Explain different additives and their functions in oil. (6.6)

16.0 GOAL: The student will understand electrical system, and mechanical starter systems.

16.1 Use a volt-ohm meter. (6.9.2)
16.4 Check a battery for charge. (6.9)
16.6 Service electrical starter systems. (6.9)
16.7 Troubleshoot the electrical and starting system. (6.9)

17.0 GOAL: The student will demonstrate an understanding of engine diagnosis, tune-up, carburetion repair, ignition repair, major engine repair, and drive system repair.

17.1 Look up specifications in book. (6.5.2, 6.6.1, 6.14.1)
17.2 Disassemble engine according to specifications. (6.6.1)
17.3 Refurbish valves. (6.6.1)
17.4 Replace rings. (6.6.1)
17.5 Measure parts with micrometer. (6.14.1)
17.6 Reassemble engine, torquing all necessary parts. (6.6.1)
17.7 Replace all necessary gaskets and seals. (6.6.1)
17.8 Rebuild ignition system. (6.6.1)
17.9 Service and rebuild a carburetor. (6.6.1)
17.10 Troubleshoot an engine in the areas of carburetor ignition, starting, and compression. (6.6.1)
17.11 Perform a complete tune-up. (6.6.1)
17.12 Make all necessary adjustments to the engine to make it run correctly. (6.6)
18.0 GOAL: The student will understand Lawn Mower Tractor (LMT) frame repair, maintenance and blade service.

18.1 Perform frame maintenance. (6.5.1)
18.2 Service belts and chains. (6.5.1)
18.3 Service blades. (6.5.1)

19.0 GOAL: The student will disassemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.

19.1 Identify the correct manual and procedures for disassembling the project engine. (6.5.2)
19.2 Demonstrate proper organization of disassembled parts in regard to placement and order of assembly. (6.5.2)
19.3 Fill out an engine specification sheet showing measurements of critical components. (6.11.1)
19.4 Identify OEM part specifications in proper service manuals for project engine. (6.6.1)
19.5 Demonstrate how to identify worn or damaged parts using the manual and specification sheet. (6.11)

20.0 GOAL: The student will understand detail information required on records and work orders.

20.1 Demonstrate how to develop a service schedule and keep a maintenance record. (6.5.2, 6.11)
20.2 Demonstrate how to fill out a work order. (6.11)
20.3 Demonstrate how to develop an engine specification sheet. (6.5.2, 6.11)

21.0 GOAL: The student will understand computer usage in the field.

21.1 Demonstrate computer applications in industry as they pertain to parts, service, and inventory. (6.11)
22.0 GOAL: The student will complete individual SOE projects in addition to assigned class curriculum.

22.1 Satisfactorily complete pre-approved individual projects. (6.13.1)

22.2 Complete a record book for SOE project. (6.11, 6.13.2)

23.0 GOAL: The student will identify and select the proper tool for a specific application. The student will correctly use tools and equipment to perform a job to manufactures specification.

23.1 Identify hand and power tools by their proper names and explain their proper use. (6.6.1)

23.2 Properly use service manuals/parts books to look up parts and specifications. (6.5.2)

24.0 GOAL: The student will assemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.

24.1 Identify the correct manual and procedures for assembling the project engine. (6.5.2)

24.2 Demonstrate proper organization of assembling parts in regard to placement and order of assembly. (6.5.2)

24.4 Identify parts, tools, patterns and torque specifications in proper service manuals for project engine. (6.6.1)

25.0 GOAL: The student will assemble, disassemble, and troubleshoot an individual project engine with regard to procedure, records and organization consistent with industry skill level requirements.

25.1 Identify the correct manual and procedures for assembling the project engine. (6.5.2)

25.2 Demonstrate proper organization of disassembled parts in regard to placement and order of assembly. (6.5.2)

25.3 Demonstrate proper organization of assembling parts in regard to placement and order of assembly. (6.5.2)

25.4 Identify parts, tools, patterns and torque specifications in proper service manuals for project engine. (6.6.1)

25.5 Properly use service manuals/parts books to look up parts and specifications. (6.5.2)
25.5 Fill out an engine specification sheet showing measurements of critical components. (6.11.1)
NAME OF BOOK: Small Gas Engines

AUTHOR(S): Alfred C. Roth

PUBLISHER: Goodheart-Wilcox

COPYRIGHT DATE: 2004

ISBN #: 1-59070-183-6

PRICE: $37.98

DEPARTMENT: Agriculture

CLASS: Agricultural Small Engine Repair 1-2, 3-4

GENERAL DESCRIPTION:
Text provides clear, hands-on directions when working with small gas engines.

ASSURANCE OF SOCIAL APPROPRIATENESS: The selection committee has determined that the materials comply with the State of California Standards for Evaluation of Instructional Materials with Respect to Social Content.

APPROVED BY:

Selection Committee:
Richard Wolfe, Roger Dickson, and approved by District Agriculture Advisory Committee

Rodney L. Owen, Director
School-to-Career Education

V. Lynn Lysko
Director, Curriculum & Staff Development, 7-12
Equipment Needed:

Agricultural Small Engine Repair 3-4 (14)

Compressed Air Regulator
Ring compressor
Seat cutter
Soldering gun
Solvent tank
Spark plug cleaner
Specialty tools

Steam cleaner
Tap and die sets--SAE and metric
Test engines
Torque wrenches
Tubing cutter
Vacuum gauge
Vacuum pressure tester
Valve knurler
Valve grinder
Valve seat grinder
Valve spring compressor
VCR and monitor
Class set Fluke Volt-ohm meters
Work tables

Cylinder bore gauge
Double flaring set
Drill press

Electronic test equipment
Expendable supplies
Student tool sets
Glass bead machine
Grinders--hand
Hard seat grinder
Hydraulic Jack
Jack stands
Lathe / Mill combo

Lubrication equipment
Micrometers--in/out/telescoping
Oil drain equipment
Overhead projector
Paint spray gun
Parts washer
Pedestal grinder
Project engines
Section 11

ROP Small Engines Tech Curriculum Development
MODESTO CITY SCHOOLS
COURSE OUTLINE

COURSE TITLE: Agricultural Small Engine Technology (ROP)
COURSE NUMBER: 013
RECOMMENDED GRADE LEVEL: 11-12
DURATION: 2 Semesters
CREDIT: 5-10 Units/Semester
MEETS GRADUATION REQUIREMENTS: Practical Arts
REQUIRED FOR GRADUATION: No
CBEDS CODE: 4030
MEETS UC ENTRANCE REQUIREMENTS: No
MEETS CSU ENTRANCE REQUIREMENTS: No

CREDENTIAL REQUIREMENTS: Designated Subject (Vocational) in: Agriculture Mechanics, Engine Performance Technician or Small Engine Service & Repair

Course Description:

This course is designed to train students for entry-level jobs in the fast growing industry of agricultural compact power equipment. There is a large demand for small engine mechanics in the areas of lawn, garden, and farm equipment small motor repair. This course places emphasis on employment skills concerning overhaul, repair, adjustment, and troubleshooting of agricultural compact power equipment.

Recommended Prerequisites: Agricultural Small Engine Repair 3-4

Date Aligned with State Standards: February, 2007
Board Approved: April 23, 2007

REVIEW CYCLE: 2006-07 through 2010-2011
REQUIRED TEXTBOOK (Title, publisher, year): Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004
INSTRUCTIONAL MATERIALS

Basic Text(s):

**Small Gas Engines (ISBN 1-59070-183-6), Alfred C. Roth, 2004,**
Workbook (ISBN 1-59070-184-4),
Video Set (ISBN M-S200) Full Set, Volume Discount

Supplementary Text(s):

**Vanguard V-Twin Overhead Valve (OHV) Engines – 272144,**
Briggs and Stratton

**Service Tools Catalog – MS-8746, Briggs and Stratton**

**Repair Manual for Intek V-twin overhead valve (OHV) engines 273521,**
Briggs and Stratton

**Twin Cylinder (opposed twin) L-head (side valve) built after 1981, 271172,**
Briggs and Stratton

**Single Cylinder L-head (side valve) engines built after 1981, 270962,**
Briggs and Stratton

**Single Cylinder Overhead Valve (OHV) Engines built after 1981, 272147,**
Briggs and Stratton
## SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate Length of Instruction for Each Unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Theory</td>
<td>2.5</td>
</tr>
<tr>
<td>B. Career Opportunities/FFA Leadership/Gender Equity</td>
<td>3</td>
</tr>
<tr>
<td>C. Safety and Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>D. Two and Four Stroke Engines</td>
<td>1</td>
</tr>
<tr>
<td>E. Basic Systems</td>
<td>1</td>
</tr>
<tr>
<td>F. Ignition Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>G. Fuel Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>H. Components</td>
<td>1</td>
</tr>
<tr>
<td>I. Valves</td>
<td>1.5</td>
</tr>
<tr>
<td>J. Cylinders</td>
<td>1</td>
</tr>
<tr>
<td>K. Pistons</td>
<td>1</td>
</tr>
<tr>
<td>L. Rod and Crankshaft</td>
<td>1</td>
</tr>
<tr>
<td>M. Bearings and Seals</td>
<td>1</td>
</tr>
<tr>
<td>N. Lubrication</td>
<td>1</td>
</tr>
<tr>
<td>O. Electrical Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>P. Project Diagnosis &amp; Rebuild</td>
<td>4.5</td>
</tr>
<tr>
<td>Q. Frame</td>
<td>1.5</td>
</tr>
<tr>
<td>R. Service</td>
<td>1</td>
</tr>
<tr>
<td>S. Consumer/Shop Practices</td>
<td>1</td>
</tr>
<tr>
<td>T. Computer Applications</td>
<td>.5</td>
</tr>
<tr>
<td>U. Tools</td>
<td>1</td>
</tr>
<tr>
<td>V. Individual Projects</td>
<td>5</td>
</tr>
</tbody>
</table>

Total | 36 | 180.0
EXPECTATIONS FOR STUDENT LEARNING

1.0 GOAL: The student will be able to demonstrate competency in lifelong career planning skills, develop leadership abilities, and develop an awareness of programs offered in higher education without regard to race, sex, national origin, or handicap as they relate to agricultural compact power equipment.

1.1 Students will recognize traits of effective leaders and businessmen in the industry, by visiting small engine repair facilities and complete a report about choosing a career within the field of agricultural engines.

1.2 Develop leadership abilities in educational, vocational, civic, recreational, and social activities through involvement in student organizations such as the Future Farmers of America.

1.3 Identify personal traits (strengths, values and weaknesses).

1.4 Listen to guest speaker on trade and technical education after high school.

1.5 Identify at least three possible career choices in the small engine repair field.

1.6 Demonstrate that opportunities in the small engine repair field are available without regard to race, sex, national origin, or handicap.

1.7 Demonstrate an understanding of the role of a small engine mechanic in the agriculture industry.

1.8 Develop a resume and complete a job application.

1.9 Correctly fill out and use repair order forms.

2.0 GOAL: The student will demonstrate the following attitudes, behaviors, and personal characteristics valued by employers. The student will complete individual SOE projects in addition to assigned class curriculum.

2.1 A. Responsibility
B. Dependability
C. Promptness
D. Willingness to learn new skills
E. Attentiveness during instruction
F. Getting along with others
G. Respect for others
H. Honesty and integrity
I. Pride in work
J. Flexibility
K. Not being defensive when corrected
L. Working up to capacity
M. Being pleasant and cheerful
N. Showing strong motivation to succeed
O. Good personal appearance
P. Organized
Q. Constructively assisting others
R. Work evaluation

2.2 Select individual projects to be completed at end of course.

2.3 Complete a record book for SOE project.

3.0 GOAL: The student will understand laboratory systems, safety, and tool use,
consistent with industry requirements.

3.1 Satisfactorily complete the district's safety program.
3.2 Pass shop safety tests and demonstrate shop safety.
3.3 Obtain parental acknowledgement of safety requirements and conduct expectations.
3.4 Demonstrate the safe use of all power equipment.
3.5 Follow cleanup and storage procedures.
3.6 Identify tools and their uses on a tool test.

4.0 GOAL: The student will understand physical science concepts related to small engine design and operation including energy forms, static inertia, dynamic inertia, force, torque, horsepower, power vacuum, and atmosphere pressure.

4.1 Explain theory of inertia.
4.2 Identify types of engines by their design.
4.3 Compute displacement.
4.4 Explain energy forms.
4.5 Define force, torque, power, and horsepower.
4.6 Explain ratio.
4.7 Explain atmosphere pressure as it relates to engine operation.
4.8 Define vacuum.

5.0 GOAL: The student will understand two cycle and four cycle engine operating principles.

5.1 Explain the four stroke cycle.
5.2 Explain the two stroke cycle.
5.3 Demonstrate the four stroke cycle on a shop engine and describe the sequence of combustion.
5.4 Name the parts and explain the function on a four cycle engine.
5.5 Name the parts and explain the function on a two cycle engine.

6.0 GOAL: The student will understand the principles of the fuel, electrical, and ignition system.

6.1 Explain the principles of the fuel system.
6.2 Explain the principles of the ignition and electrical system.
6.3 Identify part of a simple fuel system and explain their function.
6.4 Identify the parts of a simple point ignition system and explain their function.

7.0 GOAL: The student will understand the physical science of electricity, principles of magneto ignition, principles of battery ignition, and principles of spark plugs in a manner consistent with industry standards.

7.1 Explain the theory of basic magneto system.
7.2 Overhaul a magneto system and perform a tune-up.
7.3 Explain the workings of a distributor and be able to overhaul it.
7.4 Demonstrate a knowledge of how the capacitive discharge system works.
7.5 Explain and perform a tune-up on a small engine ignition system.
7.6 Clean and gap a spark plug.
7.7 Identify the components of a battery ignition system and explain the function of each part.
8.0 GOAL: The student will understand fuel types, two cycle fuel mixtures, fuel pumps and filters, physical science of fuel systems, diaphragms and float-type carburetion theory, troubleshooting and repair, air cleaner, servicing, and governor repair and adjustments consistent with related industry standards.

8.1 Identify the parts of a typical fuel system.
8.2 Identify different types of fuels used—unleaded, leaded, fuel mix.
8.3 Explain the carburetor theory and circuits.
8.4 Overhaul a basic carburetor and name the parts.
8.5 Explain fuel pump operation and overhaul a fuel pump.
8.6 Explain the venturi principle and how it is used in carburetion.
8.7 Service a diaphragm type of carburetor and make all adjustments.
8.8 Service fuel and air filters.
8.9 Identify types of air filter systems.
8.10 Identify different types of governor systems and explain their operation.
8.11 Adjust mixture (air-fuel).

9.0 GOAL: The student will understand the components of an engine.

9.1 Identify different types of engines according to design.
9.2 Identify component parts of an engine.
9.3 Explain and describe the two and four stroke sequence of combustion.

10.0 GOAL: The student will troubleshoot, repair, and replace valves, seats, valve guides, and springs consistent with industry skill level requirements.

10.1 Service upper end and valve train and measure stem clearance.
10.2 Demonstrate remove and installation of a valve.
10.3 Inspect and clean a valve.
10.4 Grind a valve and seat.
10.5 Identify types of valve keepers.
10.6 Lapp a valve.
10.7 Adjust valve clearance.

11.0 GOAL: The student will understand cylinder reconditioning process and techniques.

11.1 Use a micrometer to measure a cylinder.
11.2 Hone a cylinder.
11.3 Identify a cylinder in need of repair.
11.4 Look up specifications to be used in cylinder reconditioning.

12.0 GOAL: The student will understand piston and piston ring construction, design, operation, troubleshooting, repair, and replacement with industry standards.

12.1 Remove and replace pistons and rings and measure ring end gap.
12.2 Measure piston with a micrometer.
12.3 Identify piston ring by name and function.
12.4 Identify piston pin types and keeper.
12.5 Remove and replace a piston pin.
12.6 Identify piston damage and determine if replacement is necessary.
12.7 Look up specifications to be used in piston and ring service.
13.0 GOAL: The student will understand connecting rod and crankshaft construction, design, inspection repair, and replacement consistent with industry standards.

13.1 Service lower end of engine (bearings and crank).
13.2 Perform engine measurements on crankshaft and connecting rods.
13.3 Identify types of connecting rods.
13.4 Identify assembly marks on rod caps.
13.5 Explain how crankshaft operates and what its function is.
13.6 Look up specifications to be used in piston and ring service.

14.0 GOAL: The student will understand bearing and seal removal, inspection, measurement, installation, consistent with industry skill level requirements.

14.1 Identify types of engine bearings.
14.2 Measure and inspect bearings.
14.3 Install and torque bearing caps.
14.4 Inspect seals.
14.5 Replace seals.
14.6 Identify types of bearings.

15.0 GOAL: The student will understand friction, viscosity, lubrication types and specifications, and two cycle and four cycle lubrications systems in a manner consistent with industry standards.

15.1 Explain friction, viscosity, and oil classification.
15.2 Identify three types of lubrication systems.
15.3 Explain how the two cycle oil system works.

16.0 GOAL: The student will understand starter systems, wiring, battery service, electrical system, and mechanical starter systems.

16.1 Use a volt-ohm meter.
16.2 Explain how an electric starter system operates.
16.3 Charge a battery.
16.4 Check a battery for charge.
16.5 Identify and service two different types of systems.
16.6 Service mechanical and electrical starter systems.
16.7 Troubleshoot the wiring system, starter system, and charging system.

17.0 GOAL: The student will demonstrate an understanding of engine diagnosis, tune-up, carburetion repair, ignition repair, major engine repair, and drive system repair.

17.1 Look up specifications in book.
17.2 Disassemble engine according to specifications.
17.3 Grind valves.
17.4 Replace rings.
17.5 Measure parts with micrometer.
17.6 Reassemble engine, torquing all necessary parts.
17.7 Replace all necessary gaskets and seals.
17.8 Rebuild ignition system.
17.9 Service and rebuild a carburetor.
17.10 Troubleshoot an engine in the areas of carburetor ignition, starting, and compression.
17.11 Perform a complete tune-up.
17.12 Make all necessary adjustments to the motor to make it run correctly.

18.0 GOAL: The student will understand frame repair and maintenance and blade service.
   18.1 Perform frame maintenance.
   18.2 Service belts and chains.
   18.3 Service blades.

19.0 GOAL: The student will demonstrate entry-level skills in oil changing, lube servicing, filter service, blade and hub servicing, and chain servicing.
   19.1 Change oil on a motor.
   19.2 Service filters.
   19.3 Sharpen a blade.
   19.4 Change a blade.
   19.5 Change and adjust a chain.
   19.6 Grease zerk fittings on a motor and frame.

20.0 GOAL: The student will understand detail information required on records and work orders.
   20.1 Demonstrate how to develop a service schedule and keep a maintenance record.
   20.2 Demonstrate how to fill out a work order.

21.0 GOAL: The student will understand computer usage in the field.
   21.1 Demonstrate computer applications in industry as they pertain to parts, service, and inventory.

22.0 GOAL: The student will identify and select the proper tool for a specific application. The student will correctly use tools and equipment to perform a job to manufacturer's specifications.
   22.1 Identify hand and power tools by their proper names and explain their proper use.
   22.2 Properly use service manuals/parts books to look up parts and specifications.
Equipment Needed:

<table>
<thead>
<tr>
<th>Air body tools—assorted</th>
<th>Air tools</th>
<th>Anti-freeze hydrometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic mechanics hand tools—assorted</td>
<td>Society of Automotive Engineers (SAE) and metric</td>
<td>Bearing puller set</td>
</tr>
<tr>
<td>Battery charger</td>
<td>Bearing press</td>
<td>Bushing drivers</td>
</tr>
<tr>
<td>Body tools—assorted</td>
<td>Boring machine</td>
<td>Compression tester</td>
</tr>
<tr>
<td>Camcorder</td>
<td>Carburetor synchronizers</td>
<td>Cylinder bore gauge</td>
</tr>
<tr>
<td>Computer with printer</td>
<td>Drill press</td>
<td>Dwell meter</td>
</tr>
<tr>
<td>Double flaring set</td>
<td>Electric hand drill</td>
<td>Electronic test equipment</td>
</tr>
<tr>
<td>Dynamometer</td>
<td>Film projector</td>
<td>Student tool sets</td>
</tr>
<tr>
<td>Expendable supplies</td>
<td>Grinders—hand</td>
<td>Hydraulic Jack</td>
</tr>
<tr>
<td>Glass bead machine</td>
<td>Hydrometer</td>
<td>Lubrication equipment</td>
</tr>
<tr>
<td>Hard seat grinder</td>
<td>Lathe</td>
<td></td>
</tr>
<tr>
<td>Jack stands</td>
<td>Opaque projector</td>
<td>Overhead projector</td>
</tr>
<tr>
<td>Micrometers— in/out/telescope</td>
<td>Parts washer</td>
<td>Pedestal grinder</td>
</tr>
<tr>
<td>Oil drain equipment</td>
<td>Regulator</td>
<td>Respiration</td>
</tr>
<tr>
<td>Paint spray gun</td>
<td>Seat cutter</td>
<td>Slide projector</td>
</tr>
<tr>
<td>Project engines</td>
<td>Solvent tank</td>
<td>Spark plug cleaner</td>
</tr>
<tr>
<td>Ring compressor</td>
<td>Specialty tools— engine, suspension, and brakes</td>
<td></td>
</tr>
<tr>
<td>Soldering gun</td>
<td>Tap and die sets— SAE and metric</td>
<td>Timing light</td>
</tr>
<tr>
<td>Specialty tools</td>
<td>Test engines</td>
<td>Vacuum gauge</td>
</tr>
<tr>
<td>Steam cleaner</td>
<td>Tubing cutter</td>
<td></td>
</tr>
<tr>
<td>Tape recorder</td>
<td>Valve knurler</td>
<td></td>
</tr>
<tr>
<td>Torque wrenches</td>
<td>Valve seat grinder</td>
<td>Valve spring compressor</td>
</tr>
<tr>
<td>Vacuum pressure tester</td>
<td>Fluke Volt-ohm meter</td>
<td>Work tables</td>
</tr>
<tr>
<td>Valve grinder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VCR and monitor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NAME OF BOOK: Small Gas Engines

AUTHOR(S): Alfred C. Roth

PUBLISHER: Goodheart-Wilcox

COPYRIGHT DATE: 2004

ISBN #: 
Text: 1-59070-183-6 = $37.98
Instructor Manual = 1-59070-185-2 = $28.50
Workbook = 1-59070-184-4 = $10.98

PRICE:

DEPARTMENT: Agriculture

CLASS: Agricultural Small Engine Technology (ROP)

GENERAL DESCRIPTION:
Text provides clear hands-on directions when working with small gas engines.

ASSURANCE OF SOCIAL APPROPRIATENESS: The selection committee has determined that the materials comply with the State of California Standards for Evaluation of Instructional Materials with Respect to Social Content.

APPROVED BY:

Selection Committee: District Agriculture Advisory Committee
Richard Wolfe, Roger Dickson, Mark Nower, Gary Gerhardt, and Scott Layne

Curriculum Area Chairperson  Linda Erickson, Director
Curriculum & Staff Development, 7-12
Small Engines Course Materials
COURSE TITLE: AGRICULTURAL SMALL ENGINE TECHNOLOGY

TEXTBOOK: "Small Gas Engines"

OTHER REQUIRED MATERIALS:
- Safety glasses
- Coveralls (if desired)
- Combination lock (if you want a locker)
- 3 ring binder

MAJOR UNITS OF INSTRUCTION:
- Safety and Shop Practices
- Two and Four Stroke Theory
- Tool identification
- Horse Power and Torque
- Engine Components
- Ignition Systems
- Valve Train
- Compression and Fuel
- Precision Measuring Instruments
- Carburetion
- Service
- Individual Projects

GRADING/EVALUATION POLICY:

Types of Evaluation and Weighted Value:
- 20% - Class work
- 20% - Tests/quizzes
- 40% - Shop work/projects
- 10% - Notebook
- 10% - Participation /FFA

Description of Final Examination
(Including weighted values in semester grade):
Comprehensive semester and year end final will include major units of instruction and will be 10% of your grade.

TEACHER: Mr. Wolfe

Method of Grading and Scale:
- 100 - 90% = A
- 89 - 80% = B
- 79 - 70% = C
- 69 - 60% = D
- 59% and below = F

Extra Credit Policy:
Only given to students who have 85% of work completed and have at least a “C” average in class.

Attendance: Unexcused absences and tardies will be counted against the final grade.

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

Other:
Make-up tests will be given within three (3) days of return and only, before school or after school as per teachers schedule allows.

Students must obtain 5 FFA activity points per Semester for full FFA / participation credit
Activities will be posted.

Homework Practices
All class work will be done in class.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.

Parent Signature __________________________ Date __________________________
Compression Ratios and Fuel

By: Mr. Wolfe

Compression Ratios

Compression ratio: refers to the difference of volume inside the combustion chamber from TDC to BDC.

\[
\begin{array}{c|c|c|c|c|c|c}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
BDC & & & & & & TDC
\end{array}
\]

This compression ratio is stated as: 6:1

Compression Ratio FACTS

➤ As air is compressed, the temperature rises.

➤ The more compression, the more heat.

➤ The more compression the more complete fuel will burn.

➤ The better fuel burn, the more HP!

Compression Ratio

➤ If the compression is too high, the Air / Fuel mixture will not need a spark to ignite!

➤ This phenomenon is called either pre-firing or detonation (if it occurs after the spark happens).

Bad Terms

➤ Detonation: excessive heat and pressure in the combustion chamber cause the left over air/fuel mixture to autoignite after the spark. (late into the compression stroke)

This produces multiple flame fronts within the combustion chamber instead of a single flame kernel. When these multiple flames collide, they do so with explosive force that produces a sudden rise in cylinder pressure accompanied by a sharp metallic ping or knocking noise. The hammer-like shock waves created by detonation subject the head gasket, piston, rings, spark plug and rod bearings to severe overloading.
The best indication of detonation is the pinging sound that occurs at low RPM and under load.

Bad Terms

- **Pre-ignition**: The ignition of the mixture prior to the spark plug firing (early in the compression stroke)

- Pre-ignition is caused by some other ignition source such as an overheated spark plug tip, carbon deposits in the combustion chamber and, rarely, a burned exhaust valve
What's the Difference

➢ There is no rapid pressure spike like with detonation.
➢ Instead, there is a tremendous amount of pressure present for a very long time, (the entire compression stroke.) That's what puts such large loads on the parts. (Overloading)
➢ There is no sharp pressure spike to resonate the block and the head to cause any noise, so you never hear it, the engine just blows up!

Compression Ratio

➢ Pre-firing is bad because the air/fuel in the cylinder explodes, then the piston compresses the gases which become super-heated and will eventually melt aluminum pistons!

What's the Difference

➢ When the piston crown temperature rises rapidly it never has time to get to the skirt and expand and cause it to scuff.
➢ Pre-firing just melts the center right out of the piston.
➢ That's the biggest difference between detonation and pre-ignition when looking at piston failures.

Pre-Ignition

Causes of Detonation

➢ Caused by:
  ➢ Too high a compression ratio for the octane of fuel used.
  ➢ Too lean a fuel mixture
  ➢ Hot spots in the combustion chamber.
  ➢ Lugging
  ➢ Carbon deposits.
CAUSES OF PRE-IGNITION

Caused By:
- Carbon deposits.
- Spark plugs too hot a heat range
- Spark plugs not firmly seated against gasket
- Sharp edges in combustion chamber
- Valves operating at higher than normal temperature because of excessive guide clearance or improper seal with valve seats.
- Overheating
- All a factor of running a low octane fuel

FUEL AND OCTANE

➢ In order to prevent engine damage the correct octane rated gasoline must be used.

➢ Octane: is a rating of how combustible gasoline is. The higher the number the slower the fuel burns.

FUEL AND OCTANE

➢ Engines with high compression require high octane fuel. Otherwise the heat from the compression stroke would cause the fuel to combust.

FUEL AND OCTANE

➢ By running high octane fuel in high compression engines, the fuel takes longer to fully ignite and allows the piston and crank to travel past TDC.

100 octane

87 octane

ENERGY IN FUEL

➢ All grades of gasoline contain roughly the same amount of heat energy.

1 gallon of gasoline 125,000 Btu

HOW MUCH ENERGY

1 gallon of kerosene or light distillate oil 136,000 Btu
1 gallon of diesel fuel oil 138,690 Btu
1 gallon of residual fuel oil 149,950 Btu
1 gallon of gasoline 125,000 Btu
1 gallon of ethanol 84,400 Btu
1 gallon of methanol 52,300 Btu
1 gallon of gasohol (10% ethanol, 90% gasoline) 120,000 Btu
1 standard cord of wood 18,000,000 to 24,000,000 Btu

➢ The bottom line: More Energy, the better fuel mileage.
Fuel / Gasoline

➢ THE DIFFERENCE BETWEEN REGULAR, MIDRANGE, AND PREMIUM IS OCTANE...WHICH AFFECTS HORSEPOWER, NOT MILEAGE.

Gasoline

➢ THE DIFFERENCE BETWEEN SHELL, CHEVRON, EXXON, AND ANY BRAND IS THE TYPE OF DETERGENTS THEY ADD.

➢ DETERGENTS CLEAN DEPOSITS, BUT DON'T DIRECTLY IMPACT MILEAGE.

My suggestions

➢ IF YOUR CAR SAYS PREMIUM FUEL ONLY, THEN DON'T SKIMP: YOU CAN HURT YOUR ENGINE.

➢ For MAX Horsepower: Run the lowest Octane rating, without the engine pinging

➢ Wait for the Tank to get on "E." Go to the closest station.

Fuel Life

➢ Shelf life of stored diesel is approximately 6 months.

➢ Shelf life of stored gasoline is approximately 3 months.
Compression Ratios and Fuel Test

Circle your answers

1) The Compression ratio of an engine is determined by the volume of air drawn into the engine, verses how tight of an area the piston squeezes that air into.
   TRUE    FALSE

2) The compression ration of the engine on the right has a compression ratio of:
   1:5  7:1  6:1  1:6  5:1  1:7

3) The more compression in an engine the more ________ in the cylinder.
   Horsepower    PSI    Heat    All of these

4) High compression engines require:
   More Ethanol    More Cetane    More Octane    More Oxygen

5) The better fuel burn, the:
   Cleaner the emissions    Less Horsepower    Less Miles per gallon

6) If the compression is too high for the octane used, the Air / Fuel mixture might ______
   Pre-Ignite    Detonate    Auto-Ignite    All of these

7) ________ is an auto-ignite condition that occurs after the spark happens.
   Pre-Ignite    Detonate    Pre-detonation    All of these

8) Detonation is a condition indicated by:
   The engine blowing up    A hole forming in the top of the piston
   Extreme over heating    A pinging sound while under a load

9) The higher the octane rating the ________ the fuel will burn.
   Hotter    Faster    Colder    Slower    Better

10) Octane is a rating of the ________ properties of the fuel.
    Combustible    Flammable    Volatile    Flash Point    All of these

11) Shelf life of stored diesel is approximately
    6 months    12 months    18 months    .75 years

12) Shelf life of stored gasoline is approximately
    6 months    12 months    18 months    .75 years
Compression Ratios and Fuel

1) Compression ratio:

__________________________
__________________________

__________________________.

2) As air is compressed, the ____________ rises.

3) The more ____________, the more ____________ in the cylinder.

4) The more compression the ____________ combustion.

5) The better fuel burn, the ____________!

6) If the compression is too high, the Air / Fuel mixture will ____________ to ignite!

7) This phenomenon is called ____________ or ____________ if it occurs after the spark happens.

Bad Terms

8) Detonation: ____________

__________________________

9) The best indication of detonation is the ____________ that occurs at ____________ and under load.

10) Pre-ignition: ____________

__________________________

11) Pre-ignition is caused by some other ____________ such as an overheated spark plug tip, carbon deposits in the combustion chamber and, rarely, a burned exhaust valve.

12) There is no sharp pressure spike to resonate the block and the head to cause any noise, so you never hear it, the engine just blows up!

13) Pre-firing is bad because the air / fuel in the cylinder explodes, then the piston compresses the gases which become ____________.
What’s the Difference?

14) When the piston crown temperature rises rapidly it never has time to get to the skirt and expand and cause it to _________________.

15) Pre-firing just melts the ______________________ of the piston.

16) That’s the biggest difference between detonation and pre-ignition when looking at piston failures.

17)
18)
19)
20)

Fuel and Octane

21) Detonation could be caused by:
   a. ________________________________
   b. ________________________________
   c. ________________________________
   d. ________________________________
   e. ________________________________

22) Pre-Ignition could be caused by:
   a. ________________________________
   b. ________________________________
   c. ________________________________
   d. ________________________________
   e. ________________________________
   f. ________________________________
   g. ________________________________

23) In order to prevent pre-firing the correct octane rated gasoline must be used.

24) Octane: _________________________________. The ___________ the number the _______________ the fuel burns.

25) Engines with _______________________________ require ___________ octane fuel. Otherwise the heat from the compression stroke would cause the fuel to combust before the piston gets to TDC.

26) By running high octane fuel in high compression engines, the fuel takes longer to fully ignite and allows the piston and crank to travel past TDC.
Energy in Fuel

27) All grades of gasoline contain roughly the same amount of ________________.

28) BTU RATINGS

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>BTU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 gallon of kerosene or light distillate oil</td>
<td></td>
</tr>
<tr>
<td>1 gallon of middle distillate or diesel fuel oil</td>
<td>BTU</td>
</tr>
<tr>
<td>1 gallon of residual fuel oil</td>
<td></td>
</tr>
<tr>
<td>1 gallon of gasoline</td>
<td></td>
</tr>
<tr>
<td>1 gallon of ethanol</td>
<td></td>
</tr>
<tr>
<td>1 gallon of methanol</td>
<td></td>
</tr>
<tr>
<td>1 gallon of gasohol (10% ethanol, 90% gasoline)</td>
<td></td>
</tr>
<tr>
<td>1 standard chord of wood</td>
<td></td>
</tr>
</tbody>
</table>

Ignited by a Hot Deposit:  
Regular Ignition: Spark:

Ignites: Remaining Fuel  
Flame Fronts Collide

Ignited by a Hot Deposit:  
Regular Ignition: Spark:

Ignites: Remaining Fuel  
Flame Fronts Collide
Fuel Choice

29) The difference between regular, mid, and premium gasoline is ________________.
which affects __________________, not ____________________.

30) The difference between Chevron, Exxon and any brand is ________________

31) Detergents

32) For MAX Horsepower: ________________

33) Shelf life of stored diesel is approximately ________________.

34) Shelf life of stored gasoline is approximately ________________.
**Measuring Engine Performance**

Chapter Objectives: Upon completion of this chapter, you should be able to

- Explain how cubic inch displacement (C.I.D.) is calculated
- Explain what compression ratio is and how it is calculated
- Explain what volumetric efficiency is and how engine operating characteristics affect it
- Understand the difference between Indicated HP, Frictional HP, Rated HP, and Brake HP

**Where the term comes from Horse -Power**

- The term was invented by James Watt in the 1700's.
- He wanted to be able to talk about the power developed by horses used in coal mines.
- He determined that the average horse could complete 33,000 ft-lbs of work in one minute.

**Example (do not write)**

- If you have a one pound weight bolted to the floor, and try to lift it with one pound of force, you will have applied force and exerted energy, but no work will have been done.
- If you unbolt the weight, and apply a force sufficient to lift the weight one foot, then one foot pound of work will have been done. If that event takes a minute to accomplish, then you will be doing work at the rate of one foot pound per minute.
- If it takes one second to accomplish the task, then work will be done at the rate of 60 foot pounds per minute, and so on.

**Where the term comes from Horse Power is a measurement of work that can be done.**

- To further explain HP, a horse exerting one HP can raise 330 lbs of coal 100 ft in a minute. (= to 33,000 ft lbs.)
  1 Horse Power

**Measuring Horsepower**

- The formula calculating HP

  \[ HP = \frac{\text{Torque} \times \text{RPM's}}{5252} \]

**What is torque**

- Torque is a measurement of a turning force.
Measuring Torque
The Formula for calculating torque with known HP.

Torque = \( 5252 \times \frac{\text{HP}}{\text{rpm}} \)

How does torque work
- Force \times \text{distance} \times \text{to fulcrum} = \text{Torque}

\[
\begin{align*}
100\text{lbs} & = 20 \times 5 \\
& 20 \text{ lbs} \\
& 5 \text{ ft}
\end{align*}
\]

Torque
- The distance of the arm is 5 ft and with 20 lbs of force, you get 100 ft lbs of torque with this set up at the fulcrum.

\[
100\text{ft lbs} = 20\text{lbs} \times 5\text{ft} \\
20 \text{ lbs} \\
5\text{ ft}
\]

Calculating Torque
No different with an engine crankshaft.
Intek 6.5 hp Engine curve

Displacement
Displacement is in either cc's or cu.in.
Cu. In. = cubic inches
CC = Cubic Centimeters

Displacement
Displacement is the area of the piston times the
distance it travels up and down. From TDC to BDC.
Area of Piston x Travel = Displacement

Calculating CID
Area of piston
X Length of stroke = CID
EX. 3 sqin
X 2 in stroke = 6 cu inches

Calculation of Area
Piston size = 2" in diameter
In order to calculate CID, you need to find
the area of the top of the piston.
Area of a Circle Example

\[ \pi R^2 = \text{Area} \quad R=1'' \]

\[ 3.14 \times (1 \times 1) = 3.14 \text{ sqin} \]

Area of a Circle Example 2

\[ \pi R^2 = \text{Area} \quad R=2'' \]

\[ 3.14 \times (2 \times 2) = 3.14 \times 4 \]
\[ 3.14 \times 4 = 12.56 \text{ sqin} \]

Area Example #3

Piston size: 5" in Diameter

\[ \pi R^2 = \text{Area} \quad R=2.5'' \]

\[ 3.14 \times (2.5 \times 2.5) = 3.14 \times 6.25 \]
\[ 3.14 \times 6.25 = 19.62 \text{ sqin} \]

Piston area x stroke = CID

Example #4

Given: 2" piston
2" stroke
\[ \pi R^2 = \text{Area} \]

Area = 3.14 x (1 x 1) = 3.14 sqin
3.14 sqin x 2" stroke = 6.28 CID

Piston area x stroke = CID

Example #5

Given: 2.688" piston
3.556" stroke
\[ \pi R^2 = \text{Area} \]

Area = 3.14 x (1.344 x 1.344) = 5.6718 sqin
5.6718 sqin x 3.556" stroke = 20.168 CID

Calculating Compression Ratios

The difference between the volume of air drawn into the cylinder, and the space that volume of air is compressed into.

6:1 compression ratio
**High Compression benefits**
- Allows for more extraction of energy from the air/fuel mixture.
  - Heat
  - Better mixing and atomizing of fuel
  - Bottom line...more horsepower

**Horse Power Ratings**

**Volumetric Efficiency**
The size of the piston displacement vs. the amount of air drawn into the cylinder.

**Thermal Efficiency**

**Heat Loss through cooling systems**
Heat is drawn away from the engine through:
- Percentage of Cooling (about)
  - Oil 10%
  - Cooling Fins 30%
  - Exhaust 50%
Engine Calculations and Measurements
(SHOW ALL WORK!!)

1. If you had a 1” piston what is the area of it? (π r²)
   
   Area = 3.14 x (radius x radius)

2. If you had a 2” piston what is the area of it?

3. If you had a 1.35” piston what is the area of it?

4. Find the Displacement in Cubic Inches: Displacement = Area x Stroke
   
   Given: 2.56” Piston
   
   3.555” Stroke

5. Find the Displacement in Cubic Inches:
   
   Given: 3” Piston
   
   2.711” Stroke

6. Calculate the Horse Power with the given information: HP = Torque x RPM
   
   Given: 2534 RPM
   
   24.6 FTLBS

   HP = 5252

7. Calculate the Horse Power with the given information:
   
   Given: 1400 RPM
   
   24.6 FTLBS

8. Calculate the Horse Power with the given information:
   
   Given: 3500 RPM
   
   15 FTLBS
9. Calculate torque with the given information:
   Torque = \( 5252 \times \frac{\text{HP}}{\text{RPM}} \)
   Given: 23 HP
   3500 RPM

10. Calculate torque with the given information:
    Given: 20 HP
        2200 RPM

11. Calculate Brake HP with the given information:
    Indicated HP
    \[ \text{Indicated HP is 100} \]
    Frictional Hp is 23
    \[ \text{Indicated HP} - \text{Frictional HP} = \text{Brake} \]

12. Calculate Rated Hp with the given information:
    Indicated HP
    Indicated HP is 9.2
    Frictional Hp is 2.1
    \[ \text{Indicated HP} - \text{Frictional HP} = \text{Brake} \]
    \[ 80\% \text{ of Brake} = \text{Rated} \]

13. Use the following information to answer the questions.

You have an engine with a sticker on the side of it that says 8 HP.
What is the Brake HP of this engine?

What is the Rated HP of this engine?

What is the maximum HP this engine should run at if it were running for long periods of time?

If Indicated HP was 15 and Frictional Hp is 2, what is the Brake HP?

If I had a cement mixer that required 18 hp to rotate, what size engine should I buy to do the job?
<table>
<thead>
<tr>
<th>Element No.</th>
<th>Distance from TDC (in)</th>
<th>Force exerted on piston (lb)</th>
<th>Force*delta x (delta x is 0.05 in)</th>
<th>Bore</th>
<th>Stroke</th>
<th>Clearance volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-0.05</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-0.1</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-0.15</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-0.2</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-0.25</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>-0.3</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-0.35</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>-0.4</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>-0.45</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>-0.5</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>-0.55</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>-0.6</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>-0.65</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>-0.7</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>-0.75</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>-0.8</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>-0.85</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>-0.9</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>-0.95</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>-1</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>-1.05</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>-1.1</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>-1.15</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>-1.2</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>-1.25</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>-1.3</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>-1.35</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>-1.4</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>-1.45</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>-1.5</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>-1.55</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>-1.6</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>-1.65</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>-1.7</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>0</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Computed Values (Do not rework):

- Piston Area (in²)
- Cylinder volume
- Horsepower Totals:

**COMPRESSION HP**

**EXPANSION HP**

**NET HORSEPOWER**

(Expansion HP - Compression)

Total work (in-lb)

#DIV/0!

Total work (ft-lb)

#DIV/0!

Total HP (hp) - COMPRESSION

#DIV/0!
<table>
<thead>
<tr>
<th>Element No.</th>
<th>Distance from TDC (in)</th>
<th>Piston top:</th>
<th>Force exerted on piston (lb)</th>
<th>Force x (delta x is 0.05 in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>2</td>
<td>0.05</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>3</td>
<td>0.1</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>4</td>
<td>0.15</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>5</td>
<td>0.2</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>6</td>
<td>0.25</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>7</td>
<td>0.3</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>8</td>
<td>0.35</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>9</td>
<td>0.4</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>10</td>
<td>0.45</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>11</td>
<td>0.5</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>12</td>
<td>0.55</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>13</td>
<td>0.6</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>14</td>
<td>0.65</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>15</td>
<td>0.7</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>16</td>
<td>0.75</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>17</td>
<td>0.8</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>18</td>
<td>0.85</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>19</td>
<td>0.9</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>20</td>
<td>0.95</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>22</td>
<td>1.05</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>23</td>
<td>1.1</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>24</td>
<td>1.15</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>25</td>
<td>1.2</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>26</td>
<td>1.25</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>27</td>
<td>1.3</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>28</td>
<td>1.35</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>29</td>
<td>1.4</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>30</td>
<td>1.45</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>31</td>
<td>1.5</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>32</td>
<td>1.55</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>33</td>
<td>1.6</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>34</td>
<td>1.65</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>35</td>
<td>1.7</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
<tr>
<td>36</td>
<td>0</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
<td>#DIV/0!</td>
</tr>
</tbody>
</table>

**Total work (rpm)**

**Total work (hp)**

**Total HP (hp)**
Ignition Test
Circle your answers

1. The larger the spark plug gap, the more voltage the ignition system must produce to jump the gap.
   a.) True
   b.) False

2. Spark plugs reach their self-cleaning temperature at:
   a.) 700 degrees Fahrenheit
   b.) 1000 degrees Fahrenheit
   c.) 1400 degrees Fahrenheit
   d.) 3200 degrees Fahrenheit

3. The reach of a spark plug is:
   a.) length of the gap
   b.) distance between the ground electrode and the center electrode
   c.) distance from the metal shell seat to the end of the threads
   d.) total length of the plug

4. A common way to kill an engine with a magneto ignition system properly is to
   a.) cut current to the coil.
   b.) ground the primary ignition circuit
   c.) choke the engine
   d.) ground the positive lead from the battery

5. The ignition system must be able to produce a minimum of ____ volts to force electric current across the spark plug
   a.) 1,000
   b.) 5,000
   c.) 10,000
   d.) 20,000

6. The ribs on the insulator of the spark plug are there to prevent
   a.) a flash over
   b.) a shorting
   c.) overheating
   d.) none of the above

7. CDI stands for
   a.) Controller Directed Ignition System
   b.) Capacitive Discharge Ignition System
   c.) Controlled Diode Ignition System
   d.) None of the above

8. In an ignition coil the primary windings are
   a.) Few turns of light wire
   b.) Many turns of light wire
   c.) Few turns of heavy wire
   d.) Many turns of heavy wire

9. A transistor
   a.) is a solid-state switch.
   b.) allows current to run one direction and not the other.
   c.) is an electronic check valve.
   d.) absorbs and stores electrons.
   e.) both b and c
10. The high voltage in the secondary windings is created when the current in the primary windings is ________ and the magnetic field collapses resulting in a voltage spike.
   a.) broken
   b.) increased
   c.) lowered
   d.) none of the above

11. The main function of the coil in the magneto ignition system is to:
   a.) serve as a storage reservoir for electricity in the primary circuit
   b.) increase the voltage so a spark will jump across the spark plug electrode gap
   c.) build up a magnetic field from the moving magnet
   d.) provide a path for the flow of primary circuit current to the ground
   e.) All of the above

12. When the magnets on a magneto ignition system pass the armature legs, a ____ current is produced.
   a.) Direct
   b.) Alternating
   c.) All of the above
   d.) None of the above

13. The colder the plug the ______ the insulator nose.
   a.) shorter
   b.) longer
   c.) cooler
   d.) sharper

14. Which one of the following components is not part of the primary circuit of the ignition system?
   a.) Spark plug
   b.) Coil
   c.) Ignitor
   d.) Condenser

15. A single cylinder 4 stroke cycle engine running at 3000 RPM requires _____ ignition sparks per minute.
   a.) 1000
   b.) 1500
   c.) 1800
   d.) 3000

16. The spark timing of an engine with a magneto ignition system is controlled by:
   a.) coil
   b.) The flywheel key
   c.) sparkplug
   d.) timing mark

17. The wire connected to the breaker point is the
   a.) Secondary Wire
   b.) Primary Wire
   c.) Ground Wire
   d.) Plug wire

18. The secondary winding of the magneto coil has approximately _____ times as many turns of the wire as the primary coil.
   a.) 90
   b.) 60
   c.) 120
   d.) 4200
Ignition Systems

By: Mr. Wolfe

What exactly is the electrical energy?

The Atom: Where Electrical The Systems Begins

A Copper Atom
The Basic Structure of an Atom

Valence Ring (Outer Ring)

A Copper Atom

Electrons (29 total)

Protons (29 total)

Atoms will have the same number of Electrons in the orbit as there are Protons in the center.

Elements with less than 4 Electrons in their outer rings make good conductors

Because the Electrons are easily dislodged from their orbit and pushed to the atom next to them. (Electron flow)

Elements with More than 4 Electrons in their outer rings make good insulators

Because the Electrons remain in the outer rings when electromotive force (Voltage) is present.
Electrons can be made to move from one atom to another. When those electrons move between the atoms, a current of electricity is created. The electrons move from one atom to another in a "flow." One electron is attached and another is lost.
Measuring Electric Current

AMPERAGE = a measurement of the rate of flow in a conductor

Measuring Electric Current

VOLTAGE = A measure of electrical pressure
Measuring Electric Current

OHM’s = A measurement of electrical resistance

\[ \Omega \]

Types of Electricity

1) Direct Current (DC)
   a. Electrons flow constantly in one direction.
   b. This is the type of electricity produced by all batteries.

Types of Electricity

2) Alternating Current (AC)
   a. Electrons flow first in one direction and then in the reverse direction at a certain rate of reversal (cycles per second).
   b. AC current has many advantages over DC, i.e., transformers to increase or decrease voltage can be used only with AC current.
Magnets

- Magnets produce a field, causing electrons to line up.

Getting Electrons to Move

[Diagram of a U-shaped magnet with a wire loop, showing how electrons move in a circuit.]
**Getting Electrons to Move**

Moving wire

---

**Electron Flow**

- With a standard ignition system, the wires are stationary and we move the magnets.

---

**Electron Flow**

- When a magnet passes by a wire the:
  - NORTH POLE pulls electrons
  - SOUTH POLE pushes electrons

  - As the magnets pass the direction of flow changes. (AC electricity)
Parts Of A Magneto

- A magneto consists of Three main parts:
  - Primary coil
  - Secondary coil
  - Switching device

Building a Magneto

How it produces spark

Figure 9.12. A coil of wire with current flowing through it will produce a magnetic field around itself and around each turn of wire in coil.
• The jump from low Voltage to high voltage makes a magneto a **Step up transformer**

---

**Magneto voltages**

- Primary winding: 2.50V 3-5A
- Secondary winding: 10,000 to 30,000V .25-. 35A
- Spark plugs need a minimum of 10,000V to jump the air gap.

---

**Definitions**

- **Primary coil**: Contains few coils of heavy (thick) wire. 150 turns (70 in a magneto)
- **Secondary coil**: Contains many coils of light wire. 4200 turns 1:60 ratio
  - AKA High Tension Lead
- **Breaker Points**: a mechanical switch that collapses the magnetic field of the primary coil and makes the spark happen at an exact time.
Definitions

- CDI: Capacitive Discharge Ignition
- TCI: Transistor Controlled Ignition
- Solid State Ignition: a non-mechanical switching device
- Condensor: Absorbs and Discharges electrons at a smooth rate, increasing spark intensity and reduce the chance of arcing.

What is Electronic Ignition?

- Primary coil
- Secondary coil
- Ignition coil

Removal and Installing a SOLID STATE Switching Device
AKA: Electronic Ignition

Diagram labeled: "What the current in the primary ignition coil..."
Testing a Magnitron Magneto
The Wolfe Method

- Unhook the kill switch wire.

- Put a new plug on the secondary coil.

- Pull on starter, if no spark occurs, magneto is bad.
Spark plugs

- The heat range of a spark plug is identified by the length of the insulator nose.
- The ribs on a spark plug prevent flashover.

---

Small Engine Ignition Systems

Ch 9

Spark Plug ID

Ribs Prevent Flashover
Small Engine Ignition Systems

Ch 9

The hotter the plug, the farther the center electrode will stick out.
Building a Magneto
Breaker Point Ignition
Building a Magneto
Electronic Ignition
(Solid State Ignition)
2 Stroke Engine Operation

By: Mr. Wolfe

2 Stroke Engine Operation

- Two-stroke engines do not have valves, which simplifies their construction and lowers their weight.

2 Stroke Engine Operation

- Two-stroke engines can work in any position, which can be important in something like a chainsaw. A standard four-stroke engine may have problems with oil flow unless it is upright.

2 Stroke Engine Operation

- In order for the engine to be properly lubricated, the oil mix ratio must be 50/50 special oil and gas mix, because there is no crankcase.

2 Stroke Engine Operation

- Two-stroke engines also have potential to pack about twice the power into the same space because there are twice as many power strokes per revolution. The combination of light weight and twice the power gives two-stroke engines a great power-to-weight ratio compared to many four-stroke engine designs.
2 Stroke Engine Operation

- The intake and compression steps are **Combined**
- The power and exhaust steps are **Combined**

2 Stroke Engine Operation

- The two-stroke engine uses the crankcase as well as the cylinder to achieve all the elements of the engine cycle in only two strokes of the piston.

2 Stroke In Detail

Intake / Compression

- The fuel-air mixture is first drawn into the crankcase by the vacuum created during the upward stroke of the piston.
- The air/fuel on the top of the piston is compressed during the same stroke.

2 Stroke In Detail

Power

- At the top of the stroke the spark plug ignites the fuel mixture, driving the piston downward. The exhaust valve is forced closed by the increased crankcase pressure. The fuel mixture is then pressurized in the crankcase during the remainder of the stroke.

2 Stroke In Detail

Exhaust

- **Transfer/Exhaust**
  - Toward the end of the stroke, the piston exposes the transfer port, allowing the compressed exhaust mixture in the crankcase to escape around the piston into the combustion chamber. This expels the exhaust gases out the exhaust port, usually located on the opposite side of the cylinder.

http://www.stahl.com/mer/eng/eng/hl4mixdef.html

2 Stroke in Motion
Problems with 2 strokes

- At this stage the fuel mixture is free to leave the cylinder, causing raw fuel to enter the atmosphere, loss of fuel efficiency and loss of potential power.

Problems with 2 strokes

- 2 Strokes need exhaust pressure to contain the fuel mixture.
- 2 Strokes like to be ran at High RPM.
- At low RPM the intake doesn't seal as well, and will cause a reverse flow through the carb, resulting in a fuel soaked air filter.

Expansion Pipes are used to hold in the fuel mixture for more power
Advantages & Disadvantages

Ch 5

Advantages: & Disadvantages:

Advantages:
- High torque output
- Smooth running
- Quieter operation
- Lower emissions output
- More forgiving to poor operational practices
- Heavier construction
- No Gas/Oil mixing

Disadvantages:
- Heavy
- Limited slope operation
- More moving parts

Advantages & Disadvantages

Ch 5

Advantages: & Disadvantages:

Advantages:
- Lighter
- Can be operated in all positions
- Less moving parts
- Higher power per cc displacement

Disadvantages:
- Lower torque output
- Erratic running characteristic
- Noisy
- Higher emissions output
- Gas/Oil mixing

Review Questions

1. What two strokes (steps) are combined when the piston is going down?
2. Describe the sequence of events when the piston is going up.
3. When the engine is running 3000 RPM, what is the minimum spark rate per minute to keep it running at that speed?
4. How does back pressure aid in 2 stroke performance?
2-Stroke Lecture

2 Stroke Engine Operation:

Advantages of the 2-stroke

- Two-stroke engines do not have ________________, which _________________ ________________ and lowers their weight.

- Two-stroke engines can work in any ________________, which can be important in something like a ________________. A standard four-stroke engine may have problems with ________________

- In order for the engine to be properly ________________ because there is no sump, special ________________.

- Two-stroke engines fire ________________, while four-stroke engines fire ________________. This gives two-stroke engines a significant power advantage.

Two-stroke engines have the “potential” to pack about twice ________________ ________________ because there are twice as many ________________. The combination of ________________ and ________________ gives two-stroke engines a great ________________ compared to many four-stroke engine designs.

2-Strokes in detail

Piston Strokes:
- The ________________ and ________________ Strokes are Combined
- The ________________ and ________________ Strokes are Combined
The two stroke ________________ as well as the cylinder to achieve all the ________________ in only two strokes of the piston.

Intake/Compression Stroke

* The ________________ is first drawn into the crankcase by the vacuum created during the upward stroke of the piston.

* The air / fuel on the top of the piston is ________________ during the same stroke.

Power/Exhaust Stroke

- At the top of the stroke the spark plug ignites the fuel mixture, driving the piston downward, the reed valve is forced closed by the ________________. The fuel mixture is then ________________ during the remainder of the stroke.

- Toward the end of the stroke, the piston ________________, allowing the ________________ in the crankcase to escape around the piston into the main cylinder. This expels the exhaust gasses out the exhaust port, usually located on the opposite side of the cylinder.

Problems with 2 strokes
- At this stage the ________________ free to leave the cylinder, causing raw fuel to enter the atmosphere, loss of fuel efficiency and loss of potential power.

- 2 Strokes need ________________ to contain the fuel mixture.
• 2 Strokes ___________________________ RPM.

• At low RPM _________________________ as well, and will cause a _____________________________ the carb, resulting in a fuel soaked air filter.

Give a short explain of what is occurring in each illustration of the 2-stroke engine pictured to the right (piston direction, intake, transfer, compression, power, exhaust)

A.

B.

C.

D.

Expansion Pipes are used to hold in the fuel mixture for more power
VALVE TRAIN

Valves

- Valves allow the air / fuel mixture in and burnt exhaust fumes out at an EXACT timing configuration.

Valve timing

- Valves must open and close at the proper timing, or the engine won't run, or run properly.

INTAKE STROKE

Valve Positions:
At the beginning of the stroke (TDC) the exhaust valve just finishes closing and the intake valve opens. It is fully open at half stroke, and fully closes just after the compression stroke starts.

COMPRESSION STROKE

Valve Position:
At BDC the intake valve is still slightly open and closes shortly after the piston starts going up. At TDC both valves are closed completely.

POWER STROKE

Valve Position:
At TDC both valves are closed. When the piston almost gets to BDC the exhaust valve is cracked open.
EXHAUST STROKE
Valve Position:
At BDC the exhaust valve is cracked and fully open half way in the stroke. At TDC the exhaust valve and intake valve are slightly open. This is called valve overlap.

Strokes and Valve Timing
Between the exhaust and intake stroke is where the valve overlap occurs. If your engine is timed correctly, you should be able to slightly rock the crankshaft back and forth, and watch both valves open and close slightly with the piston at the top.

Exhaust valves vs. Intake
Exhaust valves are smaller than intake valves. This is to compensate for the reduced volume during combustion.

How the Valves Open and Close
- The lobe is rotated on the shaft, driven by the cam gear, and the lobe lifts the tappet up.

Valve timing Diagram

Parts to a Cam Lobe
L-Head Cam, Tappets and Valves

The tappets push up on the end of the valves, and open a gap between the valve and seat, thus letting air in or out.

Valves in the Engine Block

Bottom Valve Parts

Cam Gears

- The cam only spins half as fast as the crankshaft
- The crank/cam gear ratio is 2:1
- Cam = 360° per cycle
- Crank = 720° per cycle

Valve component location and timing
**Timing Marks**

In order for the valves to open at the proper time and in the right sequence, the cam MUST BE TIMED WITH THE CRANKSHAFT. Use the timing marks on each.

---

**Small Engine Valves**

**Valve Train & Specifications**

- **Head**
- **Margin**
- **Face**
- **Seat**
- **Stem**
- **Valve Guide**

---

**Small Engine Valves**

**Valve & Head Components**

- **Valve spring Retainer**
- **Split collars**
- **Valve spring**
- **Valve guide**
- **Water Jacket**
- **Valve**
- **Valve Seat**
- **Crack Detection**

---

**Small Engine Valves**

**Valve Cooling**

Heat escapes from the valve through the guide and the seat to face contact.

---

**Small Engine Valves**

**Valve Stem Components**

- **Valve Stem**
  - Check stem for guide clearance

---

**Small Engine Valves**

**Valve Face**

- Grid face to proper angle (per spec in tech manual)

---

**Small Engine Valves**

**Valve Margin**

- Check margin width.

---

**Small Engine Valves**

**Valve Specifications & Repair**

- **Face cut at 45° Angle**
- **Parallels Fit**
- **Interference Fit**

---

**Small Engine Valves**

**Valve Seat Repair**

- **Face cut at 45° Angle**
- **Parallel Fit**
What's going on in the Valve Train when the engine is going through its 4 strokes?

If they are touching the tappet, the valve adjustment will be incorrect.

When adjusting the valves, it is important to know the position of the cam shaft lobe and compression release.
To adjust the valves, neither the cam lobe or the compression release can be touching the tappet.

As long as the cam lobe and compression release are clear of the tappet...

This cam position will take place just past TDC Compression stroke on engines that have a compression release (when 1st "dram so comp.
diagram", and at TDC compression stroke on engines that do not have a Compression Release.

The valve clearance can be properly adjusted.

Select the feeler gauge blade that fits within the valve clearance specifications.

Turn the adjustment screw until you feel a slight drag on the feeler gauge.
1. What Valves Do:

____________________________________________________________________________________

____________________________________________________________________________________

2. Valve Timing:

____________________________________________________________________________________

____________________________________________________________________________________

Strokes and Valve Timing

3. Intake:

____________________________________________________________________________________

____________________________________________________________________________________

4. Compression:

____________________________________________________________________________________

____________________________________________________________________________________

5. Power:

____________________________________________________________________________________

____________________________________________________________________________________

6. Exhaust:

____________________________________________________________________________________

____________________________________________________________________________________

7. Between the exhaust and intake

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

8. Exhaust valves are smaller than Intake Valves.

____________________________________________________________________________________
9. Label the Valve Timing Diagram
Label the Valve pictures

10.

11.
17. Cam Gears: ____________________________
   *
   *
   *

18. Timing Marks: ____________________________
     ________________________________________

   Draw picture of gears
# SHOP CARD

**NAME** __________________________  **PROJECT** __________________________

<table>
<thead>
<tr>
<th>Day/Date</th>
<th>X if Present (10)</th>
<th>E = Excused Absence (10)</th>
<th>T if Tardy (5)</th>
<th>Blank = unexcused absence (0)</th>
<th>Description of Daily activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Point Calculation: ____ days this week. Days present = ______ x (10X)/(5T) / day =  

The following points will be **deducted** by the instructor for a max total of 50 points
Deducted.
Work habits _____ (20) Accomplishments _____ (10) Time on task _____ (20)

This card is to be turned in at the end of class each Friday for a max. of 50 points. Total  

By signing below you are stating that the above information is correct and accurate. Purposefully providing false information will result in a zero score for the week.

______________________________  _________________  
Signature  Date
<table>
<thead>
<tr>
<th>Part/Item</th>
<th>Measurement</th>
<th>Book Spec.</th>
<th>Difference</th>
<th>Is the part good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crankshaft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magneto Journal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTO Journal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crankpin Journal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ring End Gap</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Control Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Scraper/ Comp. Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp. Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylinder Bore</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.1 Par. Crank top</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.2 Par. Crank Middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.3 Par. Crank Bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.1 Adj. Crank Top</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.2 Adj. Crank Middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.3 Adj. Crank Bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.1 Par. Crank top</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.2 Par. Crank Middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.3 Par. Crank Bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.1 Adj. Crank Top</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.2 Adj. Crank Middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pos.3 Adj. Crank Bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston Ring Land Wear</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Control Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Scraper/ Comp. Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp. Ring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crankshaft End Play</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crankshaft End Play</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connecting Rod</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston Pin Bearing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crankpin Bearing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston Pin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cam Shaft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cam Gear Side Journal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cam Lobe Side Journal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve (Tappet) Clearance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust Valve</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake Valve</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Repair Manual Exercise

Answer all questions using your engine numbers. (91202)

1. What page would you find the instructions to adjust the valve gap?

2. What page would you find the instructions for the proper torque pattern to use on the cylinder head?

3. What page would you find the instructions for the proper torque pattern to use on the crankcase cover?

4. What page would you find the specifications for how much torque you should tighten the head bolts?

5. What page would you find the instructions to remove the valve spring retainer?

6. What page would you find the instructions to install the valve spring retainer?

7. What page would you find the instructions to properly time the valves?

8. What page would you find the ring end gap specifications?

9. What is the size range for the ring end gap on your engine?

10. What should be your ring groove clearance?

11. What is the reject size for the crankpin journal on your engine?

12. What is the size range for the valve clearance on intake and exhaust on your engine?

<table>
<thead>
<tr>
<th>Part</th>
<th>Book Spec</th>
<th>Reject size</th>
<th>Should the part be Larger or Smaller than the Book Spec / RejectSize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crankshaft PTO Journal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camshaft Journals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylinder Bore</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston Pin</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Beyer FFA Small Engines Work Order

Customer Name_________________  Date Unit was Inspected_________________

Customer Phone#_________________  Date Unit was Completed_________________

<table>
<thead>
<tr>
<th>Technician Name</th>
<th>Engine Brand</th>
<th>Type of Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model / Serial #</th>
<th>Type #</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Customer Comments: (answers to the 4 questions)

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

Work Performed:

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Qty.</th>
<th>Unit Price</th>
<th>Total Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sub Total

<table>
<thead>
<tr>
<th>Tax (8.375%)</th>
<th>Labor</th>
<th>Total</th>
</tr>
</thead>
</table>

Tax added only if the parts price doesn’t include sales tax.

Instructors Signature:
Figures 1 – 14:
Davis High School
Fig. 7 (Davis HS completed)

Fig. 8 (Davis HS completed)
Fig. 13 (Davis HS completed)

Fig. 14 (Davis HS completed)
Figures 15 – 28:
Johansen High School
Fig. 17 (Johansen HS before)

Fig. 18 (Johansen HS before)
Fig. 21 (Johansen HS before)

Fig. 22 (Johansen HS complete)
Fig. 23 (Johansen HS complete)

Fig. 24 (Johansen HS complete)
Section 15

Figures 29 – 46:
Beyer High School
Fig. 33 (Beyer HS before)

Fig. 34 (Beyer HS before)
Ag Ed. 539
Quality Criteria and Example Documents
Richard Wolfe
Project Advisor: Dr. Bill Kellogg
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Criteria Summaries: 1-12</td>
<td>1</td>
</tr>
<tr>
<td>Beyer High School Department Overview</td>
<td>2</td>
</tr>
<tr>
<td>Student Data Sheets</td>
<td>3</td>
</tr>
<tr>
<td>Permanent Vocational Ag Student Records</td>
<td>4</td>
</tr>
<tr>
<td>Course Outlines</td>
<td>5</td>
</tr>
<tr>
<td>Daily Grade Sheets</td>
<td>6</td>
</tr>
<tr>
<td>SOE Supervision Forms</td>
<td>7</td>
</tr>
<tr>
<td>SOE Project Visitation Chart and Activity Points</td>
<td>8</td>
</tr>
<tr>
<td>SOE Student Summaries</td>
<td>9</td>
</tr>
<tr>
<td>Board Approved SOE Policy and Farm Agreement</td>
<td>10</td>
</tr>
<tr>
<td>Program of Work</td>
<td>11</td>
</tr>
<tr>
<td>FFA Board Approved Policy Statement</td>
<td>12</td>
</tr>
<tr>
<td>Recruitment Program</td>
<td>13</td>
</tr>
<tr>
<td>Chapter Scrapbook/PowerPoint</td>
<td>14</td>
</tr>
<tr>
<td>Summer Activities Schedule</td>
<td>15</td>
</tr>
<tr>
<td>Vocational Ag Follow-Up Survey Form</td>
<td>16</td>
</tr>
<tr>
<td>Up-to-Date File on Status of Graduates</td>
<td>17</td>
</tr>
<tr>
<td>Modesto City Schools Vocational Education Comprehensive Plan</td>
<td>18</td>
</tr>
<tr>
<td>Ag Advisory Committee Meeting Minutes</td>
<td>19</td>
</tr>
<tr>
<td>Completed Student Program Plan</td>
<td>20</td>
</tr>
<tr>
<td>Proficiency Standards</td>
<td>21</td>
</tr>
<tr>
<td>California Teaching Credentials</td>
<td>22</td>
</tr>
<tr>
<td>Calendar of Department and Chapter Activities</td>
<td>23</td>
</tr>
<tr>
<td>Daily Logs</td>
<td>24</td>
</tr>
<tr>
<td>R2 Reports</td>
<td>25</td>
</tr>
<tr>
<td>Extended Contract and Rationale</td>
<td>26</td>
</tr>
<tr>
<td>Completed Travel Plans</td>
<td>27</td>
</tr>
<tr>
<td>CATA Membership Card</td>
<td>28</td>
</tr>
<tr>
<td>Department Minutes</td>
<td>29</td>
</tr>
<tr>
<td>Wish Lists</td>
<td>30</td>
</tr>
<tr>
<td>Ag Advisory Committee Meeting Agendas</td>
<td>31</td>
</tr>
</tbody>
</table>
# Table of Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag Advisory Committee Bylaws – Pending</td>
<td>A</td>
</tr>
<tr>
<td>Vocational Ag Operating Budget</td>
<td>B</td>
</tr>
<tr>
<td>VEA District Allocation</td>
<td>C</td>
</tr>
<tr>
<td>Department Budget Process</td>
<td>D</td>
</tr>
<tr>
<td>Department Chair Responsibilities</td>
<td>E</td>
</tr>
<tr>
<td>Chart of Responsibilities</td>
<td>F</td>
</tr>
<tr>
<td>Substitute Teacher Plans and Procedures</td>
<td>G</td>
</tr>
<tr>
<td>2 Plus 2 Articulation Agreement</td>
<td>H</td>
</tr>
<tr>
<td>Reimbursement for Personal Expenses Documents</td>
<td>I</td>
</tr>
<tr>
<td>Calendar of Activities</td>
<td>J</td>
</tr>
</tbody>
</table>
Quality Criteria
One
Curriculum and Instruction

The entire district-approved agriculture curriculum at Beyer High School has been aligned with the Statewide Agriculture Education standards in order to satisfy agriculture and California state standard assessment requirements. Our entire curriculum is mandated by the Modesto City Schools District to follow the approved course description format, which includes goals, objectives, instructional methodologies, materials and equipment, as shown in the attached example documents.

The Beyer High School Agriculture Department focuses on three main content areas – agricultural sciences, ornamental horticulture, and agricultural mechanics. Our flagship program is our agricultural sciences program, serving as the district’s sole career pathway and subsequently, accepts students from throughout the district interested in pursuing this course of study. This pathway consists of a sequence of courses for their four-year high school experience. Two courses of this sequence satisfy the high school graduation requirement, and also the University of California system’s biological science, integrated science and physical science requirements.

Our ornamental horticultural program offers three courses of instruction – plant science, floral design 1 and floral design 2. The courses are designed to focus on career preparation in the ever growing nursery and horticultural industries. That being the case, these courses satisfy high school elective requirements only. These courses are highly dependent upon local business support and are mainly funded through special event work within the community.

We offer multiple courses in agricultural mechanics, which feature a wide range of mechanical practices such as welding, electrical wiring, small engines, metal fabrication, and
The beginning agricultural mechanics course satisfies the high school graduation requirement for visual arts, while the remainder of our courses serves as elective units towards graduation requirements. As with our ornamental horticulture program, our agricultural mechanics program is designed to prepare and equip students with the skills necessary to enter the workforce.

The most popular of our agricultural mechanics courses is the small engines class, which continues to grow dramatically each year it is offered. This course needs to broaden its scope, examining garden tractors and compact power equipment in order for students to gain hydraulic and electrical knowledge on this type of equipment. Since the introduction of the small engines class, we have articulated the course with the Industrial Technology and Agricultural Departments at Modesto Junior College. The growing success of this program has produced two students into the “Think Big” Caterpillar program, which is the premiere professional training institution for this company. Our most successful students have entered this program immediately upon graduation from high school, while others have gone on to pursue additional studies in Modesto Junior College and Merced College’s mechanized agricultural programs.

Each of the career pathways are integrated with real-world experience, including exposure to the most current technology, as well as the opportunity to interact with representatives of industry. Guest speakers frequently augment the instruction provided in the working-laboratory environment, which includes activities at the school farm, as well as in the floral and science lab and computer lab.

Overall, our program provides the necessary foundation to create a quality and well-rounded educational opportunity for each of our students and their career pathway of choice.
Quality Criteria
Two
Leadership and Citizenship Development

All classes offered in the Beyer High School Agriculture Department integrate Future Farmers of America (FFA) and leadership activities. The FFA is a staple educational component for each of the career pathways. The Beyer High School Chapter is an active participant in sectional, regional and statewide FFA activities, giving our students the opportunity to put into practice the skills taught through our various clusters.

As required, each of the students enrolled in our program is a member of FFA and is subsequently affiliated with the State FFA Association. All of our classes incorporate FFA participation as part of their grade, in which students are required to participate in a minimum of six (6) activities throughout the school year. We use a point-system for each FFA program, depending on the level of difficulty, amount of time, and effort necessary to successfully complete the particular activity. To receive full FFA-credit, we ask that all students obtain five (5) points, as outlined in all of the agricultural course syllabi. Points are posted in all agricultural classrooms and updated after each activity is completed. Students can readily and easily access their participation points through our electronic database and via posted wall charts.

In an effort to ensure that students are able to satisfy this grade requirement, we offer a myriad of activity choices for students to engage. Examples of opportunities include attending monthly FFA meetings, attending regional FFA meetings, participating in a leadership conference, participating on a judging team, and showing animals or still exhibits at our county fair. As always, our goal is to provide students the chance to put into action the technical skills developed in the classroom and lab environment, while enhancing their communication, time management, and leadership skills.
Quality Criteria
Three
Practical Application of Occupational Skills

As previously indicated, the Agriculture Department at Beyer High School has three main clusters – agricultural science, ornamental horticulture and agricultural mechanics. Each of the courses within these clusters includes student participation in a Supervised Agricultural Experience (SAE) as part of the grading criteria and as indicated to students in the course syllabus. While the specific projects for each course will vary, the fundamental components of our SAE system are uniform across the three disciplines.

Each SAE includes a scope of work as agreed upon by the student and agricultural teacher. A basic plan of activity is put into place, as well as a timeline and budget – if necessary. Students then coordinate with the appropriate instructor regular visits for progress updates. Depending on the degree of complexity, students maintain the appropriate record-keeping system. All records are maintained by the Department and are discarded with the record book one year following the student’s graduation.

Instructors are able to satisfy their necessary travel requirements with the use of two district-provided vehicles. If for some reason these vehicles are not readily available, the district provides adequate compensation, at the current IRS mileage reimbursement rate.

Students are encouraged to broaden the scope of their SAE over the course of their high school career, continually building skill level as well as broadening their sphere of knowledge around that particular pathway. As with their involvement in the FFA, the SAE is meant to expand their classroom instruction and put into action tangible skills necessary in their field of interest.
The Beyer High School Agriculture Department is currently in a time of transition, with the loss of Laura Kelly, a seasoned instructor and department chair. Ms. Kelly’s departure occurred immediately prior to the start of the 2007-2008 school year, creating a void that was difficult to fill by traditional means. The department was fortunate in that we were able to secure, as an interim intern from California State University, Fresno, Mary Burden. Mary holds a Bachelor of Science degree and has completed all the necessary course work towards a Single-Subject and Ag Specialist Credentials. Her work within the department will satisfy the remaining student-teaching units to receive these credentials. In the interim, she maintains an emergency teaching credential.

As the now-senior member of the department, I have recently renewed my Single-Subject and Ag Specialist Credentials, satisfying the criteria requirements for qualified personnel. I have continued my professional development through participation in the Vocational Education Teachers School at Briggs and Stratton, completion of additional agricultural mechanics training courses at Merced College, and regular attendance at all sectional, regional and statewide CATA events since 2003.

Given the limited size of our staff, departmental duties have been divided to maximize each instructor’s strengths and interests. Communication between Mary and I is absolutely essential to ensure that all responsibilities are met. In addition, given Mary’s limited experience, I have attempted to involve her, as her time permits, in my areas of oversight to broaden her knowledge.
We hold weekly department meetings on Monday mornings to review the week and create an outline of events, tasks and timelines. Record of each of these meetings are kept electronically and subsequently distributed to all school and district personnel of interest, including counselors, administrators and the Director of Vocational Education. Each of these individuals are invited and regularly encouraged to attend all activities of the department.

We are working diligently to satisfy this crucial criteria, but acknowledge that the circumstance of the past summer have created a situation that is less than ideal. Mary and I are striving to continually develop ourselves, as well as create a strong and stable department. I am confident that with time, this deficiency will be resolved.
Quality Criteria
Five
Facilities, Equipment and Materials

Upon arriving at Beyer High School, facilities, equipment and materials were lacking in numerous areas and, in short, were preventing maximum educational opportunities for the students. Ultimately, the fundament components needed for a superior program were on site, but structure, organization and general cleanliness were lacking. Agricultural mechanics classes with thirty-five (35) students were held in and around spaces restricted by dissembled tractors, custodial and department supplies, district vehicles, and custodial gardening equipment. As such, it became imperative that the facilities be brought up to standard to ensure the overall success of our three main agricultural programs. It was this criteria that I have made the focus of my internship project.

The greatest department asset is its building space and developable land. We are fortunate enough to have an onsite two-acre school farm laboratory which includes a variety of stone fruit trees, land for row crops, pens for smaller animal species, an agricultural shop and a greenhouse. This being said, much work needs to be done to modernize these facilities to more accurately reflect what students will encounter in the various industries our program encompasses.

Upon arrival in 2003, the minimal amount of department equipment was in sound working order. This success is due to the limited use of the equipment, caused by the cluttered nature of the shop. The agricultural mechanics program during this time focused on equipment disassembly and repair. Welding and metal fabrication was strictly limited to repairing and modifying farm equipment, which would subsequently be used on the school farm. Arc welding was the only type of welding available as the oxy-acetylene welding and MIG welding
equipment were inoperable. Tool cabinets consisted of standard bookshelf-type cabinetry, where all hand and power tools were littered across each of the shelves. Unnecessary items, such as microwaves, stereo equipment, PVC pipe, empty filing cabinets, vintage slideshow projectors and the custodial staff’s personal barbecue, had created limited instructional space. Equipment for the floral design programs was viable, but limited in scope because of the cramped storage capacity of the agricultural shop and classroom.

Another area lacking was the school farm, which consisted of sixty (60) mature stone-fruit trees, including apples, cherries, apricots, plums, nectarines, and peaches. These trees were immensely overgrown, as well as the area surrounding the orchard had been poorly maintained resulting in the inability to access the individual trees. The poor maintenance of the trees had also led to disease infestation such as bore beetles, curly leaf, and codling moths.

Ultimately, the facilities and the equipment at Beyer High School presented tremendous potential, but would require a major investment of sweat equity to bring up to standard. Even more work and, to a certain degree, an influx of financial resources, would be needed to create the optimal learning environment in each of our areas of focus.
Quality Criteria
Six
Community, Business and Industry Involvement

In Modesto City Schools a general Ag Advisory Board is used. These individuals represent all of the agricultural programs offered at the six high schools within the district. Agricultural professionals like Don Prather, Investment Broker and Bill Burchell, Owner of Burchell Nurseries take a vested interest in meeting the needs of each of the schools and their areas of expertise. In addition, the committee includes other stakeholders, such as parents and administrators, all who have committed themselves to ensuring the best possible program development. This advisory committee was a mainstay of the district upon my arrival in 2003.

Each year the committee holds two meetings, in the fall and in the spring, where the goal is to seek guidance from these advisors on how to continually move our programs forward. In addition, we request their input and feedback on proposals ranging from the use of new equipment to possible textbooks and changes in curriculum components. Each advisory meeting focuses on moving forward and continually evolving our programs to meet the needs to both higher education institutions and industry at large.

As a district-wide agricultural advisory committee, all documentation including meeting minutes and member contact lists, as well the management of the committee including setting meetings dates, agenda development and meeting follow-up, is overseen by the district ROP Director and his staff. This system of management has proven both efficient and productive, ensuring that all participants are able to provide ample input without being burdened by paperwork or onerous processes. It leverages our greatest community strengths while providing teachers the opportunity to connect with local industry experts and continue to evolve our agricultural programs for the betterment of our students.
Career development is an integral component of the agricultural programs at Beyer High School. We start each school year by first reviewing the career pathways and their role in our courses. Returning students – tenth, eleventh and twelfth graders – receive a copy of the previous year’s career data sheet and are requested review and provide updates to their intended career choice. First year students receive an in-depth overview of the various career paths, followed by step-by-step instructions outlining how to complete the standard career data sheet.

Standard departmental practice has been to print and file transcripts with the career data sheet, to ensure that students are on track to graduate as well as complete the necessary course requirements within and out of agriculture that will ensure their career success. Through the course of the school year, but during balloting in particular, career data sheets are reviewed and course-succession discussed, ensuring that students register for the necessary classes in the appropriate order.

The basis for vocational education is the instruction of concepts and skills that directly translate into viable employment. Some students respond well to this environment and are able to secure employment immediately following high school graduation. Others need more time and technical assistance to further grasp the concepts covered in our classes. In an effort to aid both groups of students, our department has formed partnerships with local businesses and two-year colleges in our area. Through these agreements with industry, students participate in paid internships. In addition, for those students whose path is immediately destined for employment, we require their
enrollment during high school in an advanced skills course articulated between Beyer High School and Modesto Junior College. For students whose time will be best served with additional technical training, our agreement with two-year colleges ensures that their participation in various high school classes also equates to units of college credit as well.

At Beyer High School, our counseling staff is well educated in the career development process implemented by our programs. We have had a turnover in counseling staff at the hand of retirement and subsequently, the new staff have welcomed and embraced our policies. This staff, as well as the administration, is updated weekly on our department’s progress, changes and activities, providing a consistent communication link to what our program is accomplishing for students.

In an effort to promote continued career path progress, our department participates in Career Development Events (CDEs), in the areas of plant science and agricultural mechanics. These events provide context to the information students receive in the classroom, subsequently enhancing their skills in each of these areas and ultimately providing validation to their career path choice.
The Beyer High School Agriculture Department has developed multiple mechanisms for program recruitment. One of the fundamental components of each of our processes is create the opportunity for student interaction with the larger community, either by taking our students out or bringing the community to them. Various community and agricultural organizations host events such as the annual Ag Awareness Luncheon and Stanislaus County Agriculture Hall of Fame Dinner, which provide venues for our students to interact with the community, provide a community service through food service and use the event as the opportunity to promote our program’s successes. In addition, the department hosts its fundraising dinner and End of the Year Awards celebration on campus, with the goal of bringing those donors, stakeholders and supporters into our facilities and providing those individuals that first-hand experience with our department.

The department also participates in district-wide recruiting events coordinated by the various junior high schools. At those events, we seek to maximize exposure to our program by offering demonstrations, hands-on activities and visual displays, as well as having junior high school students complete interest cards indicating their desire to enroll in one of our programs. This environment offers us the opportunity to not only leverage our departmental assets, such as high powered machinery and engines, as well as project animals, but provides the chance for our existing students to share their experiences with others.
An effort is made to ensure that our programs are open to all students, regardless of their socioeconomic status. The department provides assistance to students with a demonstrated need by supplementing the costs associated with participation in FFA activities or their SAE project. To demonstrate need, students must write a letter stipulating their request to our school’s Ag Boosters Club. In addition, after assistance has been provided, students must write a letter articulating how the funds were used as well as their thanks for the support.

The department strives to maximize opportunities to share its work and successes with the community at large. Doing so ensures our livelihood and creates greater interest in our programs, subsequently ensuring community support for students’ learning.
Quality Criteria
Nine
Program Accountability and Planning

The Beyer High School Agriculture Department underwent a program review by the Regional Supervisor Ken Harris during the 2008-2009 school year. The department used this as an opportunity to analyze and subsequently update our Comprehensive Program Plan. Specifically, the following major components were modified:

• Our Program Pathways in Plant and Animal Science, Floriculture and Agriculture Mechanics were updated to reflect our current facility availability and curriculum
  o The most substantive curriculum change was the approval of our Floral Design course as a University of California-approved fine arts course (“F” credit) starting in the 2009-2010 school year

• The Five Year Facility and Equipment Acquisition Schedule was updated to include through the 2012-2013 school year

• Staff assignments were reviewed and responsibilities re-allocated based on our current staffing scenario of two full time and one part time teachers

• The School and Department Policies were updated to reflect district-wide changes relative to the county fair and the summer service class requirements needed to participate

• The Roster of Agriculture Advisory Committee Members was updated to reflect the changes in membership and leadership

These comprehensive changes were submitted to Ken Harris by December 15th in accordance with the Incentive Grant guidelines. The R-2, AIG Expenditure Reports and FFA Roster were also submitted to Mr. Harris by the October 15th deadline.
In addition to our regular review of our Comprehensive Program Plan, we also take the opportunity annually to examine our student retention data and use this information to make modifications to our recruitment and retention program. The members of the department consider what opportunities for improvement exist within their specific pathway areas, as well as the changes we can make to keep students interested in the program as a whole.

We also place specific emphasis on connecting with students who have completed our program using the Beyer High School Ag Department Graduate Follow-Up survey. This two-page document provides information regarding the students’ current status, along with their opinions on how involvement in our program prepared them for their current vocation/education and suggestions they may have for how our program can be improved. It should be noted that this information was entered into the Online R2/FFA Roster Data Entry by October 15th.

In conjunction with the retention information gathered, we use both data sets to annually review and subsequently improve aspects of our program that help ensure we maintain a strong, viable agriculture program.
Quality Criteria
Ten
Shop and Lab Class Size

The Beyer High School Agriculture Department strives to ensure student excellence and safety within our program. A major component of meeting that goal is classroom size, particularly for shop and laboratory-based classes.

However, the Modesto Teachers’ Association bargaining unit has negotiated with Modesto City Schools District an agreement which states that there can be a maximum of forty (40) students in a classroom, regardless of the nature of the course being taught. It is because of these stipulations relative to class size that none of the six agricultural departments in Modesto City Schools District will be able to satisfactorily meet Quality Criteria Ten relative to shop and lab class size.

Each teacher within our department recognizes the potential hazards inherent in not following the 20-student shop/laboratory-based class and 25-student classroom-based class ratios. As such, we take additional measures to maximize student learning opportunities and ensure classroom safety.

For instance, the Advanced ROP Small Engines Tech students are allowed into the shop during the first semester, after passing extensive safety and equipment-proficiency tests. They continue to refine their skills during the first semester and during the second semester, serve as shop supervisors and aid the beginning ROP Small Engines Tech students, thus ensuring the development of their managerial skill set and also keeping the number of students using equipment within a safe range.

Enrollment data for my courses in the 2009-2010 school year, second semester is as follows:
• Period 0: Ag Computer Literacy (laboratory-based class) – 23 students
• Period 1: Advanced ROP Small Engines Tech (shop-based class) – 25 students
• Period 2: ROP Small Engines Tech (shop-based class) – 20 students
• Period 3: Ag Small Engines Repair 1-2/3-4 Blend (shop-based class) – 29 students

Naturally, through attrition and such, course size has decreased since the start of the school year when enrollment was as follows:

• Period 0: Ag Computer Literacy (laboratory-based class) – 24 students
• Period 1: Advanced ROP Small Engines Tech (shop-based class) – 33 students
• Period 2: ROP Small Engines Tech (shop-based class) – 26 students
• Period 3: Ag Small Engines Repair 1-2/3-4 Blend (shop-based class) – 32 students

We will continue to do our best to ensure that students within our program receive the highest-quality education under the classroom constraints imposed upon us by the Modesto Teachers’ Association.
Quality Criteria
Eleven
Full Year Employment

The Beyer High School Agriculture Department currently employs two full-time and one part-time teachers. As previously stated, the Modesto Teachers’ Association bargaining unit has negotiated with Modesto City Schools District an agreement which states that there can be a maximum of forty (40) students in a classroom, regardless of the nature of the course being taught. As a result, our two full-time teachers currently exceed the maximum of seventy-five (75) students total being taught. Subsequently, my total student enrollment for the 2009-2010 school year, second semester is 97 students.

However, the negotiated contracts by the Modesto Teachers’ Association have not impacted the ability of our teachers to have extended contracts. Both full-time teachers have extended contracts with the Modesto City Schools District, which includes a total of 30 days at 15% pay of the nine-month contract.

To ensure that the full-time teachers are capable of meeting their required obligations and to provide sufficient time for project supervision, both have SAE periods. I use 6th period (12:16 p.m. – 1:05 p.m.) for my SAE period. Since I teach from 0 period through 3rd period, my SAE period is later in the day. Kristy White uses 8th period (2:06 p.m. – 2:55 p.m.) for her SAE period. Her teaching schedule of five periods makes this the first available time for her to provide appropriate project supervision.
Quality Criteria
Twelve
Program Achievement

While this is an optional criteria, the Beyer High School Agriculture Department strives to meet all the requirements which is necessary for additional funding. Last Year’s R-2 Form had 236 students. We satisfactorily meet the requirement of 12A, with one UC-approved agriculture course. We have 14 activities on the approved FFA activity list which our chapter participated in, while the minimum number is 12 activities.

An area that we fail to meet is requirement 12C – Practical Application of Occupational Skills. At least 5% of the R-2 student number must receive the State FFA Degree. Based on our data, 12 students should receive the award and we had only five students achieve this honor.

All of the Beyer High School Agriculture Department teachers attend a minimum of five professional in-service activities, criteria 12D. Unfortunately, our Agriculture Advisory Committee only met twice, instead of the required three times. It should be noted that this committee is a district-wide group that serves all six high schools. The current chairman, Mr. Jake Wegner, is seeking to increase the number of meetings along with attendance and participation by committee members. Given the size and scope of the committee, though, this is a substantive task that will take some time and additional commitment by its members.

Our student retention numbers fall short of the necessary 25% of the R-2 enrollment. The meet the requirement, 55 students would need to be in their third and fourth year of instruction while we had only 41 returning students, subsequently not meeting requirement 12F – Retention.
Graduate Follow-Up, requirement 12G, is a completed requirement. Twenty-two (22) students completed our program last year. Nineteen (19) or 86% of those who graduated are employed in agriculture, in the military or continuing their education, which exceeds the mandated 75 percent.

This optional criteria provides additional motivation and serves as an annual reminder of the goals we are striving to meet to ensure our students have a balanced, well-rounded agricultural education while at Beyer High School.
Beyer High School
Department Overview
Department Overview

Enrollment: 239 (209 in 2008)

Pathways offered: Animal Science

Teachers:

Rich Wolfe – Department Head Wolfe.r@monet.k12.ca.us
Kristy White White.k@monet.k12.ca.us

<table>
<thead>
<tr>
<th>COURSES OFFERED</th>
<th>CURRENT SECTIONS</th>
<th>CURRENT TEACHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag Science 1-2*</td>
<td>2</td>
<td>White</td>
</tr>
<tr>
<td>Ag Science 3-4*</td>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>Integrated Ag Biology*</td>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>Advance Animal Science</td>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>Floral Design I &amp; II</td>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>Ag Computer Literacy</td>
<td>1</td>
<td>Wolfe</td>
</tr>
<tr>
<td>Small Engine Repair 1-2</td>
<td>1</td>
<td>Wolfe</td>
</tr>
<tr>
<td>Small Engine Repair 3-4</td>
<td>1</td>
<td>Wolfe</td>
</tr>
<tr>
<td>ROP Small Engines</td>
<td>1</td>
<td>Wolfe</td>
</tr>
</tbody>
</table>

*Denotes classes meeting college entrance requirements

Projected Enrollment for 09-10: 250 students

Current Facilities:
1 Portable Classroom
1 Portable Lab Room
1 Computer Lab
1 Ag Mechanics Shop
2 acre Farm/Laboratory Facility

Planned Facilities:
Greenhouse
Section 3

Student Data Sheets
<table>
<thead>
<tr>
<th>A. Name</th>
<th>Fontana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name</td>
<td>Garrett</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Gender:</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
</tr>
</tbody>
</table>

| C. Date: | 8/28/68                     |

<table>
<thead>
<tr>
<th>D. Year in Agriculture Program:</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1st, 2nd, 3rd, 4th)</td>
<td></td>
</tr>
<tr>
<td>(9, 10, 11, 12)</td>
<td></td>
</tr>
</tbody>
</table>

| E. Grade Level in School: | 11th |

| F. Program of Instruction Being Pursued: (Select Only One) | Agriscience (4070) |

| G. I Am Taking This Course Because: (Select One) | Not a career, just an interest in agriculture. |

<table>
<thead>
<tr>
<th>H. Ethnic Origin: (Select Only One)</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td></td>
</tr>
<tr>
<td>Black (Except Hispanic)</td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td></td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td></td>
</tr>
<tr>
<td>American Indian/Native American</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

| I. Locator Data: | 3917 Northview Dr. |

| Street Address: | 269-605-7951 |

| Phone Number: | 269-605-7951 |

| Parent/Guardian Name (Print Full Name For Each) | Frank Fontana |

| Miss/Mrs./Ms. | Tara Fontana |

| J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing. |

| K. Please indicate below your plans after graduation from high schools: |

| 1. Go to Work Full - Time |  |
| No Further Education |  |
| Some College Later | X |

| 2. Go to College |  |
| Community College |  |
| Four Year College |  |
| Full-Time Student |  |
| Part-Time Student |  |
| Agriculture Major |  |
| Non-Agriculture Major |  |
| 3 Go Into Military Service |  |
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>Course</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.S. History</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>English 5-6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sm. Engine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calc Art 1HR</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drama 1-2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geometry</td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sm. Engine</td>
<td>lawn mowing</td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: ___________________________
AGRICULTURAL EDUCATION STUDENT CAREER SHEET
DATA SHEET

A. Name
  First Name: Arthuw
  Last Name: Gabian

B. Gender: Male

C. Date: 8/28/08

D. Year in Agriculture Program:
   
   
   
   
   
   
   
   
   

E. Grade Level in School:
   
   9th
   (9, 10, 11, 12)

F. Program of Instruction Being Pursued: (Select Only One)
   
   X Agricultural Mechanics (4030)
   Animal Science (4020)
   Plant & Soil Science (4010)
   Agricultural Business (4040)
   Ornamental Horticulture (4050)
   Forestry & Natural Resources (4060)
   Agriscience (4070)

G. I Am Taking This Course Because: (Select One)

   X Not a career, just an interest in agriculture.
   I plan a career in agriculture
   Not interested, placed in class.

H. Ethnic Origin: (Select Only One)

   X Hispanic
   White
   Black (Except Hispanic)
   Filipino
   Asian or Pacific Islander
   American Indian/Native American
   Other

I. Locator Data:
   Street Address: 91st Lakeshore Dr.
   Phone Number: (289) 4180-2012
   Parent/Guardian Name (Print Full Name For Each)
   Mr. Arthur Gabian Jr.
   Miss/Mrs./Ms. Connie Gabian

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.

   (B)ike in the motocross industry

K. Please indicate below your plans after graduation from high schools:

   1. Go to Work Full - Time
   No Further Education
   Some College Later

   2. Go to College
   Community College
   Four Year College
   Full-Time Student
   Part-Time Student
   Agriculture Major
   Non-Agriculture Major

   3 Go Into Military Service
STUDENT PROGRAM PLANNING FORM

I. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Ag Small Engine Repair</td>
<td>Algebra</td>
<td>Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spr Engine</td>
<td></td>
</tr>
<tr>
<td>Work on Out Bike</td>
<td></td>
</tr>
<tr>
<td>Work on Corn</td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Mention</th>
<th>FFA related sales</th>
<th>OCC</th>
<th>MFE/ME</th>
</tr>
</thead>
</table>

Parent/Guardians Signature:
A. Name: [Last Name] [First Name, MI]  
B. Gender: Male  
C. Date: [Month Day, Year]  
D. Year in Agriculture Program: [1st, 2nd, 3rd, 4th]  
E. Grade Level in School: [9, 10, 11, 12]  
F. Program of Instruction Being Pursued: (Select Only One)  
   - Plant & Soil Science (4010)  
   - Animal Science (4020)  
   - Agricultural Mechanics (4030)  
   - Agricultural Business (4040)  
   - Ornamental Horticulture (4050)  
   - Forestry & Natural Resources (4060)  
   - Agriscience (4070)  
G. I Am Taking This Course Because: (Select One)  
   - I plan a career in agriculture  
   - Not a career, just an interest in agriculture.  
   - Not interested, placed in class.  
H. Ethnic Origin: (Select Only One)  
   - White  
   - Hispanic  
   - Black (Except Hispanic)  
   - Filipino  
   - Asian or Pacific Islander  
   - American Indian/Native American  
   - Other  
I. Locator Data:  
   - Street Address: [Address]  
   - Phone Number: [Phone Number]  
   - Parent/Guardian Name (Print Full Name For Each): [Name]  
   - Mr.  
   - Timothy [Last Name]  
   - Miss/Mrs./Ms.  
   - [Last Name]  
J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.  
   - Teacher  
   - (Veteran)  
K. Please indicate below your plans after graduation from high schools:  
   1. Go to Work Full - Time  
   2. Go to College  
      - Community College  
      - Four Year College  
      - Full-Time Student  
      - Part-Time Student  
      - Agriculture Major  
      - Non-Agriculture Major  
   3. Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year 2008-2009</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Algebra CP</td>
<td>Pre-AP English</td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td>Int. Ag. Science</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Meeting</th>
<th>County Fair</th>
<th>Fundraisers</th>
</tr>
</thead>
</table>

Parents/Guardians Signature: ____________________________
AGRICULTURAL EDUCATIONAL DATA
A. Name
   First Name: Greene
   Last Name: Alexandria E
B. Gender: Male
C. Date: 08/28/19
D. Year in Agriculture Program:
   2nd
   (1st, 2nd, 3rd, 4th)
E. Grade Level in School:
   10
   (9, 10, 11, 12)
F. Program of Instruction Being Pursued: (Select Only One)
   Plant & Soil Science (4010)
   Animal Science (4020)
   Agricultural Mechanics (4030)
   Agricultural Business (4040)
   Ornamental Horticulture (4050)
   Forestry & Natural Resources (4060)
   Agriscience (4070)
   X Agriscience (4070)
G. I Am Taking This Course Because: (Select One)
   I plan a career in agriculture
   X Not a career, just an interest in agriculture.
   Not interested, placed in class.
H. Ethnic Origin: (Select Only One)
   White
   Hispanic
   X Black (Except Hispanic)
   Filipino
   Asian or Pacific Islander
   American Indian/Native American
   Other

STUDENT CAREER SHEET
AEET
I. Locator Data:
   Street Address: 397 Birchwood Ct
   Phone Number:
   Parent/Guardian Name (Print Full Name For Each)
   Mr. Janiero Ray Green
   Miss/Mrs./Ms. Cristina Elizabeth Green
J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   Forensic Science
K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full-Time
      No Further Education
      Some College Later
   2. Go to College
      Community College
      Four Year College
      Full-Time Student
      Part-Time Student
      Agriculture Major
      Non-Agriculture Major
   3 Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Alg science 1-2</td>
<td>Alg science 3-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comp English 3-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dance 1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comp History</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geometry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>meetings</th>
<th>meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Green hand con.</th>
<th>Green hand con.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: __________________________
AGRICULTURAL EDUCATION DATA

A. Name: Jacobs
   Last Name: 
   First Name: M

B. Gender: Male ✓
   Female

C. Date: 8-28-08

D. Year in Agriculture Program: 2nd
   (1st, 2nd, 3rd, 4th)
   10

E. Grade Level in School: (9, 10, 11, 12)

F. Program of Instruction Being Pursued: (Select Only One)
   ✓ Agriscience (4070)
   Plant & Soil Science (4010)
   Animal Science (4020)
   Agricultural Mechanics (4030)
   Agricultural Business (4040)
   Ornamental Horticulture (4050)
   Forestry & Natural Resources (4060)

G. I Am Taking This Course Because: (Select One)
   ✓ Not interested, placed in class.
   Not a career, just an interest in agriculture.
   I plan a career in agriculture

H. Ethnic Origin: (Select Only One)
   ✓ White
   Hispanic
   Black (Except Hispanic)
   Filipino
   Asian or Pacific Islander
   American Indian/Native American
   Other

STUDENT CAREER SHEET

I. Locator Data:
   Street Address: 1612 San Luis Way
   Phone Number: (209) 521-9443
   Parent/Guardian Name (Print Full Name For Each)
   Mr. George Milton Jacobs
   Miss/Mrs./Ms. Lucinda Dunlap Jacobs

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   Engineer (Veterinarian)

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full-Time
      No Further Education
      Some College Later
      ✓
   2. Go to College
      Community College
      Four Year College ✓
      Full-Time Student ✓
      Part-Time Student
      Agriculture Major
      Non-Agriculture Major
      3 Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Ag. Science 1-2</td>
<td>Ag. Science 3-4</td>
<td>Advanced P.E</td>
<td></td>
</tr>
<tr>
<td>Pre-AP English 1-2</td>
<td>Pre-AP English 3-4</td>
<td>Band</td>
<td></td>
</tr>
<tr>
<td>Health/World Geography/Religion</td>
<td>Advanced P.E</td>
<td>Geometry</td>
<td></td>
</tr>
<tr>
<td>Band</td>
<td>Bond</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.E</td>
<td>Geometry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebra</td>
<td>CP World History</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhand Conference</td>
<td>Science Fair Project</td>
<td>Landscaping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

Parents/Guardians Signature: ___________________________
A. Name: Jacobson  
   Last Name: 
   First Name: Hollie, MI
B. Gender: Male
C. Date: Aug 28, 2008
D. Year in Agriculture Program: 4
E. Grade Level in School: 12
F. Program of Instruction Being Pursued: (Select Only One)
   - Plant & Soil Science (4010)
   - Animal Science (4020)
   - Agricultural Mechanics (4030)
   - Agricultural Business (4040)
   - Ornamental Horticulture (4050)
   - Forestry & Natural Resources (4060)
   - Agriscience (4070)
G. I Am Taking This Course Because: (Select One)
   - I plan a career in agriculture  
   - Not a career, just an interest in agriculture.
   - Not interested, placed in class.
H. Ethnic Origin: (Select Only One)
   - White
   - Hispanic
   - Black (Except Hispanic)
   - Filipino
   - Asian or Pacific Islander
   - American Indian/Native American
   - Other
I. Locator Data:
   Street Address: 35600 Bentley Rd.
   Phone Number: (209) 596-9175
   Parent/Guardian Name (Print Full Name For Each)
   Mr. Rich Jacobson
   Miss/Mrs./Ms. cheri Jacobson
J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.

   Animal Science Teacher

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full - Time
      No Further Education
      Some College Later
   2. Go to College
      Community College
      Four Year College
      Full-Time Student X
      Part-Time Student
      Agriculture Major
      Non-Agriculture Major
   3. Go Into Military Service
STUDENT PROGRAM PLANNING FORM

L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Ag Earth Sci</td>
<td>Ag Bio</td>
<td>Ag Adv Animal Sci</td>
<td>Appl Comm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Govt Econ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sm Econ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yearbook</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ag Animal Sci</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adv. Algebra</td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goats</td>
<td>1</td>
<td>Goats</td>
<td>1</td>
<td>Goats</td>
<td>1</td>
<td>Goats</td>
<td>2</td>
</tr>
<tr>
<td>landscaping</td>
<td></td>
<td>landscaping</td>
<td></td>
<td>landscaping</td>
<td></td>
<td>landscaping</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sm Econ</td>
<td>1</td>
<td>Yearbook</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steer</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>landscaping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Meetings</th>
<th>Meetings</th>
<th>Meetings</th>
<th>Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell tickets</td>
<td>Sell tickets</td>
<td>Sell tickets</td>
<td>Sell tickets</td>
</tr>
<tr>
<td>Hurricane Box</td>
<td>Soldier Box</td>
<td>ALA Conf.</td>
<td>President (all activities)</td>
</tr>
<tr>
<td>Greenland Con.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: __________________________
A. Name: Jacobson
   Last Name: Holli L
B. Gender: Male
C. Date: Aug 28, 2008
D. Year in Agriculture Program: (1st, 2nd, 3rd (4th) (9, 10, 11 (12)
E. Grade Level in School:
F. Program of Instruction Being Pursued: (Select Only One)
   - Plant & Soil Science (4010)
   - Animal Science (4020)
   - Agricultural Mechanics (4030) X
   - Agricultural Business (4040)
   - Ornamental Horticulture (4050)
   - Forestry & Natural Resources (4060)
   - Agriscience (4070)
G. I Am Taking This Course Because: (Select One)
   - I plan a career in agriculture
   - Not a career, just an interest in agriculture. X
   - Not interested, placed in class.
H. Ethnic Origin: (Select Only One)
   - White X
   - Hispanic
   - Black (Except Hispanic)
   - Filipino
   - Asian or Pacific Islander
   - American Indian/Native American
   - Other
I. Locator Data:
   Street Address: 36160 Bentley Rd
   Phone Number: (209) 521-1824
   Parent/Guardian Name (Print Full Name For Each)
   Mr. Rich Jacobson
   Miss/Mrs. Sneri Jacobson
J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, please in parenthesis () an occupation in agriculture you would enjoy doing.
   AG Teacher
K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full-Time
   2. Go to College X
      - Community College
      - Four Year College
      - Full-Time Student X
      - Part-Time Student
      - Agriculture Major X
      - Non-Agriculture Major
   3. Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Sophomore Year</th>
<th>Junior Year</th>
<th>Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Course</strong></td>
<td><strong>Course</strong></td>
<td><strong>Course</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gov. (Econ)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ag. S.Eng.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yearbook Journals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adv. Animal Sci</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adv. Algebra</td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td>5m Eng.</td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Meetings</th>
<th>Meetings</th>
<th>Meetings</th>
<th>Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricane Box</td>
<td>Soldier Box</td>
<td>Sell Tickets</td>
<td>CAOS</td>
</tr>
<tr>
<td>Sell Tickets</td>
<td>Fair</td>
<td>AEA</td>
<td>Sell Tickets</td>
</tr>
<tr>
<td>Fair</td>
<td></td>
<td>Fair</td>
<td>OCC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tri-tip Dinner</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: ___________________________
A. Name: Jones  
B. Gender: Male  
C. Date: 08/28/2003  
D. Year in Agriculture Program: 2nd  
E. Grade Level in School: 10  
F. Program of Instruction Being Pursued: (Select Only One)  
   - Plant & Soil Science (4010)  
   - Animal Science (4020)  
   - Agricultural Mechanics (4030)  
   - Agricultural Business (4040)  
   - Ornamental Horticulture (4050)  
   - Forestry & Natural Resources (4060)  
   - Agriscience (4070)  
G. I Am Taking This Course Because: (Select One)  
   - I plan a career in agriculture  
   - Not a career, just an interest in agriculture.  
   - Not interested, placed in class.  
H. Ethnic Origin: (Select Only One)  
   - White  
   - Hispanic  
   - Black (Except Hispanic)  
   - Filipino  
   - Asian or Pacific Islander  
   - American Indian/Native American  
   - Other  
I. Locator Data:  
   - Street Address: 1513 Backen Lane  
   - Phone Number: (207) 541 - 1258  
   - Parent/Guardian Name (Print Full Name For Each)  
     Mr.  
     Miss/Mrs./Ms. Pamela Jones  
J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.  
   (Floral designer)  
K. Please indicate below your plans after graduation from high schools:  
   1. Go to Work Full - Time  
   2. Go to College  
      - Community College  
      - Four Year College  
      - Full-Time Student  
      - Part-Time Student  
      - Agriculture Major  
      - Non-Agriculture Major  
   3. Go Into Military Service
**STUDENT PROGRAM PLANNING FORM**

L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Ag-science 1-2</td>
<td>Ag-science 3-4</td>
<td>English</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>Advanced DE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spanish II</td>
<td>Spanish II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>World History</td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Science Fair</td>
<td></td>
<td></td>
<td></td>
<td>Vets Office</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>landscaping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Conference</th>
<th>Meetings</th>
<th>Tri-tip Dinner</th>
<th>National Conference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhand</td>
<td></td>
<td>Tri-tip Dinner</td>
<td></td>
</tr>
<tr>
<td>Meetings</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: ___________________________
<table>
<thead>
<tr>
<th>A. Name</th>
<th>Kilgus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name</td>
<td>Chase</td>
</tr>
<tr>
<td>B. Gender: Male</td>
<td>Female</td>
</tr>
<tr>
<td>C. Date: 5-28-08</td>
<td></td>
</tr>
<tr>
<td>D. Year in Agriculture Program: 11</td>
<td></td>
</tr>
<tr>
<td>E. Grade Level in School: 9, 10, 11, 12</td>
<td></td>
</tr>
<tr>
<td>F. Program of Instruction Being Pursued: (Select Only One)</td>
<td></td>
</tr>
<tr>
<td>Plant &amp; Soil Science (4010)</td>
<td></td>
</tr>
<tr>
<td>Animal Science (4020)</td>
<td></td>
</tr>
<tr>
<td>Agricultural Mechanics (4030)</td>
<td></td>
</tr>
<tr>
<td>Agricultural Business (4040)</td>
<td></td>
</tr>
<tr>
<td>Ornamental Horticulture (4050)</td>
<td></td>
</tr>
<tr>
<td>Forestry &amp; Natural Resources (4060)</td>
<td></td>
</tr>
<tr>
<td>Agriscience (4070)</td>
<td></td>
</tr>
<tr>
<td>G. I Am Taking This Course Because: (Select One)</td>
<td></td>
</tr>
<tr>
<td>I plan a career in agriculture</td>
<td></td>
</tr>
<tr>
<td>Not a career, just an interest in agriculture.</td>
<td></td>
</tr>
<tr>
<td>Not interested, placed in class.</td>
<td></td>
</tr>
<tr>
<td>H. Ethnic Origin: (Select Only One)</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
</tr>
<tr>
<td>Black (Except Hispanic)</td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td></td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td></td>
</tr>
<tr>
<td>American Indian/Native American</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>I. Locator Data:</td>
<td></td>
</tr>
<tr>
<td>Street Address: 974 Edmonton Ln</td>
<td></td>
</tr>
<tr>
<td>Phone Number: (704) 549-9458, Cell 791-9455</td>
<td></td>
</tr>
<tr>
<td>Parent/Guardian Name (Print Full Name For Each)</td>
<td></td>
</tr>
<tr>
<td>Mr. Bobby Kilgus Sr.</td>
<td></td>
</tr>
<tr>
<td>Miss/Mrs./Ms. Sutton Knox</td>
<td></td>
</tr>
<tr>
<td>J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.</td>
<td></td>
</tr>
<tr>
<td>To join the marines &amp; kill for my country</td>
<td></td>
</tr>
<tr>
<td>K. Please indicate below your plans after graduation from high schools:</td>
<td></td>
</tr>
<tr>
<td>1. Go to Work Full - Time</td>
<td></td>
</tr>
<tr>
<td>No Further Education</td>
<td></td>
</tr>
<tr>
<td>Some College Later</td>
<td></td>
</tr>
<tr>
<td>2. Go to College</td>
<td></td>
</tr>
<tr>
<td>Community College</td>
<td></td>
</tr>
<tr>
<td>Four Year College</td>
<td></td>
</tr>
<tr>
<td>Full-Time Student</td>
<td></td>
</tr>
<tr>
<td>Part-Time Student</td>
<td></td>
</tr>
<tr>
<td>Agriculture Major</td>
<td></td>
</tr>
<tr>
<td>Non-Agriculture Major</td>
<td></td>
</tr>
<tr>
<td>3 Go Into Military Service</td>
<td></td>
</tr>
</tbody>
</table>
## STUDENT PROGRAM PLANNING FORM

L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Mental Shop 1-2</td>
<td>Auto Shop 1-2</td>
<td>Auto Shop</td>
<td>Auto Shop</td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>smaller sizes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>land scouting</td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>meetings</td>
<td>Can drive</td>
<td>FFA</td>
<td>AIA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A. Name: Abigail R. Louace
   Last Name: Louace

B. Gender: Male ☐ Female ☑

C. Date: Sep 9, 08

D. Year in Agriculture Program: 4th
   (1st, 2nd, 3rd, 4th)

E. Grade Level in School: 12
   (9, 10, 11, 12)

F. Program of Instruction Being Pursued: (Select Only One)
   - Plant & Soil Science (4010)
   - Animal Science (4020)
   - Agricultural Mechanics (4030)
   - Agricultural Business (4040)
   - Ornamental Horticulture (4050)
   - Forestry & Natural Resources (4060)
   - Agriscience (4070)

G. I Am Taking This Course Because: (Select One)
   - I plan a career in agriculture ☑
   - Not a career, just an interest in agriculture.
   - Not interested, placed in class.

H. Ethnic Origin: (Select Only One)
   - White ☑
   - Hispanic
   - Black (Except Hispanic)
   - Filipino
   - Asian or Pacific Islander
   - American Indian/Native American
   - Other

I. Locator Data:
   Street Address: 3405 Swain Dr. Mod, CA 95393
   Phone Number:
   Parent/Guardian Name (Print Full Name For Each)
   Mr. Larry Louace
   Miss/Mrs./Ms. Linda Louace

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   (I would love to be a photographer)

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full - Time ☐
      No Further Education ☐
      Some College Later ☐
   2. Go to College ☑
      Community College ☐
      Four Year College ☐
      Full-Time Student ☐
      Part-Time Student ☐
      Agriculture Major ☑
      Non-Agriculture Major ☐
   3. Go Into Military Service ☐
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Earth science</td>
<td>Biology</td>
<td>Tnt ag science</td>
<td>Floral design</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Computers</td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>tomatoe garden</td>
<td>3 tomatoe herb garden</td>
<td>herb garden</td>
<td>goot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

Parents/Guardians Signature: [Signatures]
AGRICULTURAL EDUCATION DATA SHEET

A. Name: Meadows
Last Name: Samson
First Name, MI:

B. Gender: Male
Female: X

C. Date: 8-28-09

D. Year in Agriculture Program:
1st
2nd
3rd
4th

E. Grade Level in School:
9, 10, 11, 12

F. Program of Instruction Being Pursued: (Select Only One)

- Plant & Soil Science (4010)
- Animal Science (4020)
- Agricultural Mechanics (4030)
- Agricultural Business (4040)
- Ornamental Horticulture (4050)
- Forestry & Natural Resources (4060)
- Agriscience (4070)

G. I Am Taking This Course Because: (Select One)

- I plan a career in agriculture
- Not a career, just an interest in agriculture.
- Not interested, placed in class.

H. Ethnic Origin: (Select Only One)

- White
- Hispanic
- Black (Except Hispanic)
- Filipino
- Asian or Pacific Islander
- American Indian/Native American
- Other

I. Locator Data:
Street Address: 1400 Thorsen Avenue
Phone Number: 209-579-1376
Parent/Guardian Name (Print Full Name For Each)
Mr.
Kenneth Meadows
Miss/Mrs./Ms.

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.

- zoologist

K. Please indicate below your plans after graduation from high schools:

1. Go to Work Full - Time
2. Go to College
   - Community College
   - Four Year College
   - Full-Time Student
   - Part-Time Student
   - Agriculture Major
   - Non-Agriculture Major
3 Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Goat</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Meetings
Fieldtrips
County Fair

Parents/Guardians Signature: ____________________________
A. Name ____________________________
   Last Name ____________________________
   First Name, MI ____________________________

B. Gender: Male ______ Female ______

C. Date: ____________

D. Year in Agriculture Program: ______
   (1st, 2nd, 3rd, 4th)

E. Grade Level in School: ______
   (9, 10, 11, 12)

F. Program of Instruction Being Pursued: (Select Only One)
   ______ Plant & Soil Science (4010)
   ______ Animal Science (4020)
   ______ Agricultural Mechanics (4030)
   ______ Agricultural Business (4040)
   ______ Ornamental Horticulture (4050)
   ______ Forestry & Natural Resources (4060)
   ______ Agriscience (4070)

G. I Am Taking This Course Because: (Select One)
   I plan a career in agriculture ______
   Not a career, just an interest in agriculture ______
   Not interested, placed in class ______

H. Ethnic Origin: (Select Only One)
   ______ White
   ______ Hispanic
   ______ Black (Except Hispanic)
   ______ Filipino
   ______ Asian or Pacific Islander
   ______ American Indian/Native American
   ______ Other

I. Locator Data:
   Street Address: ____________________________
   Phone Number: ____________________________
   Parent/Guardian Name (Print Full Name For Each)
   Mr. ____________________________
   Miss/Mrs./Ms. ____________________________

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   ____________________________
   ____________________________
   ____________________________

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full-Time ______
      No Further Education ______
      Some College Later ______
   2. Go to College ______
      Community College ______
      Four Year College ______
      Full-Time Student ______
      Part-Time Student ______
      Agriculture Major ______
      Non-Agriculture Major ______
   3 Go Into Military Service ______
**STUDENT PROGRAM PLANNING FORM**

L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ag Science</td>
<td></td>
<td>Ag Science</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td></td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>CP English</td>
<td></td>
<td>CP History</td>
<td></td>
</tr>
<tr>
<td>Algebra Essn.3-4</td>
<td></td>
<td>Algebra Essn.5</td>
<td></td>
</tr>
<tr>
<td>Spanish1</td>
<td></td>
<td>Marketing</td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP Geography</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

- Greenhandion
- Meetings
- Conferences
- Fairs

Parents/Guardians Signature: ____________________________
AGRICULTURAL EDUCATIONAL
DATA SHEET

A. Name
   Last Name: Mitchell
   First Name: Zachary E.

B. Gender: Male ☒
   Female ☐

C. Date: 08-08-88

D. Year in Agriculture Program:
   (1st, 2nd, 3rd, 4th)
   1st

E. Grade Level in School:
   (9, 10, 11, 12)
   10

F. Program of Instruction Being Pursued: (Select Only One)
   ☒ Plant & Soil Science (4010)
   ☐ Animal Science (4020)
   ☐ Agricultural Mechanics (4030)
   ☐ Agricultural Business (4040)
   ☐ Ornamental Horticulture (4050)
   ☐ Forestry & Natural Resources (4060)
   ☐ Agriscience (4070)

G. I Am Taking This Course Because: (Select One)
   ☒ I plan a career in agriculture
   ☐ Not a career, just an interest in agriculture.
   ☐ Not interested, placed in class.

H. Ethnic Origin: (Select Only One)
   ☒ White
   ☐ Hispanic
   ☐ Black (Except Hispanic)
   ☐ Filipino
   ☐ Asian or Pacific Islander
   ☐ American Indian/Native American
   ☐ Other

I. Locator Data:
   Street Address: 1820 Bridgewood Way
   Phone Number: 765-0432
   Parent/Guardian Name (Print Full Name For Each)
   Mr. Joseph Mitchell
   Miss/Mrs./Ms. Elena Mitchell

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   Astronomy (Ag Mechanics)

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full-Time
   No Further Education
   Some College Later
   2. Go to College
   Community College
   ☒ Four Year College
   Full-Time Student
   Part-Time Student
   Agriculture Major
   Non-Agriculture Major
   3. Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ag. Sm. Eng. 1-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>German II</td>
</tr>
<tr>
<td>CP English 3-4</td>
</tr>
<tr>
<td>CP World History</td>
</tr>
<tr>
<td>Geometry</td>
</tr>
<tr>
<td>Biology</td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.A.E</td>
<td>Size</td>
</tr>
<tr>
<td>..................</td>
<td></td>
</tr>
<tr>
<td>Small Engine</td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Meetings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M. F. F. Field</td>
<td></td>
</tr>
<tr>
<td>M. F. F. Committee</td>
<td></td>
</tr>
<tr>
<td>OCC</td>
<td></td>
</tr>
<tr>
<td>Green Road Conference</td>
<td></td>
</tr>
<tr>
<td>M. F. F. 11-12</td>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: ____________________________  ____________________________
A. Name **Morgan**, First Name, MI
   Last Name **Brittney K.**

B. Gender: **Female**

C. Date: **8/28/08**

D. Year in Agriculture Program: **2nd**
   (1st, 2nd, 3rd, 4th)

E. Grade Level in School: **10**
   (9, 10, 11, 12)

F. Program of Instruction Being Pursued: (Select Only One)
   - **Plant & Soil Science (4010)**
   - **Animal Science (4020)**
   - **Agricultural Mechanics (4030)**
   - **Agricultural Business (4040)**
   - **Ornamental Horticulture (4050)**
   - **Forestry & Natural Resources (4060)**
   - **Agriscience (4070)**

   **✓** Agriscience (4070)

G. I Am Taking This Course Because: (Select One)
   - **✓** I plan a career in agriculture
   - Not a career, just an interest in agriculture.
   - Not interested, placed in class.

H. Ethnic Origin: (Select Only One)
   - **✓** White
   - Hispanic
   - Black (Except Hispanic)
   - Filipino
   - Asian or Pacific Islander
   - American Indian/Native American
   - Other

I. Locator Data:
   - Street Address: **2313, LOVER'S POINT**
   - Phone Number: **(209) 545-0696**
   - Parent/Guardian Name (Print Full Name For Each)
     **Mr. Jim Ridenour**
   - Miss/Mrs./Ms. **Kimberly Ridenour**

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   **I would like to be a zoologist.**

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full-Time
    - No Further Education
    - Some College Later
   2. Go to College
    - **✓** Community College
    - Four Year College
    - Full-Time Student **✓**
    - Part-Time Student
    - Agriculture Major
    - Non-Agriculture Major
   3. Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>Ag Science 1-2</td>
<td>Ag Science 3-4</td>
<td>Spanish 2</td>
<td>Ag Science</td>
</tr>
<tr>
<td></td>
<td>Yoga</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Hi English</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cp World History</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Hi Finance 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Fair Project</td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>Go to meetings</th>
<th>go to meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhand Conference</td>
<td>Tri-Tip Dinner</td>
</tr>
<tr>
<td>Tri-Tip Dinner</td>
<td>Awards Night</td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: ________________________________
AGRICULTURAL EDUCATION DATA SHEET

I. Locator Data:
   Street Address: 1378 Scottsdale Way
   Phone Number: (480) 622-3574

   Parent/Guardian Name (Print Full Name For Each)
   Mr. Rick Myers
   Miss/Mrs./Ms. Shannon Myers

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.
   Owning a nursery.

K. Please indicate below your plans after graduation from high schools:
   1. Go to Work Full - Time
      No Further Education
      Some College Later
   2. Go to College
      Community College
      Four Year College
      Full-Time Student
      Part-Time Student
      Agriculture Major
      Non-Agriculture Major
      3 Go Into Military Service
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>00 Government</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Floral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Music</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 Earth Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 TA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 Lunch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 Art</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7 English</td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>pig</td>
<td></td>
</tr>
<tr>
<td>Landscaping</td>
<td></td>
</tr>
<tr>
<td>Rabbit</td>
<td>1</td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FFA meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature: __________________________
AGRICULTURAL EDUCATION STUDENT CAREER SHEET

A. Name: Sloan, Jessica  
   First Name: Sloan  
   Last Name: Jessica  

B. Gender: Male  
   Female [X]  

C. Date: 08/28/08  
   2nd  
   (1st, 2nd, 3rd, 4th)  
   (9, 10, 11, 12)  

D. Year in Agriculture Program:  
   [ ] 1st  
   [X] 2nd  
   [ ] 3rd  
   [ ] 4th  

E. Grade Level in School:  
   [ ] 9th  
   [ ] 10th  
   [ ] 11th  
   [X] 12th  

F. Program of Instruction Being Pursued: (Select Only One)  
   [X] Agriscience (4070)  
   [ ] Plant & Soil Science (4010)  
   [ ] Animal Science (4020)  
   [ ] Agricultural Mechanics (4030)  
   [ ] Agricultural Business (4040)  
   [ ] Ornamental Horticulture (4050)  
   [ ] Forestry & Natural Resources (4060)  

G. I Am Taking This Course Because: (Select One)  
   [X] Not a career, just an interest in agriculture.  
   [ ] I plan a career in agriculture  
   [ ] Not interested, placed in class.  

H. Ethnic Origin: (Select Only One)  
   [X] Hispanic  
   [ ] White  
   [ ] Black (Except Hispanic)  
   [ ] Filipino  
   [ ] Asian or Pacific Islander  
   [ ] American Indian/Native American  
   [ ] Other  

I. Locator Data:  
   Street Address: 2113 Eastwood Ct.  
   Phone Number: 209-571-3475  
   Parent/Guardian Name (Print Full Name For Each)  
   Sloan  
   Miss/Mrs./Ms. Sloan  

J. When you eventually take your place in this world, what would you like to do? If your dream is not related to agriculture, place in parenthesis () an occupation in agriculture you would enjoy doing.  
   [ ] Chef/Business Owner  

K. Please indicate below your plans after graduation from high schools:  
   1. Go to Work Full - Time  
      [ ] No Further Education  
      [X] Some College Later  
   2. Go to College  
      [ ] Community College  
      [ ] Full-Time Student  
      [X] Part-Time Student  
      [ ] Agriculture Major  
      [ ] Non-Agriculture Major  
   3. Go Into Military Service  
      [ ]
L. Planned course of study to meet occupational goal. By school year, list all classes previously taken, currently taking, and planned to be taken in the future.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
<td>School Year</td>
</tr>
<tr>
<td>Course</td>
<td>Course</td>
<td>Course</td>
<td>Course</td>
</tr>
<tr>
<td>General P.E.</td>
<td>World History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>German 1</td>
<td>AG Science 3-4</td>
<td>Math Essen 4</td>
<td></td>
</tr>
<tr>
<td>AG Science 1-2</td>
<td>German 2</td>
<td>Dance 1</td>
<td></td>
</tr>
<tr>
<td>English 1-2</td>
<td>Math Essen 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math Essen 1-2</td>
<td>English 3-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health/Geography</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Agricultural Experience Plan (Project Program should be related to career goal).

<table>
<thead>
<tr>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
<th>S.A.E</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>1</td>
<td>Rabbits</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activity (FFA)

- Meetings
- Green House
- Meetings
- Conferences
- Closing Conferences
- Fairs

Parents/Guardians Signature: ____________________________
Section 4

Permanent Vocational Ag. Student Records
### M. Supervised Practical Experience Plan (Project program should be related to career goal).

<table>
<thead>
<tr>
<th>S.O.E.</th>
<th>Size</th>
<th>S.O.E.</th>
<th>Size</th>
<th>S.O.E.</th>
<th>Size</th>
<th>S.O.E.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Engine Repair</td>
<td>trailer for fair</td>
<td>Small goats</td>
<td>market goat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscaping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### N. Planned Departmental Activities (FFA)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Small Engine Team</th>
<th>Small Engine Team</th>
<th>Small Engine Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFA Meetings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tri-Tip Dinner</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parents/Guardians Signature:
Section 5

Course Outlines
MODESTO CITY SCHOOLS

COURSE OUTLINE

COURSE TITLE: Agricultural Mechanics 1-2

COURSE NUMBER: 001

ABILITY LEVEL: 9, 10

DURATION: 2 Semesters

CREDIT: 10


MEETS GRADUATION REQUIREMENTS IN: Practical Arts

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Modesto

CBEDS CODE: 4030

MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No

MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: Yes

REPLACES:

Course Description: Students will use a classroom and laboratory-type situation to cover the principles, and applications of topics. Work habits and attitudes will be stressed with emphasis on careers in agriculture. Areas of instruction will include: safety, tools, measurement, drawing, woods, welding, concrete, metalwork/sheetmetal, electricity, rope, and plumbing.

Recommended Prerequisites: None


Board Approved:

REVIEW CYCLE: 2002-03 through 2007-08

APPROVED TEXTBOOK: AGRICULTURAL MECHANICS: Fundamentals & Applications, 3rd Edition; Cooper; Delmar Publishers
### SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units of Instruction</th>
<th>Approximate Length (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Tools</td>
<td>2</td>
</tr>
<tr>
<td>B. Safety</td>
<td>2</td>
</tr>
<tr>
<td>C. Measurement</td>
<td>2</td>
</tr>
<tr>
<td>D. Tool Fitting</td>
<td>1</td>
</tr>
<tr>
<td>E. Oxy-Acetylene Welding</td>
<td>5</td>
</tr>
<tr>
<td>F. Arc Welding</td>
<td>5</td>
</tr>
<tr>
<td>G. Metalwork and Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>H. Woodworking</td>
<td>5</td>
</tr>
<tr>
<td>I. Drawing</td>
<td>2</td>
</tr>
<tr>
<td>J. Concrete</td>
<td>2</td>
</tr>
<tr>
<td>K. Electricity</td>
<td>3</td>
</tr>
<tr>
<td>L. Ropework</td>
<td>1</td>
</tr>
<tr>
<td>M. Plumbing</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Weeks</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>
INSTRUCTIONAL MATERIALS

Basic Text(s):

AGRICULTURAL MECHANICS: Fundamentals & Applications, 3rd Edition; Cooper; Delmar

Supplementary Text(s):

AGRICULTURAL MECHANICS: Fundamentals & Applications
Student Lab Manual; Cooper; Delmar

THE MODERN ILLUSTRATED HAND AND POWER TOOL MANUAL;
Vocational Education Productions

BASIC TECHNICAL DRAWING; Spencer and Dygdon; Glencoe

WELDING: Principles and Applications; Jeffus; Delmar
Student Guide and Lab Manual
Complete Welding Video Package

BLUEPRINT READING FOR WELDERS; Delmar

SMALL GAS ENGINES; Gray and Barrow; Prentice Hall
AGRICULTURAL MECHANICS 1-2

1.0 GOAL:

Students will understand the importance of proper cleaning and storage of shop tools, the reporting of hazardous situations, and safe practices to be employed with all tools and machines. Upon completion of this unit, students will be able to:

1.1 Store tools, equipment, and materials properly.

1.2 Clean the shop properly as directed by the instructor.

1.3 Recognize and report hazardous situations to the appropriate persons.

1.4 Use a fire extinguisher properly.

1.5 Practice all shop and equipment safety regulations.

1.6 Develop a proper attitude toward work and avoid unsafe practices

2.0 GOAL:

Students will understand the importance of correct and safe use of shop tools and be able to identify shop tools. Upon completion of this unit, student will be able to:

2.1 Identify all the tools used in the Ag Mechanics California Curriculum Guidelines unit on basic hand and power tools.

2.2 Justify in an oral or written statement (record to be kept on file in agriculture department office) the selection of tools to be used in the agricultural mechanics program.
2.3 Demonstrate the proper and safe use of the tools to be used in the agricultural mechanics program.

3.0 GOAL:

Students will be able to understand and demonstrate proper procedures for tool fitting and sharpening. Upon completion of this unit, students will be able to:

3.1 Replace handles correctly on hand tools such as hammers, shovels, and axes.

3.2 Sharpen selected cutting tools correctly, including chisels, screwdrivers, twist drills, blades, hoes, axes, knives, scissors, and shears.

Agricultural Mechanics 1-2 (5)

3.3 Be able to construct and repair a cutting tool such as a cold chisel and demonstrate proper hardening and tempering techniques.

4.0 GOAL:

Students will understand and be able to read and use a ruler or tape to calculate problems involving length, area, volume, and weight. Students will know the difference between the U.S. Customary and the metric measurement systems. Upon completion of this unit, the students will be able to:

4.1 Measure objects correctly with a ruler, tape, or framing square.

4.2 Measure objects correctly using calipers and micrometers.

4.3 Calculate and solve basic measurement problems, including calculation of board feet, cubic measurements, and standard liquid measurements.

4.4 Differentiate between U.S. Customary and metric measurement units (in linear, area, and volumetric measurements).

4.5 Calculate and solve basic measurement problems, including weight.

4.6 Use various methods to determine the mass and volume of regularly and irregularly shaped objects.

5.0 GOAL:

Students will master the basic skills necessary to design, draw, calculate the cost of, and construct a project by interpreting the working drawing correctly. Upon completion of this unit, the students will be able to:
5.1 Identify the types of lines used in a drawing or layout.
5.2 Identify the three types of drawings (orthographic, isometric, and oblique).
5.3 Use an architect's scale.
5.4 Construct three-view (orthographic) drawings.
5.5 Interpret a working drawing.
5.6 Sketch and object using paper and pencil.
5.7 Plan and layout a construction project.
5.8 Calculate construction costs for a given task.
5.9 Assemble and finish a project.

Agricultural Mechanics 1-2

(6)

6.0 GOAL:

Students will understand the fundamentals of woodworking and demonstrate applied skills through project construction. Upon completion of this unit, the students will be able to:

6.1 Select kinds, grades, and quantity of lumber for a given task.
6.2 Identify and demonstrate the uses of ten different woodworking hand tools.
6.3 Measure and mark wood for cutting and drilling.
6.4 Cut and assemble wood parts.
6.5 Know the basic joints used in woodworking and demonstrate the application.
6.6 Operate power tools correctly and safely, replacing blades and making adjustments as necessary.

7.0 GOAL:

Students will understand and demonstrate skills involved in the oxy-acetylene welding process and roles heat and pressure play in the process, and will be able to operate and use the oxy-acetylene welder safely. Upon completion of this unit, students will be able to:
7.1 Pass a safety test on oxy-acetylene welding.
7.2 Identify the basic components of the oxy-acetylene welding apparatus.
7.3 Set up, use, shut off, and store and oxy-acetylene welder properly.
7.4 Run a bead with the oxy-acetylene equipment with and without a filler rod.
7.5 Use the oxy-acetylene equipment to do four basic welds other than a bead.
7.6 Select welding rods and fluxes appropriate for the job.
7.7 Make a straight cut, using the cutting head.
7.8 Clean the orifices in welding and cutting heads using the approved technique.
7.9 Construct a simple project requiring cutting and welding.
7.10 Change lenses on cutting goggles.

8.0 GOAL:

Students will understand and demonstrate competencies in the arc welding process and be able to operate an arc welder safely. Upon completion of this unit, students will be able to:

8.1 Pass a safety test and demonstrate proper use of arc welding equipment.
8.2 Strike and maintain an arc correctly.
8.3 Be familiar with the American Welding Society (AWS) classification system for electrodes.
8.4 Select various sizes and types of electrodes and correctly adjust the current setting for each application.
8.5 Identify four basic welding joints and demonstrate the application of each in the flat position, using AC and DC equipment.
8.6 Control distortion in arc welding.
8.7 Test welds for quality and strength
8.8 Construct a project requiring at least three different welds.
8.9 Identify career opportunities in the welding industry.
8.10 Change lens and head gear on a helmet.

9.0 GOAL:

Students will familiarize themselves with the uses of concrete and masonry and the materials used in making concrete, and will be able to identify and use the tools related to the task. Upon completion of this unit, students will be able to:

9.1 List the ingredients and characteristics of concrete.

9.2 Calculate the amounts and costs of materials required for a particular application.

9.3 Build proper forms.

9.4 Mix, pour, reinforce, finish, and cure concrete.

9.5 Demonstrate the use of the basic tools needed to pour a concrete slab.

9.6 Describe and use basic masonry techniques and tools.

Agricultural Mechanics 1-2 (8)

10.0 GOAL:

Students will demonstrate sills in the metalworking processes and properly identify types of materials and tools used for cold metalworking. Upon completion of this unit, students will be able to:

10.1 Identify samples of cast iron, mild steel, and aluminum.

10.2 Identify ten common metalworking tools by name and use.

10.3 Lay out a drawing on metal.

10.4 Make square and circular bends in metal using an anvil or vise.
10.5 Determine tap drill sizes.
10.6 Use files and saw blades correctly.
10.7 Forge a chisel.
10.8 Cut threads with tap and dies.

11.0 GOAL:

Students will develop and demonstrate a basic understanding of electricity, its theory, and its practical application. Upon completion of this unit, the students will be able to:

11.1 Use approved safety measures in electrical wiring.
11.2 Select correct fuse sizes for a given circuit.
11.3 Select wire sizes for a given circuit.
11.4 Define ampere, watt, volt, and ohm.
11.5 Repair an electrical cord.
11.6 Exhibit safe habits when working around electricity.
11.7 Understand the difference between electrical flow of 240 volts and 120 volts in wiring.
11.8 Complete wiring of light and convenience circuits.
11.9 "Trouble shoot" electrical circuits in a safe manner.

12.0 GOAL:

Students will develop and demonstrate the ability to select, use, and care for rope. Upon completion of this unit, the students will be able to:

12.1 List five common uses of rope.
12.2 Identify samples of natural and synthetic fiber ropes.
12.3 List the factors to consider when selecting rope.

12.4 Describe three important practices in rope care.

12.5 Construct crown, eye, short, and slide-loop splices (or make a rope halter, using the splices).

12.6 Tie three types of common hitches.

12.7 Tie three types of common knots.

13.0 GOAL:

Students will develop the knowledge and skills necessary to accomplish basic plumbing jobs. Upon completion of this unit, the students will be able to:

13.1 Properly identify common plumbing tools and materials.

13.2 Exhibit safe handling and working practices when using plumbing tools.

13.3 Understand the purposes for the various plumbing fittings and materials.

13.4 Perform an installation, including cutting pipe to length and installing fittings, using a combination of materials including steel, plastic and copper.
COURSE TITLE: Agricultural Mechanics 3-4

COURSE NUMBER: 009

ABILITY LEVEL: 10,11

DURATION: 1 Year

CREDIT: 5 per Semester


MEETS GRADUATION REQUIREMENTS IN: Practical Arts

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Beyer, Davis, Downey, Johansen, Modesto

CBEDS CODE: 4030

MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No

MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: Yes

REPLACES: Ag Mechanics

Course Description: Students will use a classroom and laboratory-type situation to cover the principles, care of, and maintenance of small gas and diesel engines. Work habits and attitudes will be stressed with emphasis on careers in agriculture. Areas of instruction will include: use of equipment manuals, equipment maintenance, and types of engines, oxy-acetylene welding, arc welding, measurement, drawing, safety, and project construction.

Recommended Prerequisites: Agricultural Mechanics 1-2


Board Approved:
### SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate Length of Instruction for Each Unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. SAFETY</td>
<td>2</td>
</tr>
<tr>
<td>B. USE OF MANUALS</td>
<td>1</td>
</tr>
<tr>
<td>C. TYPES OF SYSTEMS</td>
<td>2</td>
</tr>
<tr>
<td>D. CARBURETION</td>
<td>2</td>
</tr>
<tr>
<td>E. IGNITION</td>
<td>2</td>
</tr>
<tr>
<td>F. OVERHAUL AND REPAIR</td>
<td>4</td>
</tr>
<tr>
<td>G. OXY-ACETYLENE WELDING</td>
<td>5</td>
</tr>
<tr>
<td>H. ARC WELDING</td>
<td>5</td>
</tr>
<tr>
<td>I. MEASUREMENT 1</td>
<td></td>
</tr>
<tr>
<td>J. DRAWING</td>
<td>1</td>
</tr>
<tr>
<td>K. PROJECT CONSTRUCTION</td>
<td>10</td>
</tr>
</tbody>
</table>

Total Weeks of Instruction: 36
INSTRUCTIONAL MATERIALS

Basic Text(s):

SMALL GAS ENGINES, 3rd Edition; Gray & Barrow, Prentice Hall

Supplementary Text(s):

SERVICE AND REPAIR INSTRUCTIONS; Briggs and Stratton

MECHANICS HANDBOOK; Tecumseh Products Company

MASTER PARTS AND SERVICE MANUAL; Tecumseh Products Company

AGRICULTURAL MECHANICS: Fundamentals & Applications, 3rd Edition; Cooper; Delmar

THE MODERN ILLUSTRATED HAND AND POWER TOOL MANUAL; Vocational Education Productions

WELDING: Principles and Applications; Jeffus; Delmar
Student Study Guide and Lab Manual
Complete Welding Video Package

BLUEPRINT READING FOR WELDERS; Delmar

BASIC TECHNICAL DRAWING; Spencer and Dygdon; Glencoe
1.0 GOAL:

Students will understand the importance of proper cleaning and storage of shop tools, the reporting of hazardous situations, and safe practices to be employed with all tools and machines. Upon completion of this unit, students will be able to:

1.1 Store tools, equipment and materials properly.
1.2 Clean the shop properly as directed by the instructor.
1.3 Recognize and report hazardous situations.
1.4 Use a fire extinguisher properly.
1.5 Practice all shop and equipment safety regulations.
1.6 Develop a proper attitude toward work and avoid unsafe practices.

2.0 GOAL:

Students will understand the importance of an operator's manual for a given piece of equipment and be able to use it for ordering or maintenance. Upon completion of this unit, the students will be able to:

2.1 Identify the equipment to be serviced or repaired and locate the proper service or operator's manual.
2.2 Use the table of contents and determine the main sections and their page numbers.
2.3 Use the proper manual, determine the location of various parts or systems and locate adjustment points for adjusting the equipment.
2.4 Identify the proper names of these parts and systems.
2.5 Order repair or replacement parts by proper name.
2.6 Determine when service is due.

3.0 GOAL:

Students will develop and demonstrate a basic understanding of the types and systems of small gas engines. Upon completion of this unit students will be able to:

3.1 Distinguish among the different types and systems of small gas engines.
3.2 Be able to identify the major parts of an engine.

3.3 Understand the basic terminology used in the study of engines.

3.4 Identify the operating principles of two and four-stroke engines.

3.5 Understand how an engine works.

4.0 GOAL:

Student will develop their ability to recognize the different types of carburetor systems on small engines and be able to maintain them. Upon completion of this unit students will be able to:

4.1 Be familiar with the terminology used in describing carburetion systems.

4.2 List the purpose of each component of a fuel system.

4.3 Identify parts of the carburetor.

4.4 Identify three (3) types of fuel filters.

4.5 Identify three (3) types of air cleaners.

4.6 Explain the theory of carburetion.

5.0 GOAL:

Student will develop their ability to recognize the different types of ignition systems, their component parts, and how to maintain and make adjustments on them. Upon completion of this unit the student will:

5.1 Identify the components of an ignition system.

5.2 Be able to identify the different types of ignition systems.

5.3 Explain the theory of an ignition system.

5.4 Test a spark plug.

5.5 Check the gap on a spark plug.

5.6 Test, repair, and/or replace components of the ignition system.

5.7 Make correct adjustments on the ignition systems.
6.0 GOAL: OVERHAUL AND REPAIR

The student will be able to identify small engines (i.e., manufacturer, size), their parts and components. They will be able to disassemble and reassemble engines, checking tolerances and wear within the engine parts. They will be able to repair, adjust or replace parts and recognize if an engine is worn to the extent that repair is not economical. Upon completion of this unit the student will be able to:

6.1 Locate the proper manuals and specifications for specific small gas engines.
6.2 Read in interpret sketches and diagrams.
6.3 Select the proper hand tools.
6.4 Disassemble a small gas engine.
6.5 Reassemble an engine.
6.6 Be able to read and make measurements with micrometers and calipers.
6.7 Make the necessary repairs, adjustments, etc., to have an engine run.
6.8 Be able to use bearing and guide replacement tool kit to refurbish small engine blocks.

7.0 GOAL: OXY-ACETYLENE WELDING

Students will understand and demonstrate skills involved in the oxy-acetylene welding process and the roles heat and pressure play in the process, and will be able to operate and use the oxy-acetylene welder safely. Upon completion of this unit the students will be able to:

7.1 Pass a safety test on oxy-acetylene welding.
7.2 Identify the basic components of the oxy-acetylene welding apparatus.
7.3 Set up, shut off, and store an oxy-acetylene welder properly.
7.4 Use the oxy-acetylene equipment to braze mild steel.
7.5 Run a bead with the oxy-acetylene equipment with and without filler rod.
7.6 Use the oxy-acetylene to do four basic welds other than a bead.
7.7 Select welding rods and fluxes appropriate for the job.
7.8 Make a straight cut, using the cutting head.
7.9 Make a bevel cut, using the cutting head.

7.10 Pierce a hole in steel plate.
7.11 Clean the orifices in welding and cutting heads, using the approved technique.
7.12 Construct a simple project requiring cutting and welding.
7.13 Cut a sheet metal (14 gauge or thinner) with the cutting head.
7.14 Change lenses on cutting goggles.
7.15 Observe phase change of metals when they are subjected to heat.
7.16 Describe how materials behave under applied stress.

8.0 GOAL: ARC WELDING

Students will understand and demonstrate competencies in the arc welding process and be able to operate an arc welder safely. Upon completion of this unit students will be able to:

8.1 Pass a safety test and demonstrate proper use of arc welding equipment.
8.2 Strike and maintain an arc correctly.
8.3 Be familiar with the American Welding Society (AWS) classification system for electrodes.
8.4 Select various sizes and types of electrodes and correctly adjust the current setting for each application.
8.5 Identify four basic welding joints and demonstrate the application of each in the flat position, using AC and DC equipment.
8.6 Control distortion in arc welding.
8.7 Test welds for quality and strength.
8.8 Construct a project requiring at least three different welds.
8.9 Identify career opportunities in the welding industry.
8.10 Change lens and head gear on a helmet.
8.11 Use a MIG welder to do four basic welding joints.
9.0 MEASUREMENT

Students will understand and be able to read and use a ruler or tape to calculate problems involving length, area, volume, and weight. Students will know the difference between the U.S. Customary and the metric measurement systems. Upon completion of this unit the students will be able to:

9.1 Measure objects correctly with a ruler, tape, or framing square.
9.2 Measure objects correctly using calipers and micrometers.
9.3 Calculate and solve basic measurement problems, including calculation of board feet, cubic measurements, and standard liquid measurements.
9.4 Differentiate between U.S. Customary and metric units (in linear, area, and volumetric measurements).
9.5 Calculate and solve basic measurements problems, including weight.
9.6 Use various methods to determine the mass and volume of regularly and irregularly shaped objects.

10.0 GOAL: DRAWING

Students will master the basic skills necessary to design, draw, calculate the cost of, and construct a project by interpreting the working drawing correctly. Upon completion of this unit the students will be able to:

10.1 Identify the different types of lines used in a drawing or layout.
10.2 Identify the three types of drawings (orthographic, isometric, and oblique).
10.3 Use an architect's scale.
10.4 Construct three-view (orthographic) drawings.
10.5 Interpret a working drawing.
10.6 Sketch an object, using paper and pencil.
10.7 Plan and layout a construction project.
10.8 Calculate construction costs for a given task.
10.9 Assemble and finish a project.

Agricultural Mechanics 3-4 (9)

11.0 GOAL: EQUIPMENT MAINTENANCE

Students will develop and demonstrate a basic understanding of adjusting, servicing, maintaining, and operating agricultural equipment. Upon completion of this unit, the students will be able to:

11.1 Demonstrate safe operational procedures for three pieces of agricultural equipment.

11.2 Be able to change oil; change filters for oil, air and fuel; and maintain battery water levels.

11.3 Use safe work habits while servicing, maintaining, and adjusting agricultural equipment.

11.4 Identify the hazards of working with agricultural chemicals.

11.5 Determine what safety standards to follow when using equipment for spreading or spraying hazardous agricultural chemicals.

11.6 Prepare a piece of equipment for storage.

11.7 Recognize the personal and financial dangers related to the safe use, replacement, and repair of components using in hydraulic applications.

12.0 GOAL: PROJECT CONSTRUCTION

Students will develop, plan, and build project(s) or their choice, using acquired skills. Upon completion of this unit the students will be able to:

12.1 Develop a bill of materials

12.2 Develop working drawings and sketches.

12.3 Perform necessary measuring, cutting, welding, etc., to construct project(s).
COURSE TITLE: Agricultural Mechanics 5-6

COURSE NUMBER: 010

ABILITY LEVEL: 11,12

DURATION: 1 Year

CREDIT: 5 per Semester


MEETS GRADUATION REQUIREMENTS IN: Practical Arts

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Modesto

CBEDS CODE: 4030

MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No

MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: Yes

REPLACES:

Course Description: Students will use a classroom and laboratory-type situation to cover the principles of surveying, power hydraulics, equipment maintenance, oxy-acetylene welding, arc welding, MIG and TIG welding. Project construction will emphasize project drawing, measurement, and cost analysis. Work habits and attitudes will be stressed with emphasis on careers in agriculture.

Recommended Prerequisites: Agricultural Mechanics 3-4


Board Approved:
### SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Approximate Length of</th>
<th>Instruction for Each Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong> SAFETY</td>
<td>2</td>
</tr>
<tr>
<td><strong>B.</strong> SURVEYING</td>
<td>6</td>
</tr>
<tr>
<td><strong>C.</strong> WORK</td>
<td>2</td>
</tr>
<tr>
<td><strong>D.</strong> POWER</td>
<td>2</td>
</tr>
<tr>
<td><strong>E.</strong> HYDRAULICS</td>
<td>4</td>
</tr>
<tr>
<td><strong>F.</strong> EQUIPMENT MAINTENANCE</td>
<td>2</td>
</tr>
<tr>
<td><strong>G.</strong> WELDING:</td>
<td></td>
</tr>
<tr>
<td>OXY-ACETYLENE</td>
<td>4</td>
</tr>
<tr>
<td>ARC</td>
<td>4</td>
</tr>
<tr>
<td><strong>H.</strong> MEASUREMENT</td>
<td>1</td>
</tr>
<tr>
<td><strong>I.</strong> DRAWING</td>
<td>1</td>
</tr>
<tr>
<td><strong>J.</strong> PROJECT CONSTRUCTION</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36</td>
</tr>
</tbody>
</table>
INSTRUCTIONAL MATERIALS

Basic Text(s):

WELDING: Principles and Applications; Jeffus; Delmar

Supplementary Text(s):

WELDING: Principles and Applications Student Study Guide and Lab Manual; Delmar
Complete Welding Video Package

BLUEPRINT READING FOR WELDERS; Delmar

SURVEYING WITH CONSTRUCTION APPLICATIONS; Kavanaugh; Prentice Hall

INDUSTRIAL FLUID POWER; Womack Educational Publications

VICKERS PRACTICAL HYDRAULICS; Sperry Rand

BASIC TECHNICAL DRAWING; Spencer and Dygdon; Glencoe

AGRICULTURAL MECHANICS: Fundamentals and Applications, 3rd Edition; Cooper; Delmar

THE MODERN ILLUSTRATED HAND AND POWER TOOL MANUAL; Vocational Education Productions

SMALL GAS ENGINES; Gray and Barrow; Prentice Hall

STARRETT HANDBOOK OF TOOLS; L.S. Starrett Company
AGRICULTURAL MECHANICS 5-6

1.0 GOAL:

Students will understand the importance of proper cleaning and storage of shop tools, the reporting of hazardous situations, and safe practices to be employed with all tools and machines. Upon completion of this unit, students will be able to:

1.1 Store tools, equipment and materials properly.
1.2 Clean the shop properly as directed by the instructor.
1.3 Recognize and report hazardous situations.
1.4 Use a fire extinguisher properly.
1.5 Practice all shop and equipment safety regulations.
1.6 Develop a proper attitude toward work and avoid unsafe practices.

2.0 GOAL:

Students will develop and demonstrate a basic understanding of surveying as it is used in agricultural applications. Upon completion of this unit, students will be able to:

2.1 List the uses of surveying.
2.2 Perform land measurements, including pacing and taping of linear distance.
2.3 Set up and level an instrument and read a rod, ruler, or tape.
2.4 Determine the difference in elevation between two or more points.
2.5 Be able to demonstrate proper use of a hand level of clinometer.
2.6 Set up and keep a field notebook.
2.7 Understand subdivision of land.
2.8 Understand the process of land leveling and cutting and filling.
3.0 GOAL:

Students will understand the difference between a quantity of work and the rate at which it is done. Upon completion of this unit, the students will be able to:

3.1 Define energy, force, pressure, friction, work, and power.

3.2 Demonstrate knowledge of energy, force, pressure, work, and power, using applications of levers, gears, pulleys, and shafts.

3.3 Describe the concept of efficiency of energy conversion and give examples of energy loss.

3.4 Develop an awareness of the importance of safety in relation to the application of energy, force, pressure, friction, work, and power.

4.0 GOAL:

Students will explain and demonstrate principles related to the transmission of power. Upon completion of this unit, the student will be able to:

4.1 Define linear motion and rotational motion.

4.2 Explain the relationship of friction to the transmission of power.

4.3 Demonstrate knowledge of the transmission of power, using chains, belts, gears, and shafts.

4.4 Develop an awareness of the importance of safety in the transmission of power.

5.0 GOAL:

The goal of this unit is to develop the students' understanding of hydraulic theory and fundamentals. Upon completion of this unit the student will be able to:

5.1 Describe the function of different hydraulic parts.

5.2 Identify the different types and uses of hydraulic pumps.

5.3 Test, diagnose and repair a hydraulic system.

5.4 Assemble a simple hydraulic system.

6.0 GOAL:
Students will develop and demonstrate a basic understanding of adjusting, servicing, maintaining, and operating agricultural equipment. Upon completion of this unit, students will be able to:

**Agricultural Mechanics 5-6 (6)**

6.1 Demonstrate safe operational procedures for three pieces of agricultural equipment.

6.2 Change oil, filters for oil, air and fuel; and maintain battery water levels.

6.3 Use safe work habits while servicing, maintaining, and adjusting agricultural equipment.

6.4 Identify the hazards of working with agricultural chemicals.

6.5 Determine what safety standards to follow when using equipment for spreading or spraying hazardous agricultural chemicals.

6.6 Prepare a piece of equipment for storage.

6.7 Recognize the personal and financial dangers related to the safe use, replacement, and repair of components used in hydraulic applications.

7.0 **GOAL:**

Students will understand and demonstrate skills involved in the oxy-acetylene welding process and the roles heat and pressure play in the process, and will be able to operate and use the oxy-acetylene welder safely. Upon completion of this unit, the students will be able to:

7.1 Pass a safety test on oxy-acetylene welding.

7.2 Identify the basic components of the oxy-acetylene welding apparatus.

7.3 Set up, use, shut off, and store and oxy-acetylene welder properly.

7.4 Use oxy-acetylene equipment to braze mild steel.

7.5 Run a bead with the oxy-acetylene equipment with and without filler rod.

7.6 Use the oxy-acetylene equipment to do four basic welds other than a bead.

7.7 Select welding rods and fluxes appropriate for the job.

7.8 Make a straight cut, using the cutting head.

7.9 Clean the orifices in welding and cutting heads using the approved technique.

7.10 Construct a simple project requiring cutting and welding.

7.11 Change lenses on cutting goggles.
8.0 GOAL:

Students will understand and demonstrate competencies in the arc welding process and be able to operate an arc welder safely. Upon completion of this unit, students will be able to:

8.1 Pass a safety test and demonstrate proper use of arc welding equipment.

8.2 Strike and maintain an arc correctly.

8.3 Be familiar with the American Welding Society (AWS) classification system for electrodes.

8.4 Select various sizes and types of electrodes and correctly adjust the current setting for each application.

8.5 Identify four basic welding joints and demonstrate the application of each in the flat position, using AC and DC equipment.

8.6 Control distortion in arc welding.

8.7 Test welds for quality and strength.

8.8 Construct a project requiring at least three different welds.

8.9 Identify career opportunities in the welding industry.

8.10 Change lens and head gear on a helmet.

8.11 Use a MIG welder to do four basic welding joints.

8.12 Use a MIG welder to weld square tubing and pipe together.

8.13 Use a stick welder to do four basic out of position welds.

8.14 Use a TIG welder to weld stainless steel and to do two basic joints.

8.15 Use a TIG welder to weld aluminum and to do two basic joints.

9.0 GOAL:

Students will understand and be able to read and use a ruler or tape to calculate problems involving length, area, volume, and weight. Students will know the difference between U.S. Customary and the metric measurement systems. Upon completion of this unit, students will be able to:

9.1 Measure objects correctly with a ruler, tape, or framing square.
9.2 Measure objects correctly, using calipers and micrometers.

9.3 Calculate and solve basic measurement problems, including calculation of board feet, cubic measurements, and standard liquid measurements.

9.4 Differentiate between U.S. Customary and metric measurement units (in linear, area, and volumetric measurements).

9.5 Calculate and solve basic measurement problems, including weight.

9.6 Use various methods to determine the mass and volume of regularly and irregularly shaped objects.

10.0 GOAL:

Students will master the basic skills necessary to design, draw, calculate the cost of, and construct a project by interpreting the working drawing correctly. Upon completion of this unit, students will be able to:

10.1 Identify the different types of lines used in a drawing or layout.

10.2 Identify the three types of drawings (orthographic, isometric, and oblique).

10.3 Use an architect’s scale.

10.4 Construct three-view (orthographic) drawings.

10.5 Interpret a working drawing.

10.6 Sketch an object, using paper and pencil.

10.7 Plan and lay out a construction project.

10.8 Calculate construction costs for a given task.

10.9 Assemble and finish a project.

11.0 GOAL:

Students will develop, plan, and build a project(s) of their choice, using acquired skills. Upon completion of this unit, students will be able to:

11.1 Develop a bill of materials.

11.2 Develop working drawings and sketches.

11.3 Perform necessary measuring, cutting, welding, etc. to construct the project.
COURSE TITLE: AGRICULTURAL SMALL ENGINE REPAIR 3-4
COURSE NUMBER: 143
RECOMMENDED GRADE LEVEL: 10-12
ABILITY LEVEL: Unsectioned
DURATION: 2 Semesters
CREDIT: 5-10 Units/Semester
GRADING FORMAT: Standard 0-4 Grade Points
MEETS GRADUATION REQUIREMENTS IN: Practical Arts
REQUIRED FOR GRADUATION: No
SCHOOLS OFFERED: Beyer, Davis, Downey, Enochs, Johansen, Modesto
CBEDS CODE: 4030
MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No
MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: No
CREDENTIAL REQUIREMENTS: Single Subject in: Ag, Industrial Ed & Technology, Ag Mechanics, Engine Performance & Technology or Small Engine Service & Repair

Course Description: This course is designed to enhance the students former knowledge about the fast growing industry of small engines and compact power equipment. This course places emphasis on advanced techniques of overhauling, repairing, adjusting, and troubleshooting of two and four-stroke agricultural compact power equipment.

Recommended Prerequisites: Agricultural Small Engine Repair 1-2

Date Matched Against State Framework
Model Curriculum Standards, and State Curriculum Guides: October 15, 2005
Board Approved: February 6, 2006

REVIEW CYCLE: 2005-06 through 2009-2010
REQUIRED TEXTBOOK: Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004
## SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate length of instruction for each unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Career Opportunities/FFA Leadership/Gender Equity</td>
<td>1</td>
</tr>
<tr>
<td>B. Safety and Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>C. Tools</td>
<td>2</td>
</tr>
<tr>
<td>D. Two and Four Stroke Engine and Performance</td>
<td>2</td>
</tr>
<tr>
<td>E. Basic Charging Systems</td>
<td>2</td>
</tr>
<tr>
<td>F. Ignition Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>G. Fuel &amp; Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>H. Manufactures of Small Engines</td>
<td>2</td>
</tr>
<tr>
<td>I. Valves and Valve Train Performance</td>
<td>2.5</td>
</tr>
<tr>
<td>J. Cylinders</td>
<td>1</td>
</tr>
<tr>
<td>K. Pistons</td>
<td>1</td>
</tr>
<tr>
<td>L. Rod and Crankshaft</td>
<td>1</td>
</tr>
<tr>
<td>M. Bearings and Seals</td>
<td>1</td>
</tr>
<tr>
<td>N. Accessory Electrical Systems</td>
<td>2.5</td>
</tr>
<tr>
<td>O. Project Disassembly</td>
<td>1</td>
</tr>
<tr>
<td>P. Project Assembly</td>
<td>2</td>
</tr>
<tr>
<td>Q. Lawn Mower Tractor (LMT) Frame</td>
<td>2</td>
</tr>
<tr>
<td>R. Two Stroke and 4 Stroke Service</td>
<td>1</td>
</tr>
<tr>
<td>S. Consumer/Shop Practices</td>
<td>1</td>
</tr>
<tr>
<td>T. Computer Applications</td>
<td>1</td>
</tr>
<tr>
<td>U. Individual Projects</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Number of Weeks 36 Weeks
INSTRUCTIONAL MATERIALS

Basic Text(s):

Workbook (ISBN 1-59070-184-4),
Video Set (ISBN M-S200) Full Set, Volume Discount

Supplementary Text(s):

Vanguard V-Twin Overhead Valve (OHV) Engines - 272144, Briggs and Stratton

Service Tools Catalog – MS-8746, Briggs and Stratton

Repair Manual for Intek V-twin overhead valve (OHV) engines 273521, Briggs and Stratton

Twin Cylinder (opposed twin) L-head (side valve) built after 1981 271172, Briggs and Stratton

Single Cylinder L-head (side valve) engines built after 1981 270962, Briggs and Stratton

Single Cylinder Overhead Valve (OHV) Engines built after 1981, 272147, Briggs and Stratton
EXPECTATIONS FOR STUDENT LEARNING

1.0 GOAL: The student will be able to demonstrate competency in lifelong career planning skills, develop leadership abilities, and develop an awareness of programs offered in higher education without regard to race, sex, national origin, or handicap as they relate to agricultural compact power equipment.

1.1 Students will recognize traits of effective leaders and businessmen in the industry, by visiting small engine repair facilities and complete a report about choosing a career within the field of agricultural engines. (6.12)

1.2 Develop leadership abilities in educational, vocational, civic, recreational, and social activities through involvement in student organizations such as the Future Farmers of America. (6.12.1)

1.3 Identify personal traits (strengths, values and weaknesses). (6.12)

1.4 Listen to guest speaker on trade and technical education after high school. (6.12)

1.5 Identify at least three possible career choices in the small engine repair field. (6.13)

1.6 Demonstrate that opportunities in the small engine repair field are available without regard to race, sex, national origin, or handicap. (6.7)

1.7 Demonstrate an understanding of the role of a small engine mechanic in the agriculture industry. (6.7)

1.8 Develop a resume and complete a job application. (6.12)

1.9 Correctly fill out and use repair order forms. (6.11.1)

2.0 GOAL: Demonstrate attitudes, behaviors, and personal characteristics valued by employers.

2.1 The student will demonstrate the following: (6.7)

A. Responsibility
B. Dependability
C. Promptness
D. Willingness to learn new skills
E. Attentiveness during instruction
F. Getting along with others
G. Respect for others
H. Honesty and integrity
I. Pride in work
2.1 Continued:

J. Flexibility
K. Not being defensive when corrected
L. Working up to capacity
M. Being pleasant and cheerful
N. Showing strong motivation to succeed
O. Good personal appearance
P. Organized
Q. Constructively assisting others
R. Work evaluation

3.0 GOAL: The student will understand correct safety practices, and tool use, consistent with industry requirements.

3.1 Satisfactorily complete the district’s safety program. (6.8)
3.2 Pass shop safety tests and demonstrate shop safety. (6.8.1)
3.3 Obtain parental acknowledgement of safety requirements and conduct expectations. (6.8)
3.4 Demonstrate the safe use of all power equipment. (6.8.1)
3.5 Follow cleanup and storage procedures. (6.8.1)
3.6 Identify tools and their uses on a tool test. (6.8.1)

4.0 GOAL: The student will understand physical science concepts related to small engine design and performance including energy forms, efficiency, static inertia, dynamic inertia, force, torque, horsepower, in both two and four stroke engines.

4.1 Explain theory of inertia. (6.6)
4.2 Explain how component weight and design affects engine efficiency. (6.6.1)
4.3 Compute displacement. (6.14.1)
4.4 Define and calculate force, torque, power, and horsepower. (6.6.1)
4.5 Explain and calculate ratios. (6.14)
4.6 Explain how turbos, and blowers work and are used in the small engine industry. (6.6.1)
4.7 Explain atmosphere pressure as it relates to engine operation. (6.6)
5.0 GOAL: The student will understand two cycle and four cycle engine operating principles.

5.1 Explain the four stroke cycle. (6.6)

5.2 Explain the two stroke cycle. (6.6)

5.3 Describe the sequence of combustion in a two and four stroke engine. (6.6.1)

5.4 Name the parts and explain the function on a four cycle engine. (6.6.1)

5.5 Name the parts and explain the function on a two cycle engine. (6.6.1)

6.0 GOAL: The student will understand the principles of the fuel, electrical charging and ignition system.

6.1 Explain the principles of the fuel system. (6.6)

6.2 Explain the principles of electrical flow. (6.6)

6.3 Explain the principles of the ignition and electrical system. (6.6)

6.4 Identify the different types of charging systems and their output. (6.6.1)

6.5 Demonstrate how to troubleshoot a charging system using a volt meter, DC shunt (6.9)

6.6 Demonstrate how to test DC amperage output of an alternator or stator. (6.9)

6.7 Explain a function of a diode, voltage regulator and other charging components. (6.6.1)

6.8 Identify the parts of a simple point ignition system and explain their function. (6.6.1)

7.0 GOAL: The student will understand the physical science of electricity, principles of magneto ignition, principles of battery ignition, and principles of spark plugs in a manner consistent with industry standards.

7.1 Explain the theory of basic magneto system. (6.6)

7.2 Overhaul a magneto system and perform a tune-up. (6.6.1)

7.3 Demonstrate a knowledge of how the capacitive discharge system works. (6.6)
7.4 Explain and perform an ignition system repair on a small engine ignition system. (6.6.1)

7.5 Clean and gap a spark plug. (6.6.1)

7.6 Identify the components of a basic electronic ignition system and explain the function of each part. (6.6)

8.0 GOAL: The student will understand carburetion systems, fuel types, fuel mixtures, fuel pumps, filters, carburetion theory, troubleshooting and repair, air cleaner, servicing, and governor repair and adjustments consistent with related industry standards.

8.1 Identify the parts of a typical fuel system. (6.6)

8.2 Identify different types of fuels used--unleaded, leaded, fuel mix. (6.6.1)

8.3 Explain the function and principals of octane and additives in fuel. (6.6)

8.4 Explain the carburetor theory and circuits. (6.6)

8.5 Overhaul a performance carburetor and name the parts. (6.6.1)

8.6 Explain fuel pump operation and overhaul a fuel pump and accelerator pump. (6.6.1)

8.7 Explain the venturi principle and how it is used in carburetion. (6.6.1)

8.8 Explain the differences in throttle controlling devices inside the carburetor including slide, plate and cylinder type of controls. (6.6.1)

8.9 Service fuel and air filters. (6.6.1)

9.0 GOAL: The student will properly identify different models, types, designs, components and manufactures of small engines.

9.1 Identify different types of engines according to design, make and model. (6.6.1)

9.2 Identify the different types of components from different manufactures. (6.6.1)

9.3 Troubleshoot problems within several different makes, model and type of engines. (6.6)
10.0 GOAL: The student will troubleshoot, repair, and replace valves, seats, valve guides, and springs consistent with industry skill level requirements.

10.1 Service upper end and valve train and measure stem clearance. (6.6.1)

10.2 Demonstrate removal and installation of a valve. (6.6.1)

10.3 Inspect and clean a valve. (6.6.1)

10.4 Explain valve failures and their causes. (6.6.1)

10.5 Grind a valve and seat. (6.6.1)

10.6 Identify the parts of a valve. (6.6.1)

10.7 Lapp a valve. (6.6.1)

10.8 Adjust valve clearance. (6.6.1)

10.9 Demonstrate a multi-angle valve cut and explain the effects on air flow. (6.6.1)

11.0 GOAL: The student will understand cylinder reconditioning process and techniques.

11.1 Use a micrometer to measure a cylinder. (6.14.1)

11.2 Hone a cylinder. (6.6.1)

11.3 Identify a cylinder in need of repair. (6.6.1)

11.4 Look up specifications to be used in cylinder reconditioning. (6.6.1)

12.0 GOAL: The student will understand piston and piston ring construction, design, operation, troubleshooting, repair, and replacement with industry standards.

12.1 Remove and replace pistons and rings and measure ring end gap. (6.6.1)

12.2 Measure piston with a micrometer. (6.14.1)

12.3 Identify piston ring by name and function. (6.6.1)

12.4 Identify piston pin types and keeper. (6.6.1)

12.5 Remove and replace a piston pin. (6.6.1)

12.6 Identify piston damage and determine if replacement is necessary. (6.6.1)
12.7 Look up specifications to be used in piston and ring service. (6.5.2)
12.8 Explain different shapes of pistons and their uses. (6.6.1)
12.9 Explain how piston weight and design effects efficiency, combustion and performance. (6.6.1)

13.0 GOAL: The student will understand connecting rod and crankshaft construction, design, inspection repair, and replacement consistent with industry standards.

13.1 Service lower end of engine (bearings and crank). (6.6.1)
13.2 Perform engine measurements on crankshaft and connecting rods. (6.14.1)
13.3 Identify types of connecting rods. (6.6.1)
13.4 Identify assembly marks on rod caps. (6.6.1)
13.5 Explain how crankshaft operates and what its function is. (6.6)
13.6 Look up specifications to be used in piston and ring service (6.5.1)

14.0 GOAL: The student will understand bearing and seal removal, inspection, measurement, installation, consistent with industry skill level requirements.

14.1 Identify types of engine bearings. (6.6.1)
14.2 Measure and inspect bearings. (6.14.1)
14.3 Install and torque bearing caps. (6.6.1)
14.4 Inspect seals. (6.6.1)
14.5 Replace seals. (6.6.1)
14.6 Identify types of bearings. (6.6.1)

15.0 GOAL: The student will understand friction, viscosity, lubrication types and specifications, and two cycle and four cycle lubrications systems in a manner consistent with industry standards.

15.1 Explain friction, viscosity, and oil classification. (6.5,6.6)
15.2 Identify the different types of lubrication systems. (6.5,6.6)
15.3 Explain how the two cycle oil system works. (6.6)
15.4 Explain different additives and their functions in oil. (6.6)

16.0 GOAL: The student will understand electrical system, and mechanical starter systems.

16.1 Use a volt-ohm meter. (6.9.2)

16.4 Check a battery for charge. (6.9)

16.6 Service electrical starter systems. (6.9)

16.7 Troubleshoot the electrical and starting system. (6.9)

17.0 GOAL: The student will demonstrate an understanding of engine diagnosis, tune-up, carburetion repair, ignition repair, major engine repair, and drive system repair.

17.1 Look up specifications in book. (6.5.2, 6.6.1, 6.14.1)

17.2 Disassemble engine according to specifications. (6.6.1)

17.3 Refurbish valves. (6.6.1)

17.4 Replace rings. (6.6.1)

17.5 Measure parts with micrometer. (6.14.1)

17.6 Reassemble engine, torquing all necessary parts. (6.6.1)

17.7 Replace all necessary gaskets and seals. (6.6.1)

17.8 Rebuild ignition system. (6.6.1)

17.9 Service and rebuild a carburetor. (6.6.1)

17.10 Troubleshoot an engine in the areas of carburetor ignition, starting, and compression. (6.6.1)

17.11 Perform a complete tune-up. (6.6.1)

17.12 Make all necessary adjustments to the engine to make it run correctly. (6.6)
18.0 GOAL: The student will understand Lawn Mower Tractor (LMT) frame repair, maintenance and blade service.

18.1 Perform frame maintenance. (6.5.1)
18.2 Service belts and chains. (6.5.1)
18.3 Service blades. (6.5.1)

19.0 GOAL: The student will disassemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.

19.1 Identify the correct manual and procedures for disassembling the project engine. (6.5.2)

19.2 Demonstrate proper organization of disassembled parts in regard to placement and order of assembly. (6.5.2)

19.3 Fill out an engine specification sheet showing measurements of critical components. (6.11.1)

19.4 Identify OEM part specifications in proper service manuals for project engine. (6.6.1)

19.5 Demonstrate how to identify worn or damaged parts using the manual and specification sheet. (6.11)

20.0 GOAL: The student will understand detail information required on records and work orders.

20.1 Demonstrate how to develop a service schedule and keep a maintenance record. (6.5.2, 6.11)

20.2 Demonstrate how to fill out a work order. (6.11)

20.3 Demonstrate how to develop an engine specification sheet. (6.5.2, 6.11)

21.0 GOAL: The student will understand computer usage in the field.

21.1 Demonstrate computer applications in industry as they pertain to parts, service, and inventory. (6.11)
22.0 GOAL: The student will complete individual SOE projects in addition to assigned class curriculum.

   22.1 Satisfactorily complete pre-approved individual projects. (6.13.1)

   22.2 Complete a record book for SOE project. (6.11, 6.13.2)

23.0 GOAL: The student will identify and select the proper tool for a specific application. The student will correctly use tools and equipment to perform a job to manufactures specification.

   23.1 Identify hand and power tools by their proper names and explain their proper use. (6.6.1)

   23.2 Properly use service manuals/parts books to look up parts and specifications. (6.5.2)

24.0 GOAL: The student will assemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.

   24.1 Identify the correct manual and procedures for assembling the project engine. (6.5.2)

   24.2 Demonstrate proper organization of assembling parts in regard to placement and order of assembly. (6.5.2)

   24.4 Identify parts, tools, patterns and torque specifications in proper service manuals for project engine. (6.6.1)

25.0 GOAL: The student will assemble, disassemble, and troubleshoot an individual project engine with regard to procedure, records and organization consistent with industry skill level requirements.

   25.1 Identify the correct manual and procedures for assembling the project engine. (6.5.2)

   25.2 Demonstrate proper organization of disassembled parts in regard to placement and order of assembly. (6.5.2)

   25.3 Demonstrate proper organization of assembling parts in regard to placement and order of assembly. (6.5.2)

   25.4 Identify parts, tools, patterns and torque specifications in proper service manuals for project engine. (6.6.1)

   25.5 Properly use service manuals/parts books to look up parts and specifications. (6.5.2)
25.5 Fill out an engine specification sheet showing measurements of critical components. (6.11.1)
NAME OF BOOK: Small Gas Engines

AUTHOR(S): Alfred C. Roth

PUBLISHER: Goodheart-Wilcox

COPYRIGHT DATE: 2004

ISBN #: 1-59070-183-6

PRICE: $37.98

DEPARTMENT: Agriculture

CLASS: Agricultural Small Engine Repair 1-2, 3-4

GENERAL DESCRIPTION:
Text provides clear, hands-on directions when working with small gas engines.

ASSURANCE OF SOCIAL APPROPRIATENESS: The selection committee has determined that the materials comply with the State of California Standards for Evaluation of Instructional Materials with Respect to Social Content.

APPROVED BY:

Selection Committee:
Richard Wolfe, Roger Dickson, and approved by District Agriculture Advisory Committee

Rodney L. Owen, Director
School-to-Career Education

V. Lynn Lysko
Director, Curriculum & Staff Development, 7-12
<table>
<thead>
<tr>
<th>Equipment Needed:</th>
<th>Compressed Air Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ring compressor</td>
</tr>
<tr>
<td></td>
<td>Seat cutter</td>
</tr>
<tr>
<td></td>
<td>Soldering gun</td>
</tr>
<tr>
<td></td>
<td>Solvent tank</td>
</tr>
<tr>
<td></td>
<td>Spark plug cleaner</td>
</tr>
<tr>
<td></td>
<td>Specialty tools</td>
</tr>
<tr>
<td></td>
<td>Steam cleaner</td>
</tr>
<tr>
<td></td>
<td>Tap and die sets--SAE and metric</td>
</tr>
<tr>
<td></td>
<td>Torque wrenches</td>
</tr>
<tr>
<td></td>
<td>Tubing cutter</td>
</tr>
<tr>
<td></td>
<td>Vacuum gauge</td>
</tr>
<tr>
<td></td>
<td>Vacuum pressure tester</td>
</tr>
<tr>
<td></td>
<td>Valve knurler</td>
</tr>
<tr>
<td></td>
<td>Valve grinder</td>
</tr>
<tr>
<td></td>
<td>Valve seat grinder</td>
</tr>
<tr>
<td></td>
<td>Valve spring compressor</td>
</tr>
<tr>
<td></td>
<td>VCR and monitor</td>
</tr>
<tr>
<td></td>
<td>Class set Fluke Volt-ohm meters</td>
</tr>
<tr>
<td></td>
<td>Work tables</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lubrication equipment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Micrometers--in/out/telescopes</td>
</tr>
<tr>
<td></td>
<td>Oil drain equipment</td>
</tr>
<tr>
<td></td>
<td>Overhead projector</td>
</tr>
<tr>
<td></td>
<td>Paint spray gun</td>
</tr>
<tr>
<td></td>
<td>Parts washer</td>
</tr>
<tr>
<td></td>
<td>Pedestal grinder</td>
</tr>
<tr>
<td></td>
<td>Project engines</td>
</tr>
</tbody>
</table>

*Agricultural Small Engine Repair 3-4 (14)*
Course Outline

COURSE TITLE: Agriculture Computer Literacy

COURSE NUMBER: 0110

RECOMMENDED GRADE LEVEL: 9-12

ABILITY LEVEL: Unsectioned

DURATION: One Year

Credit: 10.0

GRADING FORMAT: Standard 0-4 Grd Pts.

MEETS GRADUATION REQUIREMENTS: Computers

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Beyer, Davis, Downey, Johansen, Modesto

CBEDS CODE:

MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No

MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: No

Course Description: The course in Agriculture Computer Literacy is designed to expose students to the selection, use, and practical applications of computers in the diverse fields of Agriculture. The student will be able to apply computer technology in typical agriculture business management decision making situations; to develop familiarity with the role of information in making sound business decisions and integration of labor, supplies, and machinery in the agriculture business management process; and to develop an understanding of the importance of income tax planning and calculations in the agri-business profit and loss column; also the use of computer application software tools for word processing, data base, spread sheet, presentation software and internet access will be used.

Recommended Prerequisites: None

Board Approved:
### SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate Length of Instruction for Each Unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Introduction</td>
<td>1 Week</td>
</tr>
<tr>
<td>B. Word Processing</td>
<td>6 Weeks</td>
</tr>
<tr>
<td>C. FFA</td>
<td>3 Week</td>
</tr>
<tr>
<td>D. SOEP</td>
<td>3 Weeks</td>
</tr>
<tr>
<td>E. Spreadsheet</td>
<td>6 Weeks</td>
</tr>
<tr>
<td>F. Data Base</td>
<td>5 Weeks</td>
</tr>
<tr>
<td>G. Power Point</td>
<td>6 Weeks</td>
</tr>
<tr>
<td>F. Internet</td>
<td>5 Weeks</td>
</tr>
<tr>
<td>G. Careers</td>
<td>1 Week</td>
</tr>
</tbody>
</table>

**Total Number of Weeks**: 36 Weeks
1. GOAL: Students will understand and use the computer equipment properly.
   1.1 Given a set of computer terms, the student will be able to define them.

   1.2 Given pieces of computer equipment, the student will be able to demonstrate
       his/her ability to properly use each piece of equipment.

   1.2 Given a description of equipment, the student will be able to describe the capabilities and
       limitations.

2. GOAL: Students will use word processing software to create text and understand the capabilities and
       limitations of word processors.
   2.1 Given a document, the student will be able to enter the document onto a computer system and
       obtain a printout of the document.

   2.2 Given a document that needs to be modified, with the modifications specified, the student will
       produce the document using a computer system.

   2.3 Given a situation calling for the production of a text such as: Public Speaking, Extemporaneous
       Speaking, the student will create the text and print it without error.

3. GOAL: Students will use spreadsheet software to understand the capabilities and limitations of spread
       sheets.
   3.1 Given a spreadsheet that has multiple entries, the student will be able to replicate the spreadsheet
       on the computer system.

   3.2 Given a spreadsheet and stipulated modifications that are to be carried out on the sheet,
       the student will be able to complete the modification.

   3.3 Given a situation calling for the utilization of a spread sheet, the student will be able to create a
       spread sheet to adequately solve the problem that needs to be addressed.

   3.4 Given the California Recordbook students shall be able to enter data and create a spreadsheet
       determining the students net worth.

4. GOAL: Student will use data base software to enter data, generate reports and to understand the
       capabilities and limitations of the database.
   4.1 Given a file, the student will be able to replicate the file on a computer system.

   4.2 Given a file that needs to be modified with the modification stipulated, the student will be able to
       carry out the modification.

   4.3 Given a situation calling for the creation of a file, the student will be able to identify the
       appropriate data elements and create the file needed to produce the required solution.
4.4 Students shall enter the appropriate data in the California Recordbook and determine through a management process whether a project will make and lose money to make the appropriate decisions on the project.

5.0 GOAL: Students will create multimedia and slide presentations using application software.
5.1 Given data and slide information, students will be able to replicate a slide presentation using application software. Project will include commercial demonstrations for agriculture businesses.
5.2 Students will be able to create an informative presentation from scratch pictures, clip art and sound files.

6.0 GOAL: Students will master problem solving via navigation of the Internet.
6.1 Students will demonstrate the ability to open and navigate a browser to access a designated web site.
6.2 Students will demonstrate the ability to follow links from web pages on a given topic.
6.3 Students will be able to store information obtained from a web site.
6.4 Students will be able to research a topic using three (3) sources.
6.5 Students will research FFA Careers and report on 5 different areas.
Textbooks

Microsoft Office97-Windows – Latest Edition

Supplemental text

Introduction to Agribusiness – Latest Edition
COURSE TITLE: AGRICULTURAL SMALL ENGINE REPAIR 1-2

COURSE NUMBER: 142

RECOMMENDED GRADE LEVEL: 9-12

ABILITY LEVEL: Unsectioned

DURATION: 2 Semesters

CREDIT: 5-10 Units/Semester

GRADING FORMAT: Standard 0-4 Grade Points

MEETS GRADUATION REQUIREMENTS IN: Practical Arts

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Enochs, Beyer, Davis, Downey, Elliott, Johansen, Modesto

CBEDS CODE: 4030

MEETS UC AND CSU ENTRANCE REQUIREMENTS: No

CREDENTIAL REQUIREMENTS: Single Subject in: Ag, Industrial Ed & Technology, Ag Mechanics, Engine Performance & Technology or Small Engine Service & Repair

Course Description: This course is designed to educate students about the fast growing industry of small engines and compact power equipment. There is a large demand for small engine technicians in the areas of lawn, garden, farm and construction equipment. This course places emphasis on overhaul, repair, adjustment, and troubleshooting of lawnmowers, chainsaws, and other agricultural compact power equipment.

Recommended Prerequisites: None

Credential Requirements:

Date Matched Against State Framework:
Model Curriculum Standards, and State Curriculum Guides: October 15, 2005

Board Approved: February 6, 2006

REVIEW CYCLE: 2005-06 through 2009-2010
REQUIRED TEXTBOOK: Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004
### SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate length of instruction for each unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Career Opportunities/FFA Leadership/Gender Equity</td>
<td>1</td>
</tr>
<tr>
<td>B. Safety and Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>C. Theory</td>
<td>2.5</td>
</tr>
<tr>
<td>D. Tools</td>
<td>3</td>
</tr>
<tr>
<td>E. Two and Four Stroke Engines</td>
<td>2</td>
</tr>
<tr>
<td>F. Basic Systems</td>
<td>1</td>
</tr>
<tr>
<td>G. Ignition Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>H. Fuel Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>I. Components</td>
<td>2</td>
</tr>
<tr>
<td>J. Valves</td>
<td>1.5</td>
</tr>
<tr>
<td>K. Cylinders</td>
<td>1</td>
</tr>
<tr>
<td>L. Pistons</td>
<td>1</td>
</tr>
<tr>
<td>M. Rod and Crankshaft</td>
<td>1</td>
</tr>
<tr>
<td>N. Bearings and Seals</td>
<td>1</td>
</tr>
<tr>
<td>O. Lubrication</td>
<td>1</td>
</tr>
<tr>
<td>P. Electrical Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>Q. Project Disassembly</td>
<td>3.5</td>
</tr>
<tr>
<td>R. Project Assembly</td>
<td>5</td>
</tr>
<tr>
<td>S. Frame</td>
<td>.5</td>
</tr>
<tr>
<td>T. Service</td>
<td>1</td>
</tr>
<tr>
<td>U. Consumer/Shop Practices</td>
<td>1</td>
</tr>
<tr>
<td>V. Computer Applications</td>
<td>.5</td>
</tr>
</tbody>
</table>

**Total Number of Weeks**: 36 Weeks
INSTRUCTIONAL MATERIALS

Basic Text(s):

**Small Gas Engines** Alfred C. Roth, Goodheart-Wilcox, 2004
(ISBN 1-59070-183-6)
- Workbook (ISBN 1-59070-184-4),
- Video Set (ISBN M-S200) Full Set, Volume Discount

Supplementary Text(s):

**Vanguard V-Twin Overhead Valve (OHV) Engines - 272144**, Briggs and Stratton

**Service Tools Catalog – MS-8746**, Briggs and Stratton

**Repair Manual for Intek V-twin overhead valve (OHV) engines 273521**, Briggs and Stratton

**Twin Cylinder (opposed twin) L-head (side valve) built after 1981 271172**, Briggs and Stratton

**Single Cylinder L-head (side valve) engines built after 1981 270962**, Briggs and Stratton

**Single Cylinder Overhead Valve (OHV) Engines built after 1981 272147**, Briggs and Stratton
EXPECTATIONS FOR STUDENT LEARNING

1.0 GOAL: The student will be able to demonstrate competency in lifelong career planning skills, develop leadership abilities, and develop an awareness of programs offered in higher education without regard to race, sex, national origin, or handicap as they relate to agricultural compact power equipment.

1.1 Develop leadership abilities in educational, vocational, civic, recreational, and social activities through involvement in student organizations such as the Future Farmers of America. (6.12.1)

1.2 Identify personal traits (strengths, values and weaknesses). (6.12)

1.3 Listen to guest speaker on trade and technical education after high school. (6.12)

1.4 Identify at least three possible career choices in the small engine repair field. (6.13)

1.5 Demonstrate that opportunities in the small engine repair field are available without regard to race, sex, national origin, or handicap. (6.7)

1.6 Demonstrate an understanding of the role of a small engine mechanic in the agriculture industry. (6.7)

2.0 GOAL: Demonstrate attitudes, behaviors, and personal characteristics valued by employers.

2.1 The student will demonstrate the following: (6.7)

A. Responsibility
B. Dependability
C. Promptness
D. Willingness to learn new skills
E. Attentiveness during instruction
F. Getting along with others
G. Respect for others
H. Honesty and integrity
I. Pride in work
J. Flexibility
K. Not being defensive when corrected
L. Working up to capacity
M. Being pleasant and cheerful
N. Showing strong motivation to succeed
O. Good personal appearance
P. Organized
Q. Constructively assisting others
R. Work evaluation
3.0 GOAL: The student will understand correct safety practices, and tool use, consistent with industry requirements.

3.1 Satisfactorily complete the district’s safety program. (6.8)
3.2 Pass shop safety tests and demonstrate shop safety. (6.8.1)
3.3 Obtain parental acknowledgement of safety requirements and conduct expectations. (6.8)
3.4 Demonstrate the safe use of all power equipment. (6.8.1)
3.5 Follow cleanup and storage procedures. (6.8.1)
3.6 Identify tools and their safe uses on a tool test. (6.8.1)

4.0 GOAL: The student will understand physical science concepts related to small engine design and operation including energy forms, static inertia, dynamic inertia, force, torque, horsepower, power vacuum, and atmosphere pressure.

4.1 Explain theory of inertia. (6.6)
4.2 Identify types of engines by their design. (6.6.1)
4.3 Compute displacement. (6.14.1)
4.4 Explain energy forms. (6.6.1)
4.5 Define and calculate force, torque, power, and horsepower. (6.6.1)
4.6 Explain ratios. (6.14)
4.7 Explain atmosphere pressure as it relates to engine operation. (6.6)
4.8 Define vacuum. (6.6)

5.0 GOAL: The student will understand two cycle and four cycle engine operating principles.

5.1 Explain the four stroke cycle. (6.6)
5.2 Explain the two stroke cycle. (6.6)
5.3 Demonstrate the four stroke cycle on a shop engine and describe the sequence of combustion. (6.6.1)
5.4 Name the parts and explain the function on a four cycle engine. (6.6.1)
5.5 Name the parts and explain the function on a two cycle engine. (6.6.1)
6.0 GOAL: The student will understand the principles of the fuel, electrical and ignition system.

6.1 Explain the principles of the fuel system. (6.6)

6.2 Explain the principles of the ignition and electrical system. (6.6)

6.3 Identify part of a simple fuel system and explain their function. (6.6.1)

6.4 Identify the parts of a simple point ignition system and explain their function. (6.6.1)

7.0 GOAL: The student will understand the physical science of electricity, principles of magneto ignition, principles of battery ignition, and principles of spark plugs in a manner consistent with industry standards.

7.1 Explain the theory of basic magneto system. (6.6)

7.2 Overhaul a magneto system and perform a tune-up. (6.6.1)

7.3 Demonstrate a knowledge of how the capacitive discharge system works. (6.6)

7.4 Explain and perform an ignition system repair on a small engine ignition system. (6.6.1)

7.5 Clean and gap a spark plug. (6.6.1)

7.6 Identify the components of a battery ignition system and explain the function of each part. (6.6)

8.0 GOAL: The student will understand carburetion systems, fuel types, fuel mixtures, fuel pumps and filters, physical science of fuel systems, diaphragms and float-type carburetion theory, troubleshooting and repair, air cleaner, servicing, and governor repair and adjustments consistent with related industry standards.

8.1 Identify the parts of a typical fuel system. (6.6)

8.2 Identify different types of fuels used—unleaded, leaded, fuel mix. (6.6.1)

8.3 Explain the carburetor theory and circuits. (6.6)

8.4 Overhaul a basic carburetor and name the parts. (6.6.1)

8.5 Explain fuel pump operation and overhaul a fuel pump. (6.6.1)
8.6 Explain the venturi principle and how it is used in carburetion. (6.6.1)
8.7 Service a diaphragm type of carburetor and make all adjustments. (6.6.1)
8.8 Service fuel and air filters. (6.6.1)
8.9 Identify types of air filter systems. (6.6.1)
8.10 Identify different types of governor systems and explain their operation. (6.6.1)
8.11 Adjust mixture (air-fuel). (6.6.1)

9.0 GOAL: The student will understand the components of an engine.
9.1 Identify different types of engines according to design. (6.6.1)
9.2 Identify component parts of an engine. (6.6.1)
9.3 Explain and describe the two and four stroke sequence of combustion. (6.6)

10.0 GOAL: The student will disassemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.
10.1 Identify the correct manual and procedures for disassembling the project engine. (6.5.2)
10.2 Demonstrate proper organization of disassembled parts in regard to placement and order of assembly. (6.5.2)
10.3 Fill out an engine specification sheet showing measurements of critical components. (6.11.1)
10.4 Identify OEM part specifications in proper service manuals for project engine. (6.6.1)
10.5 Demonstrate how to identify worn or damaged parts using the manual and specification sheet. (6.11)

11.0 GOAL: The student will understand cylinder reconditioning process and techniques.
11.1 Use a micrometer to measure a cylinder. (6.14.1)
11.2 Hone a cylinder. (6.6.1)
11.3 Identify a cylinder in need of repair. (6.6.1)

11.4 Look up specifications to be used in cylinder reconditioning. (6.6.1)

12.0 GOAL: The student will understand piston and piston ring construction, design, operation, troubleshooting, repair, and replacement with industry standards.

12.1 Remove and replace pistons and rings and measure ring end gap. (6.6.1)

12.2 Measure piston with a micrometer. (6.14.1)

12.3 Identify piston ring by name and function. (6.6.1)

12.4 Identify piston pin types and keeper. (6.6.1)

12.5 Remove and replace a piston pin. (6.6.1)

12.6 Identify piston damage and determine if replacement is necessary. (6.6.1)

12.7 Look up specifications to be used in piston and ring service. (6.5.2)

13.0 GOAL: The student will understand connecting rod and crankshaft construction, design, inspection repair, and replacement consistent with industry standards.

13.1 Service lower end of engine (bearings and crank). (6.6.1)

13.2 Perform engine measurements on crankshaft and connecting rods. (6.14.1)

13.3 Identify types of connecting rods. (6.6.1)

13.4 Identify assembly marks on rod caps. (6.6.1)

13.5 Explain how crankshaft operates and what its function is. (6.6)

13.6 Look up specifications to be used in piston and ring service (6.5.1)

14.0 GOAL: The student will understand bearing and seal removal, inspection, measurement, installation, consistent with industry skill level requirements.

14.1 Identify types of engine bearings. (6.6.1)

14.2 Measure and inspect bearings. (6.14.1)

14.3 Install and torque bearing caps. (6.6.1)

14.4 Inspect seals. (6.6.1)
14.5 Replace seals. (6.6.1)

14.6 Identify types of bearings. (6.6.1)

15.0 **GOAL:** The student will understand friction, viscosity, lubrication types and specifications, and two cycle and four cycle lubrication systems in a manner consistent with industry standards.

15.1 Explain friction, viscosity, and oil classification. (6.5, 6.6)

15.2 Identify three types of lubrication systems. (6.5, 6.6)

15.3 Explain how the two cycle oil system works. (6.6)

16.0 **GOAL:** The student will understand components and operation of L-Head and Over Head valve train design.

16.1 Explain the function of a valve train and their components. (6.6.1)

16.4 Explain the operating sequence and valve timing. (6.6.1)

16.6 Identify the different type of valve configurations. (6.6)

16.7 Troubleshoot the valve train. (6.6)

17.0 **GOAL:** The student will demonstrate an understanding of engine diagnosis, tune-up, carburetion repair, ignition repair, major engine repair.

17.1 Look up specifications in book. (6.5.2, 6.6.1, 6.14.1)

17.2 Disassemble engine according to specifications. (6.6.1)

17.3 Refurbish valves. (6.6.1)

17.4 Replace rings. (6.6.1)

17.5 Measure parts with micrometer. (6.14.1)

17.6 Reassemble engine, torquing all necessary parts. (6.6.1)

17.7 Replace all necessary gaskets and seals. (6.6.1)

17.8 Rebuild ignition system. (6.6.1)

17.9 Service and rebuild a carburetor. (6.6.1)
17.10 Troubleshoot an engine in the areas of carburetor ignition, starting, and compression. (6.6.1)

17.11 Perform a complete tune-up. (6.6.1)

17.12 Make all necessary adjustments to the engine to make it run correctly. (6.6)

18.0 GOAL: The student will understand basic walk-behind frame repair and maintenance and blade service.

18.1 Perform frame maintenance. (6.5.1)

18.2 Service belts and chains. (6.5.1)

18.3 Service blades. (6.5.1)

19.0 GOAL: The student will demonstrate entry-level skills in oil changing, lube servicing, filter service, blade and hub servicing, and chain servicing.

19.1 Change oil on a motor. (6.5.1)

19.2 Service filters. (6.5.1)

19.3 Sharpen a blade. (6.5.1)

19.4 Change a blade. (6.5.1)

19.5 Grease zerk fittings on a motor and frame. (6.5.1)

20.0 GOAL: The student will understand detail information required on engine disassembly.

20.1 Demonstrate how to develop an engine specification sheet. (6.5.2, 6.11)

21.0 GOAL: The student will assemble a project engine with regard to procedure, records and organization consistent with industry skill level requirements.

21.1 Identify the correct manual and procedures for assembling the project engine. (6.5.2)

21.2 Demonstrate proper organization of assembling parts in regard to placement and order of assembly. (6.5.2)
21.3 Identify parts, tools, patterns and torque specifications in proper service manuals for project engine. (6.6.1)

22.0 GOAL: The student will understand computer usage in the field.

22.1 Demonstrate computer applications in industry as they pertain to parts, tools, service, and inventory. (6.11)

23.0 GOAL: The student will complete individual SOE projects in addition to assigned class curriculum.

23.1 Satisfactorily complete the individual SOE projects. (6.13.1)

23.2 Complete a record book for SOE project. (6.11, 6.13.2)

24.0 GOAL: The student will identify and select the proper tool for a specific application. The student will correctly use tools and equipment to perform a job to manufactures specification.

24.1 Identify hand and power tools by their proper names and explain their proper use. (6.6.1)

24.2 Properly use service manuals/parts books to look up parts and specifications. (6.5.2)
NAME OF BOOK: Small Gas Engines
AUTHOR(S): Alfred C. Roth
PUBLISHER: Goodheart-Wilcox
COPYRIGHT DATE: 2004
ISBN #: 1-59070-183-6
PRICE: $37.98
DEPARTMENT: Agriculture
CLASS: Agricultural Small Engine Repair 1-2, 3-4

GENERAL DESCRIPTION:
Text provides clear, hands-on directions when working with small gas engines.

ASSURANCE OF SOCIAL APPROPRIATENESS: The selection committee has determined that the materials comply with the State of California Standards for Evaluation of Instructional Materials with Respect to Social Content.

APPROVED BY:
Selection Committee:
Richard Wolfe, Roger Dickson, and approved by District Agriculture Advisory Committee

Rodney L. Owen, Director
School-to-Career Education

V. Lynn Lysko
Director, Curriculum & Staff Development, 7-12
Equipment Needed:

Air tools
Basic mechanics hand tools--Society of Automotive Engineers (SAE) and metric
Battery charger
Bearing press
Bench Vises
Bearing puller set
Body tools--assorted
Boring machine
Bushing drivers
Camcorder
Carburetor synchronizers
Compression tester
Computer with printer
Cylinder bore gauge
Double flaring set
Drill press
Electronic test equipment
Expendable supplies
Student tool sets
Glass bead machine
Grinders--hand
Hard seat grinder
Hydraulic Jack
Jack stands
Lathe / Mill combo
Lubrication equipment
Micrometers--in/out/telescope
Oil drain equipment
Overhead projector
Paint spray gun
Parts washer
Pedestal grinder
Project engines
Compressed Air Regulator
Ring compressor
Seat cutter
Soldering gun
Solvent tank
Spark plug cleaner
Specialty tools
Steam cleaner
Tap and die sets--SAE and metric
Test engines

Agricultural Small Engine Repair 1-2 (12)

Torque wrenches
Tubing cutter
Vacuum gauge
Vacuum pressure tester
Valve knurler
Valve grinder
Valve seat grinder
Valve spring compressor
VCR and monitor
Class set Fluke
Volt-ohm meters
Work tables
MODESTO CITY SCHOOLS
COURSE OUTLINE

COURSE TITLE: Agricultural Small Engine Technology (ROP)
COURSE NUMBER: 013
RECOMMENDED GRADE LEVEL: 11-12
DURATION: 2 Semesters
CREDIT: 5-10 Units/Semester
MEETS GRADUATION REQUIREMENTS: Practical Arts
REQUIRED FOR GRADUATION: No
CBEDS CODE: 4030
MEETS UC ENTRANCE REQUIREMENTS: No
MEETS CSU ENTRANCE REQUIREMENTS: No
CREDENTIAL REQUIREMENTS: Designated Subject (Vocational) in: Agriculture Mechanics, Engine Performance Technician or Small Engine Service & Repair

Course Description:

This course is designed to train students for entry-level jobs in the fast growing industry of agricultural compact power equipment. There is a large demand for small engine mechanics in the areas of lawn, garden, and farm equipment small motor repair. This course places emphasis on employment skills concerning overhaul, repair, adjustment, and troubleshooting of agricultural compact power equipment.

Recommended Prerequisites: Agricultural Small Engine Repair 3-4

Date Aligned with State Standards: February, 2007
Board Approved: April 23, 2007

REVIEW CYCLE: 2006-07 through 2010-2011
REQUIRED TEXTBOOK (Title, publisher, year): Small Gas Engines, Alfred C. Roth, Goodheart-Wilcox, 2004
INSTRUCTIONAL MATERIALS

Basic Text(s):

Small Gas Engines (ISBN 1-59070-183-6), Alfred C. Roth, 2004,
Workbook (ISBN 1-59070-184-4),
Video Set (ISBN M-S200) Full Set, Volume Discount

Supplementary Text(s):

Vanguard V-Twin Overhead Valve (OHV) Engines – 272144,
Briggs and Stratton

Service Tools Catalog – MS-8746, Briggs and Stratton

Repair Manual for Intek V-twin overhead valve (OHV) engines 273521,
Briggs and Stratton

Twin Cylinder (opposed twin) L-head (side valve) built after 1981, 271172,
Briggs and Stratton

Single Cylinder L-head (side valve) engines built after 1981, 270962,
Briggs and Stratton

Single Cylinder Overhead Valve (OHV) Engines built after 1981, 272147,
Briggs and Stratton
<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate Length of Instruction for Each Unit (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Theory</td>
<td>2.5 12.5</td>
</tr>
<tr>
<td>B. Career Opportunities/FFA Leadership/Gender Equity</td>
<td>3 15.0</td>
</tr>
<tr>
<td>C. Safety and Shop Practices</td>
<td>2 10.0</td>
</tr>
<tr>
<td>D. Two and Four Stroke Engines</td>
<td>1 5.0</td>
</tr>
<tr>
<td>E. Basic Systems</td>
<td>1 5.0</td>
</tr>
<tr>
<td>F. Ignition Systems</td>
<td>1.5 7.5</td>
</tr>
<tr>
<td>G. Fuel Systems</td>
<td>1.5 7.5</td>
</tr>
<tr>
<td>H. Components</td>
<td>1 5.0</td>
</tr>
<tr>
<td>I. Valves</td>
<td>1.5 7.5</td>
</tr>
<tr>
<td>J. Cylinders</td>
<td>1 5.0</td>
</tr>
<tr>
<td>K. Pistons</td>
<td>1 5.0</td>
</tr>
<tr>
<td>L. Rod and Crankshaft</td>
<td>1 5.0</td>
</tr>
<tr>
<td>M. Bearings and Seals</td>
<td>1 5.0</td>
</tr>
<tr>
<td>N. Lubrication</td>
<td>1 5.0</td>
</tr>
<tr>
<td>O. Electrical Systems</td>
<td>1.5 7.5</td>
</tr>
<tr>
<td>P. Project Diagnosis &amp; Rebuild</td>
<td>4.5 22.5</td>
</tr>
<tr>
<td>Q. Frame</td>
<td>1.5 7.5</td>
</tr>
<tr>
<td>R. Service</td>
<td>1 5.0</td>
</tr>
<tr>
<td>S. Consumer/Shop Practices</td>
<td>1 5.0</td>
</tr>
<tr>
<td>T. Computer Applications</td>
<td>.5 2.5</td>
</tr>
<tr>
<td>U. Tools</td>
<td>1 5.0</td>
</tr>
<tr>
<td>V. Individual Projects</td>
<td>5 25.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36 180.0</strong></td>
</tr>
</tbody>
</table>
EXPECTATIONS FOR STUDENT LEARNING

1.0 GOAL: The student will be able to demonstrate competency in lifelong career planning skills, develop leadership abilities, and develop an awareness of programs offered in higher education without regard to race, sex, national origin, or handicap as they relate to agricultural compact power equipment.

1.1 Students will recognize traits of effective leaders and businessmen in the industry, by visiting small engine repair facilities and complete a report about choosing a career within the field of agricultural engines.
1.2 Develop leadership abilities in educational, vocational, civic, recreational, and social activities through involvement in student organizations such as the Future Farmers of America.
1.3 Identify personal traits (strengths, values and weaknesses).
1.4 Listen to guest speaker on trade and technical education after high school.
1.5 Identify at least three possible career choices in the small engine repair field.
1.6 Demonstrate that opportunities in the small engine repair field are available without regard to race, sex, national origin, or handicap.
1.7 Demonstrate an understanding of the role of a small engine mechanic in the agriculture industry.
1.8 Develop a resume and complete a job application.
1.9 Correctly fill out and use repair order forms.

2.0 GOAL: The student will demonstrate the following attitudes, behaviors, and personal characteristics valued by employers. The student will complete individual SOE projects in addition to assigned class curriculum.

2.1 A. Responsibility
B. Dependability
C. Promptness
D. Willingness to learn new skills
E. Attentiveness during instruction
F. Getting along with others
G. Respect for others
H. Honesty and integrity
I. Pride in work
J. Flexibility
K. Not being defensive when corrected
L. Working up to capacity
M. Being pleasant and cheerful
N. Showing strong motivation to succeed
O. Good personal appearance
P. Organized
Q. Constructively assisting others
R. Work evaluation

2.2 Select individual projects to be completed at end of course.
2.3 Complete a record book for SOE project.

3.0 GOAL: The student will understand laboratory systems, safety, and tool use,
consistent with industry requirements.

3.1 Satisfactorily complete the district’s safety program.
3.2 Pass shop safety tests and demonstrate shop safety.
3.3 Obtain parental acknowledgement of safety requirements and conduct expectations.
3.4 Demonstrate the safe use of all power equipment.
3.5 Follow cleanup and storage procedures.
3.6 Identify tools and their uses on a tool test.

4.0 GOAL: The student will understand physical science concepts related to small engine design and operation including energy forms, static inertia, dynamic inertia, force, torque, horsepower, power vacuum, and atmosphere pressure.

4.1 Explain theory of inertia.
4.2 Identify types of engines by their design.
4.3 Compute displacement.
4.4 Explain energy forms.
4.5 Define force, torque, power, and horsepower.
4.6 Explain ratio.
4.7 Explain atmosphere pressure as it relates to engine operation.
4.8 Define vacuum.

5.0 GOAL: The student will understand two cycle and four cycle engine operating principles.

5.1 Explain the four stroke cycle.
5.2 Explain the two stroke cycle.
5.3 Demonstrate the four stroke cycle on a shop engine and describe the sequence of combustion.
5.4 Name the parts and explain the function on a four cycle engine.
5.5 Name the parts and explain the function on a two cycle engine.

6.0 GOAL: The student will understand the principles of the fuel, electrical, and ignition system.

6.1 Explain the principles of the fuel system.
6.2 Explain the principles of the ignition and electrical system.
6.3 Identify part of a simple fuel system and explain their function.
6.4 Identify the parts of a simple point ignition system and explain their function.

7.0 GOAL: The student will understand the physical science of electricity, principles of magneto ignition, principles of battery ignition, and principles of spark plugs in a manner consistent with industry standards.

7.1 Explain the theory of basic magneto system.
7.2 Overhaul a magneto system and perform a tune-up.
7.3 Explain the workings of a distributor and be able to overhaul it.
7.4 Demonstrate a knowledge of how the capacitive discharge system works.
7.5 Explain and perform a tune-up on a small engine ignition system.
7.6 Clean and gap a spark plug.
7.7 Identify the components of a battery ignition system and explain the function of each part.
8.0 GOAL: The student will understand fuel types, two cycle fuel mixtures, fuel pumps and filters, physical science of fuel systems, diaphragms and float-type carburetion theory, troubleshooting and repair, air cleaner, servicing, and governor repair and adjustments consistent with related industry standards.

8.1 Identify the parts of a typical fuel system.
8.2 Identify different types of fuels used—unleaded, leaded, fuel mix.
8.3 Explain the carburetor theory and circuits.
8.4 Overhaul a basic carburetor and name the parts.
8.5 Explain fuel pump operation and overhaul a fuel pump.
8.6 Explain the ventur principle and how it is used in carburetion.
8.7 Service a diaphragm type of carburetor and make all adjustments.
8.8 Service fuel and air filters.
8.9 Identify types of air filter systems.
8.10 Identify different types of governor systems and explain their operation.
8.11 Adjust mixture (air-fuel).

9.0 GOAL: The student will understand the components of an engine.

9.1 Identify different types of engines according to design.
9.2 Identify component parts of an engine.
9.3 Explain and describe the two and four stroke sequence of combustion.

10.0 GOAL: The student will troubleshoot, repair, and replace valves, seats, valve guides, and springs consistent with industry skill level requirements.

10.1 Service upper end and valve train and measure stem clearance.
10.2 Demonstrate remove and installation of a valve.
10.3 Inspect and clean a valve.
10.4 Grind a valve and seat.
10.5 Identify types of valve keepers.
10.6 Lapp a valve.
10.7 Adjust valve clearance.

11.0 GOAL: The student will understand cylinder reconditioning process and techniques.

11.1 Use a micrometer to measure a cylinder.
11.2 Hone a cylinder.
11.3 Identify a cylinder in need of repair.
11.4 Look up specifications to be used in cylinder reconditioning.

12.0 GOAL: The student will understand piston and piston ring construction, design, operation, troubleshooting, repair, and replacement with industry standards.

12.1 Remove and replace pistons and rings and measure ring end gap.
12.2 Measure piston with a micrometer.
12.3 Identify piston ring by name and function.
12.4 Identify piston pin types and keeper.
12.5 Remove and replace a piston pin.
12.6 Identify piston damage and determine if replacement is necessary.
12.7 Look up specifications to be used in piston and ring service.
13.0 GOAL: The student will understand connecting rod and crankshaft construction, design, inspection repair, and replacement consistent with industry standards.

13.1 Service lower end of engine (bearings and crank).
13.2 Perform engine measurements on crankshaft and connecting rods.
13.3 Identify types of connecting rods.
13.4 Identify assembly marks on rod caps.
13.5 Explain how crankshaft operates and what its function is.
13.6 Look up specifications to be used in piston and ring service.

14.0 GOAL: The student will understand bearing and seal removal, inspection, measurement, installation, consistent with industry skill level requirements.

14.1 Identify types of engine bearings.
14.2 Measure and inspect bearings.
14.3 Install and torque bearing caps.
14.4 Inspect seals.
14.5 Replace seals.
14.6 Identify types of bearings.

15.0 GOAL: The student will understand friction, viscosity, lubrication types and specifications, and two cycle and four cycle lubrications systems in a manner consistent with industry standards.

15.1 Explain friction, viscosity, and oil classification.
15.2 Identify three types of lubrication systems.
15.3 Explain how the two cycle oil system works.

16.0 GOAL: The student will understand starter systems, wiring, battery service, electrical system, and mechanical starter systems.

16.1 Use a volt-ohm meter.
16.2 Explain how an electric starter system operates.
16.3 Charge a battery.
16.4 Check a battery for charge.
16.5 Identify and service two different types of systems.
16.6 Service mechanical and electrical starter systems.
16.7 Troubleshoot the wiring system, starter system, and charging system.

17.0 GOAL: The student will demonstrate an understanding of engine diagnosis, tune-up, carburetion repair, ignition repair, major engine repair, and drive system repair.

17.1 Look up specifications in book.
17.2 Disassemble engine according to specifications.
17.3 Grind valves.
17.4 Replace rings.
17.5 Measure parts with micrometer.
17.6 Reassemble engine, torquing all necessary parts.
17.7 Replace all necessary gaskets and seals.
17.8 Rebuild ignition system.
17.9 Service and rebuild a carburetor.
17.10 Troubleshoot an engine in the areas of carburetor ignition, starting, and compression.
17.11 Perform a complete tune-up.
17.12 Make all necessary adjustments to the motor to make it run correctly.

18.0 GOAL: The student will understand frame repair and maintenance and blade service.
   18.1 Perform frame maintenance.
   18.2 Service belts and chains.
   18.3 Service blades.

19.0 GOAL: The student will demonstrate entry-level skills in oil changing, lube servicing, filter service, blade and hub servicing, and chain servicing.
   19.1 Change oil on a motor.
   19.2 Service filters.
   19.3 Sharpen a blade.
   19.4 Change a blade.
   19.5 Change and adjust a chain.
   19.6 Grease zerk fittings on a motor and frame.

20.0 GOAL: The student will understand detail information required on records and work orders.
   20.1 Demonstrate how to develop a service schedule and keep a maintenance record.
   20.2 Demonstrate how to fill out a work order.

21.0 GOAL: The student will understand computer usage in the field.
   21.1 Demonstrate computer applications in industry as they pertain to parts, service, and inventory.

22.0 GOAL: The student will identify and select the proper tool for a specific application. The student will correctly use tools and equipment to perform a job to manufacturer's specifications.
   22.1 Identify hand and power tools by their proper names and explain their proper use.
   22.2 Properly use service manuals/parts books to look up parts and specifications.
Equipment Needed:

Air body tools—assorted
Basic mechanics hand tools-- Battery charger
Body tools—assorted Camcorder
Computer with printer Double flaring set
Dynamometer
Expendable supplies Glass bead machine
Hard seat grinder
Jack stands
Micrometers—in/out/telescope
Oil drain equipment
Paint spray gun Project engines
Ring compressor Soldering gun
Specialty tools Steam cleaner
Tape recorder Torque wrenches
Vacuum pressure tester Valve grinder
VCR and monitor Wash and sponge equipment
Air tools
Society of Automotive Engineers (SAE) and metric Bearing press
Boring machine Carburetor synchronizers
Drill press Electric hand drill
Film projector Grinders—hand
Hydrometer Lathe
Opaque projector Parts washer
Regulator Seat cutter
Solvent tank Specialty tools—engine, suspension, and brakes
Tap and die sets—SAE and metric Test engines
Tubing cutter Valve knurler
Valve seat grinder Fluke Volt-ohm meter
Anti-freeze hydrometer Bearing puller set
Bushing drivers Compression tester
Cylinder bore gauge Dwell meter
Electronic test equipment Student tool sets
Hydraulic Jack Lubrication equipment
Overhead projector Pedestal grinder
Respirator Slide projector
Spark plug cleaner Valve spring compressor
Timing light Vacuum gauge
Work tables
NAME OF BOOK: Small Gas Engines

AUTHOR(S): Alfred C. Roth

PUBLISHER: Goodheart-Wilcox

COPYRIGHT DATE: 2004

ISBN #: 
Text: 1-59070-183-6 = $37.98
Instructor Manual = 1-59070-185-2 = $28.50
Workbook = 1-59070-184-4 = $10.98

PRICE: 

DEPARTMENT: Agriculture

CLASS: Agricultural Small Engine Technology (ROP)

GENERAL DESCRIPTION:
Text provides clear hands-on directions when working with small gas engines.

ASSURANCE OF SOCIAL APPROPRIATENESS: The selection committee has determined that the materials comply with the State of California Standards for Evaluation of Instructional Materials with Respect to Social Content.

APPROVED BY:
Selection Committee: District Agriculture Advisory Committee
Richard Wolfe, Roger Dickson, Mark Nower, Gary Gerhardt, and Scott Layne

Curriculum Area Chairperson 
Linda Erickson, Director
Curriculum & Staff Development, 7-12
Daily Grade Sheets
### SCORE CHART

**MR. WOLFE**  
**SCHOOL NAME**  
**TERM 1: 0 PER AG. COMPUTERS**  
Mon, Feb 15, 2010

<table>
<thead>
<tr>
<th>ID</th>
<th>Mil.</th>
<th>Overall</th>
<th>32</th>
<th>100</th>
<th>EC</th>
<th>100</th>
<th>100</th>
<th>20</th>
<th>100</th>
<th>200</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>375991</td>
<td>81.9 B-</td>
<td>31</td>
<td>95</td>
<td>95</td>
<td>80</td>
<td>19</td>
<td>85</td>
<td>120</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>388600</td>
<td>86.2 B</td>
<td>29</td>
<td>98</td>
<td>80</td>
<td>95</td>
<td>18</td>
<td>65</td>
<td>110</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>388033</td>
<td>93.7 A</td>
<td>32</td>
<td>98</td>
<td>10</td>
<td>85</td>
<td>80</td>
<td>18</td>
<td>70</td>
<td>175</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>367941</td>
<td>70.8 C-</td>
<td>32</td>
<td>100</td>
<td>95</td>
<td>70</td>
<td>20</td>
<td>40</td>
<td>50</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>382279</td>
<td>86.5 B</td>
<td>32</td>
<td>96</td>
<td>99</td>
<td>95</td>
<td>20</td>
<td>75</td>
<td>150</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>384313</td>
<td>93.4 A</td>
<td>32</td>
<td>95</td>
<td>100</td>
<td>100</td>
<td>19</td>
<td>90</td>
<td>190</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>364672</td>
<td>88.2 B+</td>
<td>32</td>
<td>96</td>
<td>10</td>
<td>93</td>
<td>94</td>
<td>19</td>
<td>85</td>
<td>180</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>391520</td>
<td>61.4 D</td>
<td>26</td>
<td>75</td>
<td>85</td>
<td>40</td>
<td>20</td>
<td>65</td>
<td>100</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>376715</td>
<td>89.9 B+</td>
<td>32</td>
<td>94</td>
<td>80</td>
<td>100</td>
<td>20</td>
<td>85</td>
<td>200</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>367571</td>
<td>67.2 D</td>
<td>32</td>
<td>100</td>
<td>75</td>
<td>70</td>
<td>20</td>
<td>40</td>
<td>95</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>378550</td>
<td>75.6 C</td>
<td>32</td>
<td>95</td>
<td>85</td>
<td>75</td>
<td>19</td>
<td>55</td>
<td>120</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>391968</td>
<td>61.5 D</td>
<td>ex</td>
<td>90</td>
<td>10</td>
<td>85</td>
<td>65</td>
<td>17</td>
<td>55</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>376753</td>
<td>4.0 F</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>368103</td>
<td>47.6 F</td>
<td>30</td>
<td>40</td>
<td>80</td>
<td>60</td>
<td>19</td>
<td>55</td>
<td>50</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>375758</td>
<td>94.2 A</td>
<td>37</td>
<td>95</td>
<td>90</td>
<td>95</td>
<td>19</td>
<td>85</td>
<td>190</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>240060</td>
<td>94.3 A</td>
<td>32</td>
<td>94</td>
<td>10</td>
<td>100</td>
<td>80</td>
<td>11</td>
<td>100</td>
<td>185</td>
<td>50</td>
</tr>
<tr>
<td>17</td>
<td>383915</td>
<td>96.2 A</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>376404</td>
<td>68.8 D</td>
<td>30</td>
<td>95</td>
<td>70</td>
<td>50</td>
<td>18</td>
<td>80</td>
<td>120</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>257183</td>
<td>46.9 F</td>
<td>60</td>
<td>75</td>
<td>70</td>
<td></td>
<td>60</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>376888</td>
<td>69.1 D</td>
<td>31</td>
<td>90</td>
<td>75</td>
<td>55</td>
<td>19</td>
<td>70</td>
<td>75</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>257124</td>
<td>97.9 A+</td>
<td>32</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>20</td>
<td>95</td>
<td>200</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Mil.</td>
<td>Overall</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>1</td>
<td>367876</td>
<td>57.9 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>367882</td>
<td>119.7 A+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>382678</td>
<td>91.9 A-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>367919</td>
<td>63.5 D</td>
<td>10</td>
<td>6</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>367923</td>
<td>108.0 A+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>376054</td>
<td>100.0 A+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>388033</td>
<td>103.0 A+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>376815</td>
<td>59.9 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>367969</td>
<td>89.8 B+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>367465</td>
<td>88.7 B+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>376816</td>
<td>92.4 B-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>367966</td>
<td>75.2 C</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>259335</td>
<td>30.6 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>14</td>
<td>307512</td>
<td>58.4 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>388228</td>
<td>69.8 D</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>16</td>
<td>366966</td>
<td>79.8 C+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>376181</td>
<td>82.9 D</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>18</td>
<td>367697</td>
<td>87.9 B+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>19</td>
<td>366072</td>
<td>90.6 A-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>368113</td>
<td>80.9 B-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>21</td>
<td>368117</td>
<td>87.3 B+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>22</td>
<td>376801</td>
<td>1.2 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>23</td>
<td>368157</td>
<td>113.7 A+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>24</td>
<td>366660</td>
<td>64.1 D</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>25</td>
<td>367685</td>
<td>53.1 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>26</td>
<td>367410</td>
<td>31.1 F</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>27</td>
<td>376413</td>
<td>77.8 C+</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>28</td>
<td>367828</td>
<td>70.9 C-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>29</td>
<td>249566</td>
<td>90.2 A-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>30</td>
<td>367165</td>
<td>82.6 B-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>ID</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>1</td>
<td>367878</td>
<td>19</td>
<td>28</td>
<td>15</td>
<td>ex</td>
<td>10</td>
<td>15</td>
<td>0</td>
<td>39</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>367882</td>
<td>35</td>
<td>36</td>
<td>ex</td>
<td>ex</td>
<td>12</td>
<td>29</td>
<td>ex</td>
<td>55</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>382678</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>17</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>45</td>
<td>ab</td>
<td>ex</td>
</tr>
<tr>
<td>4</td>
<td>367919</td>
<td>8</td>
<td>27</td>
<td>14</td>
<td>ex</td>
<td>7</td>
<td>11</td>
<td>9</td>
<td>40</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>367923</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>18</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>6</td>
<td>376054</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>7</td>
<td>386033</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>13</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>8</td>
<td>376515</td>
<td>31</td>
<td>33</td>
<td>18</td>
<td>ex</td>
<td>ex</td>
<td>13</td>
<td>27</td>
<td>ab</td>
<td>38</td>
<td>ab</td>
</tr>
<tr>
<td>9</td>
<td>367959</td>
<td>33</td>
<td>33</td>
<td>18</td>
<td>ex</td>
<td>ex</td>
<td>16</td>
<td>26</td>
<td>14</td>
<td>49</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>367465</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>17</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>11</td>
<td>376816</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ab</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>40</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>367966</td>
<td>36</td>
<td>34</td>
<td>16</td>
<td>ex</td>
<td>ex</td>
<td>14</td>
<td>25</td>
<td>13</td>
<td>48</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>359335</td>
<td>17</td>
<td>16</td>
<td>12</td>
<td>ex</td>
<td>inc</td>
<td>ab</td>
<td>1</td>
<td>33</td>
<td>ab</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>307510</td>
<td>39</td>
<td>37</td>
<td>15</td>
<td>ex</td>
<td>inc</td>
<td>26</td>
<td>13</td>
<td>inc</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>368228</td>
<td>34</td>
<td>33</td>
<td>11</td>
<td>ex</td>
<td>17</td>
<td>20</td>
<td>42</td>
<td>ab</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>16</td>
<td>366966</td>
<td>32</td>
<td>37</td>
<td>19</td>
<td>ex</td>
<td>17</td>
<td>26</td>
<td>16</td>
<td>49</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>376181</td>
<td>37</td>
<td>34</td>
<td>ab</td>
<td>inc</td>
<td>ab</td>
<td>49</td>
<td>ab</td>
<td>12</td>
<td>23</td>
<td>ab</td>
</tr>
<tr>
<td>18</td>
<td>366697</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>16</td>
<td>ex</td>
<td>ex</td>
<td>11</td>
<td>40</td>
<td>11</td>
<td>ex</td>
</tr>
<tr>
<td>19</td>
<td>368072</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>12</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>11</td>
<td>ex</td>
</tr>
<tr>
<td>20</td>
<td>368113</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>9</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>21</td>
<td>368117</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>11</td>
<td>ex</td>
<td>ex</td>
<td>39</td>
<td>11</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>22</td>
<td>376801</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ex</td>
<td>inc</td>
<td>ab</td>
<td>ex</td>
<td>inc</td>
<td>ab</td>
<td>ex</td>
</tr>
<tr>
<td>23</td>
<td>368157</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ab</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>24</td>
<td>376660</td>
<td>32</td>
<td>25</td>
<td>19</td>
<td>ex</td>
<td>ex</td>
<td>12</td>
<td>26</td>
<td>2</td>
<td>35</td>
<td>inc</td>
</tr>
<tr>
<td>25</td>
<td>376665</td>
<td>23</td>
<td>36</td>
<td>13</td>
<td>ex</td>
<td>inc</td>
<td>15</td>
<td>1</td>
<td>38</td>
<td>ab</td>
<td>14</td>
</tr>
<tr>
<td>26</td>
<td>376410</td>
<td>20</td>
<td>32</td>
<td>13</td>
<td>ex</td>
<td>17</td>
<td>ab</td>
<td>ab</td>
<td>inc</td>
<td>inc</td>
<td>12</td>
</tr>
<tr>
<td>27</td>
<td>376413</td>
<td>37</td>
<td>39</td>
<td>17</td>
<td>ex</td>
<td>16</td>
<td>27</td>
<td>ab</td>
<td>34</td>
<td>11</td>
<td>inc</td>
</tr>
<tr>
<td>28</td>
<td>376882</td>
<td>37</td>
<td>32</td>
<td>17</td>
<td>ex</td>
<td>17</td>
<td>19</td>
<td>4</td>
<td>43</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>29</td>
<td>249566</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>16</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>11</td>
<td>ex</td>
</tr>
<tr>
<td>30</td>
<td>367165</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>11</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>ID</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>367878</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>367882</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>382678</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>367919</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>367923</td>
<td>275</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>376054</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>388033</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>375615</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>367959</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>367465</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>378616</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>367986</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>259335</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>307512</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>388228</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>366966</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>376181</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>376697</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>368072</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>368113</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>368117</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>376801</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>368157</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>376860</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>376865</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>376410</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>376413</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>376882</td>
<td>ex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>249566</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>367165</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Score Chart

**Mr. Wolfe**  
**School Name:**  
**Term:** 1-2  
**Engines:**  
**Mon, Feb 15, 2010**

<table>
<thead>
<tr>
<th>ID</th>
<th>Mtr.</th>
<th>Overall</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>376551</td>
<td>45.7 F</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>45</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>376557</td>
<td>77.0 C+</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>43</td>
<td>10</td>
<td>4</td>
<td>7</td>
<td>17</td>
<td>11</td>
<td>21</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>376561</td>
<td>84.5 B</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>48</td>
<td>12</td>
<td>5</td>
<td>10</td>
<td>18</td>
<td>11.5</td>
<td>20</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>372400</td>
<td>71.6 C-</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>49</td>
<td>18</td>
<td>6</td>
<td>15</td>
<td>18</td>
<td>7.5</td>
<td>21</td>
<td>ab</td>
<td>ex</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>375591</td>
<td>97.6 B+</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>48</td>
<td>10</td>
<td>14</td>
<td>7</td>
<td>16</td>
<td>14</td>
<td>11</td>
<td>22</td>
<td>7</td>
<td>ex</td>
</tr>
<tr>
<td>6</td>
<td>375090</td>
<td>76.0 C</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>45</td>
<td>10</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>13</td>
<td>12.5</td>
<td>16</td>
<td>ab</td>
<td>ex</td>
</tr>
<tr>
<td>7</td>
<td>384306</td>
<td>83.1 B</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>376775</td>
<td>90.5 A-</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>366974</td>
<td>81.4 B-</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>47</td>
<td>19</td>
<td>6</td>
<td>16</td>
<td>14</td>
<td>12.5</td>
<td>22</td>
<td>6</td>
<td>ex</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>370260</td>
<td>85.0 B</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>31</td>
</tr>
<tr>
<td>11</td>
<td>367593</td>
<td>85.1 B</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>27</td>
</tr>
<tr>
<td>12</td>
<td>373753</td>
<td>90.6 A+</td>
<td>10</td>
<td>ab</td>
<td>1</td>
<td>inc</td>
<td>50</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>13</td>
<td>373763</td>
<td>83.3 B</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>16</td>
<td>8</td>
<td>17</td>
<td>15</td>
<td>10.5</td>
<td>16</td>
<td>5</td>
<td>ex</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>376785</td>
<td>72.0 C-</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>45</td>
<td>10</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>13</td>
<td>6.5</td>
<td>16</td>
<td>4</td>
<td>ex</td>
</tr>
<tr>
<td>15</td>
<td>368125</td>
<td>78.0 C+</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>14</td>
<td>3</td>
<td>10</td>
<td>9.5</td>
<td>18</td>
<td>6</td>
<td>ex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>245130</td>
<td>172.6 C-</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>48</td>
<td>10</td>
<td>5</td>
<td>17</td>
<td>16</td>
<td>ab</td>
<td>21</td>
<td>2</td>
<td>ex</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>368155</td>
<td>94.4 A</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>31</td>
</tr>
<tr>
<td>18</td>
<td>378633</td>
<td>90.9 A-</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>49</td>
<td>10</td>
<td>17</td>
<td>5</td>
<td>13</td>
<td>17</td>
<td>12.5</td>
<td>18</td>
<td>5</td>
<td>ex</td>
</tr>
<tr>
<td>19</td>
<td>350134</td>
<td>7.4 F</td>
<td>10</td>
<td>9</td>
<td>ex</td>
<td>inc</td>
<td>inc</td>
<td>inc</td>
<td>ex</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>369200</td>
<td>173.6 C</td>
<td>10</td>
<td>ab</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>22</td>
</tr>
<tr>
<td>21</td>
<td>389204</td>
<td>89.7 B+</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>49</td>
<td>ex</td>
<td>6</td>
<td>16</td>
<td>15</td>
<td>12</td>
<td>22</td>
<td>9</td>
<td>ex</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>368211</td>
<td>55.2 F</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>6</td>
<td>17</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>3</td>
<td>ex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>249566</td>
<td>88.4 B+</td>
<td>10</td>
<td>6</td>
<td>inc</td>
<td>1</td>
<td>50</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>24</td>
<td>378688</td>
<td>94.7 A</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>28</td>
</tr>
<tr>
<td>25</td>
<td>373083</td>
<td>85.7 B</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
</tr>
<tr>
<td>ID</td>
<td>38</td>
<td>37</td>
<td>20</td>
<td>20</td>
<td>16</td>
<td>20</td>
<td>19</td>
<td>50</td>
<td>16</td>
<td>23</td>
<td>10</td>
<td>50</td>
<td>20</td>
<td>50</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>376551</td>
<td>ex</td>
<td>ex</td>
<td>ab</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ab</td>
<td>ex</td>
<td>ex</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>376557</td>
<td>28</td>
<td>29</td>
<td>13</td>
<td>ex</td>
<td>16</td>
<td>22</td>
<td>13</td>
<td>44</td>
<td>13</td>
<td>15</td>
<td>10</td>
<td>36</td>
<td>17</td>
<td>43</td>
<td>63</td>
</tr>
<tr>
<td>3</td>
<td>376561</td>
<td>21</td>
<td>33</td>
<td>12</td>
<td>ex</td>
<td>16</td>
<td>20</td>
<td>10</td>
<td>40</td>
<td>9</td>
<td>21</td>
<td>10</td>
<td>38</td>
<td>17</td>
<td>46</td>
<td>71</td>
</tr>
<tr>
<td>4</td>
<td>372400</td>
<td>29</td>
<td>37</td>
<td>20</td>
<td>ex</td>
<td>inc</td>
<td>23</td>
<td>12</td>
<td>inc</td>
<td>9</td>
<td>22</td>
<td>10</td>
<td>29</td>
<td>16</td>
<td>inc</td>
<td>73</td>
</tr>
<tr>
<td>5</td>
<td>375591</td>
<td>37</td>
<td>37</td>
<td>14</td>
<td>ex</td>
<td>15</td>
<td>14</td>
<td>11</td>
<td>45</td>
<td>11</td>
<td>23</td>
<td>10</td>
<td>38</td>
<td>19</td>
<td>44</td>
<td>73</td>
</tr>
<tr>
<td>6</td>
<td>376090</td>
<td>35</td>
<td>33</td>
<td>14</td>
<td>ex</td>
<td>inc</td>
<td>17</td>
<td>5</td>
<td>40</td>
<td>5</td>
<td>21</td>
<td>10</td>
<td>27</td>
<td>17</td>
<td>39</td>
<td>72</td>
</tr>
<tr>
<td>7</td>
<td>384308</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>5</td>
<td>21</td>
<td>10</td>
<td>27</td>
<td>17</td>
<td>39</td>
<td>72</td>
</tr>
<tr>
<td>8</td>
<td>376875</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>17</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>5</td>
<td>21</td>
<td>10</td>
<td>27</td>
<td>17</td>
<td>39</td>
<td>72</td>
</tr>
<tr>
<td>9</td>
<td>369574</td>
<td>30</td>
<td>ab</td>
<td>ab</td>
<td>ex</td>
<td>16</td>
<td>21</td>
<td>8</td>
<td>48</td>
<td>10</td>
<td>23</td>
<td>10</td>
<td>37</td>
<td>18</td>
<td>42</td>
<td>86</td>
</tr>
<tr>
<td>10</td>
<td>370280</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>12</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>40</td>
<td>ex</td>
<td>ex</td>
<td>31</td>
<td>ex</td>
<td>ex</td>
<td>68</td>
</tr>
<tr>
<td>11</td>
<td>376593</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>13</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>41</td>
<td>ex</td>
<td>ex</td>
<td>26</td>
<td>ex</td>
<td>72</td>
<td>100</td>
</tr>
<tr>
<td>12</td>
<td>376753</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>79</td>
<td>120</td>
<td>190</td>
<td>285</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>376763</td>
<td>34</td>
<td>36</td>
<td>13</td>
<td>ex</td>
<td>16</td>
<td>21</td>
<td>8</td>
<td>42</td>
<td>11</td>
<td>23</td>
<td>10</td>
<td>27</td>
<td>17</td>
<td>50</td>
<td>84</td>
</tr>
<tr>
<td>14</td>
<td>376795</td>
<td>26</td>
<td>35</td>
<td>9</td>
<td>ex</td>
<td>7</td>
<td>23</td>
<td>10</td>
<td>38</td>
<td>7</td>
<td>17</td>
<td>10</td>
<td>25</td>
<td>15</td>
<td>43</td>
<td>62</td>
</tr>
<tr>
<td>15</td>
<td>38125</td>
<td>22</td>
<td>34</td>
<td>18</td>
<td>ex</td>
<td>14</td>
<td>25</td>
<td>9</td>
<td>45</td>
<td>9</td>
<td>15</td>
<td>10</td>
<td>22</td>
<td>15</td>
<td>43</td>
<td>67</td>
</tr>
<tr>
<td>16</td>
<td>245130</td>
<td>36</td>
<td>36</td>
<td>15</td>
<td>ex</td>
<td>8</td>
<td>24</td>
<td>16</td>
<td>42</td>
<td>12</td>
<td>22</td>
<td>10</td>
<td>26</td>
<td>18</td>
<td>40</td>
<td>65</td>
</tr>
<tr>
<td>17</td>
<td>368155</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
<td>ex</td>
<td>ex</td>
<td>79</td>
<td>120</td>
<td>190</td>
<td>285</td>
</tr>
<tr>
<td>18</td>
<td>376833</td>
<td>33</td>
<td>35</td>
<td>18</td>
<td>ex</td>
<td>17</td>
<td>22</td>
<td>15</td>
<td>44</td>
<td>16</td>
<td>21</td>
<td>10</td>
<td>36</td>
<td>18</td>
<td>45</td>
<td>78</td>
</tr>
<tr>
<td>19</td>
<td>350134</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>5</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>49</td>
<td>30</td>
</tr>
<tr>
<td>20</td>
<td>388200</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>34</td>
<td>ex</td>
<td>18</td>
<td>30</td>
<td>14</td>
<td>43</td>
<td>10</td>
<td>23</td>
<td>10</td>
<td>34</td>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>21</td>
<td>376824</td>
<td>37</td>
<td>37</td>
<td>17</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>30</td>
<td>ex</td>
<td>ex</td>
<td>30</td>
<td>ex</td>
<td>30</td>
<td>140</td>
</tr>
<tr>
<td>22</td>
<td>376880</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>13</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>39</td>
<td>ex</td>
<td>ex</td>
<td>30</td>
<td>ex</td>
<td>66</td>
<td>140</td>
</tr>
<tr>
<td>23</td>
<td>373083</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>14</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>24</td>
<td>ex</td>
<td>ex</td>
<td>72</td>
</tr>
<tr>
<td>ID</td>
<td>Mi..</td>
<td>Overall</td>
<td>10</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>EC</td>
<td>20</td>
<td>7</td>
<td>20</td>
<td>19</td>
<td>13</td>
<td>20</td>
<td>9</td>
<td>32</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>----</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>1</td>
<td>368847</td>
<td>15</td>
<td>79.9 B+</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>380665</td>
<td>15</td>
<td>61.4 C+</td>
<td>inc</td>
<td>inc</td>
<td>inc</td>
<td>inc</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>384215</td>
<td>15</td>
<td>16.9 F</td>
<td>10</td>
<td>5</td>
<td>inc</td>
<td>inc</td>
<td>inc</td>
<td>ab</td>
<td>ab</td>
<td>0</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>375991</td>
<td>15</td>
<td>88.3 B+</td>
<td>9</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>45</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>382456</td>
<td>15</td>
<td>80.5 B+</td>
<td>inc</td>
<td>ab</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>391434</td>
<td>15</td>
<td>74.5 C</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>45</td>
<td>17</td>
<td>6</td>
<td>19</td>
<td>18</td>
<td>9.5</td>
<td>14</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>312102</td>
<td>15</td>
<td>76.3 C</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>10</td>
<td>15</td>
<td>6</td>
<td>7</td>
<td>18</td>
<td>11</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>388388</td>
<td>15</td>
<td>81.4 B-</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>48</td>
<td>9</td>
<td>6</td>
<td>15</td>
<td>11</td>
<td>10</td>
<td>17</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>391451</td>
<td>15</td>
<td>79.8 C+</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>47</td>
<td>ab</td>
<td>ab</td>
<td>15</td>
<td>12</td>
<td>12.5</td>
<td>22</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>383279</td>
<td>15</td>
<td>90.4 A-</td>
<td>10</td>
<td>11</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
</tr>
<tr>
<td>11</td>
<td>391487</td>
<td>15</td>
<td>80.2 B+</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>49</td>
<td>10</td>
<td>17</td>
<td>4</td>
<td>16</td>
<td>12</td>
<td>12.5</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>12</td>
<td>384345</td>
<td>15</td>
<td>85.8 B</td>
<td>10</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>47</td>
<td>17</td>
<td>3</td>
<td>18</td>
<td>18</td>
<td>11</td>
<td>22</td>
<td>ab</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>391413</td>
<td>15</td>
<td>69.9 D</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>40</td>
<td>12</td>
<td>6</td>
<td>17</td>
<td>17</td>
<td>10</td>
<td>22</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>391904</td>
<td>15</td>
<td>40.5 F</td>
<td>9</td>
<td>9</td>
<td>ab</td>
<td>1</td>
<td>1</td>
<td>48</td>
<td>8</td>
<td>ab</td>
<td>11</td>
<td>15</td>
<td>3</td>
<td>ab</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>368345</td>
<td>15</td>
<td>89.9 B-</td>
<td>inc</td>
<td>inc</td>
<td>inc</td>
<td>inc</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
</tr>
<tr>
<td>16</td>
<td>367571</td>
<td>15</td>
<td>79.0 C+</td>
<td>10</td>
<td>ex</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
</tr>
<tr>
<td>17</td>
<td>384375</td>
<td>15</td>
<td>84.8 B</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>26</td>
</tr>
<tr>
<td>18</td>
<td>252496</td>
<td>15</td>
<td>69.9 D</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>26</td>
</tr>
<tr>
<td>19</td>
<td>391581</td>
<td>15</td>
<td>82.0 B+</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>43</td>
<td>10</td>
<td>11</td>
<td>7</td>
<td>11</td>
<td>17</td>
<td>10</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>20</td>
<td>396047</td>
<td>15</td>
<td>89.3 B+</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>44</td>
<td>10</td>
<td>13</td>
<td>6</td>
<td>21</td>
<td>15</td>
<td>11</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>21</td>
<td>388632</td>
<td>15</td>
<td>91.8 A-</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>26</td>
</tr>
<tr>
<td>22</td>
<td>384474</td>
<td>15</td>
<td>80.4 B-</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>26</td>
</tr>
<tr>
<td>23</td>
<td>376869</td>
<td>15</td>
<td>77.2 C+</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
</tr>
<tr>
<td>24</td>
<td>368219</td>
<td>15</td>
<td>80.5 B+</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>43</td>
<td>17</td>
<td>5</td>
<td>17</td>
<td>17</td>
<td>12</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>360317</td>
<td>15</td>
<td>87.6 B+</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
</tr>
<tr>
<td>26</td>
<td>391968</td>
<td>15</td>
<td>74.0 C</td>
<td>10</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>42</td>
<td>10</td>
<td>15</td>
<td>6</td>
<td>17</td>
<td>11</td>
<td>7.5</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>27</td>
<td>303341</td>
<td>15</td>
<td>80.5 B-</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>47</td>
<td>10</td>
<td>15</td>
<td>5</td>
<td>ab</td>
<td>13</td>
<td>11.5</td>
<td>21</td>
<td>6</td>
</tr>
</tbody>
</table>

<p>| Score Chart | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| Signed Course Outline | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex |
| Test/Quiz/9/24/2009 | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex |
| Test/Quiz/9/25/2009 | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex |
| Test/Quiz/10/2/2009 | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex |
| Test/Quiz/10/3/2009 | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex | ex |</p>
<table>
<thead>
<tr>
<th>ID</th>
<th>38</th>
<th>37</th>
<th>20</th>
<th>20</th>
<th>18</th>
<th>20</th>
<th>19</th>
<th>50</th>
<th>16</th>
<th>23</th>
<th>10</th>
<th>50</th>
<th>20</th>
<th>50</th>
<th>100</th>
<th>100</th>
<th>200</th>
<th>300</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>368847</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>12</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>31</td>
<td>ex</td>
<td>ex</td>
<td>75</td>
<td>20</td>
<td>160</td>
</tr>
<tr>
<td>2</td>
<td>380665</td>
<td>24</td>
<td>20</td>
<td>13</td>
<td>ab</td>
<td>11</td>
<td>10</td>
<td>38</td>
<td>2</td>
<td>ab</td>
<td>10</td>
<td>21</td>
<td>16</td>
<td>44</td>
<td>65</td>
<td>80</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>3</td>
<td>354215</td>
<td>31</td>
<td>ab</td>
<td>17</td>
<td>ex</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>inc</td>
<td>ab</td>
<td>7</td>
<td>ab</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>375991</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>19</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>19</td>
<td>ex</td>
<td>ex</td>
<td>63</td>
<td>100</td>
<td>190</td>
</tr>
<tr>
<td>5</td>
<td>352496</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>16</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
</tr>
<tr>
<td>6</td>
<td>391434</td>
<td>10</td>
<td>31</td>
<td>15</td>
<td>ex</td>
<td>13</td>
<td>20</td>
<td>6</td>
<td>40</td>
<td>6</td>
<td>23</td>
<td>10</td>
<td>28</td>
<td>18</td>
<td>39</td>
<td>69</td>
<td>80</td>
<td>ex</td>
</tr>
<tr>
<td>7</td>
<td>312102</td>
<td>23</td>
<td>38</td>
<td>12</td>
<td>ex</td>
<td>16</td>
<td>20</td>
<td>5</td>
<td>44</td>
<td>7</td>
<td>17</td>
<td>10</td>
<td>ab</td>
<td>43</td>
<td>83</td>
<td>80</td>
<td>ex</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>388368</td>
<td>17</td>
<td>32</td>
<td>14</td>
<td>ex</td>
<td>17</td>
<td>ab</td>
<td>6</td>
<td>46</td>
<td>10</td>
<td>20</td>
<td>10</td>
<td>25</td>
<td>11</td>
<td>42</td>
<td>50</td>
<td>160</td>
<td>ex</td>
</tr>
<tr>
<td>9</td>
<td>391461</td>
<td>32</td>
<td>37</td>
<td>20</td>
<td>ex</td>
<td>14</td>
<td>25</td>
<td>6</td>
<td>40</td>
<td>10</td>
<td>21</td>
<td>10</td>
<td>21</td>
<td>17</td>
<td>44</td>
<td>72</td>
<td>100</td>
<td>ex</td>
</tr>
<tr>
<td>10</td>
<td>353279</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>9</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>40</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>39</td>
<td>ex</td>
<td>ex</td>
<td>87</td>
<td>80</td>
<td>185</td>
</tr>
<tr>
<td>11</td>
<td>391456</td>
<td>34</td>
<td>35</td>
<td>18</td>
<td>ex</td>
<td>10</td>
<td>20</td>
<td>16</td>
<td>47</td>
<td>9</td>
<td>18</td>
<td>10</td>
<td>ab</td>
<td>ab</td>
<td>45</td>
<td>71</td>
<td>100</td>
<td>ex</td>
</tr>
<tr>
<td>12</td>
<td>384315</td>
<td>23</td>
<td>35</td>
<td>18</td>
<td>ex</td>
<td>inc</td>
<td>25</td>
<td>14</td>
<td>48</td>
<td>10</td>
<td>22</td>
<td>10</td>
<td>35</td>
<td>19</td>
<td>46</td>
<td>81</td>
<td>100</td>
<td>ex</td>
</tr>
<tr>
<td>13</td>
<td>391413</td>
<td>33</td>
<td>35</td>
<td>11</td>
<td>ex</td>
<td>8</td>
<td>ab</td>
<td>6</td>
<td>41</td>
<td>7</td>
<td>22</td>
<td>10</td>
<td>26</td>
<td>16</td>
<td>44</td>
<td>72</td>
<td>40</td>
<td>ex</td>
</tr>
<tr>
<td>14</td>
<td>391904</td>
<td>15</td>
<td>11</td>
<td>9</td>
<td>ex</td>
<td>12</td>
<td>21</td>
<td>7</td>
<td>inc</td>
<td>4</td>
<td>21</td>
<td>10</td>
<td>19</td>
<td>15</td>
<td>inc</td>
<td>41</td>
<td>20</td>
<td>ex</td>
</tr>
<tr>
<td>15</td>
<td>368046</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>19</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>32</td>
<td>ex</td>
<td>ex</td>
<td>82</td>
<td>120</td>
<td>165</td>
</tr>
<tr>
<td>16</td>
<td>367571</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>10</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>40</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>22</td>
<td>ex</td>
<td>ex</td>
<td>63</td>
<td>80</td>
<td>160</td>
</tr>
<tr>
<td>17</td>
<td>304266</td>
<td>31</td>
<td>35</td>
<td>18</td>
<td>ex</td>
<td>9</td>
<td>23</td>
<td>10</td>
<td>47</td>
<td>8</td>
<td>21</td>
<td>10</td>
<td>33</td>
<td>20</td>
<td>44</td>
<td>64</td>
<td>200</td>
<td>ex</td>
</tr>
<tr>
<td>18</td>
<td>384375</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>14</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>43</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>29</td>
<td>ex</td>
<td>ex</td>
<td>80</td>
<td>80</td>
<td>175</td>
</tr>
<tr>
<td>19</td>
<td>352496</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ab</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>inc</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>22</td>
<td>ex</td>
<td>ex</td>
<td>59</td>
<td>40</td>
<td>180</td>
</tr>
<tr>
<td>20</td>
<td>351581</td>
<td>31</td>
<td>34</td>
<td>17</td>
<td>ex</td>
<td>12</td>
<td>21</td>
<td>3</td>
<td>49</td>
<td>7</td>
<td>24</td>
<td>ab</td>
<td>33</td>
<td>18</td>
<td>46</td>
<td>64</td>
<td>100</td>
<td>ex</td>
</tr>
<tr>
<td>21</td>
<td>396047</td>
<td>34</td>
<td>34</td>
<td>17</td>
<td>ex</td>
<td>14</td>
<td>26</td>
<td>15</td>
<td>46</td>
<td>9</td>
<td>16</td>
<td>10</td>
<td>22</td>
<td>17</td>
<td>45</td>
<td>77</td>
<td>120</td>
<td>ex</td>
</tr>
<tr>
<td>22</td>
<td>356632</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>9</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>31</td>
<td>ex</td>
<td>ex</td>
<td>75</td>
<td>120</td>
<td>185</td>
</tr>
<tr>
<td>23</td>
<td>354474</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>5</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>28</td>
<td>ex</td>
<td>ex</td>
<td>65</td>
<td>60</td>
<td>180</td>
</tr>
<tr>
<td>24</td>
<td>376889</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>0</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>25</td>
<td>356219</td>
<td>32</td>
<td>36</td>
<td>19</td>
<td>ex</td>
<td>17</td>
<td>19</td>
<td>17</td>
<td>33</td>
<td>10</td>
<td>ab</td>
<td>10</td>
<td>ab</td>
<td>19</td>
<td>35</td>
<td>81</td>
<td>120</td>
<td>ex</td>
</tr>
<tr>
<td>26</td>
<td>303187</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>13</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>50</td>
<td>ex</td>
<td>ex</td>
<td>ex</td>
<td>35</td>
<td>ex</td>
<td>ex</td>
<td>74</td>
<td>80</td>
<td>185</td>
</tr>
<tr>
<td>27</td>
<td>391686</td>
<td>34</td>
<td>36</td>
<td>15</td>
<td>ex</td>
<td>17</td>
<td>ab</td>
<td>14</td>
<td>42</td>
<td>10</td>
<td>18</td>
<td>10</td>
<td>27</td>
<td>19</td>
<td>inc</td>
<td>51</td>
<td>100</td>
<td>ex</td>
</tr>
<tr>
<td>28</td>
<td>303341</td>
<td>30</td>
<td>35</td>
<td>18</td>
<td>ex</td>
<td>13</td>
<td>19</td>
<td>ab</td>
<td>38</td>
<td>9</td>
<td>20</td>
<td>10</td>
<td>27</td>
<td>14</td>
<td>41</td>
<td>88</td>
<td>120</td>
<td>ex</td>
</tr>
</tbody>
</table>
Section 7

SOE Supervision Forms
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 4-15-08       Time: 2:15

Student: Alice Anderson    Teacher: Wolfe
Project: Market Goat

Current Status of Project: Clean - will take
at of. Shall wash - watched
for 15min. No worries

Recommendations:

Signed:

Ag. Teacher    Student

Parent (if recommendations are made)
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 5-18-08    Time: 11:30 am

Student: Amber Kundgen    Teacher: Wolke

Project: Meat God

Current Status of Project: Great lease (Sunday)
Student & I caught goats. Neighbors kids let animal out. Student did not lock gate.

Recommendations: Please lock all gates when you leave. Unit one out checks all locks.

Signed:
Ag. Teacher

Student

Parent (if recommendations are made)
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 4-15-08   Time: 3:30

Student: Addison Cook   Teacher: Milf

Project: Meat Beef

Current Status of Project: Weighed 2 pigs - student reports just under 5 lbs per pig.
Clean pen & feed water.

Recommendations:


Signed:  
Ag. Teacher

Student

Parent (if recommendations are made)
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 4-23-08  Time: 3:00pm

Student: Kathryn Zaborsky  Teacher: Wolfe

Project: Show/Meat Rabbits

Current Status of Project: Student has approx. 80 rabbits in backyard. Student is planning on showing 8 hogs at a meat pen at fair.

Student is having no problems managing her animals.

Recommendations:

Signed:
Ag. Teacher: Wolfe

Student: Kathryn Zaborsky

Parent (if recommendations are made)
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 5-2-08  Time: 2:10

Student: Robert Crist  Teacher: Wolfe

Project: Landscaping

Current Status of Project: Student cares for
5 houses & garden in his neighborhood.
Student mowed all lawns day before. All
homeowners who were home bourd.
Now will be caring for one property. Student makes about $200
a week.

Recommendations:

Signed:
Ag. Teacher  Student

Parent (if recommendations are made)
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 6-25-08  Time: 7:15 am

Student: Elly Ghods  Teacher: Wolfe
Project: Market Goat

Current Status of Project: Small frame/weight

Recommendaions:

Signed:
Ag. Teacher  Elly Ghods  Student

Parent (if recommendations are made)
Date: 7-10-08 Time: 6:30am

Student: Colleen Bennett  Teacher: Wolfe

Project: Heat Goat

Current Status of Project: Bandage looks healing well. (Problem last time)
Student has been doing an excellent job. Job looks awesome.

Recommendations:

Signed:

Ag. Teacher

Student

Parent (if recommendations are made)
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 4-2-08         Time: 3:10pm

Student: Michael Steward   Teacher: Wolfe

Project: Small Engine Repair

Current Status of Project: Student has 6-8 pieces of lawn and garden equipment he is storing or repairing for people. It is going to be for entry.

Recommendations: Organize work areas and parts. Keep parts with correct equipment

Signed:
Ag. Teacher               Student

Parent (if recommendations are made)
Not needed.
Modesto City Schools
Beyer Ag. Department
Project Supervision Report

Date: 7-21-08  Time: 3:10 pm

Student: [Handwritten Name]  Teacher: [Handwritten Name]
Project: Meat Rabbit

Current Status of Project: looks great, very
not seeming dry, placed in shade
no fans. Cube had big but effective, the
kid is excited

Recommendations: Get fans & misters &
turn them on during the day.
Borrowed FFA jacket from Chapter

Signed:
Ag. Teacher [Signature]  Student [Signature]

Parent (if recommendations are made): [Handwritten Name]
Section 8

SOE Project Visitation Chart and Activity Points
<table>
<thead>
<tr>
<th>Student Name</th>
<th>FFA Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alvarez, Melissa</td>
<td>2</td>
</tr>
<tr>
<td>Andersen, Robert</td>
<td>0</td>
</tr>
<tr>
<td>Anderson, Devon</td>
<td>1</td>
</tr>
<tr>
<td>Areiza, Dessire</td>
<td>4</td>
</tr>
<tr>
<td>Arroyo, Javier</td>
<td>4</td>
</tr>
<tr>
<td>Arzand, Lydia</td>
<td>3</td>
</tr>
<tr>
<td>Armel, Shane</td>
<td>3</td>
</tr>
<tr>
<td>Amman, John</td>
<td>0</td>
</tr>
<tr>
<td>Amstading, Nicholas</td>
<td>0</td>
</tr>
<tr>
<td>Anderson, Archie</td>
<td>0</td>
</tr>
<tr>
<td>Anderson, Alice</td>
<td>x</td>
</tr>
<tr>
<td>Anderson, Lauren</td>
<td>x</td>
</tr>
<tr>
<td>Alvarez, Joseph</td>
<td>2</td>
</tr>
<tr>
<td>Alvarez, Anthony</td>
<td>2</td>
</tr>
<tr>
<td>Alvarado, Sydney</td>
<td>2</td>
</tr>
<tr>
<td>Alvarado, Jasmine</td>
<td>2</td>
</tr>
<tr>
<td>Alvarado, Dylan</td>
<td>1</td>
</tr>
<tr>
<td>Alvarado, Danny</td>
<td>1</td>
</tr>
<tr>
<td>Alvarado, Curry</td>
<td>1</td>
</tr>
<tr>
<td>Alvarez, Fern</td>
<td>1</td>
</tr>
<tr>
<td>Arzand, Michelle</td>
<td>1</td>
</tr>
<tr>
<td>Arzand, Nellie</td>
<td>1</td>
</tr>
<tr>
<td>Alvarez, Melvin</td>
<td>1</td>
</tr>
</tbody>
</table>

**Final 1st Semester Points**

**FFA Activities**
<table>
<thead>
<tr>
<th>Student Name</th>
<th>Brown, Daniel</th>
<th>Brownes, Francisco</th>
<th>Brazil, Sierra</th>
<th>Brazil, Jonathan</th>
<th>Black, Liz</th>
<th>Blackham, Jacob</th>
<th>Bibbs, Michelle</th>
<th>Bennett, Brianna</th>
<th>Beavers, Nick</th>
<th>Bavone, Michael</th>
<th>Bauche, Rusty</th>
<th>Barnes, Brandon</th>
<th>Banyanin, Michael</th>
<th>Balas, Ashley</th>
<th>Balanyne, Katie</th>
<th>Baker, Brandon</th>
<th>Baker, Jordan</th>
<th>Baccelli, Megan</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

- Fair
- September Meeting
- Greenhand Conference
- September Farm Clean Up
- COLC
- OCC
- October Meeting
- Harvest Fest Helpers
- Harvest Fest Attendees
- Pumpkin Pickup
- November Meeting
- Tie Dye
- December Meeting
- Greenhand Ceremony
- January Meeting
- Bowling
Section 9

SOE Student Summaries
My name is Alexandra Quesinberry and FFA plays an important role in what I do and what I want to become. I own my own horse and spend approximately two hours with him five days a week. My responsibilities include brushing and grooming, exercising, and keeping up on his health.

The first step before I even begin to exercise my horse is brushing and grooming him. Brushing my horse helps to get the dirt and shedded hair off him. The grooming consists of cleaning his eyes and nose of dirt and grime. Grooming also includes cleaning his feet and brushing his mane and tail, freeing it of any sticks or other sharp objects. When I groom and brush I also do a daily 'vet check.' This means I check to be sure that nothing is off or wrong with my horse.

The second step in taking care of my horse is to exercise him. I begin at a walk, which stretches the horse and warms him up before the trot. I walk around the arena twice both directions. After the walk I begin to trot. At the trot I do circles and stretch his legs. Trotting lasts about seven minutes or more. Most of the time I trot 3 to 4 times around the arena both directions. When my horse is awake and stretched with the previous steps, I begin
to center. Canter isn't just running around like a wild horse. It is a slow controlled gallop. The horses inside front leg in the arena should be leading. I center twice or more both directions in the arena. After the work-out is complete I cool him down at a walk. Then I do other exercises to practice my skill and my horses skill. The entire exercise lasts approximately forty-five minutes.

The last, most important responsibility is the health of my horse. I have to make sure that he is up to date on all vaccinations and wormers, his feet are filed and shod, and make sure his teeth are floated. The health of my horse also includes his feed. I have to make sure he gets hay that is good quality. This means there are no goat heads, sticks, or other hazardous material in his feed. My horse gets hoof, coat and joint supplements once a day along with grain and garlic. The garlic keeps the flies away. FFA helps me to understand the proper amount and nutrition he needs. Other health issues could include minor cuts and scrapes or swollen legs, which are more serious. Every time I work with my horse I have to be prepared for anything.
The responsibilities I have to my horse I am dedicated to through brushing and grooming, exercising, and keeping up on his health. FFA has shown me so much and taught me about how to take care of my horse. Whether it be a minor cut or a serious health issue, FFA has taught me to be prepared. Without FFA I wouldn’t be able to pursue my future dream of having an equine major.
~ My Summer Ag projects ~

This year for 4-H I raised a goat and I made or created a landscaping plot. I really enjoyed doing both. I would like to explain how I learned and enjoyed doing these projects. First, I’m going to tell you about my landscaping plot. I’ve walked around the floral area and looked at all the plots, but I never knew that they were so much work. I had to go to nurseries on my own or talk to the owners about lending me plants and flowers. When I finally got permission to lend me some, I figured out how to arrange them in the way I wanted. I had to go to the fair everyday to water the plants, because if the dirt I’d have to pay for them. I learned that it’s hard to grow plants and keep it alive. I also learned that it takes a lot of work to water everyday at 8:00 am. It was hard asking around to get the plants I need. I learned even more from my goat. I had to feed him certain amounts of food, brush him, and keep his pen clean everyday. I also had to walk and run him to train him. This years goat was harder than last years, because my goat grew this large bump on the side of his face. At first I didn’t know what it was, so I called my teacher but she didn’t know at the time. It popped open and a yellow creamy pus came out. I had to clean it everyday, I looked online and found out that my goat had CE so that was hard to cure. We worked it out and I sold my goat. I enjoyed doing both projects and I feel like I’ve learned a lot from both of them.
Summer Service
by Eric Westgarth

This summer I was involved with the landscape management with Beyer FFA. I learned a lot about orchards this year through the AG program and FFA. I also had a lot of fun while learning about AG.

I took care of the school farm over the summer. I learned the importance of pruning trees and using fertilizer. Also I learned that the amount of water used in an orchard can change the flavor and sweetness of the fruit on trees. It is important that you use just the right amount of water for fruit. If too much water is used it makes the fruit too watery. If too little water is used, the tree will die.

I really enjoy being in the agricultural program. Mr. Wofe has taught me a lot over this summer about agriculture.

Eric Westgarth
~ Summer Ag Project ~

This past summer, I raised a meat goat to sell at the St. Clair County Fair.

Throughout those 3 months, it became a great learning experience.

My goat Jesper became sick with pneumonia and lost 13 pounds, so I called one of my teachers because Mr. Wolfe was out of town at the time. She told me to get Penicillin and give that to him. So I did and it seemed to slowly work but Jesper's breathing was not normal at all. I soon called a vet and he came out to see Jesper and told me that it sounded like he still had some fluids in his lungs. I learned how to give shots and watched his health until fair. Jesper was doing well and seemed a lot happier. But in the middle of fair he became really bloated again. Again, we called the vet and they came and had to poke Jesper in the stomach with a 15 gage needle to let all the gas out that was building up inside him. They had to do this twice and then put a tube down his throat. After that, Jesper would not eat or drink by himself. So I would use a syringe to give him water.

The next day, another vet came and gave him a shot and some medicine. For me to give him.

By the next day, Jesper was up and eating by himself. I was very relieved because that same day was auction day!!! Sold him for $3.00 per pound.

These past three years of raising animals is a great experience and learning time because
Hi, I'm Anthony Lewis and I have been showing beef cattle for about seven years. Beef cattle are one of the hardest animals to show because of their size and their weight. They usually weigh up to 1,300 pounds at first. These large animals need to be washed and prepared every day. You need to walk them around and get muscle built on their frame. I usually feed my steers about five pounds a day.

I am so glad that I got the chance to be able to keep showing in high school. If there was no Ag department I would of never got to do it again. The Ag department helped me learn more into my last four years of showing beef. The Ag department shows all of us high schoolers a more inside on the agriculture away from the usual. It helps us by keeping us involved in FFA and lets us be free by planting, showing, farming and working in the dirt. Sometimes kids need another thing to want to come to school instead of the usual classroom thing everyday.
During this past summer when I raised my former meat goat, Butter, I had to visit him everyday twice a day to feed him and change his water. I also had to train him to walk with me, even though he wasn't too good at it. As a result of feeding Butter everyday and keeping his health in great condition, he received second in our market weight division of 101 lbs to 113 lbs. Because of his good placing in his market class we went twelfth in the auction and received $3.50 a pound. Overall, raising a meat goat was very hard at times but it was also very rewarding and fun.
Over the past summer I showed a rabbit. Her name was Chubbsy. She was a New Zealand White. I absolutely love showing because I got to meet new people and learn how the other schools run their Agriculture department. I also got to meet new people and learn about their animals whether it be rabbits, goats, steers, or pigs, and what you need to do to keep them healthy and happy. I put my animals up for sale, the money I make goes towards my college fund. I would like to get into showing larger animals because you have to put more work into taking care of it, so that when you do good at faire and sell it for a lot of money, you feel more accomplished at what you've achieved. Going to faire will be good for my future, it actually already is. The reasons why are because I want to be a veterinarian and these experience at faire strengthen that. In school, it will also help me because this looks great on a college application. Going to faire gives me an insight as to what to expect in the profession. Overall, doing faire helps me to better myself with meeting new people, and getting into college.
Hi my name is Katlyn Zaborsky.
I am 14 years old. I am in Waterford 4-H
for 8 years. This is my second time
in Beyer FFA. For Beyer I show rabbits.
I brought sixteen mini lops there
at the Turlock Fair. Every year I
have learned something new. When
we do showmanship we have different
questions every year, and when you get in
finals it is a lot harder question and
we learn more. My ag teachers are
very good teacher. I learned a lot from
them it was very helpful.
Board Approved Policy and Farm Agreement
Modesto City Schools
Agriculture Farm Project Policy

1. Be proud of the farm. It is a privilege to raise an animal at the farm. When finished using the tools and equipment be certain to return them to their appropriate location and in a clean condition. Keep the farm area neat and organized to ensure safety for all.

2. You will be assigned a pen. You will be responsible for that pen while your project is occupying that space. The number of animals you can raise on the farm may be limited by the space available. Your project may need to be moved on occasion as conditions change on the farm. You will be notified before this occurs.

3. Feed and Hogs must be purchased through the agriculture department if your hog is raised at the school farm. You have the option to purchase feed from the agriculture department if you are raising the pig at your own facility. If purchasing feed from the agriculture department the total cost for the feed will be paid up front to eliminate bookkeeping errors. Any unused feed costs will be returned to the student at the end of the summer.

4. You are responsible for keeping track of all purchases (feed, vet supplies, rent, and insurance, equipment) to back up the agriculture department records. All receipts must also be recorded in your Agriculture Record Book.

5. As a student with an agriculture project, you are responsible to feed and clean your animal each day. Chores must be done before 9:00 p.m. Farm hours 6:00 am to 9:00 pm. The farm facility is to be used by the students in the agriculture program only. All students are expected to have their evening chores done by 9:00 pm, including weekends. Loitering at the farm after this time is NOT permitted. Please leave your pets and uninvolved friends home.

6. Proper cleaning of the pen include the removal of the fecal matter, and in the case of pigs; cleaning the drain, hosing the pen and pigs down to remove foreign matter and keeping the area directly around your pen clean.

7. Manure is the only thing that is allowed to be dumped in the septic tank. NO PAPER, STRAW, EMPTY CUPS OR TRASH is allowed down the drain. Throw trash and solid items in the barrels or dumpster.

8. Periodic parental assistance is welcome. However, the parent cannot complete daily project responsibility. If a student cannot fulfill the projects responsibilities to include, but not limited to, feeding, cleaning, attending mandatory work days, and any other management practices, the student will be allowed two weeks to remove his or her project from the farm site upon notice from the teacher or administrator.

9. Any student obtaining feed or property of others without permission will be removed from the program. No exceptions! The animal will also be removed at the discretion of the agriculture teacher.

10. No student owned projects would be allowed to remain on the farm longer than 90 days for sheep, pigs, and poultry, 240 days for dairy and beef projects.

11. Breeding Projects will be allowed with permission from the instructor. However, the following must be adhered to:
   a. Must have raised a successful market animal project without any write-ups;
   b. At the end of every quarter the project and student will be re-evaluated in order to remain on the school farm. The instructor will be looking for the following: 1. Signing in and out on a daily basis; 2. Feeding and caring for the project on a daily basis.
   c. Breeding animals are not insurable through the HRH insurance program. All offspring born to a breeding project are not insurable until sold for a market animal. The school district, school site, or FFA chapter are not responsible for any theft, losses or death of any breeding animal or offspring that occurred while the student who is keeping their breeding project on any school farm site in Modesto City Schools.

12. If the animals were determined to be a show project and does not meet the specific expectations set forth by the agriculture teacher the animal will not represent the school at the livestock show. Selling of the animal is the responsibility of the student and must be done by as close to County Fair as possible. Projects must have prior approval before being brought on or taken off the school farm. Animals brought on the farm without approval must be removed immediately upon request to do so. Students will not be eligible to raise or exhibit any species for one year following the conclusion of the event or fair in which the animal was brought on or taken from the farm without prior approval.

13. In the event you are unable to abide by the above stated rules, the, agriculture instructors have the right and responsibility to dispose of the project in any means they feel is in the best interest of the project. This includes selling the project at a livestock yard or processing at a local meat locker.

14. Sign in and out when you are on the school farm, failure to do so may result in your not being allowed a project next year. Steps in removal of the animal: (1) Oral communication to the student. (2) Written communication to the student and parent. (3) Written communication from the site or district administrator to the student and the parent. (4) Removal of the animal.

15. Students must be eligible based on MCS rules at the third quarter grading period in order to show at the county and state fair.

16. Understand the nature of this project will expose students to veterinary and livestock processing practices.

I agree to abide by this Modesto City Schools policy:

Student Signature: ___________________________ Date: ____________

Parent Signature: ___________________________ Date: ____________

Advisor Signature: ___________________________ Date: ____________
Beyer FFA Requirements for Showing

1. Must have shown last school year and made the sale at the Stanislaus County Fair. 1st time showman must submit a letter of interest to include:
   - Name
   - Species to be shown
   - Where you intend to keep animal (if not at the school farm, include how you will transport it)
   - Why you want to show
   - What do you want to get out of the project
   - Any other information that may help make a favorable decision in allowing you to show.

2. Must purchase livestock insurance (except for rabbits) which will be made available through the California State FFA and a livestock insurance agency in Sacramento; the student or parent is responsible for contacting a veterinarian and paying for a veterinarian should it be needed during the project.

3. First and second year students cannot miss more than 20% of the “species” meetings. If more than 20% of the meetings are missed, the student will not be allowed to attend the fair with their animal. Students who have shown two years or more with Beyer FFA will be responsible for seeing their advisor a minimum of once a week for updates, as they are not required to attend these meetings.

4. Expenses for medication will be covered by the student on a per dose basis unless a modified live vaccination is required. If a modified live vaccination is required student will be responsible for the entire cost of medication.

5. All students will hold all financial responsibility for the cost associated with raising and purchasing an animal. Beyer High School will not be providing any advanced funding for the purchase of animals, feed, etc. Students who wish to borrow start up costs will be directed to the appropriate local lenders.

6. Must meet the district eligibility qualification at the end of the third quarter per the conduct code.

7. Must be passing their agriculture classes with a “C” (75%) or better at the end of the 2nd semester, and have at least 7 FFA Activity Points total between the 1st and 2nd semester.

8. Must have received a satisfactory grade and citizenship mark in any Summer Ag. Service course, if you have shown at the fair in previous years

9. Must be responsible for the selling of their animal at the fair. All students are required to solicit buyers for their animal on their own. Students are required to give a copy of the than you letter mailed to the buyer the Sunday after the auction.

10. All clipping and maintenance of the animal must be done by the students.

11. All students must help in the setup and takedown of the fair display for their species.

12. Only goats will be housed at the school farm, and must be off the premises by the auction date.

13. Other species can be shown if you have a place at home to keep them and a way to shear, clip, weigh and haul them yourself to the fair.

14. If you are keeping the animal on the school farm, you must be able to store your own feed and equipment in the red shed near the goat pens in a LOCKED storage container or at home.

15. Must attend the BEYER / DISTRICT PRE-FAIR meeting with the students parents held with Mr. Wolfe, Mrs. White, and Mrs. Kerlee on March 2nd 8:00 p.m. to be tentatively approved to show.

16. Students are required to keep an up to date record book for their animal project.

Signed: ___________________________________________  Date: ____________________________

______________________________  __________________________

Parent  Date

______________________________  __________________________

Cell Phone Number  Home Phone Number
Section 11

Program of Work
Fred C Beyer

Program of Activities 2008-2009
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>President's Letter</td>
<td>4</td>
</tr>
<tr>
<td>Chapter Officers</td>
<td>5</td>
</tr>
<tr>
<td>Duties of chapter Members and Officers</td>
<td>6</td>
</tr>
<tr>
<td>Aims and Purposes of the Future Farmers of America</td>
<td>7</td>
</tr>
<tr>
<td>The FFA Creed</td>
<td>8</td>
</tr>
<tr>
<td>Fred C. Beyer Chapter Activities Schedule</td>
<td>9</td>
</tr>
<tr>
<td>The FFA Code of Ethics</td>
<td>12</td>
</tr>
<tr>
<td>Fred C. Beyer FFA Chapter Calendar of Events</td>
<td>13-22</td>
</tr>
<tr>
<td>Modesto City Schools Course of Information</td>
<td>23</td>
</tr>
<tr>
<td>Modesto City Schools Citizenship Mark Guidelines</td>
<td>24</td>
</tr>
<tr>
<td>FFA Activity Points</td>
<td>25</td>
</tr>
<tr>
<td>Awards and Scholarships</td>
<td>26</td>
</tr>
<tr>
<td>Market Goat Project Planning Sheet</td>
<td>27</td>
</tr>
<tr>
<td>Market Lamb Project Planning Sheet</td>
<td>28</td>
</tr>
<tr>
<td>Market Hog Project Planning Sheet</td>
<td>29</td>
</tr>
<tr>
<td>Meat Pen Poultry/Rabbit Project Plan Plan Sheet</td>
<td>30</td>
</tr>
<tr>
<td>Dairy Project Planning Sheet</td>
<td>31</td>
</tr>
<tr>
<td>Committees-Community Development</td>
<td>32-34</td>
</tr>
<tr>
<td>Constitution of The Beyer FFA #320</td>
<td>35-42</td>
</tr>
</tbody>
</table>
Introduction

The National FFA Organization or the FFA as it is Commonly Known, as the national organization of, by, and for the students studying agriculture education in the public secondary schools under the provisions of the National Vocational Education Act.

As an Integral part of the program of education in agriculture the FFA has become well known as a national student organization. The FFA enjoys greater freedom of self-government under adult counsel and guidance than any other national student organization. Organized in November of 1928, the foundation of which the Future Farmers of America organization is built, includes leadership, character development, sportsmanship, cooperation, service, thrift, scholarship, improved agriculture, organized recreation, citizenship, and patriotism. We are honored to have been elected to serve as your 2007-2008 Officers. We would like to encourage both old and new members to get involved in our many FFA activities. May You enjoy this Program of Work and discover what the Future Farmers of American organization has to offer.

The 2007-08 Officer Team has developed some goals for the school year, they are:

1. Improve the general appearance of the Agriculture Department.
2. Develop a system for support by the Ag Boosters/Advisory Committee.
3. Improve on the retention and recruitment of students.
4. Continue to improve all FFA activities and fundraisers.
Dear FFA Members,

We have started a new year, and are looking forward to a new and exciting turn for our FFA chapter. The 2008-2009 officer team is very excited to say that it is going to be a fun-filled year for all of you. We have planned many activities for you to partake in, so that you understand why you’re here. Our objective is to have fun and efficiently learn many life long skills. Some of the activities we have planned, and heard about this year are the Harvest Day, Greenhand, State and National Convention, Opening and Closing Ceremonies (OCC), Fair, Small Engines Team, Floral Club and many more that we’re still putting together. We hope that you all have a great school year and enjoy yourselves!

Sincerely, Holli Jacobsen

P.S. Recruit a friend into the chapter!
Chapter Officers
2008-2009

President: Holli Jacobsen

Vice-President: Alexandra Quesinberry

Secretary: Bryanna Zinnbauer

Treasurer: Abagail Lovelace

Reporter: Lindsay Riddle

Sentinel: Addison Cook
FFA Officer Duties

Major Duties of Chapter Officers and Members

President:
Preside over meetings
Appoint committees
Be familiar with bylaws
Be familiar with constitution
Check on progress of chapter
Represent chapter on occasions
Set example for members

Vice President:
Assist the President
Have charge of committee work
Member of all committees
Preside in absence of President
Program of Work chairperson

Secretary:
Prepare and read minutes
Prepare and read reports
Attend to official correspondence
Keep membership roll
Keep degree roll
Keep meeting attendance records
Keep business meeting reports

Treasurer:
Keep record of chapter funds
Complete membership roster dues
Assist in preparing annual budget
Pay out funds as authorized
Encourage individual thrift
Encourage chapter thrift
Deposit funds and complete deposit slips

Reporter:
Prepare chapter news articles
Keep file of chapter news
Contract newspapers, PSA, TV
Arrange for publicity
Maintain FFA displays
Maintain scrapbook
Slide/Video show
Apply for Star Reporter

Sentinel:
Set up the meeting room
Care for the equipment
Attend the door
Welcome visitors
Keep meeting room comfortable
Assist with entertainment
Assist with refreshments
Point award chairperson

Historian:
Maintain scrapbook
Assist Reporter
Chapter photography
Slide/Video Show

Chairpersons:
Attend Chapter Meetings and Workdays
Make reports at Chapter Meetings
Wear official dress to Chapter Meeting
Organize at least one activity per month
Communicate with the officer or advisor assigned to your area

Parliamentarian:
Proper use of parliamentary law
Interpretation of the constitution

Members:
Be familiar with Program of Work
Attend meetings
Participate in chapter activities
Be familiar with constitution and bylaws
Be responsible for submitting points gained in chapter activities

Advisor:
Help members in committees
Check qualification of those seeking advance degree of officers.
Train, direct, and inform officers and members.
See that all ceremonies are carried out.
See that standard chapter equipment and supplies are secured and used.
Aims and Purposes
Of the
Future Farmers of America

1. To develop competent and aggressive agricultural leadership.

2. To create and nurture a love of agricultural life.

3. To strengthen the confidence of students of vocational agriculture in themselves and their work.

4. To create more interest in the intelligent choice of agriculture occupations.

5. To encourage members in the development of individual occupational experience programs in agriculture and establishment in agricultural careers.

6. To encourage members to improve the home and its surroundings.

7. To participate in worthy undertakings for the improvement of the industry of agriculture.

8. To develop character, train for useful citizenship, and foster patriotism.

9. To participate in cooperative effort.

10. To encourage and practice thrift.

11. To encourage improvement in scholarships.

12. To provide and encourage the development of organized recreational activities.
The FFA Creed
by
E.M. Tiffany

I believe in the future of agriculture, with a faith born not of words but of deeds - achievements won by the present and past generations by agriculturists; in the promise of better days through better way, even as the better things we now enjoy have come to us from the struggles of former years.

I believe that to live and work on a good farm, or to be engaged in other agriculture pursuits, is pleasant as well as challenging; for I know the joys and discomfort of agricultural life and hold an inborn fondness for those associations which, even in hours of discouragement, I cannot deny.

I believe in leadership from ourselves and respect from others. I believe in my own ability to work efficiently and think clearly, with such knowledge and skill as I can secure, and in the ability of progressive agriculturists to serve our own and the public in producing and marketing the product of our toil.

I believe in less dependence on begging and more power in bargaining; in the life abundant and enough honest wealth to help make it so - for others as well as myself; in less need for charity and more of it when needed; in being happy myself and playing square with those whose happiness depends upon me.

I believe that American agriculture can and will hold true to the best traditions of our national life and that I can exert an influence in my home and community which will stand solid for my part in that inspiring task.
FFA Activities Schedule

September

1. Regular FFA Meeting
   Introduction of Officers and Advisors
   Report on summer activities
   Membership requirements
   Handout of September to June Activities

2. Sectional Leadership – Pinecrest

October

1. FFA Meeting
   Greenhand Initiation
   Discussion of National Convention Trip
   Program of Activities Power Point

2. Central Region Officers Leadership Conference

3. Fundraiser Activity – Aluminum Can Drive, Harvest Festival

November

1. FFA Meeting
   Leadership Conference Report
   Speaking Contest Discussion

December

1. FFA Meeting
   Report of Speaking Contests
   National Convention Report
January
1. FFA Meeting  
   FFA Week Activities  
   County Fair  
   State Farmer  
2. Sectional Activity  
3. State Farmer Applications

February
1. FFA Meeting  
   FFA Week  
   Spring Fundraiser - Tri-Tip Dinner  
2. Central Region FFA Meeting  
3. Turlock Small Engines Competition

March
1. FFA Meeting  
   Tri Tip Dinner Results  
   Judging Days  
   Occupational Olympics – small engines, floriculture, welding  
   State FFA Degree Ceremony  
2. UC Davis Field Day

April
1. FFA Meeting  
   State FFA Convention  
   Officer Elections  
2. All first year members declare project  
3. Project Animals for County Fair

May
1. FFA Awards Banquet  
   Scholarship Awards  
   Chapter Awards and Recognition  
2. State Judging Finals
June
1. Project Meetings
2. CATA Conference for Ag Teachers

July
1. Project Meetings
2. Landscape, Horses, Ag Mechanics to Fair
3. FFA Officer Retreat

August
1. Officers meeting to plan Chapter Program of Work
2. Invitation to all incoming 9th grade students to visit
3. Summer Meeting
4. Roundup – Link Crew
5. State Fair
The FFA Code of Ethics

1. Dress neatly and appropriately for the occasion.

2. Showing respect for the rights of others and being courteous at all times.

3. Being honest and not taking unfair advantages over others.

4. Respecting property of others.

5. Refraining from loud, swearing, and other unbecoming conduct.

6. Demonstration of sportsmanship in the show ring, judging contests, and meetings. Modest in winning and generous in defeat.

7. Attending meetings promptly and respecting opinions of others in discussion.

8. Taking pride in our organization, in our activities, in our supervised experience programs and in the occupation of agriculture.

9. Sharing with others experiences and the knowledge gained by attending national and state meetings.
<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>No school labor day</td>
<td></td>
<td></td>
<td>Camp Sylvester Harvest Luncheon</td>
<td></td>
<td></td>
<td>Camp Sylvester</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Camp Sylvester</td>
<td></td>
<td></td>
<td>7:00am Officer Meeting</td>
<td>Sectional Planning Meeting Hughes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Back to school night Min day</td>
<td></td>
<td>FFA meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Greenhand Conference</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Start can drive</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8 Officer meeting</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14 OCC Davis 4pm</td>
<td></td>
<td></td>
<td></td>
<td>National Convention NY/IND</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31end of can drive. Halloween Harvest Party</td>
<td></td>
</tr>
</tbody>
</table>
# November 2008

<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>12</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vet day</td>
<td>Officer meeting</td>
<td>Counselor night 6pm</td>
<td>Central Region road show MJC sr. day</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Regional Meeting Delta</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incentive Grant review 9am</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FFA meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min day</td>
<td>Thanksgiving Day No school</td>
<td>Thanksgiving Day No school</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Officer meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 Winter break</td>
<td>2 Winter break</td>
<td>3 Winter break</td>
</tr>
<tr>
<td>4 Winter break ends</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14 min day Mid term finals Officer meeting</td>
<td>15 Mid term finals Min day</td>
<td>16 Mid term finals Min day End 2nd Qtr</td>
<td>17</td>
</tr>
<tr>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24 MFE/ALA Sacramento</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29 Speech, Big contest Enoch 4:30pm</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>
# February 2009

<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tri-Tip Dinner</td>
<td></td>
<td>MFE/ALA Modesto No school</td>
<td>MFE/ALA Modesto</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>No school</td>
<td>FFA WEEK</td>
<td>FFA WEEK</td>
<td>FFA WEEK</td>
<td>FFA WEEK</td>
<td>CATA Regional meeting MJC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>JR high Exposition Modesto Center Plaza</td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>1</td>
<td>2  Fac. meeting</td>
<td>3 Open house</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7 UC Davis field day</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24 State Degree Ceremony MJC 5pm</td>
<td>25</td>
<td>26</td>
<td>27 End 3rd Qtr</td>
<td>28 MJC field day</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Merced field day</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Fac. meeting</td>
<td></td>
<td></td>
<td>Min day</td>
<td>Spring Break</td>
<td>Spring Break</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>State FFA Conference Fresno field day</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>State FFA Conference</td>
<td>State FFA Conference</td>
<td>State FFA Conference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FFA awards banquet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stan/teul planning meeting C.V.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Memorial Day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final</td>
<td></td>
<td>Final</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Min day</td>
<td></td>
<td>Min day</td>
<td></td>
<td>Last day of school</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>CATA summer conference</td>
<td>CATA summer conference</td>
<td>CATA summer conference</td>
<td>CATA summer conference</td>
<td>CATA summer conference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COURSE TITLE: AGRICULTURAL SMALL ENGINE TECHNOLOGY

TEXTBOOK: "Small Gas Engines"

OTHER REQUIRED MATERIALS:
- Safety glasses
- Coveralls (if desired)
- Combination lock (if you want a locker)
- 3 ring binder / clean paper

MAJOR UNITS OF INSTRUCTION:
- Safety and Shop Practices
- Two and Four Stroke Theory
- Tool identification
- Horse Power and Torque
- Engine Components
- Ignition Systems
- Valve Train
- Compression and Fuel
- Precision Measuring Instruments
- Carburetion
- Service individual Projects

GRADING/EVALUATION POLICY:

Types of Evaluation and Weighted Value:
- 20% - Class work
- 20% - Tests/quizzes
- 40% - Shop work/projects
- 10% - Notebook
- 10% - Participation /FFA

Description of Final Examination
(Including weighted values in semester grade):
Comprehensive semester and year end final will include major units of instruction and will be 10% of your grade.

METHOD OF GRADING AND SCALE:
- 100 - 90% = A
- 89 - 80% = B
- 79 - 70% = C
- 69 - 60% = D
- 59% and below = F

EXTRA CREDIT POLICY:
Only given to students who have 85% of work completed and have at least a "C" average in class.

ATTENDANCE: Unexcused absences and tardies will be counted against the final grade.

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

OTHER:
Make-up tests will be given within three (3) days of return and only, before school or after school as per teachers schedule allows.

Students must obtain 5 FFA activity points per semester for full FFA / participation credit. Activities will be posted.

Homework Practices
All class work will be done in class.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.

Parent Signature __________________________ Date __________________________
How to Get my "Five" FFA Activity Points

1. Attending FFA Meetings = 1 point

2. All other FFA activities = 2 points
   Examples: (But not limited to) Car Wash/Garage Sale, Speech Contest, Softball tournament, Beyer Leadership conference, Open/Close Ceremonies Contest, Volleyball Tournament, Job Interview Contest, Parli Pro Contest, Coop Quiz, Field Days.

3. "E" Books (The more you sell, the more points you will earn)
   If you sell 1-5 = 1 point
   If you sell 6-10 = 2 points
   If you sell 11+ = 3 points
Awards and Scholarships

Proficiency Awards
Sheep Production
Swine Production
Horse Production
Nursery Management
Ag. Sales and Service
Specialty Animal Production
Agricultural Management
Poultry Production
Crop Production
Vegetable Production
Diversified Livestock
Star Chapter Farmer
Patriot Award

Scholarship Awards
Bank of America
Carlson Memorial Scholarships
Don Heintc Agricultural Scholarships

Ag. Boosters Scholarships

National FFA Scholarships
Market Goat Project Plan Sheet

Estimated Expenses:
- Cost of Animal: $175.00
- Feed throughout project: (apx.) $100.00
- Misc. Costs: $20.00
- Possible Veterinary Costs Vary
  TOTAL........$295.00

(the chapter will provide any other needed equipment)

Selling your Goat
- To sell, you must show in the meat market at the Stanislaus County Fair
- At the end of Fair, you run your goat through the auction ring.
- Depending on how well you show or if you have a buyer, determines how much money your goat will be bought for.
- Amounts vary from $1/pound to $14+/pound

- Estimated Net Profit.....$0-$1,000
- Supplies Needed
  - Leash & Collar
  - Feeding Supplies
  - Feed & Water
  - Brush
Market Lamb Project Plan Sheet

Estimated Expenses:

Cost of Animal 150.00
Feed (grain and hay) 50.00
Veterinary (shots and wormer) 3.00
Supplies (soap, polish, etc.) 3.00
Straw (bedding home and fair) 9.00

Total Estimated Expenses 215.00

The chapter will provide all other needed fitting equipment.

Estimated Receipts:

Sale of Animal 240.00
(need a buyer at $2.00/pound)

Total Estimated Receipts 240.00

Estimated Net Profit 25.00

Supplies and other things needed at the fair:
Towels
Feed for week
Show uniform
Market Hog Project Plan Sheet

Estimated Expenses:

- Cost of Animal: 150.00
- Feed: 90.00
- Supplies: 15.00
- Veterinary: 5.00

Total Estimated Expenses: 260.00

Estimated Receipts:

- Sale of main project: 276.00
- 30 lb. Market Hog at $1.25/pound

Total Estimated Receipts: 276.00

Summed Net Income: 16.00
Meat Pen Poultry Project Plan Sheet

Estimated Expenses:
Chicks (25) 25.00
Feed 35.00
Miscellaneous 2.00
Processing 25.00

Total Estimated Expenses: 87.00

Estimated Receipts
Broilers (25)
Non-Sale 110.00

Net Profit
Sale 23.00

Meat Pen Rabbit Project Plan Sheet

Estimated Expenses:
Rabbits (3) 30.00
Feed 10.00
Miscellaneous 5.00

Total Estimated Expenses: 45.00

Estimated Receipts
Rabbits (3) 65.00
Net Profit 20.00
Dairy Project Plan Sheet
(2 year Project)

Estimated Expenses:

Cost of Animal: 600.00
(4 months old)
Feed 815.00
Veterinary 20.00
(Shots & medicine)
Breeding Fees: 30.00
Equipment:
Rope Halter 3.00
Show Halter 24.00
Bucket & Brush 12.00
Straw 40.00
Entry Feed 3.00

Total Estimated Expenses 1547.00

Estimated Receipts:

Sale of Animal 1,700.00

Total Estimated Receipts 1,700.00

Estimated Net Profit 153.00
Committees

Division 1 - Student Development
Promote personal and group activities that improve life skills.

Quality Standards

1-1
Leadership activities that help the individual develop technical, human relations and decision-making skills to enhance personal success.

Activities
Conferences, public speaking, and team competitions.

1-2
Healthy lifestyle activities that promote the well-being and self esteem of the student, either mentally or physically.

Activities
Personal safety, National Farm Safety Week, and shop Safety.

1-3
Supervised agricultural experience activities that promote student involvement and growth through agriculture-related experiences and/or entrepreneurship.

Activities
Proficiency Awards, Degrees, Guest Speakers, Record Keeping, Fair Exhibits, Project Competition, and Breed Associations.

1-4
Scholarship activities that develop a positive attitude toward lifelong learning experience.

Activities
Scholarship Awards, Point Awards, Scholarships, School Tours, and guest Speakers.

1-5
Agricultural career skills activities that develop agricultural that develop agricultural occupation and career skills through a progressive learning environment.

Activities
Career Days, Guest Speakers, Job Shadowing, Occupational Olympics, Judging Competitions, Job Interviews and Portfolios.
Committees

Division II – Chapter Development
Encourage students to work together

**Quality Standards**

**II-1**
*Chapter Recruitment* activities conducted to increase the agriculture education enrollment and/or FFA membership and encourage greater participation.

**II-2**
*Financial* activities conducted to encourage thrift and good financial management among members through earnings, savings, and investments.

**II-3**
*Public Relations* activities conducted to promote a positive image and inform students, parents, school officials and the community about chapter and member accomplishments.

**II-4**
*Leadership* activities conducted to develop teamwork and cooperative skills among chapter officers, committees, and member accomplishments.

**II-5**
*Support Group* activities conduct to develop and maintain positive relations among the FFA, parents, community leaders, and industry.

**Activities**

Mailings, Petting Zoos, 8th Grade Recruitment, FFA Week Activities, and Chapter Newsletter.

Budgets, Record Keeping Activities, Football Concessions, Fund- raising, Pepsi Machine, and others.

News Articles, PSA, T.V. Broadcasts, Scrapbook, School Marquee, Chapter Newsletters, National FFA Week, National Farm Safety Week, and National Agriculture Day.

Officer Training, Chapter Workshops, conferences, and Chapter Degrees.

Agriculture Boosters, Parent/Student Organizations, Fair Boosters, Open house, Guest Speakers, Advisory Committee, MJC Young Farmers, and School Officials.
Committees

Cooperate with other groups to make the community a better place to live and work.

Quality Standards

III-1
Economic activities conducted to improve the economic welfare of the community.

III-2
Environmental activities conducted to preserve natural resources and develop more environmentally responsible individuals.

III-3
Human resources activities conducted to improve the welfare and well-being of members and citizens of the community.

III-4
Citizenship activities conducted to promote and encourage members to become active, involved citizens of their school, community and country.

III-5
Agricultural awareness activities conducted to help the public become better informed about the food systems and related agricultural issues.

Activities

Harvest Luncheon, Agribusiness Luncheons, Petting Zoos, Food for the America, and Concession Stands.

Recycling Poster Contest, Guest Speakers, and Salmon Project.

Food Drives, Adopt-a-Family, and making Presentations

Harvest Luncheon, and Community Service Projects.

Agriculture in the Classroom Activities and Conferences, National Agriculture week, National FFA Week, and Student/Parent Orientations.
Constitution of the
Fred C. Beyer Chapter #320
National Organization of the FFA

Article 1. Name and Purposes

Section A.
The name of this organization shall be the “Fred C Beyer Chapter of the National Organization of the FFA.” The chapter shall consist of students enrolled in agriculture education at Beyer High School. Members are to be referred to as “FFA members.” The letters FFA, may be officially used to designate the chapter and or its members.

Section B.
The primary aim of the Fred C. Beyer Chapter is to develop agriculture leadership, cooperation, and citizenship within the community.

Section C.
The chapter will work with the community and correspond with the National and California Associations in accomplishing this aim and to accomplish the following specific purposes:

1. To build confidence in students and their work by developing desirable work habits, effective use of time, responsibilities, communication skills, and social abilities leading to successful employment in life.

2. To encourage programs and activities that develop leadership, character, scholarship, occupational pride, citizenship, patriotism, thrift, and improvement of community life by bettering their home and surroundings.

3. To recognize individual achievement in scholarship, occupational experience, and other achievements by providing awards to deserving members.

4. To encourage members in the development of individual supervised agricultural experience programs.

5. To develop knowledge and appreciation of our agriculture heritage and to encourage member participation in the improvement of agriculture.

6. To encourage members to work towards receiving the Greenhand, Chapter, State and American FFA degrees.

7. To publish an official newsletter or other publication for the public and members of the Beyer FFA.
Article 2. Organization

Section A.
The Fred C. Beyer chapter of the FFA is a chartered local unit of the California Association of the FFA that is chartered by the National FFA Organization.

Section B.
This Chapter accepts in full the provisions in the constitution and by-laws of the California Association of the FFA as well as those of the National FFA Organization.

Article 3. Process for Determining Members In Good Standing

Section A.
A member shall be considered in good standing when he/she does the following:
1. Attend chapter meetings on a regular basis.
2. Shows and interest in, and takes part in, the affairs of the Fred C. Beyer Chapter.
3. Maintain at least a 2.0 grade average and have no more than one failing grade or one unsatisfactory citizenship each grading period term.
4. Conduct oneself in a manner becoming to a member of this organization.

Article 4. Membership

There shall be three types of membership in this organization. They are:

Section A. Active Membership
Any student that is enrolled in agriculture education at Fred C. Beyer High School is entitled to be an active member of this chapter. Active membership may be maintained throughout their entire high school career and three years after their national convention, following high school graduation, leaving high school, or until twenty-one years of age, which is the greatest length of time.

Section B. Associate Membership
An active member automatically becomes an associate member following termination as an active member.
Section C. Honorary Membership

Supervisors and those who are helping to advance agriculture education and the FFA, who have rendered outstanding service to the chapter may be elected as an honorary member by majority vote of the members present at a regular meeting. In the chapter, honorary membership shall be limited to the Honorary Chapter Farmer Degree.

ARTICLE 5. ACTIVE MEMBERSHIP, DEGREES, and PRIVILEGES

Section A.

There shall be four degrees of active membership based on achievement. They are the Greenhand FFA, Chapter, FFA Degrees. The national Organization shall set the minimum qualifications for the degrees.

Section B.

The Greenhand FFA Degree minimum qualifications for recipients:

1. Be regularly enrolled in agriculture education and have satisfactory and acceptable plans for a supervised agriculture experience project (SAE).
2. Learn and be able to explain the FFA Creed, Motto, and Salute.
3. Know the FFA emblem, colors, and symbols.
4. Have knowledge of the proper use of the FFA uniforms.
5. Have satisfactory knowledge of the history of our organization.
6. Know the duties and responsibilities of the FFA members.
7. Have access to an Official manual.

Section C.

The Chapter FFA Degree minimum qualifications for election:

1. Must have held the Greenhand Degree for at least one semester preceding election to the Chapter FFA Degree and have a record of satisfactory participation in the activities of the chapter.
2. Must have satisfactory completed at least one year of instruction in agriculture education, have in operation an improved SAE, and be regularly enrolled in an agriculture education class.
3. Be familiar with the purposes and programs of activities of the State Association and National Organization.
4. Be familiar with the provisions of the constitution of this chapter.
5. Be familiar with parliamentary procedure.
6. Be able to lead a group discussion for fifteen minutes.
7. Must have earned at least one hundred and fifty dollars by his/her own efforts from his/her SAE and/or other agriculture experience program, and have it invested and deposited in a bank, or have worked one hundred hours on his/her SAE other than in scheduled class time.
8. Receive a majority vote of the members present at a regular meeting of this chapter.

Section D

The State FFA Degree minimum qualifications shall be those set forth by the California State FFA Association.

Section E

The American FFA Degree minimum qualifications shall be set forth by the National FFA Organization.

Article 6. Emblem

Section A

The emblems of this chapter shall be uniform with that of the National Organization of the FFA. All members shall be entitled to wear this emblem. Greenhands are entitled to wear the regulation bronze pin. All degree, officer, and award medals shall be worn beneath the name on the right side of the jacket, with the exception of the State FFA Degree charm and the American FFA Degree Key which shall be worn above the name. No other pins or medals shall be worn on the jacket; these shall represent the highest degree earned, the highest office held and the highest award earned by the member.

Section B

Honorary Chapter Farmers are entitled to wear the regulation silver emblem degree pin or a similar pin in gold.

Article 7. Officers

Section A

The elected officers of this chapter shall be the President, Vice-President, Secretary, Treasurer, Reporter, and Sentinel.
Section B

No greenhand / first year member may be elected to the office of President or Vice President.

Section C

The advisor shall be the chairman of the Agriculture Department.

Article 8. Duties of the Officers

Section A. President

It shall be the duty of the President to preside over meetings of the chapter and to call meetings of the chapter, executive committee, and the governing committee. The President shall call at least one regular chapter meeting and one executive committee meeting a month during the school year. The President or someone directed by him/her shall be responsible for the enforcing of the constitution and the carrying out of chapter policy.

Section B. Vice President

It shall be the duty of the Vice-President to preside over meetings of the Executive Committee and fulfill the duties of the President in his/her absence. The Vice-President shall be an ex-officio member of all standing and temporary committees and report their progress to the Executive Committee. The Vice-President shall represent the Chapter at the Regional Convention.

Section C. Secretary

The Secretary shall take, post and record the minutes of the chapter meetings, executive meetings, and the governing committee meetings. The Secretary shall also make a record of members attendance. The secretary will also record all the work done by the committees.

Section D. Treasurer

The Treasurer shall record minutes of the chapter meetings, Executive meetings, and Governing Committee. The Treasure shall be responsible for the operation of the vending sales in the classroom.

Section E. The Reporter

The Reporter shall seek to publicize the activities of the chapter and promote good will towards the chapter.
Section F. The Sentinel
The Sentinel shall direct the setting up and the cleaning of the meeting rooms and assist the Presidential in maintaining order.

Section J. The Advisor
The Advisor shall give advise to the chapter members and shall assist the President and the Executive Committee in coordination of chapter activities. All FFA activities and plans are subject to approval of the adviser.

Article 9. Election Procedures and Assignments

Section A.
Officers shall be elected to serve terms of one year to begin and end with annual Parent- Member Banquet.

Section B.
No member shall hold the office President more than once.

Section C.
To be eligible to run for chapter office you must meet the following:
1. You must be member in good standing (defined in Article 3, Section A.)
2. You must have received the Greenhand Degree.

Section F. Impeachment of an Officer
At the beginning of each office term the Executive Committee shall submit a list of officer responsibilities and requirements. If any officer does not meet these requirements the Executive Committee feels the offer can no longer meet the requirements of the office he/she will then be impeached with majority vote from the Executive Committee.

Section G. Replacement of an Officer
In the event that a chapter officer becomes ineligible or unable to continue in a office the Chapter Executive Committee will review the Chapter Officer Applications from the prior year and determine the selection of a replacement Officer. Should the replacement Officer decide not to accept, the Chapter Executive Committee will slate two or more qualified candidates for a special election to be held at a time and place specified by the Chapter Executive Committee.

Article 10. Meetings

Section A. Regular Meetings
Regular meetings of the chapter shall be held at least once a month. The time and place shall be determined by the Executive Committee.
Section B. Special Meetings

A special meeting of the chapter may be called by the President at any time for the consideration of special business with the approval of the Executive Committee, or upon the presentation to the Secretary of a petition bearing the signatures of one-third of the active members in good standing in the chapter.

Section C. The Parent Member Banquet

One Parent Member Banquet shall be held each year at the end of the Fred C Beyer School year. This meeting is to honor members, parents, administrators, and other friends of the FFA. The time and place shall be determined by the Executive Committee.

Section D. Quorum

The Quorum shall be 25% of the students enrolled in agriculture class at Fred C Beyer High School. No business may be accomplished without the quorum being met.

Section E. Summer Meetings

At least one meeting shall be called during the summer when school is not in session.

Section F. Greenhand Meeting

The Greenhand Officers shall be responsible for one meeting each year.

Article 11. Committees

Section A. Standing Committees

The Standing committees at Fred C. Beyer shall consist of the following:

1. Recruitment
2. Community Service
3. Fundraising

The standing committees should meet at least once every other month. All standing committee chairman shall be appointed by the Executive Committee for the term of one year. The duties of the committees can be found in the Program of Work.
Section B. Temporary Committees
Temporary committees may be set up for a specific purpose and their method of selecting the chairmen and members shall be stated in the motion.

Section C. The Executive Committee
The members of the Executive Committee shall be the officers of the chapter. The Vice-President of the chapter shall be the presiding officer of the Executive Committee. The Executive Committee shall be empowered to act in the name of the chapter between meetings of the chapter.

Article 12. Amendments
Section A. Constitutional Amendments
Amendments to this constitution may be adopted at any regular chapter meeting providing at least two weeks notice has been given to the chapter Secretary and the chapter members of the proposal.

Article 13. Insignia and Uniforms
Section A. Insignia
The insignia of the Fred C. Beyer chapter of FFA shall be the emblem which is adopted and approved by the National Organization of the FFA.

Section B. Official FFA Uniform
The Official FFA show uniform shall be worn by all FFA exhibitors and by helpers in individual and chapter group while showing at fairs and livestock shows. The uniform shall consist of white pants, white dress shirt or blouse, the official FFA Jacket and tie or scarf, or the FFA emblem attached to the left pocket of the shirt or blouse.

Section C. Official Dress
The official FFA dress for males shall be the official FFA jacket, zipped to the top, worn with a white collared dress shirt, official FFA necktie, black slacks, black socks and black dress shoes. The official FFA dress for females shall be the official FFA jacket, zipped to the top, worn with a white collard dress blouse, an official FFA scarf, a black skirt (of appropriate length), and black dress shoes. Black slacks may be worn for traveling and for outdoor functions such as judging contests and camping.

Revised October 2006
Section 12

FFA Board Approved Policy Statement
MODESTO CITY SCHOOLS
COURSE OUTLINE

COURSE TITLE: Integrated Agriculture Science 1-2
COURSE NUMBER: 014
ABILITY LEVEL: 9
DURATION: 2 Semesters
CREDIT: 5 per Semester
MEETS GRADUATION REQUIREMENTS IN: CP Physical Science
REQUIRED FOR GRADUATION: Yes
SCHOOLS OFFERED: Beyer, Davis, Downey, Johansen, Modesto
CBEDS CODE: 4070
MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: “G” Elective
MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: Yes

Course Description: Agriculture Education is organized instruction which prepares individuals for employment in agriculture and may also prepare them for advanced training, leading to an agricultural career requiring education at a postsecondary level. It is recommended that a student be involved in a Supervised Occupational Program and in FFA activities that deal with plants and/or animal science. This course will emphasize the Modesto City Schools requirement for Physical Science. (This course uses extensive laboratory work to emphasize observation and hypothesis techniques.)

Recommended Prerequisites: None

Date Matched Against State Framework, Model Curriculum Standards, and State Curriculum Guides: January, 2003
Board Approved:

REVIEW CYCLE: 2002-03 through 2007-08
## SUMMARY OF MAJOR UNITS OF INSTRUCTION

<table>
<thead>
<tr>
<th>Units</th>
<th>Approximate Length of Instruction for Each Unit</th>
<th>Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Investigation and Experimentation</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>2. Earth's Place in the Universe</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3. Dynamic Earth Processes</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>4. California Geology (earthquakes &amp; volcanoes)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5. National FFA Organization</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>6. Supervised Agricultural Experience (SAE)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>7. Measurement and Calculation</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>8. California Geology (resources/economics)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>10. Structure &amp; Composition of the Atmosphere (Greenhouse use)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>11. Biogeochemical Cycles</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>12. Environmental Horticulture Science (EHS)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>13. Resources: Renewable &amp; Nonrenewable</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Number of Weeks** 36
INSTRUCTIONAL MATERIALS

Basic Text(s):

(Also accompanying laboratory manual)

Earth Science, Prewilla, Glencoe

Supplementary Text(s):

All Together, California Ag Council

Feed and Feeding, Morrison, Morrison Publishing

FFA Handbook, Future Farmers of America, FFA Foundation

FFA Official Manual, Future Farmers of America, FFA Foundation

How to Grow Crops in California, Dougherty, Wm. C. Brown, Co.

Livestock and Poultry Production, Bundy & Diggins, Prentice Hall

The Farm Management Guide, Doane Western, Inc.

Applied Biology/Chemistry Curriculum Material, Center for Occupational Research
and Development (CORD), Texas
1.0 GOAL: Scientific progress is made by asking meaningful questions and conducting careful investigations and calculations. As a basis for understanding this concept, students should develop their own questions and perform investigations. Students will:

1.1 Select and use appropriate tools (such as computer-linked probes, spreadsheets, and graphing calculators) to perform tests, collect data, analyze relationships, and display data.

1.2 Identify and communicate sources of unavoidable experimental error.

1.3 Identify possible reasons for inconsistent results, sources of error or uncontrolled conditions.

1.4 Formulate and revise explanations using logic and evidence.

1.5 Distinguish between a guess, a hypothesis and a theory as these terms are used in science.

1.6 Recognize the use and limitations of models and theories as scientific representations of reality.

1.7 Read and interpret topographic and geologic maps.

1.8 Analyze the location, sequence, or time intervals of natural phenomena (e.g., relative ages of rocks, locations of planets over time, and succession of a species in an ecosystem).

1.9 Recognize the cumulative nature of scientific evidence.

1.10 Analyze situations and solve problems that require combining concepts from more than one topic area of science and applying these concepts.

1.11 Investigate a science-based societal issue by researching the literature, analyzing data and communicating the findings.

2.0 GOAL: Astronomy and planetary exploration reveal the structure, scale, and change of the solar system over time. As a basis for understanding this concept, students will know:

2.1 Differences and similarities among the sun, the terrestrial planets, and gas planets, and can relate those differences and similarities to the formation of the solar system.

2.2 Evidence from Earth and moon rocks that the sun, Earth, and rest of the solar
system formed from a nebular cloud of dust and gas approximately 4.6 billion years ago.

2.3 Evidence from geological studies of the Earth and other planets that suggests early Earth was very different from today.

2.4 Evidence that the planets are much closer than the stars.

2.5 The sun is a typical star and is powered by nuclear reactions, primarily the fusion of hydrogen to form helium.

2.6 Evidence that asteroid impacts may have had dramatic effects in shaping the surface of planets and their moons and can cause mass extinctions of life on Earth.

3.0 GOAL: Earth-based and space-based astronomy reveal the structure, scale, and change over time of stars, galaxies and the universe. As a basis for understanding this concept, students will know:

3.1 The solar system is located in an outer edge of the disc-shaped Milky Way galaxy which spans 100,000 light years.

3.2 Galaxies are made of billions of stars and form most of the visible mass of the universe.

3.3 Evidence that all elements larger than helium have been formed by nuclear fusion processes in stars.

3.4 Stars differ in their life cycles and visual, radio, and X-ray telescopes collect data that reveal these differences.

4.0 GOAL: Plate tectonics operating over geologic time have changes the patterns of land, sea, and mountains on the Earth’s surface. As the basis for understanding this concept, students will know:

4.1 Features of the ocean floor (magnetic patterns, age, and sea floor topography) provide evidence for plate tectonics.

4.2 The principal structures that form at the three different kinds of plate boundaries.

4.3 How to explain the properties of rocks based on the physical and chemical conditions in which they were formed, including plate tectonic processes.
4.4 Why and how earthquakes occur, and the scales used to measure their intensity and magnitude.

4.5 There are two kinds of volcanoes, one with violent eruptions producing steep slopes and the other with colurninous lava flows producing gentle slopes.

4.6 Explain how agriculture uses the location and properties of volcanoes to serve in the production of food.

5.0 GOAL: The geology of California underlies the state's wealth of natural resources as well as its natural hazards. As a basis for understanding this concept, students will know:

5.1 The principal natural hazards associated with different California regions and the geological basis of those hazards.

5.2 The natural hazards associated with the different regions in the geographical regions and the basis of those hazards.

5.3 The students will describe the five (5) major factors of soil formation and the four (4) basic components of soil.

5.4 Define the soil texture and structure and be able to identify soil texture by touch.

5.5 Identify four (4) types of soil, water erosion and describe four (4) conservation practices.

6.0 GOAL: Students will appreciate the importance of the Future Farmers of America (FFA), Parliamentary Procedure.

6.1 List, explain or recite the following items needed to be an FFA member.
   A. History of the FFA
   B. Creed
   C. Motto
   D. Colors
   E. Emblem
   F. Kinds of Membership
   G. Aims and Purpose
   H. Dress
   I. Code of Ethics
   J. Greenhand Degree.

6.2 Demonstrate the proper use of parliamentary procedure to improve meetings, using motions, and proper conducting of business.

Integrated Agriculture Science 1-2 (7)

6.3 Students will gain an understanding of supervised agricultural experience (SAE), and farm record keeping through hands-on project involvement. Students will:

   A. Describe the benefits of an SAE and how to develop long-range planning.
B. List reasons for good record keeping suing the California Farm Account Book.
C. Demonstrate understanding of various types of records including budgets, journals, income summaries and financial statements.

6.4 Students will be able to read and use measuring equipment, and perform calculations for problem solving. Students will:
A. Measure within 1/16th of an inch.
B. Calculate volume and area when given dimensions.

7.0 GOAL: The geology of California underlies the state’s wealth of natural resources as well as its natural hazards. As a basis for understanding this concept, students will know:

7.1 The economically important resources in California and their relation to California’s geology.

7.2 The importance of water to society, the origins of California’s fresh water, and the relationship between supply and need.

7.3 Describe the economic impact of agriculture and how California’s geology has impacted important resources in the state.

7.4 List the leading economic agricultural commodities in the state and counties.

7.5 Describe the the main economically important resources and the relationship farmers and ranchers provide as stewards of natural resources.

7.6 Describe the major watersheds and their importance to major California water users.

8.0 GOAL: Energy enters the Earth system primarily as solar radiation and eventually escapes as heat. As a basis for understanding this concept, students will know:

8.1 The relative amount of incoming solar energy compared with Earth’s internal energy and the energy used by society.

8.2 The fate of incoming solar radiation in terms of reflection, absorption and photosynthesis.

8.3 The different atmospheric gases that absorb the Earth’s thermal radiation, and the mechanism and significance of the greenhouse effect.

8.4 To explain how the fate of solar radiation in the atmosphere is collected and utilized in commercial Agricultural greenhouses.
9.0 GOAL: Heating of the Earth’s surface and atmosphere by the sun drives circulation patterns in the atmosphere and oceans, producing winds and ocean currents. As a basis for understanding this concept, students will know:

9.1 How differential heating of the earth results in circulation patterns in the atmosphere and oceans that globally distribute the heat.

9.2 The relationship between the rotation of the Earth and the circular motion of ocean currents and air in pressure centers.

9.3 The origin and effects of temperature inversions.

9.4 Properties of ocean water such as temperature and salinity can be used to explain the layered structure of the oceans, generation of horizontal and vertical ocean currents, and the geographic distribution of marine organisms.

9.5 The distribution of rain forests and deserts on Earth in bands at specific latitudes.

9.6 Explain how water and ocean currents affect the climate and growing regions in California.

10.0 GOAL: Climate is the long-term average of a region’s weather and depends on many factors. As a basis for understanding this concept, students will know:

10.1 Weather (in the short run) and climate (in the long run) involve the transfer of energy in and out of the atmosphere.

10.2 Latitude, elevation, topography, proximity to large bodies of water and cold or warm ocean currents affect climate.

10.3 How the Earth’s climate has changed over time, corresponding to changes in the Earth’s geography, atmospheric composition and/or other factors (solar radiation, plate movement, etc.).

10.4 Describe how elevation and topographies and latitude effect climate in California and the crops that can be grown.

10.5 Explain how California’s microclimates allow for a diversity of crops to be successfully grown throughout the state.

11.0 GOAL: Life has changed Earth’s atmosphere and changes in the atmosphere affect conditions for life. As a basis for understanding this concept, students will know:
11.1 The thermal structure and chemical composition of the atmosphere.

11.2 How the composition of the Earth's atmosphere has evolved over geologic time including outgassing, the origin of atmospheric oxygen and variations in carbon dioxide concentration.

11.3 The location of the ozone layer in the upper atmosphere, its role in absorbing ultraviolet radiation and how it varies both naturally and in response to human activities.

11.4 Explain how the composition of Earth's atmosphere has evolved over geologic time and how agriculture is effecting outgassing.

12.0 GOAL: Each element on Earth moves among reservoirs, which exist in the solid earth, in oceans, in the atmosphere, and within and among organisms as part of biochemical cycles. As a basis for understanding this concept, students will know:

12.1 The carbon cycle, photosynthesis, respiration and the nitrogen cycle.

12.2 The global carbon cycle: the different physical and chemical forms of carbon in the atmosphere, oceans, biomass, fossil fuels, and the movement of carbon among these reservoirs.

12.3 The movement of matter among reservoirs is driven by Earth's internal and external sources of energy.

13.0 GOAL: Students will identify the elements and nutrients necessary for plant growth and reproduction. Students will:

13.1 List the primary, secondary and micro nutrients and their primary source.

13.2 Describe the function of nutrients in plant growth.

13.3 Calculate the content of NPK in a fertilizer container.

13.4 List advantages of organic fertilizers, advantages of inorganic fertilizers.

13.5 Describe the effect of high or low pH on the availability of plant nutrients.

13.6 Interpret a commercial soil test report.
14.0 GOAL: Students shall identify the types of pathogens and pests (that infect plants), their symptoms and control. Students will:

14.1 Distinguish between pest eradication and pest control.

14.2 Define “Integrated Pest Management.”

14.3 Describe the life cycle of an insect.

14.4 Differentiate between virus, bacteria, protozoa and parasites.

14.5 Describe the four (4) categories of pesticides and the safety regulations governing them.

15.0 GOAL: Students will understand the seasonal requirements of vegetables, trees, vines, and dry-land farming. Students will:

15.1 Identify five (5) cool and five (5) warm season vegetables.

15.2 Identify the major production areas.

15.3 Identify ten (10) tree and ten (10) vine crops grown in California.

15.4 List major field crops grown in California.

15.5 Classify the major field crops on the basis of use.

16.0 GOAL: Students will understand the importance of plants used for beautification and for various purposes and locations. Students will:

16.1 Select plants for landscape use.

16.2 Discuss turf grass specifics for various purposes and locations.

16.3 Discuss appropriate trees and shrubs for landscape use.

17.0 GOAL: Students will develop skills in forestry, pasture and rangeland management. Students will:

17.1 Differentiate between renewable and nonrenewable resources.

17.2 Identify plants poisonous to livestock.

17.3 Compare and contrast good summer and winter rangeland.
17.4 List three (3) ways in which overgrazing can negatively affect the environment.
### Course Title
Ag Welding

### Department
Agriculture

### Description
This course covers electric, MIG, TIG, and oxy-ethylene welding. The proper adjustment and use of equipment will be practiced. Strong emphasis is placed on the instruction and participation of project design, project construction, and cost of materials. Participation in the Future Farmers of America (FFA) will reinforce skill development.

### Location
Modesto High School

### Prerequisites
Ag Mechanics

### Credits
10-20 (5 per semester per daily hour; 2 hour block required)

Created at 1/28/2009 11:17 AM by Lo, Ching
Last modified at 1/28/2009 11:17 AM by Lo, Ching
COURSE TITLE: AGRICULTURAL SMALL ENGINE TECHNOLOGY

TEXTBOOK: "Small Gas Engines"

OTHER REQUIRED MATERIALS:
- Safety glasses
- Coveralls (if desired)
- Combination lock (if you want a locker)
- 3 ring binder

MAJOR UNITS OF INSTRUCTION:
- Safety and Shop Practices
- Two and Four Stroke Theory
- Tool identification
- Horse Power and Torque
- Engine Components
- Ignition Systems
- Valve Train
- Compression and Fuel
- Precision Measuring Instruments
- Carburetion
- Service
- Individual Projects

TEACHER: Mr. Wolfe

Method of Grading and Scale:
- 100 - 90% = A
- 89 - 80% = B
- 79 - 70% = C
- 69 - 60% = D
- 59% and below = F

Extra Credit Policy:
Only given to students who have 85% of work completed and have at least a "C" average in class.

Attendance: Unexcused absences and tardies will be counted against the final grade.

Make-up Practices: Students whose absence is excused shall be allowed two days for each day of absence to make up work. Responsibility for making up missed work lies with the student. Refer to the Student Conduct Code regarding make-up practices for other types of absences.

Other:
Make-up tests will be given within three (3) days of return and only, before school or after school as per teachers schedule allows.

Students must obtain 5 FFA activity points per Semester for full FFA / participation credit
Activities will be posted.

Homework Practices
All class work will be done in class.

Other:
Attendance is very important as we don’t do much out of class work.
All detentions will be served with Mr. Wolfe and will focus on labor intensive educational activities to improve the Ag Department and its facilities.

SPECIAL NOTICE: Any test or assignment that a student may not keep following its return and review will be retained by the teacher for at least 9 weeks following the issuance of report cards.

Parent Signature ___________________________ Date ___________________________
Recruitment Program
Recruitment Activities

- The Agriculture Department participates in the annual Open House and 8th grade parent night. This event is open to the public and incoming 8th graders for the following school year. The Ag. Department and students have displays and activities for all areas of the program (Ag. Mechanics, Small Engines, Ag. Science, Animal Science, Floral Culture and ). Current students in the Ag. department who attend are asked to bring their SAE projects to display activities are available to the future student. Horses, goats, engines, tractors, rabbits, and floral demonstrations have all taken place inside the building at this event. In past years we have had as much as 54% marking “Make sure I’m in Ag” on the collected information cards.

- Beyer Ag. Department participates in the Junior High School-to-Career Exposition. At this time demonstrations of rabbit showmanship, engine rebuilds and floral design all take place inside the Modesto Center Plaza. This all day event is accompanied by the top 2 students in each section, and the FFA officers. The event is attended by 7 Jr. High Schools in separated time frames allowing maximum contact time with many of the students within the Beyer boundary area.
Chapter Scrapbook PowerPoint
Beyer FFA
2007-2008

2007-2008 FFA Officers

The Advisors
Ralph Ellison

and having fun too.

workin' hard.
Who says cleaning isn’t fun.

We didn’t have any bulls...

Tricks are for goats.

Relaxing with friends.

Show Day

Landscaping
Pres. Holli Jacobsen

V.P. Alex Quefinberry

2008-2009 Officers

Secretary Bryanna Zimbauer

Reporter Lindsay Riddle

Treasurer Abigail Lovelace

Sentinel Addison Cook

Thanks for a great year and cheers to the great times
Summer Activities Schedule
<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Sat/Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1</td>
<td>2</td>
<td>Finals (min day)</td>
<td>New FFA Officer Meeting 12:30pm</td>
<td>Goat meeting</td>
<td>Last Day of School</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td>ICORE Championship</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>ICORE Championship</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Project Visit</td>
<td>Alice, Colleen</td>
<td></td>
<td></td>
<td>WD</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Wolfe, Richard**
<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Sat/Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>July 1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WD SHOP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project Visit Lindsay, Elizabeth 3p</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WD Shop</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FFA Officer Meeting 5pm</td>
<td>AD RENEWAL 888-203-2656</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Goat Meeting 6pm</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Showmanship Practice 2:30pm</td>
<td>Eartag Pickup 16th - 23rd</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dillon Beach Trip- GONE</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dillon Beach Trip- GONE</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clip Goats</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>Tuesday</td>
<td>Wednesday</td>
<td>Thursday</td>
<td>Friday</td>
<td>Sat/Sun</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>-----------</td>
<td>----------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>August 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stanislaus County Fair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stanislaus County Fair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Receive animals 12:30am school</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stanislaus County Fair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stanislaus County Fair</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ag. Mech Project Pick-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fair Cleanup Day 2pm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FFA Officer Retriet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31</td>
</tr>
</tbody>
</table>

Wolfe, Richard  

7/13/2009 11:20 AM
Vocational Ag. Follow-Up Survey Form
Beyer High School Ag Department
Graduate Follow-up

Name: ___________________________________________

Address: _______________________________________

Phone: _________________________________________

1. What are you doing at the present time?
   _____ Attending school
   _____ Full-time
   _____ Part-time
   _____ In the military
   _____ Not working
   _____ Not looking for work
   _____ Homemaker
   _____ Other ___________________________

2. In what type of business or industry are you employed?

   ____________________________________________

3. What is your job title or job description?

   ____________________________________________

4. Which statement best applies to your present occupation?

   _____ I am using most of the skills I learned in the agriculture program at Beyer High.
   _____ I am using some of the skills I learned in the agriculture program at Beyer High.
   _____ I am not using any of the skills I learned in the agriculture program at Beyer High.

5. What type of school are you currently attending?

   _____ High school
   _____ Trade/technical school
   _____ 4-year college
   _____ Private business school
   _____ Adult education
   _____ Other ___________________________

6. What is your major course of study?

   ____________________________________________
Section 17

Up-to-Date File on Status of Graduates
Beyer High School Ag Department
Graduate Follow-up

Name: Jordan Valero
Address: 4225 Dunsster Drive
Phone: (209) 345-9529

1. What are you doing at the present time?
   - X Attending school
   - X Full-time
   - ____ Part-time
   - ____ In the military
   - ____ Not working
   - ____ Working
   - ____ Full-time
   - ____ Part-time
   - ____ Looking for work
   - ____ Not looking for work
   - ____ Homemaker
   - ____ Other

2. In what type of business or industry are you employed?
   - Clothing

3. What is your job title or job description?
   - Sales representative

4. Which statement best applies to your present occupation?
   - ____ I am using most of the skills I learned in the agriculture program at Beyer High.
   - X ____ I am using some of the skills I learned in the agriculture program at Beyer High.
   - ____ I am not using any of the skills I learned in the agriculture program at Beyer High.

5. What type of school are you currently attending?
   - ____ High school
   - ____ 4-year college
   - ____ Trade/technical school
   - ____ Adult education
   - ____ Private business school
   - X ____ Modesto Junior College

6. What is your major course of study?
   - Psychology
7. How would you rate the training received in the Beyer High agriculture program?
   
   ______ Excellent   ______ Good   ______ Fair   ______ Poor
   
8. How do you rate the career guidance and counseling you received in the ag department?
   
   ______ Excellent   ______ Good   ______ Fair   ______ Poor

   FFA

1. Please check the following areas you feel are valuable components of FFA.
   
   ______ Officer and committee chairman experience
   ______ Judging contests
   ______ Advanced degree and proficiency awards
   ______ Participation in chapter activities, working with others
   ______ Livestock raising, shows, fairs, etc.
   ______ Other—please describe______________________________

2. What were the most valuable aspects of the SAE projects?
   
   ______ Learning skills related to future ag employment
   ______ Development of responsibility
   ______ Learning record keeping
   ______ Other—please describe______________________________

3. Please rate the facilities and equipment used at Beyer High for the agriculture program:
   
   Facilities: ______ Overcrowded   ______ Adequate space provided   ______ Out-of-date
   
   Equipment: ______ Modern   ______ Out-of-date
   ______ Well-maintained   ______ Poorly maintained
   ______ Adequate amount of equipment for all students in class
   
   ______ Other—please describe______________________________

Please note any suggestions you have for improving the Instructional Program, including the following areas: classroom, shop, greenhouse, school farm, etc; FFA; SAE projects; teaching methods used; facilities/equipment.

Please put teachers in the classroom that actually care about the subject and want to teach it. As far as facilities in the last year they were up to date however in the previous three they were slightly dated.
## Graduate Follow-up

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Graduate Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amebeck</td>
<td>Brittany</td>
<td>Location or Position Unknown-</td>
</tr>
<tr>
<td>Avila</td>
<td>Jessica</td>
<td>Employed - Parttime-Non-Ag Job</td>
</tr>
<tr>
<td>Balero</td>
<td>Jordan</td>
<td>Two Year College-Non-Ag Major</td>
</tr>
<tr>
<td>Blevins</td>
<td>Mark</td>
<td>Employed - Fulltime-Ag Job</td>
</tr>
<tr>
<td>Cain</td>
<td>Ryan</td>
<td>Employed - Fulltime-Non-Ag Job</td>
</tr>
<tr>
<td>Campbell</td>
<td>Ashley</td>
<td>Location or Position Unknown-</td>
</tr>
<tr>
<td>Coronado</td>
<td>Andrew</td>
<td>Military-</td>
</tr>
<tr>
<td>Fantazia</td>
<td>Chelsea</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Garcia</td>
<td>Raelene</td>
<td>Two Year College-Non-Ag Major</td>
</tr>
<tr>
<td>Harmon</td>
<td>Brandy</td>
<td>Location or Position Unknown-</td>
</tr>
<tr>
<td>Jones</td>
<td>Corey</td>
<td>Employed - Parttime-Non-Ag Job</td>
</tr>
<tr>
<td>Jones</td>
<td>Adam</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Kelley</td>
<td>Colton</td>
<td>Employed - Parttime-Non-Ag Job</td>
</tr>
<tr>
<td>Kimes</td>
<td>Paige</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Kuehl</td>
<td>Steven</td>
<td>Two Year College-Non-Ag Major</td>
</tr>
<tr>
<td>Louis</td>
<td>Anthony</td>
<td>Employed - Fulltime-Ag Job</td>
</tr>
<tr>
<td>Lundgren</td>
<td>Amber</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Nelson</td>
<td>Jessica</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Norton Jaque</td>
<td>Kynlee</td>
<td>Location or Position Unknown-</td>
</tr>
<tr>
<td>Paulson</td>
<td>Joshua</td>
<td>Employed - Parttime-Non-Ag Job</td>
</tr>
<tr>
<td>Piazza</td>
<td>Lauren</td>
<td>Location or Position Unknown-</td>
</tr>
<tr>
<td>Prather-haney</td>
<td>Emily</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Prouty</td>
<td>Amber</td>
<td>Two Year College-Non-Ag Major</td>
</tr>
<tr>
<td>Stobert</td>
<td>Richard</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>White</td>
<td>Brandy</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Wolgamot</td>
<td>Eric</td>
<td>Two Year College-Ag Major</td>
</tr>
<tr>
<td>Ybarra</td>
<td>Cystina</td>
<td>Location or Position Unknown-</td>
</tr>
<tr>
<td>Young</td>
<td>Jill</td>
<td>Two Year College-Non-Ag Major</td>
</tr>
</tbody>
</table>

Printed: 10/29/2008 6:37:53 AM
Count: 28
**Graduate Follow-up Report**

**Year=2008**

# CA0320  Modesto - Beyer  
Beyer HS  
1717 Sylvan Ave,  
Modesto, CA 95355

Printed: 10/29/2008 6:39:18 AM

<table>
<thead>
<tr>
<th>Total Seniors (Year=2007):</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Seniors having completed 3 or more years of Ag Instruction:</td>
<td>28</td>
</tr>
</tbody>
</table>

**Program Completer Status**

- Two Year College Ag Major 9
- Two Year College Non-Ag Major 5
- Employed - Parttime Non-Ag Job 4
- Employed - Fulltime Ag Job 2
- Employed - Fulltime Non-Ag Job 1
- Military 1
- Location or Position Unknown 6
Modesto City Schools
Vocational Education
Comprehensive Plan
Introduction

1. Provide a clear and specific introductory statement of the plan, what it is about, and the importance of this plan for your agency.

Modesto City Schools has recently completed a year long process of developing a new strategic plan. As one of the districts in the Corrective Action F and as a result of a major change in leadership it was determined that this process was essential. With the help of the International Center for Leadership in Education and Performance FACT Inc. the district has made a commitment to the following goal:

“A diploma in every hand; a rewarding career in every future; .... a contributing member of our global society.”

An important part of the Modesto City Schools strategic plan is a commitment to both rigor and relevance. This Perkin’s Five Year Plan and the funds it provides (along with all other funds available for educational improvement in Modesto City Schools) will be aligned with the mission Modesto City Schools has pursued for the last decade in career education. That is:

“Modesto City Schools’ School-to-Career program provides career preparation to youth and adults to meet the challenge of working in the 21st Century by a combination of academics and workplace-based education that will make them life-long learners.”
Chapter 1

Career Technical Education in the Local Education Agency

1. Describe the current status of the CTE delivery system, in the local and regional area.

During the last six years, Modesto City Schools has made a major commitment to Vocational Education. We have spent several million dollars in upgrading programs including industrial technology, agriculture, multimedia, business and public safety programs. There has been a very powerful move on the part of Johansen and Davis high schools to embrace the pathway concept both under the Academy model and the Tech Prep model. Modesto High School and Enochs High School have joined this effort with specialized secondary schools and are on the verge of creating academies. Career awareness education has expanded to the middle schools and is slowly being put in place with the elementary schools. Modesto City Schools enjoys articulated agreements (2+2+2 Program) with several post-secondary institutions in a variety of subjects. The greater Modesto community is concerned about vocational education and is striving to provide support through partnerships and mentoring programs. The budgets for vocational education remain in the black.

2. Provide information regarding the participation of students in CTE programs as compared to total district enrollment. Information should include enrollment, demographics, and achievement data.

The Agriculture program has developed a business agriculture academy at Johansen High School and an ornamental horticulture program at Davis High School. Beyer High School continues to have a strong program in plant and animal science. The programs at Modesto High School and Downey High School have made major commitments to ag mechanics. Enochs High School is developing a major veterinarian program. The commitment has been made to offer agriculture education at all Modesto City School’s high schools.

The Consumer/Home Economics programs in Modesto City Schools are currently, rather fragmented and lack clear direction. This is not surprising true throughout California. The State Department of Education completed a major rewrite of the Home Economics State Plan. Current strong points in consumer/home economics are the child development academy at Johansen High School and a proposed culinary arts academy at Downey High School. Beyer High School has had a culinary ROP pathway for a number of years, but changes in the state nutrition guidelines seriously impacted that program and it will need to be redesigned. During the 2007-08 school year, all consumer home economics classes were rewritten to meet the state guidelines.

The Health Occupations programs in Modesto City Schools are extremely strong and will continue to strengthen over in the next five years. The health academy at Davis High School continues to thrive and will be a model for the medical office academy that is proposed for
Downey High School. The ROP hospital occupations, certified nurses assistant, and medical office classes continue to turn out high quality candidates for careers in the medical profession. Currently there is a lack of community classroom placements due to student over crowding. However, that should be addressed with the opening of Kaiser Hospital in November 2008. A number of articulation agreements exist between these health occupations programs and Modesto Junior College.

The Industrial Technology program thrives despite a reduction in the number of electives for high school students. While not every program is offered at every site, strong programs that are capstoned by ROP classes are available to every Modesto City Schools student. Strong articulated programs exist in automotive mechanics, graphic arts, drafting, electronics, metals, woods and small engine repair. All programs are sequenced and provide training for employment in local industry. Articulation programs exist with Modesto Junior College in all areas except woods. Several schools have articulation in woods with specialized programs such as stage design or industrial tech at Modesto Junior College. The Careers in Manufacturing program, a partnership between local industry, Modesto Junior College and Modesto City Schools, places students in high paying jobs and Modesto Junior College classes directly out of high school. There is an industrial technology partnership academy at Johansen High School and a theater stage craft specialized secondary school at Modesto High School. Plans are underway to establish a partnership academy in graphic arts at Downey High School.

The Business Education programs in Modesto City Schools have made great progress since the last plan. They developed a number of clear sequential pathways and excellent real-world connections. The vocational business classes, programming classes, and retail sales and marketing classes developed excellent ties to the business community. There are a number of articulation agreements in the areas of computers and accounting. The computer labs at most sites are state of the art and the curriculum is recently updated. The area of greatest concern is the development of a district technology plan to maintain quality computer labs and address the migration of older operating systems to Vista and Windows 2007.

In the area of Public Safety Modesto City Schools established a partnership academy at Davis High School with the help of the Modesto Police Department, Stanislaus County Sheriff’s Department, the California Highway Patrol, Modesto Fire Department and numerous other partners. Fully articulated ROP programs in both fire service and law enforcement allow students to bypass the bottleneck courses at Modesto Junior College.

Finally, Modesto City Schools is on the cutting edge of Biotechnical Training programs. Working with local industry, the Alliance, Merced College and the University of California at Merced, Modesto City Schools established a specialized secondary school in biotechnology at Enochs High School. It is expected that this will evolve into a partnership academy. This is a rapidly growing industry in California brought on by the tremendous demand from local industry. It is expected that at least one additional high school will pursue biotechnical training as a major emphasis and pathway.

As can be seen from this brief sketch of Modesto City Schools’ vocational education, a strong foundation exists for building a school to work program over the next five years. During this
time, certain national and state movements will directly affect vocational education in Modesto. A philosophy which holds that schools exist to provide all students with the preparation to be productive members of the global work force has dominated conversations about education at the local, state, and federal level; it will continue to do so for the foreseeable future. At this time the most significant factor will be the state of California’s commitment to Career Technical Education. In addition, as Modesto City Schools pursues a commitment to smaller learning communities, career vocational planning will be the underpinning of a number of these new and innovative programs.

Chapter 2

Building high-quality CTE programs

1. **Provide your agency’s vision and mission for the delivery of CTE in the future.**

Modesto City Schools’ Career Technical Education programs will provide career preparation to youth and adults to meet the challenge of working in the 21st Century by using a combination of academics and work place education that will make them life long learners. Modesto City Schools will meet this goal by using pathways, specialized programs, career education and the Regional Occupational Programs. Modesto City Schools remains committed to providing a successful program that promises to better equip front line workers, improving production capacity of entry level workers, and providing quality education for all students.

In order to successfully accomplish these overall objectives for Modesto City Schools’ Career Technical Education, plans and goals need to be met in all areas that offer career technical education. Currently these are: Agriculture, Consumer/Home Economics, Health Occupations, Industrial Technology, Business Education, Public Safety and Biotechnical training. A five-year summary for each of these areas is included beginning with Agriculture.

**AGRICULTURE**

Agriculture will remain a mainstay of our economy for the foreseeable future. It must remain a strong component of our five-year educational plan. We have strong agricultural plant and animal science courses at all high schools, with special emphasis in these areas at Beyer and Enochs. Strong pathways exist at all six high schools with students able to earn twenty A - G credits in integrated agricultural science, ten credits in fine arts, five credits in agricultural computer literacy and up to ten credits in other various A - G electives. Six strong agricultural mechanics programs exist at Beyer, Davis, Johansen, Downey, Enochs and Modesto high schools. Beyer High School has a quality small engine program. Enochs High School is developing a veterinarian technician program. We currently utilize three agricultural farm labs with plans to build a new one at Enochs High School. All Agricultural programs provide project supervision and summer programs.
Things To Be Done

1. Continue to maintain and expand the academic course offerings of the Agricultural program to meet as many graduation and A-G requirements as possible.

2. Continue to maintain strong project supervision periods and summer service to assure that the co-curricular component of agriculture remains strong.

3. Continue to maintain and upgrade district farms and agricultural shops. The new farm at Enochs should be completed and an additional farm site should be identified in the south west area near the city of Modesto.

4. Continue to maintain close ties with the agricultural community, Community College system, and the California State University and University of California systems.

5. Continue current policy on replacement of agricultural equipment in a timely fashion.

BUSINESS EDUCATION

For the past five years Modesto City Schools has been on the cutting edge of business education Technology. However, unless the district continues to commit large sums of money to technology, the business education program may not be able to maintain this status. Modesto City Schools is proud that it maintains universal computer literacy for all students with state of the art software. Three major areas will dominate Modesto City Schools’ business education contribution of the School-to-Career plan for the next five years: a commitment to replace aging equipment and software, the development of small learning communities around business education, and the transition to a new operating platform.

At least two computer laboratories or “model office” must be upgraded each year over the next five years. In addition, a plan for computer upgrades and replacement must be incorporated in the district general fund budget.

While the business curriculum is standardized across the district, each high school has the opportunity to create unique small learning communities and academies around its unique strengths. The business area will retain great potential for employment growth into the next decade. At this time, the following areas of strength in business at each high school have the capability to be developed into small learning communities.

Beyer: Entrepreneurship / Small Business

Davis: Virtual Business / E-Commerce

Downey: Medical Office Administration
Johansen: Advertising/Accounting /Virtual Business/Small/Business
Modesto: Programming / Virtual Business / Accounting

Each small learning community will develop similar integrated programs at the freshman and sophomore level with specialized programs being developed at the junior and senior level. Students who did not choose to enroll in a high school for specialized programs would be served through the ROP program.

**Things To Be Done**

1. Establish a district wide standard for computer laboratories at each high school.
2. Develop specialized small learning communities in the business area.
3. A district commitment to upgrade all business and computer laboratories without compromising the general fund.
4. A detailed plan should be developed to handle the transition to Vista and other recent operating platforms.
5. A commitment should be maintained to implement cutting edge, virtual reality education in business.

**HOME ECONOMICS**

Declining enrollment has negatively impacted Consumer/Home Economics during the last decade. However, as California rapidly moves to a more service-oriented economy, this program will be an important part of Modesto City Schools’ School-to-Career program. Currently, we have a very strong child development academy at Johansen High School. Unfortunately, the food service pathway at Beyer High School recently collapsed due to the changes in nutrition requirements from the state of California. The new standards for home economics were recently published and Modesto City Schools rewrote its curriculum. The child development academy/home economics teachers agreed that their goals will be to develop pathways and integrate curriculum. They accept that only classes leading to potential careers will be supported. At this time, the following home economics pathways are being developed.

Beyer and Downey High School: Hospitality/Foods
Johansen High School: Child Care/Education

There are currently proposals to establish pathways in marketing and fashion merchandising and in hospitality/hotel/tourism trades. Home economics programs will be offered at sites that do not have pathways, but no attempt will be made to expand or improve these programs unless they
become pathways. It is assumed that students who are interested in these areas will transfer to high schools that offer the pathways.

**Things To Be Done**

1. Home economics teachers will incorporate into their curriculum elements that offer alternative means that meet graduation requirements.

2. The pathway teachers in home economics must work with the academic teachers to make certain that specific pathway skills are incorporated into content specific lessons.

3. The home economics departments need to incorporate thematic units on small business internships in the business curriculum with the appropriate pathway as the basis.

4. Establish district replacement/repair policy and an equipment budget for home economics pathways.

5. Establish a budget from the general fund to create one pathway per year at the high school level.

**HEALTH OCCUPATIONS**

The health academy at Davis High School will continue to be the model for health occupations throughout Modesto City Schools. Its integrated curriculum and tight structure prove to be extremely successful in recruiting and maintaining a broad cross section of students. Although there are some problems with scheduling juniors, as least half of the students will enroll in health service occupations (ROP). This model will be used in establishing Downey’s Medical Office Administration pathway during the next five years. The certified nursing assistant (ROP) will continue to recruit and graduate large numbers of both adults and high school students to fill entry level positions in health care. In addition, new programs need to be developed in the technological areas of health care including the new biotechnology program at Enochs High School. At this time the following health pathways are being developed.

<table>
<thead>
<tr>
<th>Davis High School:</th>
<th>Health Academy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downey High School:</td>
<td>Medical Office</td>
</tr>
<tr>
<td>Enochs High School:</td>
<td>Biotechnology</td>
</tr>
</tbody>
</table>
MANUFACTURING AND PRODUCT DEVELOPMENT

Modesto City Schools Industrial Technology weathered the storm that closed shops across California during the last decade. Modesto City Schools chose to focus on quality, allowing each campus to focus on particular areas of industrial technology that they wished to emphasize. Nearly all of the quality shops created unique pathways at their site and allowed students to make intra-district transfers to take advantage of unique programs. This resulted in a number of high quality, state-of-the-art shops in the district. At this time, the following industrial technology pathways and quality shops have been developed and will be improved and maintained over the next 5 years.

Beyer: Automotive Technology – Metal Technology
Davis: Graphics Communication – Mechanics Technology
Downey: Graphics Communication – Multi Media-Building Construction Trades
Enochs: Graphics Communications
Johansen: Manufacturing Technology – Multimedia
Modesto: Entertainment Technology – Automotive Technology

It is proposed that Gregori High School will have a state-of-the-art automotive technology shop.

It should be noted that industrial technology shops will be offered at sites that do not have pathways, but no attempt will be made to equip these shops at the state-of-the-art level. It will be assumed that students who are interested in these areas will either transfer to the high schools that offer the pathway or advanced training through ROP.

Things To Be Done

1. The pathways/teachers in industrial technology will work with the academic teachers to make certain that specific pathway skills are incorporated into content specific lessons.

2. The business departments need to incorporate thematic units on small business internships into the business curriculum with industrial technology as the basis.

3. Establish a district replacement/repair policy and budget for the industrial technology equipment pathway.

4. Establish a budget from the general fund to create one pathway per year at the high school level.
2. **List the goals and expected outcomes for CTE as defined by all stakeholders.**
   - To assist all students in acquiring the necessary skills to be productive members of society throughout their lifetime.
   - To provide quality training in the fifteen high need employment sectors as identified by the State of California.
   - To address the needs of existent local businesses in their search for qualified workers.
   - To assist the local lead agencies (Chamber of Commerce, Alliance, etc.) in developing qualified workers for economic development in Stanislaus County.

3. **Provide information regarding participation.**

   Modesto City Schools has its own district wide advisory committees which provide direct input into this plan and approval of it. In addition, Modesto City Schools actively participates with the Alliance (Stanislaus Counties Workforce Investment Board), the Modesto Chamber of Commerce, Stanislaus Partners In Education, the Manufactures Council and the local Community Service Agency. Our discussions are guided by these perspectives as well as input from both the state and national level. Many of these agencies have provided detailed reports outlining the workforce development needs of Stanislaus County and these reports can be provided as support for our decisions.

4. **Career technical education programs to be assisted with Perkins IV funds.**

   **A. Provide a listing of the career technical education pathway(s) to be assisted with the Perkins IV funds and designed to be consistent with the overall CTE vision and meet or exceed the State adjusted levels of performance.**

   Agricultural Mechanics  
   Veterinarian Technician  
   Agricultural Business  
   Agricultural Plant and Animal Science  
   Entrepreneurship / Small Business  
   Virtual Business  
   Medical Office Administration  
   Programming  
   Business Office Administration  
   Hospitality / Foods  
   Child Care / Early Education  
   Health Careers  
   Biotechnology  
   Automotive Technology  
   Graphics Communication  
   Multimedia  
   Manufacturing Technology  
   Entertainment Technology
B. Describe how the occupational needs of the local area with input from business, industry and labor were considered in identifying the career technical education program(s) to be assisted with Perkins IV funds. [State Plan].

This plan was created with input from all of the major stakeholders in Stanislaus County and after evaluation of major employment trends in California. Since Stanislaus County’s major industries remain agricultural, those programs will need to be supported and maintained. Throughout California, business and office skills remain in high demand with a sharp increase in the E-Commerce fields. Stanislaus County is rapidly becoming a center for medical care with an increase in demand for all facets including medical office and direct, hands on experiences. As a result of the various vocational sites close to Stanislaus County, hospitality remains a strong industry sector. The aging workforce in most local industries including automotive technology demands a well-trained, new workforce. Two new areas of demand are biotechnology and multimedia. In addition to the demands of local hospitals and food industries, biotechnology in Central California is a rapidly growing field. Also, the explosion of internet-based commerce makes Multimedia a high demand industry.

5. Describe the process and rationale for determining the career technical education program(s) to be assisted with Perkins IV funds. You should include the use of labor market information including the use of local and regional employment data.

Modesto City Schools is a large, suburban school district; it was decided that we would offer programs in all fifteen major economic areas noted in the state plan. The California Labor Market Survey for Stanislaus County indicates that there will be a demand in all major income areas for workers in Stanislaus County. The close proximity of the Bay Area and Silicon Valley makes biotechnology, electronics, and computer industries viable programs for Modesto City Schools’ students. As this plan was discussed with the local Chamber of Commerce, the Employment Development Department, and the Alliance (Work Force Investment Board), it was agreed that local and regional employment data supports this strategy.

6. Describe how labor market information is used to determine the CTE programs offered by the LEA [State Plan].

See above #5. Data specifically gleaned from the Employment Development Department, Chamber of Commerce and the Work Force Investment Board is at the heart of our decision to offer all CTE programs in the fifteen high employment sectors for California.

7. Describe methods to be used to coordinate CTE services with relevant programs conducted under the Workforce Investment Act (WIA), Regional Occupational Centers/Programs, and other state or local initiatives, including cooperative arrangements established with local workforce investment boards, and community-based organizations, in order to avoid duplication and to expand the range of and accessibility to career technical education services [State Plan].
Modesto City Schools is fortunate to be part of Stanislaus County that has a long history of cooperation in workforce training and is dedicated to avoiding duplication and expanding the range of accessibility to career technical education services. Stanislaus Partners in Education (which has members from local school districts), the Yosemite ROP, Modesto Junior College, California State University, Stanislaus, the local workforce development board, the Employment Development Department, various Chambers of Commerce, and most of the local business leaders all serve as coordinators for work force investment activities in Stanislaus County. The Director of School-to-Career or the Superintendent serve on most of the significant workforce development boards in Stanislaus County, including both the Alliance (Workforce Investment Board) and the Community Service Agency workforce development board. All major stakeholders agree that the needs of Stanislaus County are greater than any one agency’s resources and we have a long history of working together.

Chapter Three

Responses to satisfy the requirements of Perkins IV

Section 1: Alignment of CTE program

1. All interested individuals are informed about the State Plan and Perkins IV requirements.

   A. Describe how parents, students, academic and career technical education teachers, faculty, administrators, career guidance and academic counselors, representatives of business and industry, labor organizations, representatives of special populations, and other interested individuals are involved and participates in the ongoing development, implementation, and evaluation of local career technical education programs. [Section 134(b)(5), State Plan].

In this electronic age the first step in making certain that students, parents, academic and career technical education teachers, faculty, administrators, career guidance and academic counselors, representatives of business and industry, labor organization representatives of special populations and other interested individuals are involved and participate in the ongoing development, implementation and involvement of local career technical education programs is the establishment of a work site which is regularly updated and continuously linked to the various California Department of Education sites as well as local data. In addition, Modesto City Schools regularly participates in workshops with all interested individuals to discuss the department of work force investment plans. There are two district advisory meetings held annually to discuss and approve programs in career technical education. Annually, one teacher in-service day is regularly dedicated to career technical education and work force investment for all teachers. There is an annual report to the Board of Education on the career technical program as well as various reports on specific pathways. Two Career Articulation Promotion Technicians are employed to provide speakers to any group that requests them as well as constant
presentations to various student groups. (See attached membership list of Modesto City Schools Vocational Advisory Group)

B. Describe how such individuals and entities are effectively informed about, and assisted in understanding, the requirements of the State Plan and the Perkins Act, including the requirement for career technical programs of study. [Section 134(h)(5), State Plan]

All of the schools in Stanislaus County have worked together to ensure that all interested individuals are effectively informed and understand the requirements of the State Plan and the Perkins Act, including the requirement for career technical programs of study. This has been accomplished via workshops sponsored by Modesto Junior College, the Alliance (Workforce Investment Board) and Stanislaus County Office of Education. In addition, Modesto City Schools has provided reports to the Board of Education, the various vocational pathway advisories, district administration, and other groups regarding new requirements. All of these reports are available electronically on our web site. [http://www.monet.k12.ca.us]

2. Programs include coherent sequences of courses with emphasis on the integration of academics with career technical education as defined in the State Plan.

A. Describe how the appropriate courses of not less than one career technical program of study will be offered. A program of study as described in section 122(1)(A):

- Incorporates secondary education and postsecondary education elements;
- Includes coherent and rigorous content, aligned with challenging academic standards, and relevant career technical content aligned with the California CTE Standards and Framework in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education to adequately prepare students to succeed in postsecondary education;
- May include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits; and
- Leads to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree. [Section 135(b)(2), Ed Code 51224]

All programs in Modesto City Schools are designed to include a coherent sequence of courses with an emphasis on the integration of academics and career technical education as defined in the State Plan. Modesto City Schools has the following programs which begin with introduction classes, proceed through concentrator classes and are capstoned with either advanced classes or ROP classes. Each course of study is normally part of a 2+2 agreement with either Modesto Junior College, Merced Junior College, or Delta Junior College allowing students to earn college units while in high school [*Attachment A 1-3]. Many of the programs are part of integrated,
academic programs that include pathway academies, specialized secondary school programs, pathways and small learning communities. All of the courses are matched every five years to the state standards with input from industry and post secondary education programs. All programs lead to an industry-recognized credential (or certificate), or an associates (or baccalaureate) degree.

These programs will improve in the following areas over the next five years.

Legend:
* Has 2+2 with post secondary program.
C Leads to certificate or credential.
P Part of a pathway, specialized secondary school, or small learning community.

2008-09
Energy & Utilities (Electricity) C
Engineering (Drafting) * C
Manufacturing and Product Development (Manufacturing/Metals) * C
Graphics Communications, and Electronics. * C P
Transportation (Automotive) * C

2009-10
Arts, Media and Entertainment * P
Building Trades and Construction C
Health Services * C P

2010-11
Business and Finance * C P
Information Technology * C P
Retail and Wholesale Trade

2011-2012
Fashion and Design *
Hospitality, Tourism and Recreation * C P
Public and Private Education Services * C P
Public Services * C P
Agriculture and Natural Resources * C P

3. **Describe how students will be provided with strong experience in, and understanding of, all aspects of the industry (see Appendix B) in which they are studying. [Section 134(b)(3)(c), Section 135 (b)(3)]**

Modesto City Schools is dedicated to providing all students with a strong experience in, and understanding of, all aspects of the industry in which they are studying. In the integrated curriculum of our various pathways and specialize secondary schools we are careful to include information about finance, business planning, management, health and safety, community issues, environmental concerns, principals of technology, personal work habits, technology production skills and labor in the social science, health, and service classes. To emphasize this in career technical classes that may not be part of a pathway, we include specific curricular units in each as required by the state standards.
4. **Describe how students participating in career technical education programs are taught to the same coherent and rigorous content aligned with challenging academic standards as are taught to all other students. [Section 134(b)(3)(D), State Plan]**

Modesto City Schools has required all pathway classes to teach their integrated curriculum in classes that meet The University of California’s A - G requirements. As recommended in the new strategic plan, Modesto City Schools is rapidly moving away from non-college prep academic classes and currently offers non-tracked classes in science and social science. A program in place to assure that all graduating students will have met the mathematics requirements for the state college system. Modesto City Schools prides itself on having a single set of high standards for all students. All academy and integrated curriculum classes take interim benchmark exams written for college preparation level courses. Students must be able to read and write at a standardized level that assures them success in both work and further education. Students who are not academically able to function in college level courses are enrolled in accelerated courses in mathematics, and English language arts. Students are further supported with the assistance of paraprofessionals, after school tutorial programs or by teachers with specialized training in English language development and mathematics remediation.

5. **Describe how career technical education students at the secondary level are encouraged to enroll in rigorous and challenging courses in core academic subjects (as defined in section 9101 of the Elementary and Secondary Education Act of 1965). Include the implementation and alignment of the CTE content standards and framework. [Section 134(b)(3)(E), State Plan]**

All pathway academies are required to provide college prep level classes in all of the academic classes provided. In addition, Modesto City Schools has adopted a non-tracked program for science and social sciences so that all students in these core academic programs are enrolled in rigorous and challenging courses as defined in section 9101 of the Elementary and Secondary Education Act of 1965. Progress is on going in the areas of mathematics and English language arts. It is expected that by 2010 all classes in the district will also be college prep.

6. **Summarize progress to date in achieving academic and career technical education integration, and describe planned activities to continuously improve progress in this area over the next five years. Response should address activities such as staff development, curriculum development, collaborative program planning and implementation, and team teaching. [Section 135(b)(1)]**

As has been previously noted Modesto City Schools is committed to the concept of academic and career technical education. We currently have four partnership academies, two specialized secondary schools, one high school totally converted to small learning communities, pathways in agriculture at every site, and three new partnership academies in process. Our superintendent and leadership team are committed to continue the process of relevance in CTE/academic integration at all schools in Modesto City Schools. This concept has been at the center of our strategic planning and will drive all staff development and curriculum development for the next five years. The strategic plan requires that academic goals are established annually. These goals are regularly monitored and quarterly reports are presented to the board of education. The
strategic plan is based on a continuous growth model, increasing the number of students scoring at advanced and proficient levels reflected by CST results.

7. **Describe how students are being encouraged through counseling and guidance to pursue the coherent sequence of courses in the career technical education program areas of their interest. [Section 1345(b)(11), Ed Code 51228, State Plan]**

Modesto City Schools has a number of programs in place to encourage students through counseling and guidance to pursue a coherent sequence of courses in career technical electives. Currently every middle/junior high school student in the feeder schools to the Modesto City School’s District is given a non-biased career assessment, which is then discussed with their parents. The test is provided (along with training for the testers) to these schools. The vast majority of schools offer an exploratory program that allows students to investigate various career paths. A number of career fairs exist in the Modesto City Schools District and in the feeder districts to explain career expectations and possibilities. It is normal for the presenters to be non-traditional for these careers. Locate in each high school career center is the Education and Career Opportunities System (ECOS), a computerized career and college search software. In addition, a full time Work Experience Education teacher is on site to promote job placement services and Regional Occupational Program information. The computerized programs are also provided at each networked computer in the district. There is a Special Education work experience teacher who specializes in placement of individuals with disabilities. Also, Modesto City Schools’ Vocational Assessment Center provides vocational assessment, career guidance, career counseling, and job placement for special populations, which include all of those listed previously. Special outreach programs have been developed for students who are English language learners (ELL) which include mentoring programs in their first language(s).

Finally, Modesto City Schools has an on going counselor in-service program to make certain all counselors are aware of the district’s expectations. This includes work shops, conferences, district meetings and site meetings. Each specialized program, pathway and academy has a dedicated counselor that only works with that group.

8. **For each career technical education program assisted with Perkins IV funds, complete and include a completed sequence of the courses worksheet that comprise the recommended sequence of courses. [Section 135(b)(2)]**

Note: The State Plan describes a coherent sequence of courses as a minimum of two or more CTE courses offered in a single career technical program area totaling at least 300 hours of instruction or a single multi-hour course consisting of a minimum of 300 hours of instruction. Program sequences must include a capstone course. Secondary career technical education programs may include a regional occupation Center/Programs (ROCP) course as the “capstone” course.

Please refer to pages 15 – 19 for completed sequence of Modesto City Schools career technical courses.
# AGRICULTURE

<table>
<thead>
<tr>
<th>Intro</th>
<th>Concentrator</th>
<th>Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Mechanics 1-2</td>
<td>Agricultural Mechanics 3-4</td>
<td>Agricultural Small Engine Tech (ROP)</td>
</tr>
<tr>
<td>Agricultural Drafting 1-2</td>
<td>Agricultural Mechanics 5-6</td>
<td>Agricultural Welding in (ROP)</td>
</tr>
<tr>
<td>Agricultural Small Engine Repair 1-2</td>
<td>Agricultural Small Engine Repair 3-4</td>
<td>Agricultural Mechanics 5-6</td>
</tr>
<tr>
<td>Agricultural Business 1-2</td>
<td>Agricultural Business 3-4</td>
<td>Structural Ag. Welding</td>
</tr>
<tr>
<td>Integrated Ag. Science I</td>
<td>Integrated Ag. Biology</td>
<td>Ag Leadership</td>
</tr>
<tr>
<td>Integrated Ag. Biology</td>
<td></td>
<td>Advanced Animal Science</td>
</tr>
<tr>
<td>Natural Resources and Nursery Production</td>
<td></td>
<td>Animal Science 3-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agricultural Marketing and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animal Industries (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Veterinary Science (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Horticulture and the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environment (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Design Maintenance (ROP)</td>
</tr>
</tbody>
</table>
# BUSINESS EDUCATION

<table>
<thead>
<tr>
<th>Intro</th>
<th>Concentrator</th>
<th>Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 1-2</td>
<td>Business Law</td>
<td>Retail Sales Supervisor (ROP)</td>
</tr>
<tr>
<td>Accounting 3-4</td>
<td>Accounting 3-4</td>
<td>Entrepreneurship (ROP)</td>
</tr>
<tr>
<td>Beginning Bookkeeping/Calculation</td>
<td>Beginning Bookkeeping/Calculation</td>
<td>Small Business Management (ROP)</td>
</tr>
<tr>
<td></td>
<td>Computer Literacy</td>
<td>Retail Sales (ROP)</td>
</tr>
<tr>
<td></td>
<td>Typewriting/Keyboarding I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Virtual Business</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advanced Computer Technology</td>
<td>Virtual Business Applications (ROP)</td>
</tr>
<tr>
<td></td>
<td>Office Technology</td>
<td>Computer Business Applications (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medical Office Administration (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medical Office Occupations 1-2 and 3-4 (ROP)</td>
</tr>
<tr>
<td>Introduction to Structured Programming</td>
<td>Programming I, II, and III (ROP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Computer Literacy</td>
<td>Business Office Administration (ROP)</td>
</tr>
<tr>
<td></td>
<td>Typewriting/Keyboarding I</td>
<td>Special Studies Business Office Occupations (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## HOME ECONOMICS

<table>
<thead>
<tr>
<th>Intro</th>
<th>Concentrator</th>
<th>Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Nutrition 1-2</td>
<td>Foods and Nutrition 3-4</td>
<td>Food Service I, II, and III (ROP)</td>
</tr>
<tr>
<td>Marriage and Family 1-2</td>
<td></td>
<td>Senior Practicum Teacher Cadet Program</td>
</tr>
<tr>
<td>Marriage and Family 3-4</td>
<td></td>
<td>Child Development (ROP)</td>
</tr>
<tr>
<td>Parenting Education 1-2</td>
<td></td>
<td>Early Childhood Education (ROP)</td>
</tr>
<tr>
<td>Child Development/Parenting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior Design 1-2</td>
<td>Fashion, Textiles and Apparel 3-4</td>
<td>Advanced Fashion and Home Design (ROP)</td>
</tr>
<tr>
<td>Fashion, Textiles and Apparel 1-2</td>
<td></td>
<td>Fashion Merchandising and Design (ROP)</td>
</tr>
</tbody>
</table>

## HEALTH OCCUPATIONS

<table>
<thead>
<tr>
<th>Intro</th>
<th>Concentrator</th>
<th>Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Science I</td>
<td>Medical Science II</td>
<td>Hospital Occupations (ROP)</td>
</tr>
<tr>
<td></td>
<td>Human Anatomy and Physiology</td>
<td>Ancillary Health Occupations (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Biotechnology (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Certified Nurses Assistant (ROP)</td>
</tr>
</tbody>
</table>
## INDUSTRIAL TECHNOLOGY

<table>
<thead>
<tr>
<th><strong>Intro</strong></th>
<th><strong>Concentrator</strong></th>
<th><strong>Capstone</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Technology 1-2</td>
<td>Automotive Technology 3-4</td>
<td>Auto Technology 5-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automobile Tech 1-2/3-4 (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Front and Read End Tech (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transmission Tech (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small Engine Motorcycle Repair 1-2/3-4 (ROP)</td>
</tr>
<tr>
<td>Introduction to Graphic Design 1-2</td>
<td>Graphic Communications 3-4</td>
<td>Graphic Communications Lab (ROP)</td>
</tr>
<tr>
<td>Multi Media Production</td>
<td></td>
<td>Graphic Communications 5-6</td>
</tr>
<tr>
<td>Graphic Communications 1-2</td>
<td></td>
<td>Multi Media (ROP)</td>
</tr>
<tr>
<td>Industrial Technology and Engineering Academy 1-2</td>
<td></td>
<td>Graphic Communications 7-8</td>
</tr>
<tr>
<td>Manufacturing/Metal Working Technology 1-2 (ROP)</td>
<td>Manufacturing/Metal Working Technology 3-4</td>
<td>Sheet Metal &amp; Industrial Fabrication</td>
</tr>
<tr>
<td>Industrial Technology and Engineering Academy 1-2</td>
<td></td>
<td>Manufacturing Technology (ROP)</td>
</tr>
<tr>
<td>Construction/Woodworking Technology 1-2</td>
<td>Wood as Art</td>
<td>Manufacturing/Metal Working Technology 5-6</td>
</tr>
<tr>
<td>Industrial Technology and Engineering Academy 1-2</td>
<td>Construction/Woodworking Technology 3-4</td>
<td>Structural Welding (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturing/Metal Working Technology 7-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Theatre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stage Craft Production (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction Woodworking Technology 5-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Building Construction 1-2/3-4 (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical Trades Technology (ROP)</td>
</tr>
</tbody>
</table>
### Industrial Technology (cont…)

<table>
<thead>
<tr>
<th><strong>Intro</strong></th>
<th><strong>Concentrator</strong></th>
<th><strong>Capstone</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics 1-2</td>
<td>Electronics 3-4</td>
<td>Electronics 5-6</td>
</tr>
<tr>
<td>Industrial Technology and Engineering Academy 1-2</td>
<td></td>
<td>Electronics (ROP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electronics 7-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computerized Equip Servicing I, II, III (ROP)</td>
</tr>
<tr>
<td>Principals of Drafting</td>
<td>Architectural Design/Drafting 3-4</td>
<td>Architectural Design/Drafting 5-6</td>
</tr>
<tr>
<td>Architectural Design Drafting 1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Technology and Engineering Academy 1-2</td>
<td></td>
<td>Pathway to Success (ROP)</td>
</tr>
</tbody>
</table>

### PUBLIC SAFETY

<table>
<thead>
<tr>
<th><strong>Intro</strong></th>
<th><strong>Concentrator</strong></th>
<th><strong>Capstone</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Criminal Justice</td>
<td>First Responder (ROP)</td>
<td>Criminal Justice (ROP)</td>
</tr>
<tr>
<td>Youth and the Law</td>
<td></td>
<td>Introduction to Fire Protection (ROP)</td>
</tr>
</tbody>
</table>

---

20
9. **Linkages between secondary and postsecondary educational institutions.** Post secondary institutions include: California Community Colleges, State Universities, UC’s, private postsecondary agencies and apprenticeship programs.

A. Summarize progress made to date in developing formal written articulation agreements with career technical programs in grades 11-14 and with local workforce preparation systems (i.e. WIA boards). Indicate plans to improve/expand progress in implementing additional programs of study. (Include copies of any formal articulation agreements along with a current list of articulated courses making up the program of study). [Section 135(b)(2), State Plan]

Modesto City Schools has an extensive 2+2 agreement program with Modesto Junior College. Modesto City Schools is currently enrolled in the Cal-PASS program. In addition we are actively involved with Merced Junior College, Delta Junior College, California State University Stanislaus and University of California, Merced. Modesto City Schools staff routinely serve on the various boards of these institutions of higher learning. Modesto City Schools is an active partner in the Yosemite Regional Occupations Program Board which serves on the advisory board for Modesto Junior College’s Tech Prep program. Modesto City Schools is a participating member of the Alliance which is the local WIA board.

10. **Programs align with state and regional identified industry sectors, using data from labor market information and meeting local and regional occupational needs.**

A. Describe how the occupational needs of the local area with input from business, industry and labor were considered in identifying the career technical education program(s) to be assisted with Perkins IV funds. [State Plan]

As previously noted in the Central Valley Agriculture will remain a mainstay of our economy for the foreseeable future. Analysis and surveys by the Modesto Chamber of Commerce and Alliance indicate this will be an important occupational area. The Chamber of Commerce, the Alliance and Stanislaus Partners in Education have joined the emphasize two business sectors for expansion and development. One is **Manufacturing and Product Development.** The fourteen largest local production companies which include Gallo, Gallo Glass, Frito-Lay and Pacific Southwest Containers have indicated an aging workforce and the need to prepare students for careers in manufacturing. **Finance and Business Education** is the second area that the local Chamber of Commerce and the Manufacturers’ Council agree require a major influx of new workers. The **Home Economics**, occupational demands in the Central Valley remain high with a large demand for both **Child Development and Family Services** workers and **Hospitality and Tourism** workers. Like all of California, the Modesto area has experienced a shortage of quality **Health Science and Medical Technology** workers in all areas. Although there is currently a down turn in the area of **Building Trades and Construction** the continual pressure from the Bay area will make this a major area for expansion during the next five years. As noted, there is a rapidly aging work force in local industry, which has recognized a need for additional workers in the area of **Engineering and Design.** Finally, in the areas of **Information Technology, Public**
Service, Transportation, and Marketing Sales and Service. Modesto’s existence as a bedroom community for thousands of Bay Area commuters will require an ever expanding work force in these areas. Modesto will have programs in Arts, Media and Entertainment, Energy and Utilities, and Fashion Interior Design but it is recognized that these remain areas that will require completers to relocate to fully utilize the skills they have learned.

B. Describe how labor market information is used to determine the CTE programs offered by the LEA. [State Plan]

All of the information given in A above was compiled and agreed to by the Modesto Chamber of Commerce, the Alliance (WIA Board), Stanislaus Partners in Education and the Manufacture's Counsel after close analysis of both the state and federal labor market information which is available on the internet. Each of these agencies pay staff to analyze local conditions and make recommendations to local industrial agencies.

C. Describe methods to be used to coordinate career technical education services with relevant programs conducted under the Workforce Investment Act (WIA), Regional Occupational Centers/Programs, and other state or local initiatives, including cooperative arrangements established with local workforce investment boards, and community-based organizations, in order to avoid duplication and to expand the range of and accessibility to career technical education services. [State Plan]

As noted previously Modesto City Schools works closely with the Alliance (WIA Board) to assure that our program meets the needs identified by this local agency. Modesto City Schools provides half of the programs in the Yosemite Regional Occupations Program and is represented on its growing board and works closely with its director. In addition, Modesto City Schools works closely with Stanislaus Partners in Education, the Modesto Chamber of Commerce and various other community-based organizations all of which have a founding principal avoiding duplication and expanding the range of an accessibility to cover technical industrial services.

11. Describe the activities related to the use of technology. Such activities may include:
   ➢ training of career technical teachers, faculty, and administrators to use technology, which may include distance learning;
   ➢ provide career technical education students with the academic and career technical skills (including the mathematics and science knowledge that provides a strong basis for such skills) that lead to entry into the technology fields; or
   ➢ encouraging schools to work with technology industries to offer voluntary internships and mentoring programs, including programs that improve the mathematics and science knowledge of students. [Section 135 (b)(4)]
Modesto City Schools is on the cutting edge of the use of technology in education. Working closely with Sun Systems and Second Life we have established a presence in the virtual reality world and in distance learning. Not only are our career technical teachers receiving training in the use of this technology, but they are often called upon to present at conferences throughout the United States and the World on our efforts. We currently are in our third year of the PACRIMX project which is a virtual reality classroom shared with the student of Kyot Japan.

Modesto continues to believe that career technical students must have strong mathematics and science skills to be successful in the new workplace. We have a number of integrated mathematics and science classes which meet the A to G requirements while emphasizing the practical applications of this knowledge.

In a number of our programs, especially public services, Health and Medical Technology, Information Technology, Manufacturing and Product Development Technology, Modesto City Schools provides quality voluntary internships and monitoring programs that give the students hands on experience using the most advanced technology. Students improve their mathematics and science knowledge, because they realize they must to succeed in those careers.

Section 2: Support and Services for Special Populations

1. **Describe the extend to which the funded programs provide full and equitable participation of individuals who are members of special populations. [Section 135(b)(9)]**

Currently, every middle/junior high school student in the feeder schools to the Modesto City School District is given a non-biased career assessment, which is discussed with their parents. The test is provided (along with training for the testers) to these schools. The vast majority of schools offer an exploratory program that allows students to investigate various career paths. A number of career fairs are created in the Modesto City Schools District and in the feeder districts to explain career expectations and possibilities. It is normal for the presenters to be non-traditional for these careers. In each high school career center, Modesto has the Education and Career Opportunities System (ECOS), a computerized career and college search software, a Work Experience Education teacher, job placement services, and Regional Occupational Program information. The computerized programs are also provided at each networked computer in the district. There is a special Education work experience teacher who specializes in placement of individuals with disabilities. Also, Modesto City Schools’ Vocational Assessment Center provides vocation assessment, career guidance, career counseling, and job placement for special populations, which include all of those listed previously. Special outreach programs have been developed for students who are ELL, which include mentoring programs in their first language(s).

Perkins funds will continue to be used to expand collaboration with business and industry and, especially, to develop mentors and on-the-job learning experiences within appropriate industries for students who are members of special populations. A major emphasis for the program areas being improved will be working with the Workforce Investment Act Board to expand opportunities for special populations to be trained in, coached in, and placed in non-
traditional employment. Perkins funds will continue to be used to expand communications between the career center staff at the individual high schools and the business and industry community, which should expedite the acceptance of special populations in the work place. The Work Experience Specialists will continue to be involved in the development of workplace learning and youth apprenticeship experiences.

On-site child care for teen parents is available at the Chapter/Title I high schools, Downey and Modesto, and also at the Teen Parent Center at the Elliott Alternative Education Center. Sheltered English classes with the support of bilingual instructional paraprofessionals are in place at Downey and Modesto High Schools, and will be continued and expanded as needed. Support services will be coordinated at all sites with Chapter /Title I, English Language Learners, Special Education, Parent and Pregnant Teen Program staff. Vocational Instructional Paraprofessionals are assigned to Downey and Modesto High Schools and will focus their efforts on assisting special needs populations to succeed in vocational/career education courses. Special introduction classes for special needs students will be developed when needed. Funds from the Workforce Investment Act Youth Program(s) will be used with Perkins funds to assure that special needs students receive mentors and support from business, industry and community.

2. Describe the strategies adopted to overcome the barriers that result in lowering rates of access to or lowering success in the assisted programs for special populations. [Section 134(b)(8)(A)]

Modesto City Schools has always sponsored major recruiting efforts to involve special populations in non-traditional programs. Special efforts will continue to be made to recruit male and female students into non-traditional programs. These will include but not be limited to special career days for 8th grade students that emphasize non-traditional role models, brochures showing non-traditional person in careers, and hiring teachers who have followed non-traditional careers. Retention in these non-traditional programs is assisted by an extensive training and emphasis upon “Respect for All” which is required for all staff and is based on these district’s “Respect for All” policy (*).

The Comprehensive Education Advisory committee (Chapter/Title I and State & Federal Programs), both at the district and state levels, will be give in-services on the district’s vocational/Career Education Preparation Program. Promotional materials will be developed in Spanish and other appropriate languages. Special Education staff meetings will be attended by a district Vocational Specialist who represents the School-to-Career Education Department. Modesto City Schools provides a comprehensive transportation and childcare program which can be found on two of our five high schools. Students can follow a traditional schedule while their child is in an on-campus childcare center. The current director of the School Aged Parent and Infant Development (SAPID) program is a business and home economics teacher who constantly emphasizes education and career development. There is a full-time advisor who directs funds, training, etc. for this group who also emphasizes education and career development.

Modesto City Schools is a major “player” in all of the social agencies and community-based organizations active in the Modesto and the greater Stanislaus County area. Special efforts will continue in recruiting male and female students into non-traditional programs. These will
include—but are not limited to—special career days for 8th grade students that emphasize non-traditional role models, brochures showing non-traditional persons in careers, and hiring teachers who have followed non-traditional careers. Retention in these non-traditional programs is assisted by an extensive training and emphasis upon “Respect for All” which is required for all staff and is based on this district’s “Respect for All” policy (*), One Stop (Alliance), Hispanic Leadership Council, Community Services Agency, Department of Employment and Training, National Tech Prep Network, Yosemite Community College District School-to-Career Steering Board, Stanislaus County CAL Works Advisory Board, Modesto Chamber of Commerce, Stanislaus County Economic Development Corporation, and the Stanislaus County Workforce Investment Board.

Modesto City Schools has been deeply involved with the State Department of Education (CDE), Office of Gender Equity staff, during the last five years. We were one of the first districts that developed and sponsored gender equity programs based on grants available for middle grade students, and for pregnant minors and parenting teens. We have constantly attended the regional and state gender equity conferences and the various workshops available in specific subject areas. Modesto City Schools will continue to work closely with the CDE as it defines school districts’ roles in recognizing cultural diversity and means of recruiting culturally diverse students into vocational/career education.

3. Describe in detail how programs that are designed to enable special population students meet the local adjusted levels of performance will be provided. [Section 134(b)(8)(B)]

As has already been stated Modesto City Schools has a number of programs specifically designed to enable special population students meet local adjusted levels of performance. Perhaps the most significant would be our efforts with the students with disabilities. The Yosemite ROP through Modesto City Schools employs a Program Specialist whose major purpose is to assure the success of students with disabilities in both vocational programs and employment. To make certain this happens, we serve as a liaison between the classroom teacher and the vocational teacher. He provides assistance of instructional paraprofessionals and job coaches where needed to assure that students are successful.

As has been noted Modesto City Schools has a fully functional program for teen parents that provides the support need to be successful in a variety of careers. In addition, all Modesto City Schools teachers including the vocational teachers have been trained in SADIA techniques. Every high school site has sheltered English classes with the support of bilingual instructional paraprofessionals.

4. Describe the planned activities to prepare special populations, including single parents and displace homemakers who are enrolled in career technical education programs, for high skill, high wage, or high demand occupations that will lead to self-sufficiency. [Section 134(b)(8)(C)]

Special introduction classes for special needs students have been developed when needed. Funds from the Workforce Investment Act Youth Program(s) will be used with Perkins funds to assure
that special needs students receive mentors and support from business, industry and community. Perkins funds will continue to be used to expand collaboration with business and industry and, especially, to de4velop mentors and on-the-job learning experiences within appropriate industries for students who are members of special populations. A major emphasis for the program areas being improved will be working with the Workforce Investment Act Board to expand opportunities for special populations to be trained in, coached in, and placed in non-traditional employment. Perkins funds will continue to be used to expand communications between the career center staff at the individual high schools and the business and industry community, which should expedite the acceptance of special populations in the work place. The Work Experience Specialists will continue to be involved in the development of workplace learning and youth apprenticeship experiences.

On-site child care for teen parents is available at the Chapter/Title I high schools, Downey and Modesto, and also at the Teen Parent Center at the Elliott Alternative Education Center. Sheltered English classes with the support of bilingual instructional paraprofessionals are in place at Downey and Modesto High Schools, and will be continued and expanded as needed. Support services will be coordinated at all sites with Chapter /Title I, English Language Learners, Special Education, Parent and Pregnant Teen Program staff.

5. **Describe how individuals who are members of special populations will not be discriminated against on the basis of their status as members of the special populations.** [Section 134(b)(9)]

Modesto City Schools has a specific policy called “Respect for All”. The purpose of the policy is to assure that all members of special populations, no matter what makes them special are not discriminated against. This is accomplished by on going workshops on gender equity, “bullying”, students with special needs etc. Modesto City Schools is extremely concerned about controlling all forms of discrimination and dedicates significant funds and time to this effort.

Special efforts will continue to be made to recruit male and female students into non-traditional programs. These will include – but not be limited to – special career days for 8th grade students that emphasize non-traditional role models, brochures showing non-traditional person in careers, and hiring teachers who have followed non-traditional careers. Retention in these non-traditional programs is assisted by an extensive training and emphasis upon “Respect for All” which is required for all staff and is based on these districts’s “Respect for All” policy (*).

The Comprehensive Education Advisory committee (Chapter/Title I and State & Federal Programs), both at the district and state levels, will be give in-services on the district’s vocational/Career Education Preparation Program. Promotional materials will be developed in Spanish and other appropriate languages. Special Education staff meetings will be attended by a district Vocational Specialist who represents the School-to-Career Education Department. Modesto City schools will continue to recruit special population students through summer programs co-sponsored with Community Services Agency (*) and the new Workforce Investment Act Youth Committee(*). These and other similar programs will be designed to recruit students using Participant Advisors – and then provide instruction, support services, counseling, mentoring and career assessment activities.
Modesto City Schools provides a comprehensive transportation and childcare program which can be found at two of our five high schools. Students can follow a traditional schedule while their child is in an on-campus childcare center. The current director of the School Aged Parent and Infant Development (SAPID) program is a business and home economics teacher who constantly emphasizes education and career development. There is a full-time advisor who directs funds, training, etc. for this group who also emphasizes education and career development.

Modesto City Schools is a major "player" in all of the social agencies and community-based organizations active in the Modesto and the greater Stanislaus County area. Special efforts will continue in recruiting male and female students into non-traditional programs. These will include - but are not limited to - special career days for 8th grade students that emphasize non-traditional role models, brochures showing non-traditional persons in careers, and hiring teachers who have followed non-traditional careers. Retention in these non-traditional programs is assisted by an extensive training and emphasis upon "Respect for All" which is required for all staff and is based on this district's "Respect for All" policy (*), One Stop (Alliance), Hispanic Leadership Council, Community Services Agency, Department of Employment and Training, National Tech Prep Network, Yosemite Community College District School-to-Career Steering Board, Stanislaus County CAL Works Advisory Board, Modesto Chamber of Commerce, Stanislaus County Economic Development Corporation, and the Stanislaus County Workforce Investment Board.

Modesto City Schools has been deeply involved with the State Department of Education (CDE), Office of Gender Equity staff, during the last five years. We were one of the first districts that developed and sponsored gender equity programs based on grants available for middle grade students, and for pregnant minors and parenting teens. We have constantly attended the regional and state gender equity conferences and the various workshops available in specific subject areas. Modesto City Schools will continue to work closely with the CDE as it defines school districts' roles in recognizing cultural diversity and means of recruiting culturally diverse students into vocational/career education.

6. Describe in detail HOW career technical education programs align with the special population requirements of the Perkins Act.

A. How will the LEA identify, recruit, retain, and place male and female students who desire training for nontraditional fields?

Special efforts will continue to be made to recruit male and female students into non traditional programs. These will include but not be limited to special career days for 8th grade students that emphasize non-traditional role models, brochures showing non-traditional persons in careers, and hiring teachers who have followed non-traditional careers. Retention in these non-traditional programs is assisted by an extensive training and emphasis upon "Respect for All" policy.

The Comprehensive Education Advisory Committee (Chapter/Title I and State & Federal Programs), both at the district and state levels, will be given in-services on the district's Vocational/Career Education Preparation Program. Promotional materials will be developed in
Spanish and other appropriate languages. Special Education staff meetings will be attended by a district Vocational Specialist who represents the School-to-Career Education Department. Modesto City Schools will continue to recruit special population students through summer programs co-sponsored with Community Services Agency and the new Workforce Investment Act Youth Committee. These and other similar programs will be designed to recruit students using Participant Advisors and then provide instruction, support services, counseling, mentoring and career assessment activities.

B. How will the LEA provider outreach, recruitment and support services (e.g. childcare and transportation) to members of special populations, including teen parents, who may require them in order to participate in career technical education programs?

Modesto City Schools provides a comprehensive transportation and childcare program which can be found on two of our five high schools. Students can follow a traditional schedule while their child is in an on-campus childcare center. The current Director of the School Aged Parent and Infant Development (SAPID) program is a business and home economics teacher who constantly emphasizes education and career development. There is a full-time advisor who directs funds, training, etc. for this group who also emphasizes education and career development. In addition, the parenting and pregnant teens are a major focus in our Workforce Investment Act program.

C. How will the LEA collaborate with social service agencies and community-based organizations?

Modesto City Schools is a major "player" in all of the social agencies and community-based organizations active in the Modesto and the greater Stanislaus County area. Special efforts will continue in recruiting male and female students into non-traditional programs. These will include but are not limited to special career days for 8th grade students that emphasize non-traditional programs is assisted by an extensive training and emphasis upon "Respect for All" which is required for all staff and is based on this district's "Respect for All" policy, One Stop (called Future Factory), Hispanic Leadership Council, Community Services Agency, Department of Employment and Training, National Tech Prep Network, Yosemite Community College district School-to-Career Steering Board, Stanislaus County CAL Works Advisory Board, Modesto Chamber of Commerce, Stanislaus County Economic Development Corporation, and the Stanislaus County Workforce Investment Board.

D. How will the LEA recognize cultural diversity and utilize staff development activities and materials to recruit culturally diverse students into career and technical education?

Modesto City Schools has been deeply involved with the State Department of Education (CDE), Office of Gender Equity staff, during the last five years. We were one of the first districts that developed and sponsored gender equity programs based on grants available for middle grade students, and for pregnant minors and parenting teens. We have constantly attended the regional and state gender equity conferences and the various workshops available in specific subject

28
areas. Modesto City Schools will continue to work closely with the CDE as it defines school districts’ roles in recognizing cultural diversity and means of recruiting culturally diverse students into vocational/career education.

Section 3: Guidance and Counseling

1. Describe how ongoing career guidance and academic counseling will be provided to career and technical education students, including linkages to future education and training opportunities. [Section 134(b)(11), Ed Code 51224 and 51228, State Plan]

Modesto City Schools remains committed to the concept of ongoing career guidance and academic counseling for all students including the career and technical education students. The district maintains an excellent student to counselor ratio and emphasizes a integrated program that provides students at all levels an effective guidance program that consists of a planned sequence of activities based on the needs of students, that results in specific student outcomes in terms of demonstrable knowledge, skills and attitudes in the areas of educational, career, personal and social development. The Modesto City Schools counseling program has links to the Community College program, the State University program and the University of California program with 2+2 programs as well as Advanced Placement programs. It is a fundamental belief of the counseling program that all youth will need additional training after secondary school, and that all youth should be aware of the options.

2. Describe how local career guidance and academic counseling efforts are aligned with other state efforts (i.e. SB-70, counseling and guidance funds). [State Plan]

With the theme of “linking Learning to Living” Modesto City Schools has embarked on a goal of integrating relevant, hands-on, authentic learning opportunities provided by business and community partnerships. Initial work began with cohorts of teachers and administrators attending workshops sponsored by the International Center for Leadership in Education (ICLE). Willard Daggett, founder of ICLE, conducted a workshop with our 7-12 administrators followed by his colleague Tom Houlihan working with all 7-12 teachers. Out of this initial effort a countywide collaborative was formed, called E21 that partnered not only with local businesses but the county office of education, the local community college and California State University Stanislaus. The E21 collaborative is in the process of developing a five year plan for the continued staff development of teachers and administrators to integrate rigorous academics with relevant career technical education.

Section 4: Comprehensive professional development provided to teachers, counselors, and administrators.

1. Describe how the Perkins funds are used to supplement and enhance professional development activities for CTE teachers that go beyond those activities offered to all other teachers through the use of district funds. [State Plan]
Modesto City Schools invests heavily in the in-service and pre-service training in state-of-the-art vocational and technical education programs and techniques. We maintain close relationships with the educational staff at both the community college and university level, and provide funding or salary incentives to our teachers to expand their education.

Modesto City Schools has long seen the need to incorporate all aspects of the industry in their vocational programs. Therefore, all vocational and technical education teachers and other public school personnel who are involved in the district delivery of these educational services receive two types of training to ensure that they are current with all aspects of the subject-matter industries.

First, there is the general training, which emphasizes the importance of integration of all aspects of the curriculum into the classroom; this includes district, Stanislaus County Office of Education, and Yosemite Community College District workshops on integrated curriculum and all aspects of the industry. It also includes reinforcement from trainings and in services provided by professional organizations like: California Work Experience Educators (CAWEE), Association of California School Administrators (ACSA), California League of High Schools (CLHS), California League of Middle Schools (CLMS), Central Counties California Regional Occupational Centers/Programs (CCCAROC/P), the State STC Academy/Pathway Conference, and the State Partnership Academy Conference.

Second, instructors are funded and encouraged to attend conferences in their own specialization like the California Consortia of Electronics Instructors (CCEI) Conference, Toyota and Chrysler Diagnostic Skills Workshop, Johnson & Weber Food Service forums, Teacher Cadet Training, CAD/CAM Training, Actuarial Careers Information Fair, Tech 2000 Conference (for digital high schools), Tech Prep Conference, HECT Leadership & Management Conference, UTI Auto Instructor Training, which emphasizes the importance of all aspects of curriculum in specific industry areas.

Modesto City Schools is one of the sponsoring organizations for the Stanislaus Partners in Education (SPIE) Summer Internship Program that provides paid internships for teachers in local industries. This program essentially provides a maximum of one wee paid intern experience in various local industries for most any teacher who wishes to take advantage of this opportunity. Consultants from SPIE interview teachers and match them to the intern program they desire. In addition, specialized intern programs are also available in agriculture, electronics, automotive technology, etc., throughout the state. Perkins funds are used to assist teachers in taking advantage of these internship programs.

2. **Describe the professional development activities implemented or planned for the implementation of the California CTE Model Curriculum Standards and Framework. [State Plan]**

Each year the teachers in the areas that are scheduled for improvement will be given release time to work with their peers at the community college level to implement the latest California CTE Model Curriculum Standards and Frameworks and to incorporate them in the new curriculum that will be taught in that subject. In addition, Modesto City Schools will continue its policy of
requiring teachers to work with the California Department of Education in writing new state standards and curriculum. The Director of Secondary education and his designee will attend all state meetings on the CTE Model Curriculum Standards and Framework.

3. **Describe the ongoing professional development initiative(s) made to effectively integrate and use challenging academic and career technical education that is provided jointly with academic teachers. Include any professional development activities conducted in conjunction with secondary and postsecondary agencies. [Section 135(b)(5)(A)(ii)]**

As was noted in number 1. Modesto City Schools has an extensive program of professional development activities to effectively integrate and adopt challenging academic and career technical education that is provided jointly with academic teachers. Modesto City Schools is committed to the development of specialized secondary schools which integrate academic and vocational training and we send our teachers to the top line state and national conferences to how to accomplish this goal. In addition we work closely with our Tech Prep partners at the Community College and State College level to assure that our graduates continue to use their integrated knowledge to succeed in post secondary level programs.

4. **Describe the preservice and inservice training provided to staff in effective teaching skills based on research that includes promising practices. [Section 135(b)(5)(A)(ii)]**

Modesto City Schools is currently one of the one hundred school district that are receiving state assistance through the Corrections program. Our goal as developed with Daggett’s Program is to establish quality programs with both rigor and relevance. Some example of our inservice and preservice training planned for staff in effective teaching skills based on research are:

5. **Describe the inservice and preservice training provided to staff in effective practices to improve parental and community involvement. [Section 135(b)(5)(A)(iii)]**

Modesto City Schools is particularly sensitive to the need for improved parental and community involvement. Normally one of the staff improvement days is dedicated to this goal and the content is established by our Director of Community Affairs with input from our community Parker Committee. Some goals for these in-services in the near future are:

- Assure that representative of the community from all stake holders are on all significant interviews provides for key positions throughout Modesto City Schools.
- Continue to seek community input on all district recruitment plans for the next five years.
- Continue to work with various community agencies and stake holders to reduce the number of suspensions and expulsions.
- Continue to provide diversity training to MCS staff, parents and students.
- Promote more participation on part of all parent groups.
- Increase the community’s sensitivity and understanding to al teachers and administrators.
6. **Describe the inservice and preservice training provided to staff in the effective use of scientifically based research and data to improve instruction.** [Section 135(b)(5)(A)(iv)]

Modesto City Schools is deeply involved in training staff in the effective use of scientifically based research and data to improve instruction. Some examples of this are:

7. **Describe the professional development programs for teachers of career technical education and other public school personnel who are involved in the direct delivery of educational services to career technical education students, to ensure that such teachers and personnel stay current with all aspects of an industry.** [Section 135(b)(5)(B)]

Modesto City Schools has a number of professional development programs for teachers of career technical education and other public school personnel who are involved in the district delivery of educational services to career technical education students, to ensure that such teachers and personnel stay current with all aspects of an industry. These include but are not limited to:

8. **Describe the internship programs that provide relevant business experience to teachers.** [Section 135(b)(5)(C)]

Modesto City Schools operates an extremely effective internship program through Stanislaus Partners in Education. (SPIE) Any Modesto City Schools secondary teacher who wishes to expand their knowledge of a business is provided a paid internship of forty hours in the business industry of their choice. The payout is enough to cover all costs associated with the internship as well as to provide a financial incentive for the teacher. This is particularly effective in involving academic teachers in academics with the appropriate industries. Consultants from SPIE interview teachers and match them to the intern program they desire.

9. **Describe the programs designed to train teachers specifically in the effective use and application of technology to improve instruction.** [Section 135(b)(5)(D)]

As noted, Modesto City Schools works closely with both the community college and the university system to provide training for teachers in the use/application of technology. As can be seen from the attached Technology Plan, extensive programs are available in the use of computers, their paraphernalia and programs. In addition, funds from the Perkins grant are used to expand teacher’s experiences in the areas of teaching A+, N+ and I+ Certification in computers Mitchell On Demand Training, computer assisted Graphic Arts Training, Mass / Multimedia Training, and various aspects of computer-assisted manufacturing.

Section 5: **Accountability and Evaluation of CTE Programs**

1. **Describe the process that will be used to evaluate and continuously improve the academic and career technical performance of students participating in career technical education programs.** [Section 134(b)(7), State Plan]
Modesto City Schools has developed a program that allows us to measure the success of Career Technical students as compared to the general population. This evaluation is in the areas of credit generation, overall grade point average, graduation rate, attendance, scores on the various state tests including the CSHSS. In addition, we are joining the CAL-PASS system which should improve our ability to track students after they leave high school. It is our expectation that Career Technical students will be at or above average in these areas, when compared to the general populations.

2. **Describe the process that will be used to evaluate and continuously improve the quality of performance of the CTE programs offered to students.** [Section 134(b)(7), Section 135(b)(6), State Plan]

There are two criteria that are best used to evaluate and continually improve the quality of performance of CTE programs offered to students. One is the number of students who enroll and successfully complete the sequence of classes in each program. This will be annually tracked and evaluated and will include those who complete through the ROP program. The second criteria is the satisfaction of the local community and especially the specific industry members with the CTE program and the quality of its graduates. As previously noted each CTE program is required to have an advisory and there is a general advisory for all Modesto City Schools programs. These groups constantly comment on both program and graduates quality. In addition, Modesto City Schools works closely with the Manufactures Advisory Council, the Alliance (local WIA board), The Chamber of Commerce and local community college groups to assure that its quality of our programs and graduates are outstanding.

3. **Describe plans to increase the active participation of representatives from the workforce and economic development agencies including members of business, industry, and labor in planning, implementing, and evaluating funded programs.** [State Plan]

During the last decade Modesto City Schools have had a very close working relationship into the health profession through Doctor’s Hospital, Memorial Hospital and various acute care facilities. We are expanding that to the new Kaiser Hospital facility in Modesto. As has been previously noted, we have worked closely with the Alliance (WIA board), Stanislaus Partners in Education, the Modesto Chamber of Commerce, the Stanislaus County Ag Board, the Manufacture’s Council and various public agencies. One of our new areas is biotechnology and we are working with the San Joaquin Valley biotechnology Consortium to increase our presence in that area. In addition, we have begun a new outreach to the “business” employers to train a new generation of assistants and office managers.

One of our weak areas is labor unions, since the valley is traditionally not unionized in many areas. We have a long relationship with the teamsters, the Electrical Trades and the various unions that are represented at Gallo. During the next five years we will need to expand our work with local trade unions.
4. **Describe the actions being taken and/or planned to be taken by your agency to ensure participation in California Longitudinal Pupil Achievement Data System (CALPADS) and California Partnership for Achieving Student Success (Cal-PASS) data systems process. [State Plan]**

Modesto City Schools is currently in the process of signing up for the California Partnership for Advisory Student Services (CAL-PASS) and we expect to be fully operational by December of 2008. Modesto City Schools is a full CSIS state reporting district so we are fully compliant with the California Longitudinal Pupil Achievement State system at this time.

**Section 6: Use of funds**

1. **Describe how the Perkins IV funds supplement funds from other resources, such as general funds, School Improvement, Title I, SB 70, Prop 1D, guidance and counseling and others to improve the academic and technical skills of students participating in career technical education programs. [State Plan]**

Perkins IV funds are used to supplement general funds, school departments funds. Title I funds. SB70, Prop 1D, guidance and counseling and all other available funds to support Modesto City Schools strategic plan which calls for rigor and relevance. Often Perkins funds are used to provide the support for the relevance portion of the equation. For example, high level mathematics skills are an important achievement standard of our strategic plan and a great deal of effort is spent assuring that our students have these skills. Perkins IV funds are used to make the connection between the skills that are taught and their use in the real world of work. This same procedure is used with all of the high level skills that are taught.

2. **Explain how the academic and career technical education components of such programs are strengthened through the integration of coherent and rigorous content aligned with challenging academic standards and the Model Curriculum Standards and framework for career technical education to ensure learning in –**

A. **The core academic subjects (as defined in section 9101 of the Elementary and Secondary Education Act of 1965)**

- Modesto City Schools is committed to the integration of coherent and rigorous content that is aligned with challenging academic standards and the Model Curriculum Standards and frame work for career technology education in the core academic subjects. The most obvious example of this is our may pathways, specialized secondary schools and academics throughout Modesto City Schools. As noted we have a fully integrated academic agriculture program at every high school that allows agriculture students to earn thirty credits in “solid” subjects at the A-G level in integrated classes. We currently have five Partnership Academics, two specialized secondary6 schools and four pathway programs. One of our high schools, Johansen, is experimenting
with small learning communities and if successful this will be expanded to all high schools.

B. Career technical education subjects (as defined in the California Career Technical Education Model Curriculum Standards). [Section 134(b)(3)(B), Section 135(b)(1)]

➢ All Career Technical Teachers are encouraged and assisted in integrating and emphasizing significant academic elements of their programs by having that emphasized in their curriculum, by being taught in workshops and by demonstrations by their peers. At several schools we are currently experimenting with doing support classes for algebra as an extension of vocational classes in automotive, manufacturing and electronics. Also, we have had a long tradition of supporting writing in the vocational classes.

3. Describe how the Perkins IV funds and funds from other sources will be utilized to meet the needs of the regional economy. [State Plan]

Modesto City Schools is a major “player” in all of the efforts to meet the needs of the regional economy. As previously noted agriculture remains a major emphasis for our programs in support of the major effort it has on the Central Valley economy. Modesto City Schools has worked closely with the Manufacture’s Council to assure that the replacement workers needed for our local factories will be trained and prepared to replace the aging workforce. We have a similar initiative beginning in the area of middle level business management. Along with the Alliance and the Modesto Chamber of Commerce we have begun to develop a biotechnical component to take advantage of this expanding economic force. While Modesto City Schools remains on the cutting edge of economic development we have not forgotten the more traditional areas of training in health professions, trades and tourism, automotive and building construction. Modesto City Schools remains the go to school district for economic development and training in Stanislaus County.

4. Describe how Perkins IV funds and funds from other resources will be used to link career technical education at the secondary level and career technical education at the postsecondary level, including by offering the relevant elements of not less than one career technical program of study described in section 122(c)(1)(A) of the Carl D. Perkins Act. [Section 134(b)(3)(A), Section 135(b)(2)]

As has been noted throughout this document Modesto City Schools is deeply involved in the Tech Prep process with Modesto Junior College and has committed major resources from Perkins IV and the Regional Occupational Program as well as district funds to assure that our curriculum is aligned and that 2+2 agreements are in place. Currently Modesto City Schools offers the relevant elements on the following career technical programs of study as described in section 122(c)(1)(A) of the Carl D. Perkins Act [section 134(6)(3)(A) 135(6)(2)]:

35
In addition we are expanding our 2+2 to include Delta College in Stockton and Merced College in Merced. This is in line with our efforts to create 2+2+2 with both the University of California, Stanislaus and the University of California, Merced.

5. Describe, in detail, the planned use of Perkins IV funds from other resources to accomplish each of the following improvements in career technical education programs:

A. Enhance the rigor and relevance of the programs to the workplace and to the occupations for which students are being prepared. [State Plan]

Modesto City Schools like the rest of California recognizes the importance of rigor in the instruction of all students. The current workplace requires top quality skills in reading, writing, computing, information gathering, speaking and interpersonal relations. These skills are required at all levels from the shop floor to upper level management. Work with all local industry as well as state and national committees have emphasized the importance of these skills. Modesto City School's strategic plan commits all resources available to us to meeting this challenge. This includes but is not limited to Perkins funds, E21 funds, specialized schools funds, Title I funds, Special Education funds, EIA Bilingual funds (continue). As noted in the introduction this will allow us to meet our goals of:

B. Development and use of curriculum and instructional strategies that foster "essential employability skills" such as; the ability to work in a team, critical thinking, problem solving, and leadership skills, including the eleven "foundation standards" as defined in the CCTE model curriculum standards. [State Plan]

The district goal A diploma in every hand, a rewarding career in every future; ...a contributing member of our global society, emphasizes student workforce preparedness. It is the expectation that all teachers provide students with employability skills necessary to be successful. Students are regularly asked to work in small, cooperative groups to analyze and discuss scenarios designed to pique interest and foster team work. Literacy is a priority and frequent writing assignments such as persuasive essays and opened ended question enhance critical thinking. Students have opportunities to participate in formal and informal leadership capacities. Students in Future Farmers of America (FFA), Future Business Leaders of America (FBLA), Future Home-Makers of America (FHA), Health Occupations Students of America (HOSA), Distributive
Educational Clubs of America (DECA), Virtual Business, and Skills USA participate in a variety of competitions at local, state, and national levels. Students are also designated as team leaders, group facilitators, and teacher assistants.

All Modesto City Schools’ CTE classes have curricular outlines and pacing guides that clearly define the scope and sequence of the content to be taught during the course of the school year. The eleven foundational standards (1.0 Academics, 2.0 Communications, 3.0 Career Planning and Management, 4.0 Technology, 5.0 Problem Solving and Critical Thinking, 6.0 Health and Safety, 7.0 Responsibility and Flexibility, 8.0 Ethics and Legal Responsibilities, 9.0 Leadership and Teamwork, 10.0 Technical Knowledge and Skills, 11.0 Demonstration and Application) are incorporated into each of these courses. The ROP Standard Finder is prominently displayed on the Modesto City Schools district website: http://www.monet.k12.ca.us/careers/ROP COURSEGUIDE.htm. This allows teachers to quickly and conveniently cross reference industry sectors, foundation standards, and California State Standards. Teachers then use this information to more effectively plan and prepare lessons throughout the year regardless of the content area. Prior to each adoption cycle, teachers update and rewrite curricular outlines to ensure that Modesto City Schools’ courses are rigorous and relevant.

C. Provide career technical education students with strong experience in, and understanding of, all aspects of the industry they are preparing to enter. [Section 134(b)(3)(C), Section 135 (b)(3), State Plan]

NOTE: All aspects of the industry with respect to a particular industry that a student is preparing to enter includes; planning, management, finances, technical and production skills, underlying principles of technology, labor and community issues, health and safety, and environmental issues related to that industry.

Modesto City Schools has been committed for the last decade to provide career technical education students with strong experience in, and understandings of, all aspects of the industry. All of our career technical classes incorporate principles of technology, labor and community issues, health and safety issues and environmental issues related to such industry. As part of these classes students are required to demonstrate knowledge of planning, management, finances, technical and production skills for industries related to their program. All programs incorporate state and/or national level industry-related skill standards.

All Modesto City Schools career technical programs emphasize the developing of problem solving skills. In addition our specialized secondary schools, pathways, academic and smaller learning communities incorporates community issues related to the industry, environmental issues, economic issues, finance, health issues, labor issues, leadership/management, safety, technological skills, marketing and utilizing principals of technology.

D. Provision for reviewing the career technical education programs in order to set priorities for local program improvement and ensure alignment with the CTE Model Curriculum Standards and Framework. [State Plan]
Modesto City Schools for the last two decades has rewritten its career technical education program every five years in sequence with the newly revised curriculum which has been available from the State Department of Education. As noted in our previous plan we will continue that process for the next five years and will continue to seek input from local stakeholders to set priorities for local program improvement. As previously noted Modesto City Schools has always aligned its curriculum with the CTE Model Curriculum Standards and Frameworks. Modesto City Schools plans to continue this process during the five year plan.

E. Program changes necessary to ensure that the program instruction in all aspects of the industry is integral to all assisted programs. [Section 134(b)(3)(C), Section 135(b)(3)]

As has been previously noted, Modesto City Schools has incorporated instruction in all aspects of the industry as an important component of our written curriculum. Specific time is attached to each aspect and teachers are expected to cover this material in their instruction. Assistance will be provided to all teachers to assure they have the tools necessary and the skills required to cover all aspects of the industry. In addition, as Modesto City Schools moves to create more Partnership Academies, specialized secondary schools and Small Learning Communities all aspects of the industry will take a center stage in these programs. Finally, administrators at the various sites will be encouraged to evaluate how well teachers are integrating all aspects of the industry into their CTE curriculum.

6. Describe how funds will be used to promote preparation for non-traditional fields. [Section 134(b)(10)]

NOTE: Nontraditional fields are those in which one gender comprises less than 25 percent of the total number of employees. Examples: cosmetology is a nontraditional occupation for males; Construction is a nontraditional occupation for females. CTE programs for these occupations are classified as nontraditional programs.

Modesto City Schools has been working for a number of decades to promote preparation for non-traditional fields, and has seen several non-traditional fields (for example agriculture) move from those areas. We will continue our efforts with specialized emphasis on Industrial Technology especially metal manufacturing and carpentry, Public Safety with an emphasis on fire fighting, Child Development, Hospital Occupations, and Food Service. Modesto City Schools has followed the plan of using non-traditional practitioners in our career fares and recruitment, using non-traditional students on our brochures and recruitment documents, as well as specifically targeting non-traditional students for recruitment in our programs. In addition, we will increase our participation in state non-traditional recruitment in-services, and develop in-services to increase our teachers' understanding, of the needs of non-traditional populations. Finally, to the extent it is practical we will recruit non-traditional instructors for these classes.

Section 7: EDGAR Certifications and Other Assurances

1. Program improvement activities of such size, scope, and quality to be effective.
A. Provide assurances that the career technical education programs offered are of such size, scope, and quality to bring about improvement in the quality of career technical education programs. [Section 134(b)(6), Section 135(b)(8)]

Modesto City Schools has in excess of thirteen thousand students enrolled in its high schools. Over half of these students are enrolled in some form of career technical education program. Each year at least 2,400 students enroll in an advanced training or ROP class provided by Modesto City Schools.

B. You must provide a statement of assurances that the use of the Carl D. Perkins Career Technical Education funds received will be limited to programs as described in this local plan that;

- Begin no earlier than grade seven;
- Include at least one clearly defined Program of Study as defined in Section 122(e)(1)(A), (B), & (D) of the Act; and
- Are taught by a career technical education credentialed teacher as defined in the State Plan.

Modesto City Schools assures that the use of the Carl D. Perkins Career Technical Education Funds received will be limited to programs as described in the local plan that;

- Begin no earlier than grade seven;
- Include at least one clearly defined Program of Study as defined in Section 122©(1)(A), (B), & (D) of the Act; and
- Are taught by a career technical education credentialed teacher as defined in the State Plan.
Ag. Advisory Committee
Meeting Minutes
Agriculture Advisory

Wednesday, November 12, 2008
6:00 p.m.

Agenda

1. Approval of new summer Ag ROP classes
   (Mark Nower)
2. Other Business (Don Prather)

Beyer High
Ag Department

Regional Occupational Program (ROP) 576-4161
Ag Advisory Meeting  
November 12, 2008  
Beyer High  
6:00 p.m.  

Present:  

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don Prather</td>
<td>Investment Broker</td>
</tr>
<tr>
<td>Leo Scheuber</td>
<td>Duarte Nursery</td>
</tr>
<tr>
<td>Bill Morris</td>
<td>Nurseryman</td>
</tr>
<tr>
<td>Lewis &amp; Barbara Thompson</td>
<td>Parents</td>
</tr>
<tr>
<td>Richard Wolfe</td>
<td>Beyer High School</td>
</tr>
<tr>
<td>Kristy White</td>
<td>Instructor</td>
</tr>
<tr>
<td>Mark Nower</td>
<td>Beyer High School</td>
</tr>
<tr>
<td>Natalie Stevano</td>
<td>Instructor</td>
</tr>
<tr>
<td>Susan Beatty</td>
<td>Davis High School</td>
</tr>
<tr>
<td>Michael Schilperoort</td>
<td>Instructor</td>
</tr>
<tr>
<td>Roger Dickson</td>
<td>Downey High School</td>
</tr>
<tr>
<td>Nancy Miguel</td>
<td>Instructor</td>
</tr>
<tr>
<td>Michele Larsen</td>
<td>Enochs High School</td>
</tr>
<tr>
<td>Gary Gerhardt</td>
<td>Instructor</td>
</tr>
<tr>
<td>Scott Layne</td>
<td>Johansen High School</td>
</tr>
<tr>
<td>Victoria VanLieshout</td>
<td>Instructor</td>
</tr>
<tr>
<td>Scott Kuykendall</td>
<td>Modesto High School</td>
</tr>
<tr>
<td></td>
<td>School-to-Career</td>
</tr>
</tbody>
</table>

Meeting called to order by Roger Dickson: 6:10 p.m.

Mr. Dickson asked for introductions and notified the advisory that Don Prather, Advisory Chairperson, will be leaving that position after the Spring 2009 advisory meeting. We will be looking for a new chair and hopefully will have a replacement at that time.

Don Prather called for motion to approve minutes from last meeting,  
✓ 1st - Nancy Miguel, 2nd - Scott Layne – Vote: Unanimous

Agenda

1. Approval of new Summer Ag ROP Classes (Nower)

Mark Nower distributed copies of new agriculture curriculum. These courses were developed to enable students to advance in Ag courses in summer service without exceeding maximum hours of instruction in regular school year courses. Each course includes a MCS course outline format as well as the YROP format. The textbook for all of the new courses, Agriculture 1-5, is AgriScience Explorations and an AgriScience Explorations activity manual. A copy of each was made available to the advisory for review. Depending on available funds, we will have at least one classroom set per school.

Don Prather called for motion to approve new course outlines and text as submitted  
✓ 1st – Leo Scheuber, 2nd – Bill Morris, Vote: Unanimous
2. **Other Business (Don Prather)**

Mr. Prather notified the advisory committee of his leaving for another area. He will stay through this school year and the Spring 2009 advisory will be his last.

**Items not on Agenda**

- **Updates:**
  - Roger Dickson reported that History and Art of Floral Design has been approved by the UC as a Visual and Performing Art for College entrance.
  - Modesto City Schools received Grant Award Notification for Agricultural Vocational Education Incentive Grant funds for 2008/09 in the amount of $109,856.
  - Modesto HS had the second place team in the Nation in Ag Sales.
  - Mark Nower has not been able to go forward with the Ag Communications & Oral Interpretation course approved by the advisory, Fall 2007. This course was developed at the request of Davis High School administration but seems to be held up due to the type of credential required to teach this course. Mr. Kuykendall will follow up on this issue.
  - Enoch's school farm, project is moving forward $1.4 million matched from a couple pots of district money, gone to architect no DSA, could be as early as this summer.
  - Greenhouse – Risk management covering for Beyer since the old one burned. When that amount is determined, we will provide the same amount for the Enoch's greenhouse.
  - Leo Scheuber, Duarte Nursery, offered vines and tours for Ag programs.
  - Mark Nower asked for update/location on Gregori Ag farm. Mr. Kuykendall suggested Mr. Albritton would have the information.
  - Mr. Kuykendall believes categorical money will be affected by state cuts.

- **Discussion:**
  - Money generated from summer service - Mr. Kuykendall says 90% goes to salaries and any leftover goes to directly supporting summer service.
  - Leo Scheuber- most districts have let vocational education go by the waste side and noted that ROP seems to be contributing a great deal to MCS Ag Programs.
  - Mr. Kuykendall reminded advisory that the District is contributing a large amount for the Ag Farm at Enochs high.
  - Don Prather says Rodney made vocational education and ROP look seamless.
  - Mr. Dickson stated that the reason for Ag success in MCS is the coming together of all Ag instructors.
  - Natalie Stevano believes the key to the future of Ag is in crossing over curriculum, i.e. speech, computers, fine arts so that Ag courses meet graduation requirements.
 Texbook Approval:

Roger Dickson submitted textbook for approval for the Agricultural Drafting 3-4 course. Text will be used as a supplemental text and since this is a Perkins year for Drafting, those funds can be used to purchase the text.

✓ Don Prather called for motion to approve AutoCAD Architecture 2008 as supplementary text for Agricultural Drafting 3-4 course, 1\textsuperscript{st} - Mark Nower, 2\textsuperscript{nd} - Leo Scheuber, Vote: Unanimous

Adjourned: 7:20 p.m. by Don Prather
Agriculture Advisory

Tuesday, April 7, 2009
6:00 – 7:00 p.m.
Johansen High
Ag Department

Agenda

1. Course Updates
2. Gregori Update
3. Budget Report
4. Site Reports
5. New Advisory Chair
6. Approve continuation of current ROP curriculum and agriculture training program courses
Spring Ag Advisory  
Johansen High Ag Department  
April 7, 2009  
6:00 p.m.

Mike Brecht thanked everyone for coming and gave a brief overview of the Agriculture Program in Modesto City Schools. Ag instructors meet every Friday morning during the school year at 6:00 a.m. at Perkos, advisory members are welcome to attend.

Minutes

Present:
Don Prather        Past Chair  
Jake Wenger        Chair  
Leo Scheuber       Dutte Nursery  
Kimberly Hernandez Haley Farms  
Cody Penfold       California Poultry Federation  
Chris Durrer       Durrer Dairy/Lorita Holsteins  
Mark Driver        Driver Farms, Inc./Stanis. Co. Farm Bureau  
Andrew Genasci     Genasci Dairy  
Jared Penfold      Stanislaus Farm Supply  
Joe Gonsalves      Stanislaus Farm Supply  
Bill Morris        Morris Nursery  

Staff Present:
Scott Kaykendall  MCS Director, CTE/ROP  
Mike Brecht        MCS Instructor  
Susan Beatty       MCS Instructor  
Roger Dickson      MCS Instructor  
Mike Schilpereort  MCS Instructor  
Jim Etchepare      MCS Instructor  
Kristy White       MCS Instructor  
Nancy Miguel       MCS Instructor  
Mark Nower         MCS Instructor  
Natalie Stevano    MCS Instructor  
Tammy Burris       MCS Instructor  
Michele Larsen     MCS Instructor  
Rich Wolfe         MCS Instructor  
Gary Gerhardt      MCS Instructor

Don Prather called meeting to order at 6:06 p.m.
Don Prather called for a motion to approve minutes of last meeting. Motion made to approve by Bill Ketcher, 2nd by Leo Scheuber. Minutes approved by unanimous vote of advisory.

1. Course Updates — Mark Nower reported that two courses; Agriculture Computer Literacy and Effective Agricultural Communication & Oral Interpretation both have cleared the district and have been issued course numbers. Agricultural Communication & Oral Interpretation’s UC credit status is still pending.
Jim Etchepare reported that Landscape Design and Maintenance class for Special Education students is going well at Johansen. Students are very receptive and excited. They have been working on beautification projects on the Johansen campus.
Natalie Stevano reported Floral Design course has received UC approval as a Visual Performing Arts.
Ag 1-5 courses added first semester, no other course or curriculum changes/additions for 2009-10 at this time.

2. **Gregori Update** — Mark Nower met with Principal Albritton to discuss the possibility of using some of the fields originally planned for athletic use for an Ag farm. The initial report came back that a school farm located on the premises would not violate any codes — so it could be a possibility. Gregori High School is on track to open Fall 2010 for freshman and sophomores.

3. **Budget Report** — Ag incentive reduced by 1%, specialized was taken totally. Enochs Barn must be under construction within 5-years of original grant fund date.

Scott Kuykendall — Three tiers of cutting consequences (1) – safe (2), but district could not take your money for other things (3) ROP — can take the money for other things. Immediate 15% cut - about $550,000 taken back. Next year ROP will be cut another 6%. We will be operating on 75-80% of our usual budget. Numbers must be up, cannot justify classes with 15 students. Next year we will be paid based on 2007-08 ADA generated minus 22%. If we generate more in 2008-09, it doesn’t matter because it is still based on 2007-08. Scott hopes not to eliminate any program, just cut backs. All classes should have at least 30 student enrolled. Low enrollment costs as much for the teacher as a full class. We will concentrate on costs that maintain our programs, no improvements. Leo Scheuber – asked what happens if you don’t have as much as 2007-08, doesn’t matter according to Scott, flat rate. We expect approximately $448,000 for next year in Carl Perkins funding. Lottery monies are questionable, would have been approximately $200,000 but we are not counting on it. We have put in an RFP for summer youth program, 14-17 year olds, serve about 200 students. If you have students who are economically disadvantaged, let us know.

4. **Site Reports** — Ag program updates were given for the following sites:

   **Johansen/Gerhardt** — students are excited about summer projects going to the Fair; rabbits, chickens, pigs, and landscape projects. Ballots for next year good.

   **Mike/Downey** — new principal is supportive of Agriculture program. Hogs, rabbits and goats all going to the Fair from Downey. Eight Downey students going to state conference. Ballots look good for next year; 129 freshman wanting to take Ag.

   **Davis** — strong, judging teams, poultry, floriculture, poultry, milk team in top 5, hogs, lambs/goats, poultry, rabbits, floriculture and heifer, landscape, school farm packed. Preliminary numbers for fall will require 15 sections, currently 9 sections.

   **Scott/Modesto** — missing Grider. All going well, floriculture team doing well, livestock judging team doing well, a lot of students going to Fair, probably double, 40-45 students. Ag Mechanics — sheep stands, keeping to smaller projects that can be completed by school year end.
Richard/Beyer - 239 students 10 sections, small engine floriculture, harvest festival turned out great, tri tip dinner, 450 people thanks to the support of community. White - floral program growing, doing very well. Eleven sections for next year.

Roger/Enochs - 25 going to fair, 52 in Ag related work experience projects, 1D money – currently working on drawings for sewer/drainage issues. Michele’s welding team doing well, horse team, special animal team came in 9th at UC Davis. Dickson announced he will be retiring at end of the year. Mr. Dickson will go through summer, maybe one period next year. Brecht thanked him for his great contribution to MCS Ag Program.

5. **New Advisory Chair** – Roger Dickson thanked Don Prather for his many years as chair. He has been a fantastic supporter of the agriculture program in Modesto City Schools and has fought many battles for the program. His service has truly been appreciated. Jake Wenger, new Ag Advisory Chair was introduced by Roger Dickson.

6. **Approve continuation of current ROP curriculum and agriculture training program courses** – Don Prather called for motion to approve the continuation of the current ROP courses and curriculum, 1st - Bill Ketcher, 2nd - Bill Morris, Vote - Unanimous

**Items of Interest**
Ag Aware luncheon, Thursday April 9, 2009 - 11:30 a.m. SOS
May 1 – Duarte Nursery Friends Day, luncheon, wine tasting
Flory industries – come visit

Adjourned: 7:39 p.m.
Completed Student Program Plan
<table>
<thead>
<tr>
<th>Activity</th>
<th>Fall / Spring</th>
<th>Pre-Registration</th>
<th>Fall 2021</th>
<th>Fall 2022</th>
<th>Spring 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Enrichment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N. Planned Department Activities (PPA)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Fall / Spring</th>
<th>Pre-Registration</th>
<th>Fall 2021</th>
<th>Fall 2022</th>
<th>Spring 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Supervised Practice Experiences Plan (Projected program should be related to career goal):

<table>
<thead>
<tr>
<th>Activity</th>
<th>Fall / Spring</th>
<th>Pre-Registration</th>
<th>Fall 2021</th>
<th>Fall 2022</th>
<th>Spring 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:

Parent/Guardian: Signature:
Beyer High School Pathway

**Plant & Animal Science**

- Freshman 9th Grade
  - Integrated Ag Science 1-2 (College Prep Elective)

- Sophomore 10th Grade
  - Integrated Ag Science 3-4 (UC & CSU Approved "D" Lab Science Requirement)

- Junior 11th Grade
  - Integrated Ag Biology (Graduation Elective)

- Senior 12th Grade
  - Advanced Animal Science (Graduation Elective)

**Agriculture Mechanics**

- Small Engines 1-2 (Graduation elective)

- Small Engines 3-4 (Graduation elective)

**Upper Division Classes**

- Floral Design
  - Fine Arts Graduation Credit

- UC “F” credit
  - 2009-2010 school year

- Greenhouse Employee Training ROP

- Small Engines ROP

- Ag Mechanics ROP
Section 21

Proficiency Standards
In the Agricultural Business Pathway, students learn about agricultural business operation and management. Topics include accounting, finance, economics, business organization, marketing, and sales.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3 = Exceeds</th>
<th>2 = Meets Conditions Stated</th>
<th>1 = Exists on a limited basis</th>
<th>0 = Does not exist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand decision-making processes within the American free enterprise system</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Differentiate among the components of the American free enterprise system and other forms of economic systems</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Distinguish among the main characteristics of individual proprietorships, partnerships, corporations, and cooperatives</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the advantages and disadvantages of the four types of business ownership</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Analyze appropriate decision-making tools and financial records to make key management decisions</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Analyze physical production relationships to determine optimum use levels</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how to calculate the fixed and variable costs associated with the production of agricultural products and determine the output level that will yield</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students understand the fundamental economic principles of agribusiness and agricultural production</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how basic economic factors affect agricultural production and agribusiness management decision</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Know basic agricultural economic terminology</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the law of supply and demand as it affects price determination</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Analyze how agriculture uses scarce resources to meet the needs and demands of its consumers</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Differentiate between elastic and inelastic supply and demand</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the law of diminishing returns and its impact on agricultural production</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students understand the role of credit in agribusiness and agricultural production</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Analyze the factors that determine the cost of credit in order to select optimum credit sources (e.g., the advantages and disadvantages of borrowing from the</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Know the criteria lenders use to evaluate repayment capacity</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Analyze balance sheets and cash-flow statements to determine the ability to repay loans</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students understand proper accounting principles and procedures used in business management and tax planning</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the differences between cash and accrual accounting systems</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the use and importance of budgets, income statements, balance sheets, and financial statements</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the basis of taxation within the tax system and its impact on the economy, including the role of taxes in agribusiness</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3 = Exceeds</th>
<th>2 = Meets Conditions Stated</th>
<th>1 = Exists on a limited basis</th>
<th>0 = Does not exist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the concept and process of risk management, including the use of risk management tools such as insurance</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how recordkeeping, farm plans, and an analysis of best practices affect risk management decisions</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the role of contingency plans in risk management</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how recordkeeping, farm plans, and an analysis of best practices affect risk management decisions</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students understand the role and value of agricultural organizations</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the benefits of private, public, and governmental organizations, including the value and impact of cooperatives</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how participation within organizations would be beneficial in supporting various agricultural operations</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how to identify and electronically access public and private agricultural organizations</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how marketing functions in a free market society</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the advantages and disadvantages of the various marketing options for agricultural products and services</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how the law of comparative advantage affects agricultural production</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the impact of advertising and promotion on the marketing of agricultural products and services</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how promotion trends for agricultural products influence individuals</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand the stages in making a successful sale and the various techniques used to approach potential customers and overcome their objections</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how to develop a marketing plan for an agricultural product or service</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students understand the sales of agricultural products and services</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Determine the most effective methods for assessing customer needs and wants</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students understand local, national, and international agricultural markets and how trade affects the economy</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Examine the physiological and psychological factors that influence motivation to purchase, including the fundamental steps in making a</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how the importance of agricultural imports and exports affects state and national economies</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Understand how to determine property values and how to complete a depreciation schedule</td>
<td>Know how governmental, economic, and cultural factors affect international trade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to determine the tax obligations for an agribusiness</td>
<td>Compare and contrast United States trade policies with those of other important trading partners</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic risk management principles and their impact on economic viability</td>
<td>Understand how biotechnology affects trade and global economies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand environmental responsibility and its impact on agribusiness</td>
<td>Understand how different cultural values affect agricultural production and marketing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand how negotiations and bargaining agreements affect trade agreements</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the Animal Science Pathway, students study large, small, and specialty animals. Students explore the necessary elements—such as diet, genetics, habitat, and behavior—to create humane, ecologically and economically sustainable animal production systems. The pathway includes the study of anatomy and physiology, nutrition, reproduction, genetics, health and welfare, animal production, technology, and the management and processing of animal products and byproducts.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand the necessary elements for proper animal housing and animal handling equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand appropriate space and location requirements for habitat, housing, feed, and water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to select habitat and housing conditions and materials (such as indoor and outdoor housing, fencing materials, air flow/ventilation, and shelters) to meet the needs of various animal species</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the purpose and the safe and humane use of restraint equipment, such as squeeze chutes, scales, and chutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the purpose and the safe and humane use of animal husbandry tools, such as hoof trimmers, electric shears, elastrators, dehorning tools, and scales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand key principles of animal nutrition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the flow of nutrients from the soil, through the animal, and back to the soil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the principles for providing proper balanced ration for a variety of production stages in ruminants and nonruminants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the digestive processes of the ruminant, monogastric, avian, and equine digestive systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how animal nutrition is affected by the digestive, endocrine, and circulatory systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal physiology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the major systems and the function of the organs within each system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the animal management practices that are likely to improve the functioning of the various systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal reproduction, including the function of reproductive organs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand animal conception (including estrus cycles, ovulation, and insemination)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the gestation process and basic fetal development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the parturition process, including the identification of potential problems and their solutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the parturition process, including the identification of potential problems and their solutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply quality assurance practices to the proper administration of medicines and animal handling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how diseases are passed among animal species and from animals to humans and how that relationship affects health and food safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the impacts on local, national, and global economies as well as to consumers and producers when animal diseases are not appropriately contained and eradicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand common rangeland management practices and their impact on a balanced ecosystem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of rangeland use in an effective animal production program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how rangeland management practices affect pasture production, erosion control, and the general balance of the ecosystem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to manage rangelands (including how to calculate carrying capacity) for a variety of animal species and locations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to balance rangeland use for animal grazing and for wildlife habitat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the challenges associated with animal waste management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand animal waste treatment and disposal management systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand various methods for using animal waste and their environmental impacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the health and safety regulations that are an integral part of properly managed animal waste systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal welfare concerns and management practices that support animal welfare</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the early warning signs of animal distress and how to rectify them</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand public concerns for animal welfare in the context of housing, behavior, nutrition, transportation, disposal, and harvest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand federal and state animal welfare laws and regulations, such as those for abandoned and neglected animals, animal fighting, euthanasia, and medical research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the regulations for humane transport and harvest of animals, such as those delineated by the U.S. Department of Agriculture, Food Safety and Inspection Service, and the Humane Methods of Slaughter Act</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand large animal (cattle, horses, swine, sheep, goats, etc.) and small animal (poultry, cavy, rabbits, etc.) production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand compounds used in animal production breeding systems (e.g., purebred compared with crossbred) and reasons for their use</td>
<td>Know how to synthesize and implement optimum requirements for diet, genetics, habitat, and behavior in the production of large and small animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand animal inheritance and selection principles, including the structure and role of DNA</td>
<td>Understand how to develop, maintain, and use growth and management records for large or small animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate a group of animals for desired qualities and discern among them for breeding selection</td>
<td>Students understand specialty animal (fish, marine animals, llamas, tall flightless birds, etc.) production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to use animal performance data in the selection and management of production animals</td>
<td>Understand the specialty animal's role in agriculture (e.g., fish farms, pack animals, working dogs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and discuss current technology used to measure desirable traits</td>
<td>Understand the unique nutrition, health, and habitat requirements for specialty animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to predict phenotypic and genotypic results of a dominant and recessive gene pair</td>
<td>Know how to synthesize and implement optimum requirements for diet, genetics, habitat, and behavior in the production of specialty animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of mutations (both naturally occurring and artificially induced) and hybrids in animal genetics</td>
<td>Understand how to develop, maintain, and use growth and management records for specialty animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the causes and effects of diseases and illnesses in animals</td>
<td>Students understand how animal products and byproducts are processed and marketed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the signs of normal health in contrast to illness and disease</td>
<td>Understand the relative importance of the major meat classifications, including the per capita consumption and nutritive value of those classifications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the importance of animal behavior in diagnosing animal sickness and disease</td>
<td>Understand how meat-based products and meals are made</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the common pathogens, vectors, and hosts that cause disease in animals</td>
<td>Understand how non-meat products (such as eggs, wool, pelts, hides, and byproducts) are harvested and processed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand prevention, control, and treatment practices related to pests and parasites</td>
<td>Understand how meat products and non-meat products are marketed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand the value of animal byproducts to nonagricultural industries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand animal harvest, carcass inspection and grading, and meat processing safety regulations and practices and the removal and disposal of non-edible byproducts, such as those outlined in Hazard Analysis and Critical Control Point documents</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Completion Standards**

The Forestry and Natural Resources Pathway helps students understand the relationships between California's natural resources and the environment. Topics include energy and nutrient cycles, water resources and management, soil conservation, wildlife preservation and management, forest and fire management, and lumber production. In addition, students study the outdoor recreation industry and multiple-use management.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>T-Testing</th>
<th>N-Notes</th>
<th>V-Verbal</th>
<th>H-Hands-On</th>
<th>L-Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand the importance of energy and energy cycles</td>
<td>Comp Date</td>
<td>How you are evaluated</td>
<td>Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the oxygen, carbon, nitrogen, and water cycles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the difference between renewable and nonrenewable energy sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the difference between natural resource management conservation strategies and preservation strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare the effects on air and water quality of using different forms of energy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the way in which human activities influence energy cycles and natural resource management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand air and water use, management practices, and conservation strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the government's role in regulating air, soil, and water use management practices and conservation strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand air and water conservation issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand air and water conservation issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the component of a plan that monitors water quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the component of a plan that monitors air quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the way in which water management affects the environment and human needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand soil composition and soil management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the systems used to classify soils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the reasons for and importance of soil conservation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to analyze soils found in the different natural resource management areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to develop and implement a soil management plan for a natural resource management area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to analyze existing soil surveys to develop effective management plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand rangeland management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the locations of major U.S. and California rangeland areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Comp Date</th>
<th>How you are evaluated</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know the major body parts, digestive systems, and reproductive organs of aquatic species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand a variety of methods to determine the populations of existing aquatic species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the relationship between water quality and aquatic species habitat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand a variety of management practices for managing aquatic species for sport fishing and other purposes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to make financial and production decisions and maintain growth and management records for a selected aquatic species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the outdoor recreation industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the potential environmental impacts of recreational activities and how to manage the resources affected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand basic survival skills and first-aid procedures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand appropriate trail construction and maintenance techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to set up a campsite for minimum environmental impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic plant physiology, anatomy, and taxonomy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the scientific method of animal classification, including order, family, genus, and species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to use a dichotomous key to identify plants and animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to identify local trees, shrubs, grasses, forbs, and wildlife species by common name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize the factors that influence plant growth, such as respiration, temperature, nutrients, and photosynthesis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the role of fire in natural resource management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of fire in forest and rangeland ecosystems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the significance of each of the components of the &quot;fire triangle.&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know appropriate wildland fire-suppression practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the components of a fire-control plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to use fire-control tools safely</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the relationship of rangeland management, the environment, wildlife management, and the livestock industry</td>
<td>Know the training requirements for fire-suppression certification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the carrying capacity in various rangelands for both wildlife species and domestic livestock</td>
<td>Students understand forest management practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distinguish among different browse and forage species in California rangelands</td>
<td>Understand how social, political, and economic factors can affect the use of forests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the components of a rangeland monitoring plan</td>
<td>Understand the California Forest Practice Act and the requirements for Timber Harvest and Habitat Conservation Plans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the requirements and rights accompanying public land grazing permits and the government agencies involved (e.g., Bureau of Land Management and U.S. Forest Service).</td>
<td>Analyze forest management systems (e.g., sustained yield, water shed management, ecosystem management, multiple-use management).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand wildlife management and habitat</td>
<td>Understand how to select appropriate recreational gear for trips of varying types and durations and how to use it safely and appropriately (for minimum environmental impact).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the relationship between habitat and wildlife population</td>
<td>Analyze harvest and renewability (e.g., re-seeding and thinning) systems and identify the impact of each on the land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand habitat requirements for different species and identify factors that influence population dynamics</td>
<td>Understand Silvicultural systems and skills, including appropriate tool use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand methods for determining existing wildlife species populations</td>
<td>Understand how to identify and diagnose damage from destructive insects, diseases, and weather, and know methods for their management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand mammalian and avian reproductive processes and explain how nutrition and habitat affect reproduction and population.</td>
<td>Students understand the basic concepts of measurement, surveying, and mapping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand a variety of management practices used to manage wildlife populations for hunting and other recreational purposes</td>
<td>Understand the Public Land Survey System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the economic and environmental significance of sport hunting and fishing industries</td>
<td>Use surveying equipment, including global positioning satellites, maps, and a compass to determine area, boundaries, and elevation differences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the purpose, history, terminology, and challenges of the Endangered Species Act and current activities related to the Act</td>
<td>Know how to apply timber-cruising and log-scaling skills to determine timber and log volume for management and marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand aquatic resource use and management</td>
<td>Understand how to create a management plan map that includes layer information and data points from global information systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the different types of aquatic resources</td>
<td>Students understand the use, processing, and marketing of products from natural resource industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to manufacture a product (to manufacturing standards) from a natural resource</td>
<td>Know the marketing processes and manufacturing standards for a variety of natural resource products, including mining, quarrying, and drilling.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know different wood types and their uses</td>
<td>Analyze the production of specialty and seasonal products from natural resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand public and private land issues</td>
<td>Know lumber manufacturing processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the differences between public land designations (e.g., State Park, National Forest, wilderness areas, wild and scenic areas)</td>
<td>Understand the differences between publicly and privately held lands.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of public and private property rights and how they affect agriculture</td>
<td>Understand the role of government in managing public and private property rights</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Agri-Science Pathway helps students acquire a broad understanding of a variety of agricultural areas, develop an awareness of the many career opportunities in agriculture, participate in occupationally relevant experiences, and work cooperatively with a group to develop and expand leadership abilities. Students study California agriculture, agricultural business, agricultural technologies, natural resources, and animal, plant, and soil science.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

- **T-Testing**
- **N-Notes**
- **V-Verbal**
- **H-Hands-On**
- **L-Lab**

| Performance Standards | | | |
|-----------------------|-----------------------|
| Understand the history of the agriculture industry in Ca. | Understand the economic impact of leading California agricultural commodities |
| Understand the history of the agricultural industry in California | Understand the economic impact of major natural resources in California |
| Understand how California agriculture affects the quality of life | Know the economic importance of major agricultural exports and imports |
| Understand the interrelationship of California agriculture and society at the local, state, national, and international levels | Students understand the interrelationship between agriculture and the environment |
| Understand the laws and regulations concerning biotechnology | Understand how new energy sources are developed from agricultural products (e.g., gas-cogeneration and ethanol) |
| Understand important agricultural environmental impacts on soil, water, and air | Understand how natural resources are used in agriculture |
| Understand current agricultural environmental challenges | Compare and contrast practices for conserving renewable and nonrenewable resources |
| Understand how natural resources are used in agriculture | Understand how new energy sources are developed from agricultural products (e.g., gas-cogeneration and ethanol) |
| Understand how natural resources are used in agriculture | Students understand the effects of technology on agriculture |
| Understand how an agricultural commodity moves from producer to consumer | Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, communication, and so forth |
| Understand public concern for technological advancements in agriculture, such as genetically modified organisms | Understand public concern for technological advancements in agriculture, such as genetically modified organisms |

**Performance Standards**

- Compare genetic characteristics among cattle, sheep, swine, and horse breeds
- Understand the fertilization process
- Understand the purpose and processes of mitosis and meiosis
- Know types of nutrients required by farm animals (e.g., proteins, minerals, vitamins, carbohydrates, fats/oils, and water)
- Understand how to display phenotype and genotype ratios (e.g., by using a Punnett Square)
- Students understand fundamental animal nutrition and feeding
- Students understand basic animal health
- Assess the appearance and behavior of a normal, healthy animal
- Understand the causes and control of common animal diseases
- Understand how to control parasites and why
- Students understand soil science principles
- Recognize the major soil components and types
- Differentiate between genotype and phenotype, and describe how dominant and recessive genes function
- Know the anatomy and major functions of vertebrate systems, including digestive, reproductive, circulatory, nervous, muscular, skeletal, respiratory, and endocrine systems
- Students understand soil science principles
- Recognize the major soil components and types
- Analyze suitable common feed ingredients, including forages, roughages, concentrates, and supplements, for ruminant, monogastric, equine, & avian digestive systems
- Understand how soil texture, structure, pH, and salinity affect plant growth
- Understand basic animal feeding guidelines and evaluate sample feeding programs for various species, including space requirements and
<table>
<thead>
<tr>
<th>Students understand the importance of animals, the domestication of animals, and the role of animals in modern society</th>
<th>Understand the legal requirements for the procurement, storage, methods of application, and withdrawal times of animal medications, and know proper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the evolution and roles of domesticated animals in society</td>
<td>Understand water delivery and irrigation system options</td>
</tr>
<tr>
<td>Know the differences between domestication and natural selection</td>
<td>Understand the types, uses, and applications of amendments and fertilizers</td>
</tr>
<tr>
<td>Understand the modern-day uses of animals and animal byproducts</td>
<td>Students understand plant growth and development</td>
</tr>
<tr>
<td>Understand various points of view regarding the use of animals</td>
<td>Understand the anatomy and functions of plant systems and structures</td>
</tr>
<tr>
<td>Understand unique and alternative uses of animals (e.g., Handi-Riders and companion animals)</td>
<td>Understand the ways in which housing, sanitation, and nutrition influence</td>
</tr>
<tr>
<td>Students understand the cell structure and function of plants and animals</td>
<td>Understand plant growth requirements</td>
</tr>
<tr>
<td>Understand the purpose and anatomy of cell</td>
<td>Know annual, biennial, and perennial life cycles</td>
</tr>
<tr>
<td>Know how cell parts function</td>
<td>Examine plant sexual and asexual reproduction</td>
</tr>
<tr>
<td>Understand various cell actions, such as osmosis and cell division</td>
<td>Understand the photosynthesis process and the roles of the sun, chlorophyll, sugar, oxygen, carbon dioxide, and water in the process</td>
</tr>
<tr>
<td>Understand how plant and animal cells are alike and different</td>
<td>Understand the respiration process in the breakdown of food and organic matter</td>
</tr>
<tr>
<td>Students understand animal anatomy and systems</td>
<td>Students understand fundamental pest management</td>
</tr>
<tr>
<td>Know the names and locations of the external anatomy of animals</td>
<td>Understand the major classifications of pests (e.g., insects, weeds, disease, and vertebrate pests)</td>
</tr>
<tr>
<td>Students understand basic animal genetics</td>
<td>Understand chemical, mechanical, cultural, and biological methods of plant</td>
</tr>
<tr>
<td>Understand the major principles, advantages, and disadvantages of integrated pest management</td>
<td>Analyze an animal or plant problem and devise a solution based on the scientific method</td>
</tr>
<tr>
<td>Students understand the scientific method</td>
<td>Use the scientific method to conduct agricultural experiments</td>
</tr>
<tr>
<td>Understand the steps of the scientific method</td>
<td></td>
</tr>
</tbody>
</table>
**Completion Standards**

In the Animal Science Pathway, students study large, small, and specialty animals. Students explore the necessary elements—such as diet, genetics, habitat, and behavior—to create humane, ecologically and economically sustainable animal production systems. The pathway includes the study of anatomy and physiology, nutrition, reproduction, genetics, health and welfare, animal production, technology, and the management and processing of animal products and byproducts.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

*T- Testing; N-Notes; V-Verbal; H-Hands-On; L-Lab*

### Performance Standards

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Comp Date</th>
<th>How are you evaluated</th>
<th>Test/Eval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand the necessary elements for proper animal housing and animal handling equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand appropriate space and location requirements for habitat, housing, feed, and water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to select habitat and housing conditions and materials (such as indoor and outdoor housing, fencing materials, air flow/ventilation, and shelters) to meet the needs of various animal species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the purpose and the safe and humane use of restraint equipment, such as squeeze chutes, halter, and twitches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the purpose and the safe and humane use of animal husbandry tools, such as hoof trimmers, electric shears, electrocutors, dehorning tools, and scales.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand key principles of animal nutrition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the flow of nutrients from the soil, through the animal, and back to the soil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the principles for providing proper balanced rations for a variety of production stages in ruminants and monogastrics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the digestive processes of the ruminant, monogastric, avian, and equine digestive systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how animal nutrition is affected by the digestive, endocrine, and circulatory systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal physiology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the major systems and the function of the organs within each system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the animal management practices that are likely to improve the functioning of the various systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal reproduction, including the function of reproductive organs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand animal conception (including estrus cycle, ovulation, and insemination)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the gestation process and basic fetal development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the parturition process, including the identification of potential problems and their solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the parturition process, including the identification of potential problems and their solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Performance Standards

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Comp Date</th>
<th>How are you evaluated</th>
<th>Test/Eval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply quality assurance practices to the proper administration of medicines and animal handling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how diseases are passed among animal species and from animals to humans and how that relationship affects health and food safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the impacts on local, national, and global economics as well as to consumers and producers when animal diseases are not appropriately contained and eradicated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand common rangeland management practices and their impact on a balanced ecosystem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of rangeland use in an effective animal production program.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how rangeland management practices affect pasture production, erosion control, and the general balance of the ecosystem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to manage rangelands (including how to calculate carrying capacity) for a variety of animal species and locations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to balance rangeland use for animal grazing and for wildlife habitat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the challenges associated with animal waste management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand animal waste treatment and disposal management systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand various methods for using animal waste and their environmental impacts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the health and safety regulations that are an integral part of properly managed animal waste systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal welfare concerns and management practices that support animal welfare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the early warning signs of animal distress and how to rectify them</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand public concerns for animal welfare in the context of housing, behavior, nutrition, transportation, disposal, and harvest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand federal and state animal welfare laws and regulations, such as those for abandoned and neglected animals, animal fighting, euthanasia, and medical research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the regulations for humane transport and harvest of animals, such as those delineated by the U.S. Department of Agriculture, Food Safety and Inspection Service, and the Humane Methods of Slaughter Act</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand large animal (cattle, horses, swine, sheep, goats, etc.) and small animal (poultry, cavy, rabbits, etc.) production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand commonly used animal production breeding systems (e.g., purebred compared with crossbred) and reasons for their use</td>
<td>Know how to synthesize and implement optimum requirements for diet, genetics, habitat, and behavior in the production of large and small animals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand animal inheritance and selection principles, including the structure and role of DNA.</td>
<td>Understand how to develop, maintain, and use growth and management records for large or small animals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate a group of animals for desired qualities and discern among them for breeding selection.</td>
<td>Students understand specialty animal (fish, marine animals, llamas, llama flightless birds, etc.) production.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to use animal performance data in the selection and management of production animals.</td>
<td>Understand the specialty animal’s role in agriculture (e.g., fish farms, pack animals, working dogs).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and discuss current technology used to measure desirable traits.</td>
<td>Understand the unique nutrition, health, and habitat requirements for specialty animals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to predict phenotypic and genotypic results of a dominant and recessive gene pair.</td>
<td>Know how to synthesize and implement optimum requirements for diet, genetics, habitat, and behavior in the production of specialty animals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of mutations (both naturally occurring and artificially induced) and hybrids in animal genetics.</td>
<td>Understand how to develop, maintain, and use growth and management records for specialty animals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the causes and effects of diseases and illnesses in animals.</td>
<td>Students understand how animal products and byproducts are processed and marketed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the signs of normal health in contrast to illness and disease.</td>
<td>Understand the relative importance of the major meat classifications, including the per capita consumption and nutritive value of those classifications.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the importance of animal behavior in diagnosing animal sickness and disease.</td>
<td>Understand how meat-based products and meals are made.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the common pathogens, vectors, and hosts that cause disease in animals.</td>
<td>Understand how non-meat products (such as eggs, wool, pelts, hides, and byproducts) are harvested and processed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand prevention, control, and treatment practices related to pests and parasites.</td>
<td>Understand how meat products and non-meat products are marketed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand the value of animal byproducts to non-agricultural industries.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand animal harvest, carcass inspection and grading, and meat processing safety regulations and practices and the removal and disposal of non-edible byproducts, such as those outlined in Hazard Analysis and Critical Control Point documents.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Completion Standards

The Plant and Soil Science Pathway covers topics such as plant classification, physiology, reproduction, plant breeding, biotechnology, and pathology. In addition, students learn about soil management, water, pests, and equipment as well as cultural and harvest practices.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

#### Performance Standards

<table>
<thead>
<tr>
<th>Students understand plant classification principles</th>
<th>Compl. Date</th>
<th>How you are evaluated</th>
<th>Teacher</th>
<th>Performer Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand how to classify and identify plants by order, family, genus, and species</td>
<td></td>
<td></td>
<td></td>
<td>Understand the factors that affect plant growth and predict plant response</td>
</tr>
<tr>
<td>Understand how to identify plants by using a dichotomous key</td>
<td></td>
<td></td>
<td></td>
<td>Students understand sexual and asexual reproduction of plants</td>
</tr>
<tr>
<td>Understand how common plant parts are used to classify the plants</td>
<td></td>
<td></td>
<td></td>
<td>Understand the different forms of sexual and asexual plant reproduction</td>
</tr>
<tr>
<td>Understand the differences between and uses of native and nonnative plants</td>
<td></td>
<td></td>
<td></td>
<td>Understand the various techniques for successful plant propagation (e.g., budding, grafting, cuttings, and seeds)</td>
</tr>
<tr>
<td>Understand the differences between monocots and dicots</td>
<td></td>
<td></td>
<td></td>
<td>Understand the proper sterile technique used in tissue culture</td>
</tr>
<tr>
<td>Understand the differences between plants under production and weeds</td>
<td></td>
<td></td>
<td></td>
<td>Students understand pest problems and management</td>
</tr>
<tr>
<td>Students understand cell biology</td>
<td></td>
<td></td>
<td></td>
<td>Understand how to categorize insects as pests, beneficial, or neutral and their roles</td>
</tr>
<tr>
<td>Understand the differences between prokaryotic cells and plant and animal eukaryotic cells and how viruses differ from them in complexity and general structure</td>
<td></td>
<td></td>
<td></td>
<td>Understand the role of other pests, such as nematodes, molds, mildews, and weeds</td>
</tr>
<tr>
<td>Understand plant cellular function reactions when plants are grown under different conditions</td>
<td></td>
<td></td>
<td></td>
<td>Understand integrated pest management to prevent, treat, and control plant disease symptoms (including conventional, sustainable, and organic management methods).</td>
</tr>
<tr>
<td>Understand what functions organelles play in the health of the cell</td>
<td></td>
<td></td>
<td></td>
<td>Know conventional, sustainable, and organic management methods to prevent or treat plant disease symptoms.</td>
</tr>
<tr>
<td>Understand the part of the cell that is responsible for the genetic information that controls plant growth and development</td>
<td></td>
<td></td>
<td></td>
<td>Understand how biotechnology can be used to manage pests</td>
</tr>
<tr>
<td>Understand plant inheritance principles, including the structure and role of DNA</td>
<td></td>
<td></td>
<td></td>
<td>Students understand soils and plant production</td>
</tr>
<tr>
<td>Understand which organelles in plant cells carry out photosynthesis</td>
<td></td>
<td></td>
<td></td>
<td>Understand soil types, soil texture, structure, and bulk density and explain the U.S. Department of Agriculture (USDA) soil-quality rating procedure.</td>
</tr>
<tr>
<td>Students understand plant physiology and growth principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant systems, nutrient transportation, structure, and energy storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the seed’s essential parts and functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how primary, secondary, and trace elements are used in plant growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the factors that influence plant growth, including water, nutrients, light, soil, air, and climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the tissues seen in a cross section of woody and herbaceous plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Ornamental Horticulture Pathway prepares students for careers in the nursery, landscaping, and floral industries. Topics include plant identification, plant physiology, soil science, plant reproduction, nursery production, and floriculture as well as landscaping design, installation, and maintenance.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Comp. Date</th>
<th>N-Notes</th>
<th>Verbal</th>
<th>Hands-On</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand plant classification and use principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to classify and identify plants by order, family, genus, and species</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to identify plants by using a dichotomous key</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how common plant parts are used to classify the plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to classify and identify plants by using botanical growth habits, landscape uses, and cultural requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant selection and identification for local landscape applications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand plant physiology and growth principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant systems, nutrient transportation, structure, and energy storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the seed's essential parts and functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how primary, secondary, and trace elements are used in plant growth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the factors that influence plant growth, including water, nutrients, light, soil, air, and climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the tissues seen in a cross section of woody and herbaceous plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the factors that affect plant growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand sexual and asexual plant reproduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the different forms of sexual and asexual plant reproduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the various techniques for successful plant propagation (e.g., budding, grafting, cuttings, seeds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to monitor plant reproduction for the development of a saleable product</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic integrated pest management principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read and interpret pesticide labels and understand safe pesticide management practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how pesticide regulations and government agencies affect agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand common horticultural pests and diseases and methods of controlling them.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze how primary and secondary nutrients and trace elements affect ornamental plants.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand basic nutrient testing procedures on soil and plant tissue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze organic and inorganic fertilizers to understand their appropriate uses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to read and interpret labels to properly apply fertilizers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the selection, installation, and maintenance of turf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the selection and management of landscape and sports field turf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to select, install, and maintain a designated turf-grass area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how the use of turf benefits the environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand nursery production principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to properly use production facilities and common nursery equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand common nursery production practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to propagate and maintain a horticultural crop to the point of sale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand marketing and merchandising principles used in nursery production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the use of containers and horticultural tools, equipment, and facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the use of different types of containers and demonstrate how to maintain growing containers in controlled environments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operate and maintain selected hand and power equipment safely and appropriately</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select proper tools for specific horticultural jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to install landscape components and electrical land and water features</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic landscape planning, design, construction, and maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the terms associated with landscape and design and their appropriate use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the principles of residential design, including how to render design to scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the systematic approach to solving plant problems.</td>
<td>Understand proper landscape planting and maintenance practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand water and soil (media) management practices</td>
<td>Prune ornamental shrubs, trees, and fruit trees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how basic soil science and water principles affect plant growth.</td>
<td>Develop clear and concise landscape business contracts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know basic irrigation design and installation methods</td>
<td>Students understand basic floral design principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare and amend soils, implement soil conservation methods, and compare results.</td>
<td>Understand the use of plant materials and tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand major issues related to water sources and water quality</td>
<td>Apply basic design principles to products and designs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the components of soil less media and the use of those media in various types of containers</td>
<td>Handle, prepare, and arrange cut flowers appropriately</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand ornamental plant nutrition practices</td>
<td>Understand marketing and merchandising principles used in the floral industry.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Performance Standards for Forestry and Natural Resources Pathway

The Forestry and Natural Resources Pathway helps students understand the relationships between California’s natural resources and the environment. Topics include energy and nutrient cycles, water resources and management, soil conservation, wildlife preservation and management, forest and fire management, and lumber production. In addition, students study the outdoor recreation industry and multiple-use management.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

3 = Exceeds 2 = Meets Conditions Stated 1 = Exists on a limited basis 0 = Does not exist

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Performance Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand the importance of energy and energy cycles</td>
<td>Know the major body parts, digestive systems, and reproductive organs of aquatic species</td>
</tr>
<tr>
<td>Understand the oxygen, carbon, nitrogen, and water cycles</td>
<td>Understand a variety of methods to determine the populations of existing aquatic species</td>
</tr>
<tr>
<td>Understand the difference between renewable and nonrenewable energy sources</td>
<td>Analyze the relationship between water quality and aquatic species habitat</td>
</tr>
<tr>
<td>Understand the difference between natural resource management conservation strategies and preservation strategies</td>
<td>Understand a variety of management practices for managing aquatic species for sport fishing and other purposes</td>
</tr>
<tr>
<td>Compare the effects on air and water quality of using different forms of energy.</td>
<td>Understand how to make financial and production decisions and maintain growth and management records for a selected aquatic species</td>
</tr>
<tr>
<td>Analyze the way in which human activities influence energy cycles and natural resource management</td>
<td>Students understand the outdoor recreation industry</td>
</tr>
<tr>
<td>Students understand air and water use, management practices, and conservation strategies</td>
<td>Understand the potential environmental impacts of recreational activities and how to manage the resources affected</td>
</tr>
<tr>
<td>Understand the government’s role in regulating air, soil, and water use management practices and conservation strategies</td>
<td>Understand basic survival skills and first-aid procedures</td>
</tr>
<tr>
<td>Understand air and water conservation issues</td>
<td>Understand appropriate trail construction and maintenance techniques</td>
</tr>
<tr>
<td>Understand air and water conservation issues</td>
<td>Know how to set up a campsite for minimum environmental impact</td>
</tr>
<tr>
<td>Understand the component of a plan that monitors water quality</td>
<td>Students understand basic plant physiology, anatomy, and taxonomy</td>
</tr>
<tr>
<td>Understand the component of a plan that monitors air quality</td>
<td>Understand the scientific method of animal classification, including order, family, genus, and species</td>
</tr>
<tr>
<td>Analyze the way in which water management affects the environment and human needs</td>
<td>Know how to use a dichotomous key to identify plants and animals</td>
</tr>
<tr>
<td>Students understand soil composition and soil management</td>
<td>Know how to identify local trees, shrubs, grasses, forbs, and wildlife species by common name</td>
</tr>
<tr>
<td>Understand the systems used to classify soils</td>
<td>Recognize the factors that influence plant growth, such as respiration, temperature, nutrients, and photosynthesis</td>
</tr>
<tr>
<td>Understand the reasons for and importance of soil conservation</td>
<td>Students understand the role of fire in natural resource management</td>
</tr>
<tr>
<td>Understand how to analyze soils found in the different natural resource management areas</td>
<td>Understand the role of fire in forest and rangeland ecosystems</td>
</tr>
<tr>
<td>Understand how to develop and implement a soil management plan for a natural resource management area</td>
<td>Understand the significance of each of the components of the “fire triangle.”</td>
</tr>
<tr>
<td>Understand how to analyze existing soil surveys to develop effective management plans</td>
<td>Know appropriate wildland fire-suppression practices</td>
</tr>
<tr>
<td>Students understand rangeland management</td>
<td>Understand the components of a fire-control plan</td>
</tr>
<tr>
<td>Know the locations of major U.S. and California rangeland areas</td>
<td>Know how to use fire-control tools safely</td>
</tr>
<tr>
<td>Understand the relationship of rangeland management, the environment, wildlife management, and the livestock industry</td>
<td>Know the training requirements for fire-suppression certification</td>
</tr>
<tr>
<td>Understand practices used to improve rangeland quality</td>
<td>Students understand forest management practices</td>
</tr>
<tr>
<td>Analyze the carrying capacity in various rangelands for both wildlife species and domestic livestock</td>
<td>Understand how social, political, and economic factors can affect the use of forests</td>
</tr>
<tr>
<td>Distinguish among different browse and forage species in California rangelands</td>
<td>Understand the California Forest Practice Act and the requirements for Timber Harvest and Habitat Conservation Plans</td>
</tr>
<tr>
<td>Understand the components of a rangeland monitoring plan</td>
<td>Analyze forest management systems (e.g., sustained yield, water shed management, ecosystem management, multiple-use management).</td>
</tr>
<tr>
<td>Understand the requirements and rights accompanying public land grazing permits and the government agencies involved (e.g., Bureau of Land Management and U.S. Forest Service).</td>
<td>Understand how to select appropriate recreational gear for trips of varying types and durations and how to use it safely and appropriately (for minimum environmental impact).</td>
</tr>
<tr>
<td>Students understand wildlife management and habitat</td>
<td>Analyze harvest and renewability (e.g., re-seeding and thinning) systems and identify the impact of each on the land</td>
</tr>
<tr>
<td>Understand the relationship between habitat and wildlife population</td>
<td>Understand Silvicultural systems and skills, including appropriate tool use</td>
</tr>
<tr>
<td>Understand habitat requirements for different species and identify factors that influence population dynamics</td>
<td>Understand how to identify and diagnose damage from destructive insects, diseases, and weather, and know methods for their management</td>
</tr>
<tr>
<td>Understand the methods for determining existing wildlife species populations</td>
<td>Students understand the basic concepts of measurement, surveying, and mapping</td>
</tr>
<tr>
<td>Understand mammalian and avian reproductive processes and explain how nutrition and habitat affect reproduction and population.</td>
<td>Understand the Public Land Survey System</td>
</tr>
<tr>
<td>Understand a variety of management practices used to manage wildlife populations for hunting and other recreational purposes</td>
<td>Use surveying equipment, including global positioning satellites, maps, and a compass to determine area, boundaries, and elevation differences</td>
</tr>
<tr>
<td>Analyze the economic and environmental significance of sport hunting and fishing industries</td>
<td>Know how to apply timber-cruising and log-scaling skills to determine timber and log volume for management and marketing</td>
</tr>
<tr>
<td>Understand the purpose, history, terminology, and challenges of the Endangered Species Act and current activities related to the Act</td>
<td>Understand how to create a management plan map that includes layer information and data points from global information systems</td>
</tr>
<tr>
<td>Students understand aquatic resource use and management</td>
<td>Students understand the use, processing, and marketing of products from natural resource industries</td>
</tr>
<tr>
<td>Understand the different types of aquatic resources</td>
<td>Know the marketing processes and manufacturing standards for a variety of natural resource products, including mining, quarrying, and drilling.</td>
</tr>
<tr>
<td>Know how to manufacture a product (to manufacturing standards) from a natural resource</td>
<td>Analyze the production of specialty and seasonal products from natural resources</td>
</tr>
<tr>
<td>Know different wood types and their uses</td>
<td>Know lumber manufacturing processes</td>
</tr>
<tr>
<td>Students understand public and private land issues</td>
<td>Understand the differences between publicly and privately held lands.</td>
</tr>
<tr>
<td>Understand the differences between public land designations (e.g., State Park, National Forest, wilderness areas, wild and scenic areas).</td>
<td>Understand the role of government in managing public and private property rights</td>
</tr>
<tr>
<td>Understand the role of public and private property rights and how they affect agriculture</td>
<td></td>
</tr>
</tbody>
</table>
Performance Standards

The Plant and Soil Science Pathway covers topics such as plant classification, physiology, reproduction, plant breeding, biotechnology, and pathology. In addition, students learn about soil management, water, pests, and equipment as well as cultural and harvest practices.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

3 = Exceeds  2 = Meets Conditions Stated  1 = Exists on a limited basis  0 = Does not exist

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand plant classification principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to classify and identify plants by order, family, genus, and species</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to identify plants by using a dichotomous key</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how common plant parts are used to classify the plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the differences between and uses of native and nonnative plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the differences between monocots and dicots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the differences between plants under production and weeds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand cell biology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the differences between prokaryotic cells and plant and animal eukaryotic cells and how viruses differ from them in complexity and general structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant cellular function reactions when plants are grown under different conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand what functions organelles play in the health of the cell</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the part of the cell that is responsible for the genetic information that controls plant growth and development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant inheritance principles, including the structure and role of DNA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand which organelles in plant cells carry out photosynthesis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand plant physiology and growth principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant systems, nutrient transportation, structure, and energy storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the seed's essential parts and functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how primary, secondary, and trace elements are used in plant growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the factors that influence plant growth, including water, nutrients, light, soil, air, and climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the tissues seen in a cross section of woody and herbaceous plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the factors that affect plant growth and predict plant response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand sexual and asexual reproduction of plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the different forms of sexual and asexual plant reproduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the various techniques for successful plant propagation (e.g., budding, grafting, cuttings, and seeds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the proper sterile technique used in tissue culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand pest problems and management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to categorize insects as pests, beneficial, or neutral and their roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of other pests, such as nematodes, molds, mildews, and weeds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand integrated pest management to prevent, treat, and control plant disease symptoms (including conventional, sustainable, and organic management methods)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know conventional, sustainable, and organic management methods to prevent or treat plant disease symptoms.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how biotechnology can be used to manage pests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand soils and plant production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand soil types, soil texture, structure, and bulk density and explain the U.S. Department of Agriculture (USDA) soil-quality rating procedure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the Agricultural Business Pathway, students learn about agricultural business operation and management. Topics include accounting, finance, economics, business organization, marketing, and sales.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

- **T-Testing:**
- **N-Notes:**
- **V-Verbal:**
- **H-Hands-On:**
- **L-Lab**

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Compl. Date</th>
<th>How you are evaluated</th>
<th>Teacher Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand decision-making processes within the American free enterprise system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differentiate among the components of the American free enterprise system and other forms of economic systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distinguish among the main characteristics of individual proprietorships, partnerships, corporations, and cooperatives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the advantages and disadvantages of the four types of business ownership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze appropriate decision-making tools and financial records to make key management decisions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze physical production relationships to determine optimum use levels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to calculate the fixed and variable costs associated with the production of agricultural products and determine the output level that will yield the maximum profit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the fundamental economic principles of agribusiness and agricultural production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how basic economic factors affect agricultural production and agribusiness management decision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know basic agricultural economic terminology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the law of supply and demand as it affects price determination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze how agriculture uses scarce resources to meet the needs and demands of its consumers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differentiate between elastic and inelastic supply and demand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the law of diminishing returns and its impact on agricultural production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the role of credit in agribusiness and agricultural production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the factors that determine the cost of credit in order to select optimum credit sources (e.g., the advantages and disadvantages of borrowing from the bank)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the criteria lenders use to evaluate repayment capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze balance sheets and cash-flow statements to determine the ability to repay loans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand proper accounting principles and procedures used in business management and tax planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the differences between cash and accrual accounting systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Understand the use and importance of budgets, income statements, balance sheets, and financial statements</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Compl. Date</th>
<th>How you are evaluated</th>
<th>Teacher Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the concept of liability and the economic impact of being held liable.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the concept and process of risk management, including the use of risk management tools such as insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how recordkeeping, farm plans, and an analysis of best practices affect risk management decisions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of contingency plans in risk management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how recordkeeping, farm plans, and an analysis of best practices affect risk management decisions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the role and value of agricultural organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the benefits of private, public, and governmental organizations, including the value and impact of cooperatives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how participation within organizations would be beneficial in supporting various agricultural operations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to identify and electronically access public and private agricultural organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand agricultural marketing systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how marketing functions in a free market society</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the advantages and disadvantages of the various marketing options for agricultural products and services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how the law of comparative advantage affects agricultural production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the impact of advertising and promotion on the marketing of agricultural products and services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how promotion trends for agricultural products influence individuals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the stages in making a successful sale and the various techniques used to approach potential customers and overcome their objections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to develop a marketing plan for an agricultural product or service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the sales of agricultural products and services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine the most effective methods for assessing customer needs and wants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand local, national, and international agricultural markets and how trade affects the economy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examine the physiological and psychological factors that influence motivation to purchase, including the fundamental steps in making a purchase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the basis of taxation within the tax system and its impact on the economy, including the role of taxes in agribusiness</td>
<td>Understand how the importance of agricultural imports and exports affects state and national economies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze the role of depreciation and purchasing in tax planning and liability</td>
<td>Know how governmental, economic, and cultural factors affect international trade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to determine property values and how to complete a depreciation schedule</td>
<td>Compare and contrast United States trade policies with those of other important trading partners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to determine the tax obligations for an agribusiness</td>
<td>Understand how biotechnology affects trade and global economies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic risk management principles and their impact on economic viability</td>
<td>Understand how different cultural values affect agricultural production and marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand environmental responsibility and its impact on agribusiness</td>
<td>Understand how negotiations and bargaining agreements affect trade agreements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Agricultural Mechanics Pathway prepares students for careers related to the construction, operation, and maintenance of equipment used by the agriculture industry. Basic agricultural mechanics skills and safety, standards 1.0 through 8.0, cover woodworking, electrical systems, plumbing, cold metal work, concrete, and welding technology. Advanced topics, standards 9.0 through 12.0, deal with metal fabrication, small engines, agriculture power and technology, and agriculture construction.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

<table>
<thead>
<tr>
<th>Testing</th>
<th>Notes</th>
<th>Verbal</th>
<th>Hands-On</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>N</td>
<td>V</td>
<td>H</td>
<td>L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>Complete</th>
<th>How you are evaluated</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand personal and group safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice the rules for personal and group safety while working in an agricultural mechanics environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the relationship between accepted shop management procedures and a safe working environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to safely secure loads on a variety of vehicles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the principles of basic woodworking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to identify common wood products, lumber types, and sizes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to calculate board feet, lumber volume, and square feet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to identify, select, and implement basic fastening systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete a woodworking project, including interpreting a plan, developing a bill of materials and cutting list, selecting materials, shaping, joining, and finishing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the basic electricity principles and wiring practices commonly used in agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the relationship between voltage, amperage, resistance, and power in single-phase alternating current (AC) circuits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to use proper electrical test equipment for AC and direct current (DC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze and correct basic circuit problems (e.g., open circuits, short circuits, incorrect grounding)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand proper basic electrical circuit and wiring techniques with nonmetallic cable and conduit as defined by the National Electric Code</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpret basic agricultural electrical plans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand plumbing system practices commonly used in agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know basic plumbing fitting skills with a variety of materials, such as copper, PVC (polyvinyl chloride), steel, polyethylene, and ABS (acrylonitrile butadiene styrene)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the environmental influences on plumbing system choices (e.g., filter systems, water disposal)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how various plumbing and irrigation systems are used in agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to design project plans by using mechanical drawing techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to finish a metal project by implementing proper sequencing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand small and compact engines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand engine theory for both two- and four-stroke cycle engines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know different types of small engines and their applications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know small engine parts and explain the various systems (e.g., fuel, ignition, compression, cooling, lubrication systems)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to troubleshoot and solve problems with small engines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to disassemble, inspect, adjust, and reassemble a small engine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to manipulate and finish metal by using a variety of machines and techniques (e.g., lathe, mill, CNC plasma, shears, press break)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to look up parts, apply repair and maintenance recommendations from a repair manual, and complete appropriate forms, including work orders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the principles and applications of various engines and machinery used in agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to identify common agricultural machinery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operate and maintain equipment safely and efficiently</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the theory and operation of mobile hydraulic systems and power take off systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troubleshoot common problems with engines and agricultural equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand land measurement and construction techniques commonly used in agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construct a welding project (using any electric welding process, appropriate products, joints, and positions), including interpreting a plan, developing a bill of materials, selecting materials, and developing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand common surveying techniques used in agriculture (e.g., leveling, land measurement, building layout)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to draw and interpret architectural plans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete a plan, including interpreting a plan, developing a bill of materials and cutting list, selecting materials, joining, and testing.</td>
<td>Know how to install single- and three-phase wiring and control systems found in agricultural structures, pumps, and irrigation systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand agricultural cold metal processes</td>
<td>Install plumbing in agricultural structures (e.g., potable water, sewer, irrigation).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to identify common metals, sizes, and shapes</td>
<td>Form, place, and finish concrete or masonry (e.g., concrete block).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know basic tool-fitting skills</td>
<td>Understand how to construct agricultural structures by using wood framing and steel framing systems (e.g., barns, shops, greenhouses, animal structures).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know layout skills</td>
<td>Develop clear and concise agricultural construction contracts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know basic cold metal processes (e.g., shearing, cutting, drilling, threading, bending)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete a cold metal project, including interpreting a plan, developing a bill of materials, selecting materials, shaping, fastening, and finishing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand concrete and masonry practices commonly used in agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to accurately calculate volume, materials needed, and project costs for a concrete or masonry project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know proper bed preparation, concrete forms layout, and construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete a concrete or masonry project, including developing a bill of materials, assembling, mixing, placing, and finishing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand oxy-fuel cutting and welding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the role of heat and oxidation in the cutting process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to properly set up, adjust, shut down, and maintain an oxy-fuel system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to flame-cut metal with an oxy-fuel cutting torch.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to fusion-weld mild steel with and without filler rod by using oxy-fuel equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know basic repair skills using a variety of techniques, such as brazing or hard surfacing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand electric arc welding processes</td>
<td>Understand the theory and operation of 12-volt DC electronic and electrical systems (e.g., circuit design, starting, charging, and safety circuits).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to select, properly adjust, safely employ, and maintain appropriate welding equipment (e.g., gas metal arc welding, shielded metal arc welding, and gas tungsten arc welding)</td>
<td>Know the various types of engines found on agricultural machinery and understand the theory and safe operation of their systems (e.g., cooling, electrical, fuel).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply gas metal arc welding, shielded metal arc welding, or flux core arc welding processes to fusion-weld mild steel with appropriate welding electrodes and related equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weld a variety of joints in various positions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know how to read welding symbols and plans, select electrodes, fit-up joints, and control heat and distortion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand advanced metallurgy principles and fabrication techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand metallurgy principles, including distortion, hardening, tempering, and annealing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>Action</td>
<td>Result</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Operate and maintain various arc welding and cutting systems safely and appropriately</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operate and maintain fabrication tools and equipment safely and appropriately</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Performance Standards

The Agri-Science Pathway helps students acquire a broad understanding of a variety of agricultural areas, develop an awareness of the many career opportunities in agriculture, participate in occupationally relevant experiences; and work cooperatively with a group to develop and expand leadership abilities. Students study California agriculture, agricultural business, agricultural technologies, natural resources, and animal, plant, and soil science.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

- **3 = Exceeds**
- **2 = Meets Conditions Stated**
- **1 = Exists on a limited basis**
- **0 = Does not exist**

#### Performance Standards

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand plant classification and use principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to classify and identify plants by order, family, genus, and species</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to identify plants by using a dichotomous key</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how common plant parts are used to classify the plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to classify and identify plants by using botanical growth habits,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>landscape uses, and cultural requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant selection and identification for local landscape applications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand plant physiology and growth principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant systems, nutrient transportation, structure, and energy storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the seed's essential parts and functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how primary, secondary, and trace elements are used in plant growth,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the factors that influence plant growth, including water, nutrients,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>light, soil, air, and climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the tissues seen in a cross section of woody and herbaceous plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the factors that affect plant growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand sexual and asexual plant reproduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the different forms of sexual and asexual plant reproduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the various techniques for successful plant propagation (e.g., budding,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grafting, cuttings, seeds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to monitor plant reproduction for the development of a saleable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>product</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic integrated pest management principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read and interpret pesticide labels and understand safe pesticide management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how pesticide regulations and government agencies affect agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand common horticultural pests and diseases and methods of controlling them</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how primary and secondary nutrients and trace elements affect ornamental plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand basic nutrient testing procedures on soil and plant tissue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze organic and inorganic fertilizers to understand their appropriate uses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to read and interpret labels to properly apply fertilizers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the selection, installation, and maintenance of turf</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the selection and management of landscape and sports field turf</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to select, install, and maintain a designated turf-grass area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how the use of turf benefits the environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand nursery production principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to properly use production facilities and common nursery equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand common nursery production practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to propagate and maintain a horticultural crop to the point of sale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand marketing and merchandising principles used in nursery production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the use of containers and horticultural tools, equipment, and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the use of different types of containers and demonstrate how to maintain growing containers in controlled environments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operate and maintain selected hand and power equipment safely and appropriately</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select proper tools for specific horticultural jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic landscape planning, design, construction, and maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the terms associated with landscape and design and their appropriate use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the principles of residential design, including how to read design to scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Performance Standards

**Ag Mechanics Pathway**

The Agricultural Mechanics Pathway prepares students for careers related to the construction, operation, and maintenance of equipment used by the agriculture industry. Basic agricultural mechanics skills and safety standards 1.0 through 8.0, cover woodworking, electrical systems, plumbing, cold metal work, concrete, and welding technology. Advanced topics, standards 9.0 through 12.0, deal with metal fabrication, small engines, agriculture power and technology, and agriculture construction.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

- **3** = Exceeds
- **2** = Meets Conditions Stated
- **1** = Exists on a limited basis
- **0** = Does not exist

#### Performance Standards Table

<p>| Students understand personal and group safety | 3 | 2 | 1 | 0 |
| Practice the rules for personal and group safety while working in an agricultural mechanics environment |  |  |  |  |
| Know the relationship between accepted shop management procedures and a safe working environment |  |  |  |  |
| Know how to safely secure loads on a variety of vehicles |  |  |  |  |
| Students understand the principles of basic woodworking |  |  |  |  |
| Know how to identify common wood products, lumber types, and sizes |  |  |  |  |
| Know how to calculate board feet, lumber volume, and square feet |  |  |  |  |
| Know how to identify, select, and implement basic fastening systems |  |  |  |  |
| Complete a woodworking project, including interpreting a plan, developing a bill of materials and cutting list, selecting materials, shaping, joining, and finishing |  |  |  |  |
| Students understand the basic electricity principles and wiring practices commonly used in agriculture |  |  |  |  |
| Understand the relationship between voltage, amperage, resistance, and power in single-phase alternating current (AC) circuits |  |  |  |  |
| Know how to use proper electrical test equipment for AC and direct current (DC) |  |  |  |  |
| Analyze and correct basic circuit problems (e.g., open circuits, short circuits, incorrect grounding) |  |  |  |  |
| Understand proper basic electrical circuit and wiring techniques with nonmetallic cable and conduit as defined by the National Electric Code |  |  |  |  |
| Interpret basic agricultural electrical plans |  |  |  |  |
| Students understand plumbing system practices commonly used in agriculture |  |  |  |  |
| Know basic plumbing fitting skills with a variety of materials, such as copper, PVC (polyvinyl chloride), steel, polyethylene, and ABS (acrylonitrile butadiene styrene) |  |  |  |  |
| Understand the environmental influences on plumbing system choices (e.g., filter systems, water disposal) |  |  |  |  |
| Know how various plumbing and irrigation systems are used in agriculture |  |  |  |  |
| Understand how to design project plans by using mechanical drawing techniques |  |  |  |  |
| Understand how to finish a metal project by implementing proper sequencing |  |  |  |  |
| Students understand small and compact engines |  |  |  |  |
| Understand engine theory for both two- and four-stroke cycle engines |  |  |  |  |
| Know different types of small engines and their applications |  |  |  |  |
| Know small engine parts and explain the various systems (e.g., fuel, ignition, compression, cooling, lubrication systems) |  |  |  |  |
| Know how to troubleshoot and solve problems with small engines |  |  |  |  |
| Know how to disassemble, inspect, adjust, and reassemble a small engine |  |  |  |  |
| Know how to manipulate and finish metal by using a variety of machines and techniques (e.g., lathe, mill, CNC plasma, shears, press break) |  |  |  |  |
| Know how to look up parts, apply repair and maintenance recommendations from a repair manual, and complete appropriate forms, including work orders |  |  |  |  |
| Students understand the principles and applications of various engines and machinery used in agriculture |  |  |  |  |
| Understand how to identify common agricultural machinery |  |  |  |  |
| Operate and maintain equipment safely and efficiently |  |  |  |  |
| Know how the theory and operation of mobile hydraulic systems and power take off systems |  |  |  |  |
| Troubleshoot common problems with engines and agricultural equipment |  |  |  |  |
| Students understand land measurement and construction techniques commonly used in agriculture |  |  |  |  |
| Construct a welding project (using any electric welding process, appropriate products, joints, and positions, including interpreting a plan, developing a bill of materials, selecting materials, and developing) |  |  |  |  |
| Understand common surveying techniques used in agriculture (e.g., leveling, land measurement, building layout) |  |  |  |  |
| Know how to draw and interpret architectural plans |  |  |  |  |</p>
<table>
<thead>
<tr>
<th>Complete a plumbing project, including interpreting a plan, developing a bill of materials and cutting list, selecting materials, joining, and testing.</th>
<th>Know how to install single- and three-phase wiring and control systems found in agricultural structures, pumps, and irrigation systems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students understand agricultural cold metal processes</td>
<td>Install plumbing in agricultural structures (e.g., potable water, sewer, irrigation).</td>
</tr>
<tr>
<td>Know how to identify common metals, sizes, and shapes</td>
<td>Form, place, and finish concrete or masonry (e.g., concrete block).</td>
</tr>
<tr>
<td>Know basic tool-fitting skills</td>
<td>Understand how to construct agricultural structures by using wood framing and steel framing systems (e.g., barns, shops, greenhouses, animal structures).</td>
</tr>
<tr>
<td>Know layout skills</td>
<td>Develop clear and concise agricultural construction contracts.</td>
</tr>
<tr>
<td>Know basic cold metal processes (e.g., shearing, cutting, drilling, threading, bending).</td>
<td></td>
</tr>
<tr>
<td>Complete a cold metal project, including interpreting a plan, developing a bill of materials, selecting materials, shaping, fastening, and finishing</td>
<td></td>
</tr>
<tr>
<td>Students understand concrete and masonry practices commonly used in agriculture</td>
<td></td>
</tr>
<tr>
<td>Understand how to accurately calculate volume, materials needed, and project costs for a concrete or masonry project</td>
<td></td>
</tr>
<tr>
<td>Know proper bed preparation, concrete forms layout, and construction</td>
<td></td>
</tr>
<tr>
<td>Complete a concrete or masonry project, including developing a bill of materials, assembling, mixing, placing, and finishing</td>
<td></td>
</tr>
<tr>
<td>Students understand oxy-fuel cutting and welding</td>
<td></td>
</tr>
<tr>
<td>Understand the role of heat and oxidation in the cutting process</td>
<td></td>
</tr>
<tr>
<td>Know how to properly set up, adjust, shut down, and maintain an oxy-fuel system.</td>
<td></td>
</tr>
<tr>
<td>Know how to flame-cut metal with an oxy-fuel cutting torch.</td>
<td></td>
</tr>
<tr>
<td>Know how to fusion-weld mild steel with and without filler rod by using oxy-fuel equipment</td>
<td></td>
</tr>
<tr>
<td>Know basic repair skills using a variety of techniques, such as brazing or hard surfacing</td>
<td></td>
</tr>
<tr>
<td>Students understand electric arc welding processes</td>
<td>Understand the theory and operation of 12-volt DC electronic and electrical systems (e.g., circuit design, starting, charging, and safety circuits).</td>
</tr>
<tr>
<td>Know how to select, properly adjust, safely employ, and maintain appropriate welding equipment (e.g., gas metal arc welding, shielded metal arc welding, and gas tungsten arc welding).</td>
<td>Know the various types of engines found on agricultural machinery and understand the theory and safe operation of their systems (e.g., cooling, electrical, fuel).</td>
</tr>
<tr>
<td>Apply gas metal arc welding, shielded metal arc welding, or flux core arc welding processes to fusion-weld mild steel with appropriate welding electrodes and related equipment</td>
<td></td>
</tr>
<tr>
<td>Weld a variety of joints in various positions</td>
<td></td>
</tr>
<tr>
<td>Know how to read welding symbols and plans, select electrodes, fit-up joints, and control heat and distortion</td>
<td></td>
</tr>
<tr>
<td>Students understand advanced metallurgy principles and fabrication techniques</td>
<td></td>
</tr>
<tr>
<td>Understand metallurgy principles, including distortion, hardening, tempering, and annealing</td>
<td></td>
</tr>
<tr>
<td>Operate and maintain various arc welding and cutting systems safely and appropriately</td>
<td></td>
</tr>
<tr>
<td>Operate and maintain fabrication tools and equipment safely and appropriately</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Performance Standards

The Agri-Science Pathway helps students acquire a broad understanding of a variety of agricultural areas, develop an awareness of the many career opportunities in agriculture, participate in occupationally relevant experiences, and work cooperatively with a group to develop and expand leadership abilities. Students study California agriculture, agricultural business, agricultural technology, natural resources, and animal, plant, and soil science.

After completing a course in Int. Ag Science 1-2 and 3-4, this student has gained knowledge and skills in the following areas:

3 = Exceeds  2 = Meets Conditions Stated  1 = Exists on a limited basis  0 = Does not exist

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the history of the agriculture industry in Ca.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the history of the agricultural industry in California</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how California agriculture affects the quality of life</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the interaction of California agriculture and society at the local, state, national, and international levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the economic impact of leading California agricultural commodities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the economic impact of major natural resources in California</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the economic importance of major agricultural exports and imports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the interrelationship between agriculture and the environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the laws and regulations concerning biotechnology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand important agricultural environmental impacts on soil, water, and air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand current agricultural environmental challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how natural resources are used in agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare and contrast practices for conserving renewable and nonrenewable resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Understand how new energy sources are developed from agricultural products          |   |   |   |   | (e.g., gas-co-generation and ethanol)
| Students understand the effects of technology on agriculture                        |   |   |   |   |
| Understand how an agricultural commodity moves from producer to consumer             |   |   |   |   |
| Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanisms, communication, and so forth |   |   |   |   |
| Understand public concern for technological advancements in agriculture, such as genetically modified organisms |   |   |   |   |
| Understand public concern for technological advancements in agriculture, such as genetically modified organisms |   |   |   |   |
| Students understand the importance of animals, the domestication of animals, and the role of animals in modern society |   |   |   |   |
| Understand the evolution and role of domesticated animals in society                 |   |   |   |   |
| Know the differences between domestication and natural selection                     |   |   |   |   |
| Understand the modern-day uses of animals and animal byproducts                      |   |   |   |   |
| Understand various points of view regarding the use of animals                       |   |   |   |   |
| Understand unique and alternative uses of animals (e.g., human-Rides and companion animals) |   |   |   |   |
| Students understand the cell structure and function of plants and animals             |   |   |   |   |
| Understand the purpose and anatomy of cell                                           |   |   |   |   |
| Know how cell parts function                                                         |   |   |   |   |
| Understand various cell actions, such as noons and cell division                    |   |   |   |   |
| Understand how plant and animal cells are alike and different                        |   |   |   |   |
| Students understand animal anatomy and systems                                       |   |   |   |   |
| Know the names and locations of the external anatomy of animals                      |   |   |   |   |
| Students understand basic animal genetics                                            |   |   |   |   |

Performance Standards

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare genetic characteristics among cattle, sheep, swine, and horse breeds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the fertilization process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the purpose and process of pollination and plant protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know types of nutrients required by farm animals (e.g., proteins, minerals, vitamins, carbohydrates, fats, oils, and water)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to display phenotype and genotype</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand fundamental animal nutrition and feeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand basic animal health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess the appearance and behavior of a normal, healthy animal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the causes and control of common animal diseases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand how to control parasites and why</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand food science principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize the major soil components and types</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distinguish between genotype and phenotype, and describe how dominant and recessive genes function</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know the anatomy and major functions of vertebrate systems, including digestive, reproductive, circulatory, nervous, muscular, skeletal, respiratory, and endocrine systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand soil science principles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize the major soil components and types</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze table common food ingredients, including forages, roughtages, concentrates, and supplements, for nutrients, monoatomic, equine, &amp; avian digestive systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand soil texture, structure, pH, and salinity affect plant growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand basic animal feeding guidelines and evaluate sample feeding programs for various species, including space requirements and economic considerations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the legal requirements for the procurement, storage, methods of application, and withdrawal times of animal medications, and know proper equipment handling and disposal techniques</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand water delivery and irrigation system options</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the types, uses, and applications of amendments and fertilizers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand plant growth and development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the anatomy and functions of plant systems and structures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the ways in which housing, sanitation, and nutrition influence animal health and behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand plant growth requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know annual, biennial, and perennial life cycles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examine plant sexual and sexual reproduction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the photosynthesis process and the roles of the sun, chlorophyll, sugar, oxygen, carbon dioxide, and water in the process.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the respiration process in the breakdown of food and organic matter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students understand fundamental pest management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the major classifications of pests (e.g., insects, weeds, diseases, and vertebrate pests)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand chemical, mechanical, cultural, and biological methods of pest control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 22

California Teaching Credentials
State of California
Commission on Teacher Credentialing
issues this document to

RICHARD DONALD WOLFE II

DOCUMENT NUMBER: 080007320
DOCUMENT TITLE: Clear Specialist Instruction Credential (Agriculture)
VALID: 07/01/2008 to 07/01/2013

SUBJECT(S) AND AUTHORIZATION(S):

Agriculture

(R3A1) This credential authorizes the holder to teach agriculture in grades twelve and below, including preschool, and in classes organized primarily for adults. It also authorizes the holder to develop and coordinate curriculum, develop programs, and deliver staff development for agriculture education programs coordinated by school districts or county offices of education.

RENEWAL CODE(S):

(R20) To renew this credential, the holder needs to submit only an application form and fee to the Commission within six months prior to the expiration date. The renewal period is five years.
(R15F) The term of this credential is limited by the term of the prerequisite credential. To renew this credential, the holder must also renew the prerequisite credential.

Specific information pertaining to credential renewal requirements may be obtained under Credential Renewal Statements and Requirements at www.ctc.ca.gov

P. David Pearson
Chair, Commission on Teacher Credentialing

Arnold Schwarzenegger
Governor, State of California

Dale A. Janssen
Executive Director, Commission on Teacher Credentialing

****************************************************************************** NO FURTHER ENTRIES **********************************************************************************
State of California
Commission on Teacher Credentialing
issues this document to
RICHARD DONALD WOLFE II

DOCUMENT NUMBER: 080007321
DOCUMENT TITLE: Clear Single Subject Teaching Credential

VALID: 07/01/2008 to 07/01/2013

SUBJECT(S) AND AUTHORIZATION(S):
Agriculture
(R15) This document authorizes the holder to teach the subject area(s) listed in grades twelve and below, including preschool, and in classes organized primarily for adults.

RENEWAL CODE(S):
(R20) To renew this credential, the holder needs to submit only an application form and fee to the Commission within six months prior to the expiration date. The renewal period is five years.

Specific information pertaining to credential renewal requirements may be obtained under Credential Renewal Statements and Requirements at www.ctc.ca.gov

P. David Pearson
Chair, Commission on Teacher Credentialing

Arnold Schwarzenegger
Governor, State of California

Dale A. Janssen
Executive Director, Commission on Teacher Credentialing

*******************************************NO FURTHER ENTRIES*******************************************
Section 23

Calendar of Department and Chapter Activities
<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No school labor day</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 Camp Sylvester Harvest Luncheon</td>
<td>6 Camp Sylvester</td>
</tr>
<tr>
<td>7</td>
<td>Camp Sylvester</td>
<td>8</td>
<td>9</td>
<td>10 7:00am Officer Meeting</td>
<td>11 Sectional Planning Meeting Hughes</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16 Back to school night Min day</td>
<td>17 FFA meeting</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25 Greenhand Conference</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Start can drive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8 Officer meeting</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MJC open house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>14 OCC Davis 4pm</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>National Convention NY/IND</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31 end of can drive. Halloween Harvest Party</td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vet day</td>
<td>Officer meeting</td>
<td>Counselor night 6pm</td>
<td>Central Region road show MJ/C sr. day</td>
<td>Regional Meeting Delta</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incentive Grant review 9am</td>
<td>FFA meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min day</td>
<td>Thanksgiving Day No school</td>
<td>Thanksgiving Day No school</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 3 Officer meeting
- 10 FFA meeting
- 19 Min day
- 20 Winter break
- 21 Winter break
- 22 Winter break
- 23 Winter break
- 24 Winter break
- 25 Winter break
- 26 Winter break
- 27 Winter break
- 28 Winter break
- 29 Winter break
- 30 Winter break
- 31 Winter break
<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Winter break</td>
<td>Winter break</td>
<td>Winter break</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Winter break ends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>min day</td>
<td>Mid term finals</td>
<td>Mid term finals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Officer meeting</td>
<td>Min day</td>
<td>Min day</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Speech, Big contest</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Enoch</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4:30pm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tri-Tip Dinner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tulare Ag Expo Officer meeting</td>
<td></td>
<td>MFE/ALA Modesto No school</td>
<td>MFE/ALA Modesto</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>No school</td>
<td>FFA WEEK</td>
<td>FFA WEEK</td>
<td>FFA WEEK</td>
<td>FFA WEEK</td>
<td></td>
<td>CATA Regional meeting MJC</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>JR high Exposition Modesto Center Plaza</td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----------</td>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
<td>2 Fac. meeting</td>
<td>3 Open house</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7 UC Davis field day</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24 State Degree Ceremony MJC 5pm</td>
<td>25</td>
<td>26</td>
<td>27 End 3rd Qtr</td>
<td>28 MJC field day</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>9</td>
<td>10</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>12</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
</tr>
<tr>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>State FFA Conference Fresno field day</td>
</tr>
<tr>
<td>State FFA Conference</td>
<td>State FFA Conference</td>
<td>State FFA Conference</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MAY 2009

3 4 Fac. meeting
5 6
7 FFA awards banquet
8
9

10 11
12 Stan/tuol planning meeting C.V.
13
14
15
16

17
18
19
20
21
22
23

24
25 Memorial Day
26
27
28
29
30

31
<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finals</td>
<td>Finals</td>
<td>Finals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Min day</td>
<td>Min day</td>
<td>Min day</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Last day of school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>CATA</td>
<td>CATA</td>
<td>CATA</td>
<td>CATA</td>
<td>CATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>summer conference</td>
<td>summer conference</td>
<td>summer conference</td>
<td>summer conference</td>
<td>summer conference</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Daily Logs
<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Sat/Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 1</td>
<td>Fac Meeting</td>
<td>Open House 6-8pm</td>
<td>SE practice 2-5</td>
<td>UC Davis Field Day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parent Fair Meeting 8pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Sectional Bowling Mt Bowl 4-5pm</td>
<td>SE Practice 2-4</td>
<td>Ag. Advisory Meeting 6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Officer Meeting</td>
<td>SE Practice 2-4</td>
<td>High school exit exam</td>
<td>SOUTHERN REGIONALS - Loustiana</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>FFA Meeting</td>
<td>Merced College FD</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>SOUTHERN REGIONALS - Loustiana</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>SE Practice 2-5</td>
<td></td>
<td>ROP Olympics</td>
<td>MJC Field Day</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td>Department Leader meeting 2pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
<td>Fair animal meeting 4th 5th</td>
<td>Steves Chowchilla 7pm</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td>End of 3rd Quarter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Project visit jorge diaz, chris chavez</td>
<td>SE practice 2-4</td>
<td>Pick up Goats 3:45 - 6pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wolfe, Richard 5/11/2010 12:33 PM
Section 25

R-2 Reports
# FFA Roster

<table>
<thead>
<tr>
<th>FFA #</th>
<th>Last Name</th>
<th>First Name</th>
<th>Address</th>
<th>City</th>
<th>St</th>
<th>Zip</th>
<th>Year</th>
<th>Grade</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Aguilar</td>
<td>Aeryn</td>
<td>2029 Dorset Lane</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>11</td>
<td>F</td>
<td>Hispanic</td>
<td>Ag Science</td>
</tr>
<tr>
<td>0</td>
<td>Ainebeck</td>
<td>John</td>
<td>917 E. Rumble Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>10</td>
<td>M</td>
<td>Others</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Alarcon</td>
<td>Valerie</td>
<td>4004 Drakshire Rd</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>09</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552840577</td>
<td>Allison</td>
<td>Austin</td>
<td>3104 Casact St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>3</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Alvarez</td>
<td>Lauren</td>
<td>1905 Legend Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>09</td>
<td>F</td>
<td>Others</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552840580</td>
<td>Amebeck</td>
<td>Brittany</td>
<td>3705 Gtta Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>4</td>
<td>13</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
</tr>
<tr>
<td>0</td>
<td>Anaya</td>
<td>Mariela</td>
<td>1604 Castilla Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>12</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
</tr>
<tr>
<td>552483354</td>
<td>Anderson</td>
<td>Alice</td>
<td>412 Derby Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>3</td>
<td>11</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Armstrong</td>
<td>Nicolas</td>
<td>1924 Cheyenne Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>11</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552207214</td>
<td>Arnett</td>
<td>Shiane</td>
<td>4224 Mount Pleasant Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95357</td>
<td>4</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Baccellieri</td>
<td>Megan</td>
<td>917 Bel Passi Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>09</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
</tr>
<tr>
<td>551973884</td>
<td>Balero</td>
<td>Jordan</td>
<td>4616 New Hope Ln</td>
<td>Salida</td>
<td>CA</td>
<td>95368</td>
<td>5</td>
<td>13</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552207221</td>
<td>Balos</td>
<td>Ashley</td>
<td>1609 Sanctuary Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95357</td>
<td>4</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Barrows</td>
<td>Cresencia</td>
<td>4221 Tully Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>09</td>
<td>F</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Bassam</td>
<td>Haseeb</td>
<td>4321 Veranda Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>12</td>
<td>M</td>
<td>Others</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840585</td>
<td>Bear</td>
<td>Tracee</td>
<td>3729 Terneuzen Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>10</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Beavers</td>
<td>Michael</td>
<td>617 Ancestry Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>10</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>ID</td>
<td>Last Name</td>
<td>First Name</td>
<td>Address</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>DOB</td>
<td>Gender</td>
<td>Race</td>
<td>Major</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>------------</td>
<td>--------------------------------</td>
<td>----------------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>--------</td>
<td>--------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Bello</td>
<td>Claudia</td>
<td>3320 Plymouth St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>09</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Bennett</td>
<td>Colleen</td>
<td>6237 Colony Park Dr.</td>
<td>Riverbank</td>
<td>CA</td>
<td>95367</td>
<td>3</td>
<td>11</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840587</td>
<td>Betancourt</td>
<td>Antonio</td>
<td>1708 Ferrington Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>3</td>
<td>12</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Bicklick</td>
<td>Ty</td>
<td>2018 Carson Oak Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840588</td>
<td>Blackburn</td>
<td>Jacob</td>
<td>517 Charles St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>3</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Blan</td>
<td>Taryn</td>
<td>205 N Machson St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>10</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
</tr>
<tr>
<td>551973970</td>
<td>Blevins</td>
<td>Mark</td>
<td>1028 Noaco Dr</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>5</td>
<td>13</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Bondoc</td>
<td>Patrick</td>
<td>3009 Okeefe Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>12</td>
<td>M</td>
<td>Filipino</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552207232</td>
<td>Breazeale</td>
<td>Jonathan</td>
<td>316 Emerson Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>4</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552840591</td>
<td>Briones</td>
<td>Armando</td>
<td>1416 Fernview Drive</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>3</td>
<td>13</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Brown</td>
<td>Jesse</td>
<td>1713 Mable Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>3</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Bunag</td>
<td>Immanuelle</td>
<td>1214 Floyd Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Burns</td>
<td>Brian</td>
<td>3000 Southwell Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Ag Bus Mgt</td>
</tr>
<tr>
<td>552840593</td>
<td>Bush</td>
<td>Ethan</td>
<td>3024 McGerry St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>13</td>
<td>M</td>
<td>Black</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Cadinha</td>
<td>Kelly</td>
<td>1739 Heirloom Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
</tr>
<tr>
<td>552483373</td>
<td>Cain</td>
<td>Kyle</td>
<td>2813 Sandstone st.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>3</td>
<td>13</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>551974059</td>
<td>Campbell</td>
<td>Ashley</td>
<td>5206 Sire Ct Riverbank CA</td>
<td>Riverbank</td>
<td>CA</td>
<td>95367</td>
<td>5</td>
<td>13</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Campos</td>
<td>Marissa</td>
<td>8563 Kimber Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Caporgno</td>
<td>Ashlyn</td>
<td>9854020 Calais</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Carter</td>
<td>David</td>
<td>1708 Briarwood</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>2</td>
<td>11</td>
<td>M</td>
<td>Others</td>
<td>Ag Mech.</td>
</tr>
</tbody>
</table>

https://cati-secure.atinet.org/R2/Scripts/Roster/PrintRoster.asp?schnum=125

10/10/2008
<table>
<thead>
<tr>
<th>ID</th>
<th>First Name</th>
<th>Last Name</th>
<th>Address</th>
<th>City</th>
<th>Zip</th>
<th>Age</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Castrejon</td>
<td>Brittney</td>
<td>1724 Sylvan Ave</td>
<td>Modesto</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
</tr>
<tr>
<td>0</td>
<td>Cervantes</td>
<td>Juan</td>
<td>564 Willow Way</td>
<td>Riverbank</td>
<td>95367</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>An. Science</td>
</tr>
<tr>
<td>0</td>
<td>Chacon</td>
<td>Anthony</td>
<td>531 Elk Creek</td>
<td>Modesto</td>
<td>95355</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552207245</td>
<td>Chavez</td>
<td>Brittany</td>
<td>1912 Generations Dr.</td>
<td>Modesto</td>
<td>95356</td>
<td>4</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Chavez</td>
<td>Christopher</td>
<td>1913 Sunflower Ct.</td>
<td>Modesto</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840598</td>
<td>Cheek</td>
<td>Victoria</td>
<td>2213 Corzon Dr.</td>
<td>Modesto</td>
<td>95355</td>
<td>3</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Chheng</td>
<td>Kevin</td>
<td>1708 Sylvan Ave #3</td>
<td>Modesto</td>
<td>95350</td>
<td>2</td>
<td>M</td>
<td>Asian/Pac</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840599</td>
<td>Childs</td>
<td>Allana</td>
<td>1803 Floyd Ave</td>
<td>Modesto</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Clark</td>
<td>Britney</td>
<td>1337 Silverado Dr.</td>
<td>Modesto</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
</tr>
<tr>
<td>552483379</td>
<td>Cole</td>
<td>Cameron</td>
<td>5608 Porto Drive</td>
<td>Riverbank</td>
<td>95367</td>
<td>3</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Cole</td>
<td>Krystal</td>
<td>3028 Carver Rd.</td>
<td>Modesto</td>
<td>95355</td>
<td>1</td>
<td>F</td>
<td>Black</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552483377</td>
<td>Cole</td>
<td>Mason</td>
<td>3205 Banbury Ct.</td>
<td>Modesto</td>
<td>95350</td>
<td>3</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840600</td>
<td>Comporato</td>
<td>Kim Ann</td>
<td>4012 Rose Parade Dr.</td>
<td>Modesto</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552840601</td>
<td>Cook</td>
<td>Addison</td>
<td>3608 Forest Glenn Dr.</td>
<td>Modesto</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Corbiser</td>
<td>Colby</td>
<td>2104 Sunrise Ave</td>
<td>Modesto</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840603</td>
<td>Cortez</td>
<td>Andy</td>
<td>4204 Keepsake Ct.</td>
<td>Modesto</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Coulter</td>
<td>Zac</td>
<td>372 Thornbury Way</td>
<td>Modesto</td>
<td>95356</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552840604</td>
<td>Crist</td>
<td>Robert</td>
<td>1716 Castilla Way</td>
<td>Modesto</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Croskey</td>
<td>Dreshawn</td>
<td>1307 E. Rumble Rd.</td>
<td>Modesto</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>Black</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Davis</td>
<td>Lorne</td>
<td>564 Oakdale Rd.</td>
<td>Modesto</td>
<td>95355</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>DeCraif</td>
<td>Colton</td>
<td>658 Slyvan Ave</td>
<td>Modesto</td>
<td>95350</td>
<td>2</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Degraef</td>
<td>Colton</td>
<td>256 Lovers Ln.</td>
<td>Modesto</td>
<td>95356</td>
<td>2</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Student ID</td>
<td>First Name</td>
<td>Last Name</td>
<td>Address</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>Age</td>
<td>Gender</td>
<td>Ethnicity</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>-----------</td>
<td>--------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>552840605</td>
<td>Delatorre</td>
<td>Marcelino</td>
<td>3429 Fremont St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>Hispanic</td>
</tr>
<tr>
<td>0</td>
<td>DeLeon</td>
<td>Marissa</td>
<td>800 Lindsay Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>0</td>
<td>Deponie</td>
<td>Roman</td>
<td>3601 Bridgeford Ln</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>4</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>552840606</td>
<td>Diaz</td>
<td>Iris</td>
<td>4209 Acclaim Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>2</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>552483383</td>
<td>Diaz</td>
<td>Jorge</td>
<td>809 East Briggsmore</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>3</td>
<td>M</td>
<td>Hispanic</td>
</tr>
<tr>
<td>552840607</td>
<td>Dishman</td>
<td>Taylor</td>
<td>4401 Touraine Park Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>552840608</td>
<td>Douglas</td>
<td>Brandon</td>
<td>1100 Sylvan Ave. Apt. #111</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>Am. Ind.</td>
</tr>
<tr>
<td>0</td>
<td>Downey</td>
<td>Chad</td>
<td>1235 Randy Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Driskill</td>
<td>Joeeph</td>
<td>3308 Selby Lane</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Edwards</td>
<td>Melody</td>
<td>1601 Monoce Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>2</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Ekdler</td>
<td>Nicolas</td>
<td>5612 Baume Way</td>
<td>Salida</td>
<td>CA</td>
<td></td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Escobedo</td>
<td>James</td>
<td>224 Floyd Ave. Apt C</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
</tr>
<tr>
<td>552840611</td>
<td>Espinoza</td>
<td>Kassandra</td>
<td>4432 Coffee Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>552840612</td>
<td>Essex</td>
<td>Michael</td>
<td>705 Dream Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Fallahzadeh</td>
<td>Mary</td>
<td>301 Standiford Ave. Apt#224</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>Others</td>
</tr>
<tr>
<td>551974412</td>
<td>Fantazia</td>
<td>Chelsea</td>
<td>3425 Gisborne Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>5</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Figueroa</td>
<td>Marc</td>
<td>1209 Harris Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
</tr>
<tr>
<td>0</td>
<td>Finnegan</td>
<td>Brette</td>
<td>400 Broderick Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Flanagan</td>
<td>Julia</td>
<td>1917 Ricky Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>Others</td>
</tr>
<tr>
<td>0</td>
<td>Flores</td>
<td>Sergio</td>
<td>4216 Lifescapes Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
</tr>
<tr>
<td>0</td>
<td>Foley</td>
<td>Kelsey</td>
<td>4213</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>Name</td>
<td>First</td>
<td>Last</td>
<td>Address</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>Gender</td>
<td>Race</td>
<td>Major</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>----------------------------------------------</td>
<td>------------</td>
<td>--------</td>
<td>-----</td>
<td>--------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Fontana</td>
<td>Garrett</td>
<td></td>
<td>Passages Ln. 3917 Northview Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Ford</td>
<td>Matthew</td>
<td></td>
<td>505 Cassidy Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Frank</td>
<td>Austin</td>
<td></td>
<td>2821 Olympus Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>Fromuth</td>
<td>Andrew</td>
<td></td>
<td>2312 Mable Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>Gaddo</td>
<td>Marian</td>
<td></td>
<td>2124 Rampart St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Others</td>
<td>Ag Bus Mgt</td>
</tr>
<tr>
<td>Gallegos</td>
<td>Cintia</td>
<td></td>
<td>3846 Monte View Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
</tr>
<tr>
<td>Galvan</td>
<td>Arthur</td>
<td></td>
<td>1916 Lakeshore Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>Garcia</td>
<td>Raelene</td>
<td></td>
<td>2112 Floyd Ave, 49</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Ghodsi</td>
<td>Elly</td>
<td></td>
<td>2121 Eastwood Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Giraldo</td>
<td>Diana</td>
<td></td>
<td>2101 History Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Gomez</td>
<td>Jesse</td>
<td></td>
<td>308 E. Rumble Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Gonzalez</td>
<td>Jacqueline</td>
<td></td>
<td>1104 Salisbury Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
</tr>
<tr>
<td>Gormley</td>
<td>Jessica</td>
<td></td>
<td>808 Charleston Ave</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Asian/Pac</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Green</td>
<td>Alexandrea</td>
<td></td>
<td>3925 Tully Rd. 11 L</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Black</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Griffie</td>
<td>Hayley</td>
<td></td>
<td>1016 Noarco Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Griffith</td>
<td>Grant</td>
<td></td>
<td>4120 Mercer Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>Guider</td>
<td>Sacha</td>
<td></td>
<td>2517 Mill Oak Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Guzman</td>
<td>Vivian</td>
<td></td>
<td>1816 Sylvan Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Hispanic</td>
<td>An. Science</td>
</tr>
<tr>
<td>Hardel</td>
<td>Cody</td>
<td></td>
<td>213 Eagle Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>Harmon</td>
<td>Brandy</td>
<td></td>
<td>2404 Ives St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Black</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Harrison</td>
<td>Brooke</td>
<td></td>
<td>4004 Beyer Park Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
</tr>
<tr>
<td>Hefner</td>
<td>Megan</td>
<td></td>
<td>1114 Huntington</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Others</td>
<td>Agriscience</td>
</tr>
<tr>
<td>Student ID</td>
<td>Last Name</td>
<td>First Name</td>
<td>Address</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>Grade</td>
<td>Gender</td>
<td>Race</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>----------------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>552840619</td>
<td>Heiman</td>
<td>Heather</td>
<td>2733 Medinah Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>4</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Hernandez</td>
<td>David</td>
<td>3805 Coffee Rd. #3</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
</tr>
<tr>
<td>0</td>
<td>Hernandez</td>
<td>Delilah</td>
<td>1420 Overholter Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>552840621</td>
<td>Jacobs</td>
<td>Geoffrey</td>
<td>1612 San Luis Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>552207291</td>
<td>Jacobsen</td>
<td>Holli</td>
<td>3566 Bentley Rd.</td>
<td>Riverbank</td>
<td>CA</td>
<td>95357</td>
<td>4</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Jay</td>
<td>Johnathan</td>
<td>2617 Cabernet Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Jenkins</td>
<td>Cecil</td>
<td>160 Markrado Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>M</td>
<td>Black</td>
</tr>
<tr>
<td>0</td>
<td>Jenkins</td>
<td>Sebastian</td>
<td>608 Avanel Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>552840622</td>
<td>Johnson</td>
<td>Kristen</td>
<td>1425 Clevenger Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>552840623</td>
<td>Jones</td>
<td>Jasmine</td>
<td>1513 Jackellen Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>F</td>
<td>Black</td>
</tr>
<tr>
<td>0</td>
<td>Jones</td>
<td>Kiersten</td>
<td>2526 Forest Glenn Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>White</td>
</tr>
<tr>
<td>552483401</td>
<td>Jones</td>
<td>Travis</td>
<td>2625 Cabernet Court</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>4</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Jordan</td>
<td>Jeffery</td>
<td>3624 Morristown Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>552840624</td>
<td>Keary</td>
<td>Vuthearth</td>
<td>1841 Poust Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>Asian/Pac</td>
</tr>
<tr>
<td>0</td>
<td>Kilgae</td>
<td>Chase</td>
<td>924 Elmonton Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>552840625</td>
<td>Kinnard</td>
<td>Michael</td>
<td>4539 Oakdale Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Koster</td>
<td>Tyler</td>
<td>1801 Farington Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>0</td>
<td>Lara</td>
<td>Alyssa</td>
<td>3000 Keller St. Apt.B</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
</tr>
<tr>
<td>0</td>
<td>Larkin</td>
<td>Shannon</td>
<td>3505 Bridgeford Ln. Apt.221</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>F</td>
<td>Black</td>
</tr>
<tr>
<td>0</td>
<td>Larsen</td>
<td>Trent</td>
<td>2109 Gordon</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>No.</td>
<td>First Name</td>
<td>Last Name</td>
<td>Address</td>
<td>City, State, Zip</td>
<td>Age</td>
<td>Gender</td>
<td>Race</td>
<td>Major</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------</td>
<td>-----------</td>
<td>---------</td>
<td>-----------------</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Leonard</td>
<td>Taryn</td>
<td>2609 Blank St.</td>
<td>Modesto, CA 95350</td>
<td>10</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Leshko</td>
<td>Kenneth</td>
<td>160 Mark Rand Dr.</td>
<td>Modesto, CA 95355</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>552840629</td>
<td>Lheureux</td>
<td>David</td>
<td>1432 Floyd Ave.</td>
<td>Modesto, CA 95355</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>551974960</td>
<td>Louis</td>
<td>Anthony</td>
<td>4548 McGee Ave</td>
<td>Modesto, CA 95357</td>
<td>13</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552207304</td>
<td>Lovelace</td>
<td>Abigail</td>
<td>3605 Swain Dr</td>
<td>Modesto, CA 95356</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>551974973</td>
<td>Lundgren</td>
<td>Amber</td>
<td>929 Tahoe Dr</td>
<td>Modesto, CA 95350</td>
<td>13</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mahmood</td>
<td>Hamza</td>
<td>865 Lovington Dr.</td>
<td>Riverbank, CA 95367</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552483414</td>
<td>Malik</td>
<td>Carolien</td>
<td>1412 Ballena Place</td>
<td>Modesto, CA 95355</td>
<td>13</td>
<td>F</td>
<td>Asian/Pac O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>552840633</td>
<td>Manrique</td>
<td>Justin</td>
<td>1821 Rose Ave.</td>
<td>Modesto, CA 95355</td>
<td>11</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Martiniec</td>
<td>Andrea</td>
<td>1004 Norwegian Ave.</td>
<td>Modesto, CA 95350</td>
<td>11</td>
<td>F</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mason</td>
<td>Alexander</td>
<td>3728 Marigold Ln.</td>
<td>Modesto, CA 95350</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552483417</td>
<td>Mcghee</td>
<td>Kayla</td>
<td>3817 Northview Dr.</td>
<td>Modesto, CA 95355</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>McGrath</td>
<td>Nicholas</td>
<td>3209 Lakeshore Ct.</td>
<td>Modesto, CA 95350</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Meadows</td>
<td>Samantha</td>
<td>1400 Thorsen Ave.</td>
<td>Modesto, CA 95350</td>
<td>11</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840638</td>
<td>Mefford</td>
<td>Allysen</td>
<td>2713 Twin Oak Ln.</td>
<td>Modesto, CA 95355</td>
<td>10</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mendez</td>
<td>Bryan</td>
<td>1220 May Ave.</td>
<td>Modesto, CA 95350</td>
<td>09</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mendiola</td>
<td>Jessica</td>
<td>2036 Dorset Ln.</td>
<td>Modesto, CA 95350</td>
<td>12</td>
<td>F</td>
<td>Asian/Pac O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Milano</td>
<td>Adelina</td>
<td>1617 Halden Way</td>
<td>Modesto, CA 95350</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840639</td>
<td>Miller</td>
<td>Chris</td>
<td>4004 Masterpiece Dr.</td>
<td>Modesto, CA 95355</td>
<td>12</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>552840640</td>
<td>Mills</td>
<td>Katie</td>
<td>3805 Lorene Ct.</td>
<td>Modesto, CA 95355</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mills</td>
<td>Quintina</td>
<td>3612 Colonial Dr</td>
<td>Modesto, CA 95350</td>
<td>09</td>
<td>F</td>
<td>Black</td>
<td>Ag Bus Mgt</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mitchell</td>
<td>Zachary</td>
<td>1820 Bridgwood</td>
<td>Modesto, CA 95350</td>
<td>10</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Last Name</td>
<td>First Name</td>
<td>Address</td>
<td>City, State, Zip</td>
<td>Age</td>
<td>Gender</td>
<td>Ethnicity</td>
<td>Major</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>------------</td>
<td>---------</td>
<td>-----------------</td>
<td>-----</td>
<td>--------</td>
<td>-----------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Moeun</td>
<td>Steven</td>
<td>917 Guava Dr.</td>
<td>Modesto, CA 95350</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mora</td>
<td>Rebecca</td>
<td>3344 Cardinal Flower Way</td>
<td>Modesto, CA 95355</td>
<td>12</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
<td></td>
</tr>
<tr>
<td>552840644</td>
<td>Morgan</td>
<td>Brittney</td>
<td>2313 Lovers Point Ln.</td>
<td>Modesto, CA 95355</td>
<td>10</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840646</td>
<td>Muhammad</td>
<td>Akim</td>
<td>1821 Snyder Ave.</td>
<td>Modesto, CA 95355</td>
<td>10</td>
<td>M</td>
<td>Black</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840647</td>
<td>Munoz</td>
<td>Alejandro</td>
<td>1932 Spring Ln.</td>
<td>Modesto, CA 95355</td>
<td>10</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Narvaez</td>
<td>Bertha</td>
<td>4216 Hallmark Way.</td>
<td>Modesto, CA 95350</td>
<td>10</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840651</td>
<td>Navarro</td>
<td>Kyle</td>
<td>1217 Country View Dr</td>
<td>Modesto, CA 95356</td>
<td>10</td>
<td>M</td>
<td>White</td>
<td>An. Science</td>
<td></td>
</tr>
<tr>
<td>551975202</td>
<td>Nelson</td>
<td>Jessica</td>
<td>300 Hastings Ln.</td>
<td>Modesto, CA 95350</td>
<td>13</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Nicora</td>
<td>Audra</td>
<td>1005 Tahoe Dr.</td>
<td>Modesto, CA 95355</td>
<td>09</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Nieves</td>
<td>Scott</td>
<td>1601 Falmouth Way</td>
<td>Modesto, CA 95350</td>
<td>11</td>
<td>M</td>
<td>Others</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Nobbe</td>
<td>Nicole</td>
<td>1328 Scottsdale Way</td>
<td>Modesto, CA 95350</td>
<td>12</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Northern</td>
<td>Joseph</td>
<td>3825 Monteview Dr.</td>
<td>Modesto, CA 95350</td>
<td>09</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>551975216</td>
<td>Norton</td>
<td>Kynlee</td>
<td>3509 Gisborne Ct.</td>
<td>Modesto, CA 95350</td>
<td>13</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Ocon</td>
<td>Gerardo</td>
<td>568 Honeyview Ct.</td>
<td>Modesto, CA 95350</td>
<td>09</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Olivera</td>
<td>Jesse</td>
<td>2717 Canyon Rd.</td>
<td>Modesto, CA 95350</td>
<td>11</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Ovalle</td>
<td>Teresa</td>
<td>4201 Antiquity</td>
<td>Modesto, CA 95350</td>
<td>12</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Page</td>
<td>Rebecca</td>
<td>424 Roscoe Rd.</td>
<td>Modesto, CA 95355</td>
<td>09</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>552840653</td>
<td>Pelesasa</td>
<td>Moana</td>
<td>1305 Sylvan Meadows Dr. #D</td>
<td>Modesto, CA 95355</td>
<td>10</td>
<td>F</td>
<td>Asian/Pac</td>
<td>Agriscience</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Pfaff</td>
<td>Carly</td>
<td>3100 Stafford Way</td>
<td>Modesto, CA 95355</td>
<td>09</td>
<td>F</td>
<td>White</td>
<td>Ag Bus Mgt</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Pickerel</td>
<td>Brittany</td>
<td>332 Milly Conoe Dr.</td>
<td>Modesto, CA 95356</td>
<td>09</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
</tr>
</tbody>
</table>

https://cati-secure.atinet.org/R2/Scripts/Roster/PrintRoster.asp?schnum=125

10/10/2008
<table>
<thead>
<tr>
<th>Student ID</th>
<th>Last Name</th>
<th>First Name</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
<th>Gender</th>
<th>Race</th>
<th>Date of Birth</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>552840651</td>
<td>Polic</td>
<td>Zachary</td>
<td>1720 Shade Wood Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>M</td>
<td>White</td>
<td>2 10</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552840659</td>
<td>Poppin</td>
<td>Alyssa</td>
<td>4116 Eastern Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Black</td>
<td>2 12</td>
<td>O.H.</td>
</tr>
<tr>
<td>0</td>
<td>Pratt</td>
<td>Jennifer</td>
<td>4209 Riggins Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>Hispanic</td>
<td>2 10</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Pretence</td>
<td>Zachary</td>
<td>514 Kimble St.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>White</td>
<td>2 10</td>
<td>Agriscience</td>
</tr>
<tr>
<td>551975379</td>
<td>Prouty</td>
<td>Amber</td>
<td>2549 W Rumble Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>White</td>
<td>5 13</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552483433</td>
<td>Prouty</td>
<td>Shannon</td>
<td>2549 West Rumble Rd.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>White</td>
<td>3 11</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Przybyla</td>
<td>Daniel</td>
<td>216 Marlyn Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>White</td>
<td>1 11</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552207336</td>
<td>Quesinberry</td>
<td>Alexandra</td>
<td>2701 Warwick Ln.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>White</td>
<td>4 12</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Radu</td>
<td>Vanessa</td>
<td>208 Brian Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Others</td>
<td>1 11</td>
<td>O.H.</td>
</tr>
<tr>
<td>552483437</td>
<td>Ramos</td>
<td>Ashley</td>
<td>2125 Ellison Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>F</td>
<td>White</td>
<td>3 11</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Redding</td>
<td>Bailey</td>
<td>1013 Salisbury Ln</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Hispanic</td>
<td>1 09</td>
<td>Agriscience</td>
</tr>
<tr>
<td>552840664</td>
<td>Reed</td>
<td>Taisha</td>
<td>4017 Ceepsalce Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>White</td>
<td>2 10</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Reichder</td>
<td>Tim</td>
<td>3513 Carson Oak Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>M</td>
<td>White</td>
<td>1 09</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Rennolett</td>
<td>Cheyenne</td>
<td>301 Stondolifor Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Others</td>
<td>1 09</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Reyes</td>
<td>Daniel</td>
<td>3013 Mammoth Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>M</td>
<td>Hispanic</td>
<td>1 11</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Reynoso</td>
<td>Samantha</td>
<td>2025 Bridgewood Way</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Hispanic</td>
<td>1 09</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Ricklick</td>
<td>Ty</td>
<td>2108 Carson Oak Ct.</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>M</td>
<td>White</td>
<td>1 09</td>
<td>Ag Mech.</td>
</tr>
<tr>
<td>552483442</td>
<td>Riddle</td>
<td>Lindsay</td>
<td>1433 Silverado Dr.</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>F</td>
<td>White</td>
<td>3 11</td>
<td>Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>Riddle</td>
<td>Melinda</td>
<td>1718 Elizabeth Ave.</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>F</td>
<td>Hispanic</td>
<td>1 09</td>
<td>Agriscience</td>
</tr>
<tr>
<td>No</td>
<td>Last Name</td>
<td>First Name</td>
<td>Address 1</td>
<td>Address 2</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>Grade</td>
<td>Gender</td>
<td>Ethnicity</td>
</tr>
<tr>
<td>----</td>
<td>-----------</td>
<td>------------</td>
<td>--------------------</td>
<td>--------------------</td>
<td>------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>0</td>
<td>Roa</td>
<td>Angelica</td>
<td>201 Phillip Ct</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
<td>O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Robinson</td>
<td>Matt</td>
<td>1508 mable Ave.</td>
<td>Modesto CA 95355</td>
<td>2</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Rodriguez</td>
<td>Alejandro</td>
<td>1337 E. Rumble Rd.</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Rodriguez</td>
<td>Santino</td>
<td>4105 Ristau Ct.</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Rodriguez</td>
<td>Stephanie</td>
<td>1800 Fairington Ln.</td>
<td>Modesto CA 95355</td>
<td>1</td>
<td>F</td>
<td>Hispanic</td>
<td>An. Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Rosser</td>
<td>James</td>
<td>2109 Potter Ave.</td>
<td>Modesto CA 95356</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Russo</td>
<td>Alex</td>
<td>920 Susan Lee Ln.</td>
<td>Modesto CA 95355</td>
<td>4</td>
<td>M</td>
<td>White</td>
<td>An. Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Salinas</td>
<td>Jd</td>
<td>1313 Floyd Ave</td>
<td>Modesto CA 95355</td>
<td>2</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Salinas</td>
<td>Kevin</td>
<td>1200 Athens Ave</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Sedore</td>
<td>Jencie</td>
<td>3825 Montview Dr.</td>
<td>Modesto CA 95355</td>
<td>1</td>
<td>F</td>
<td>Others</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Serros</td>
<td>Erica</td>
<td>2004 Hickory Ct.</td>
<td>Modesto CA 95355</td>
<td>2</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Shah</td>
<td>Rohan</td>
<td>325 Standiford Ave</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>M</td>
<td>Asian/Pac</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Sims</td>
<td>Brittany</td>
<td>5744 Townsend Ct.</td>
<td>Riverbank CA 95367</td>
<td>2</td>
<td>F</td>
<td>White</td>
<td>An. Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Singh</td>
<td>Abhishek</td>
<td>4109 Dragoon Park</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>M</td>
<td>Asian/Pac</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Singh</td>
<td>Shane</td>
<td>4112 Spring Valley Ct.</td>
<td>Modesto CA 95355</td>
<td>2</td>
<td>M</td>
<td>Asian/Pac</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Skaggs</td>
<td>Steven</td>
<td>1231 O' Farrell Ave.</td>
<td>Modesto CA 95355</td>
<td>2</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Sloan</td>
<td>Sondra</td>
<td>2113 Eastwood Ct.</td>
<td>Modesto CA 95355</td>
<td>2</td>
<td>F</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Spangler</td>
<td>Briana</td>
<td>3808 Crandall Way</td>
<td>Modesto CA 95356</td>
<td>1</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Starling</td>
<td>Franklin</td>
<td>1004 Heidi Ave</td>
<td>Modesto CA 95355</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Steele</td>
<td>Krista</td>
<td>4209 Drakeshire Ct.</td>
<td>Modesto CA 95350</td>
<td>1</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Stevenson</td>
<td>Shamontae</td>
<td>1324 Woodside Dr.</td>
<td>Modesto CA 95355</td>
<td>1</td>
<td>F</td>
<td>Black</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student ID</td>
<td>Last Name</td>
<td>First Name</td>
<td>Address 1</td>
<td>City, State, Zip</td>
<td>Class Year</td>
<td>Gender</td>
<td>Race</td>
<td>Major</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>-----------------------</td>
<td>------------------</td>
<td>------------</td>
<td>--------</td>
<td>--------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>552207352</td>
<td>Stewart</td>
<td>Michael</td>
<td>2000 East Rumble Rd.</td>
<td>Modesto, CA 95355</td>
<td>4</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>551975715</td>
<td>Stobert</td>
<td>Richard</td>
<td>2012 Lancey Dr.</td>
<td>Modesto, CA 95355</td>
<td>5</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Talamente</td>
<td>Phillip</td>
<td>1409 Glenhaven</td>
<td>Modesto, CA 95355</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Tavares</td>
<td>Daniel</td>
<td>3304 Megery St.</td>
<td>Modesto, CA 95356</td>
<td>1</td>
<td>M</td>
<td>Others</td>
<td>An. Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Tidrick</td>
<td>Brandon</td>
<td>401 Hackberry</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>An. Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Todd</td>
<td>Kelsey</td>
<td>4104 Wheeler Peak Way</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Torres</td>
<td>Connor</td>
<td>921 Norwegian Way</td>
<td>Modesto, CA 95355</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Tovar</td>
<td>Dominic</td>
<td>412 E. Rumble Rd.</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>M</td>
<td>Hispanic</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Usiak</td>
<td>Justin</td>
<td>201 Ribier Ave.</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Vallestros</td>
<td>Anthony</td>
<td>1804 Mark Mead Ln.</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>M</td>
<td>Filipino</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>552840685</td>
<td>Vanssyke</td>
<td>Reena</td>
<td>2631 Blessing Ct.</td>
<td>Riverbank, CA 95367</td>
<td>2</td>
<td>F</td>
<td>Filipino</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>VanZent</td>
<td>Ryan</td>
<td>1416 Fernview</td>
<td>Modesto, CA 95356</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>552840688</td>
<td>Wade</td>
<td>Megan</td>
<td>1213 Brady Ave.</td>
<td>Modesto, CA 95355</td>
<td>2</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Wagner</td>
<td>Paige</td>
<td>1836 Harbor Cove</td>
<td>Modesto, CA 95355</td>
<td>1</td>
<td>F</td>
<td>White</td>
<td>O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Ware</td>
<td>Simone</td>
<td>4017 Sterling Ct.</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>F</td>
<td>Asian/Pac</td>
<td>O.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Warren</td>
<td>Kareem</td>
<td>3701 Colonial Dr.</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>M</td>
<td>Black</td>
<td>Ag Mech.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Webster</td>
<td>Shaun</td>
<td>1821 Bridgewood Way</td>
<td>Modesto, CA 95350</td>
<td>1</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>552840689</td>
<td>Welborn</td>
<td>Nicole</td>
<td>4204 Hallmark Way</td>
<td>Modesto, CA 95355</td>
<td>2</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>552483460</td>
<td>West</td>
<td>Dalton</td>
<td>1532 Carlisle Ave.</td>
<td>Modesto, CA 95356</td>
<td>3</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>551975936</td>
<td>White</td>
<td>Brandy</td>
<td>6036 Don Ave.</td>
<td>Riverbank, CA 95367</td>
<td>5</td>
<td>F</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>551975976</td>
<td>Wolgamot</td>
<td>Eric</td>
<td>6603 Oakdale Rd</td>
<td>Riverbank, CA 95367</td>
<td>5</td>
<td>M</td>
<td>White</td>
<td>Agriscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Num</td>
<td>Last Name</td>
<td>First Name</td>
<td>Address 1</td>
<td>Address 2</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>Gender</td>
<td>Race/Ethnicity</td>
<td>Major</td>
</tr>
<tr>
<td>-----</td>
<td>-----------</td>
<td>------------</td>
<td>----------------------</td>
<td>----------</td>
<td>-----------</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>0</td>
<td>Woods</td>
<td>Draven</td>
<td>920 Huntington Dr.</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>M</td>
<td>Black Agriscience</td>
</tr>
<tr>
<td>552207377</td>
<td>Ybarra</td>
<td>Cystina</td>
<td>506 Oakshire Ave</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95354</td>
<td>4</td>
<td>F</td>
<td>Hispanic O.H.</td>
</tr>
<tr>
<td>0</td>
<td>Yohey</td>
<td>Cody</td>
<td>5641 Greco Ln.</td>
<td>Salida</td>
<td>Salida</td>
<td>CA</td>
<td>95368</td>
<td>2</td>
<td>M</td>
<td>White Agriscience</td>
</tr>
<tr>
<td>0</td>
<td>You</td>
<td>Van</td>
<td>1417 Flyod St.</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>1</td>
<td>M</td>
<td>Asian/Pac Ag Mech.</td>
</tr>
<tr>
<td>0</td>
<td>Younan</td>
<td>Norma</td>
<td>1022 Tahoe Dr.</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>1</td>
<td>F</td>
<td>Others O.H.</td>
</tr>
<tr>
<td>551976009</td>
<td>Young</td>
<td>Jill</td>
<td>804 Stonington</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95356</td>
<td>5</td>
<td>F</td>
<td>White Agriscience</td>
</tr>
<tr>
<td>552840695</td>
<td>Young</td>
<td>Josh</td>
<td>804 Stonington Cr.</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95355</td>
<td>2</td>
<td>M</td>
<td>White Ag Mech.</td>
</tr>
<tr>
<td>552483465</td>
<td>Zaborsky</td>
<td>Kaitlyn</td>
<td>2026 CODING Dr.</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>3</td>
<td>F</td>
<td>White Agriscience</td>
</tr>
<tr>
<td>552207379</td>
<td>Zinnauer</td>
<td>Bryanna</td>
<td>1910 Dartmouth Ct.</td>
<td>Modesto</td>
<td>Modesto</td>
<td>CA</td>
<td>95350</td>
<td>4</td>
<td>F</td>
<td>White Agriscience</td>
</tr>
</tbody>
</table>
Extended Contract and Rationale
MODESTO CITY SCHOOLS

PERSONNEL ACTION FORM

NAME: Richard Wolfe

JOB TITLE: Classroom Teacher

JOB CODE: 3012

LOCATION(S): Beyer High School

POSITION CODE: 4065

YR TRAK: 

SOC. SEC. NO. (last 4 digits): 6552

Effective: From ___ To ___ Acct. # ___

Hours/Days: Months/Year: 

Salary: Range 5 Step 8 Hourly $ ___ Daily $ ___ Monthly $ ___

New Hire: Temporary: Duty Days/Year: 

Rehire: Probationary: Other: 

Appointment: Reappointment: Replacement For: 

Child Dev (%): Elementary (%): High School (%): 

Comments: Salary Schedule: 10

Appointment: Transfer: Reassignment: % Change: Status Change: Funding Change: 

To: Job Code: Job Title: Location: 

Position Code: 

From: Job Code: Job Title: Location: 

Position Code: 

Replacement for: New Position: Probationary: 

Effective: From ___ To ___ 

Salary: Range ___ Step ___ Hourly $ ___ Monthly $ ___ Change In: Hours ____ Months ____ 

Increase ___ Decrease ___ 

ACCOUNT NUMBER: 

FUNDING SOURCE: 

Stipend/Other: 

Agriculture Summer Service - 30 days: Amount: 

Add X Delete Effective: (From) 7/1/10 (To) 6/30/11 Funding: Sch/Career: 

Account #: 

Stipend/Other: 

Add ___ Delete ___ Effective: (From) ____ (To) ____ Funding: 

Account #: 

Administrator's Signature: 

Manager's Signature: 

Assoc. Supt., H.R./Designee's Signature: 

Date: 5/11/10

BOARD ACTION: JUN 01 2010 Approved (Date) 

Disapproved (Date): 

Vocational Agriculture Extended Service Program Proposal

BACKGROUND

Currently, the District pays approximately $90,000 per year for summer service, which consists of up to thirty days at the daily rate for agriculture teachers. This practice is consistent with other districts in the Central Valley. (See attachment #1.) For this service, the teachers are asked to supervise projects, both animal and plant, that are normally displayed at the Stanislaus County Fair and later for those who qualify at the California State Fair. Supervision time for these projects usually starts as early as February for some animal projects.

SUMMER SERVICE PROPOSAL

Over the years, there have been problems with providing consistent documentation of summer service. Therefore, beginning in the summer of 2002, the following procedures will implemented:

BASIC SUMMER SERVICE CONTRACT

Each high school that has at least twenty students showing projects at the Stanislaus County Fair will be guaranteed one project service position of up to thirty days. This teacher (who must be a 1.0 FTE agriculture teacher) will be selected by the Director of School-to-Career Education, after consultation with the high school principal. Additional persons may be a part-time agriculture teacher and will receive days based on student hours generated.

ADDITIONAL SUMMER SERVICE

Days of summer service, in addition to the initial contract, will be available if the expected student contact hours for the school exceed 3062 hours which are the minimum hours required for the first contract. These days will be allocated in one-day increments @ one hundred two (102) hours of student contact equaling one day. Additional agriculture teachers at the same school site will only be paid for summer service days generated up to the maximum of 3062 hours (or thirty days). No teacher can be paid for more than thirty days of summer service.

SUPERVISION REQUIREMENTS

Agriculture teachers supervising students who are working on projects for the Stanislaus County Fair, the California State Fair, and summer supervised Agricultural Work Experience prior to the end of the school year can be credited hours of service as long as they occur outside of the regular school day. Teachers will be credited only
for those hours for which the appropriate paperwork is completed and submitted on time. Agriculture teachers can only count days that are not “regular contract” salary days prior to the end of the regular school year including Spring Recess, Memorial Holiday, Saturdays and Sundays, etc. These days must contain a minimum of six hours and can only be used for fair project supervision. Final payment for “summer service” will be calculated on the first working day of September, based on the documentation provided by that time.

WORK CALENDAR

In order to receive compensation for project supervision/summer service, the agriculture teacher must first complete a calendar that will list the days that he/she will be working. This must be on file with the Director of School-to-Career Education prior to the first day of work on any extended days contract. Any days worked prior to filing the document will not be counted. (See attachment #2.)

STUDENT/PARENT MEETINGS

A record of meeting with students and parents will be maintained and signed by the student, parent and teacher. (See attachment #3.) Teachers are expected to meet with each student and parent at their project site at least once each month.

RECORDING STUDENT HOURS

A State Register recording the hours generated by each student, following approved District guidelines, will be maintained, signed by the teacher, and delivered to the School to Career Education office on the last Monday in August. It is from this register that each additional teacher’s final compensation will be calculated. Teachers will be notified concerning payment for “summer service” days no later than September 30.

SUMMER SCHOOL CREDIT FOR PARTICIPATING STUDENTS

Students will receive credit for summer agriculture projects under the attached course description, which is currently making its way to Board approval. (See attachment #4.) In the past, student hours that were generated by agriculture students were never used to generate funds. During summer-2001, students were enrolled in “Special Studies Agriculture.” They generated approximately 24,688 hours which should equal approximately $88,445.44.
CALCULATIONS FOR BUDGET ISSUES

During 2000-01, Modesto City Schools expended approximately $90,000 for 30-day (summer-2000) summer service contracts. This is equal to an average of $69,000 per teacher annual salary and STRS times fifteen percent (15%) or $10,350 on average for each teacher. The current ADA revenue limit for summer school is $3.38/hour.

$10,350 = 3062 hours
$3.38

Therefore, the agriculture teacher must record 3062 hours to pay for thirty days project supervision/summer service. It follows that each additional day beyond thirty days at this rate would be 3062 divided by 30 =102 hours.
# 2001-2002 Agriculture Summer Hours

<table>
<thead>
<tr>
<th>Teacher</th>
<th>£6/18/01-07/13/01</th>
<th>£7/15/01-08/10/01</th>
<th>£6/16/01-08/05/01</th>
<th>Saturday Only</th>
<th>Saturday/Sunday</th>
<th>Total Hours</th>
<th>Saturday Only</th>
<th>Saturday/Sunday</th>
<th>Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brecht, Mike</td>
<td>405.00</td>
<td>831.50</td>
<td>289.00</td>
<td>510.00</td>
<td>1525.50</td>
<td>1746.50</td>
<td>221.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dickson, Roger</td>
<td>366.50</td>
<td>952.00</td>
<td>217.00</td>
<td>422.50</td>
<td>1535.50</td>
<td>1741.00</td>
<td>205.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gerhardt, Gary</td>
<td>567.00</td>
<td>1165.00</td>
<td>356.00</td>
<td>679.00</td>
<td>2128.00</td>
<td>2451.00</td>
<td>323.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Layne, Scott</td>
<td>1574.00</td>
<td>1544.00</td>
<td>735.00</td>
<td>1306.00</td>
<td>3853.00</td>
<td>4424.00</td>
<td>571.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leventini, Michael</td>
<td>592.50</td>
<td>1504.00</td>
<td>338.50</td>
<td>659.50</td>
<td>2435.00</td>
<td>2756.00</td>
<td>321.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mayfield, Amy</td>
<td>881.00</td>
<td>1090.00</td>
<td>563.50</td>
<td>938.25</td>
<td>2534.50</td>
<td>2907.25</td>
<td>372.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nower, Mark</td>
<td>840.00</td>
<td>1735.00</td>
<td>406.00</td>
<td>857.00</td>
<td>2981.00</td>
<td>3432.00</td>
<td>451.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short, Kristi</td>
<td>54.00</td>
<td>47.00</td>
<td>4.00</td>
<td>11.00</td>
<td>105.00</td>
<td>112.00</td>
<td>7.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorrels, Laura</td>
<td>276.00</td>
<td>410.00</td>
<td>147.50</td>
<td>294.00</td>
<td>833.50</td>
<td>980.00</td>
<td>146.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5576.00</td>
<td>9298.50</td>
<td>3056.50</td>
<td>5675.25</td>
<td>17931.00</td>
<td>20549.75</td>
<td>2618.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$3.38 per Pupil Hours

- £18,846.88
- £31,428.93
- £10,330.97
- £19,182.35
- £60,606.78
- £69,458.16
- £8,851.38
<table>
<thead>
<tr>
<th>SCHOOL DISTRICT</th>
<th>DAYS WORKED</th>
<th>PAYMENT</th>
<th>RESTRICTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elk Grove</td>
<td>36</td>
<td>20% of individual's base pay</td>
<td>Must be project-based.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ONLY week-ends during school year</td>
</tr>
<tr>
<td>Merced Union</td>
<td>40</td>
<td>20% of individual's base pay</td>
<td>ONLY week-ends during school year</td>
</tr>
<tr>
<td>Manteca Unified</td>
<td>50</td>
<td>Individual's per diem.</td>
<td>15/school year and 35/summer.</td>
</tr>
<tr>
<td>Visalia Unified</td>
<td>40</td>
<td>20% of individual's base pay</td>
<td>ONLY weekends and summer</td>
</tr>
<tr>
<td>Hilmar</td>
<td>38</td>
<td>20% of individual's base pay</td>
<td>Summer only.</td>
</tr>
<tr>
<td>Hughson</td>
<td>30</td>
<td>5% of individual's base pay</td>
<td>None</td>
</tr>
<tr>
<td>Clovis Unified</td>
<td>40/8-hr.</td>
<td>.025 of individual's base pay times 5 times 8</td>
<td>None</td>
</tr>
<tr>
<td>Galt Unified</td>
<td>37</td>
<td>20% of individual's base pay</td>
<td>ONLY projects; ONLY weekends &amp; summer</td>
</tr>
<tr>
<td>Tracy Unified</td>
<td>27/8-hr.</td>
<td>Individual base pay per diem</td>
<td>None</td>
</tr>
<tr>
<td>Newman Unified</td>
<td>0</td>
<td>$4000 stipend</td>
<td>None</td>
</tr>
<tr>
<td>Kern High School</td>
<td>36</td>
<td>20% of individual's base pay</td>
<td>ONLY weekends and summer</td>
</tr>
<tr>
<td>Turlock High School</td>
<td>30</td>
<td>15% of individual's rate of pay</td>
<td>ONLY weekends and summer</td>
</tr>
<tr>
<td>Oakdale Unified</td>
<td>??</td>
<td>20% of individual's rate of pay</td>
<td>??</td>
</tr>
</tbody>
</table>

8/21/01
VE-01/02 MODESTO CITY SCHOOLS
VOCATIONAL AGRICULTURE
EXTENDED SERVICE PROGRAM

SCHOOL
SITE__________ YEAR________ STAFF________

STUDENT SUMMER SERVICES CONTACTS/S.O.E.P.

<table>
<thead>
<tr>
<th>NAME OF VO AG STUDENT</th>
<th>S.O.E.</th>
<th>DATE(S)</th>
<th>STAFF</th>
<th>STUDENT</th>
<th>PARENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CONTACTED</td>
<td>INITIALS</td>
<td>SIGNATURE</td>
<td>SIGNATURE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INSTRUCTIONS: 1. Complete form and make two copies; 2. Submit original to Director, School-to-Career Ed.by__________
SS1/01-02 MODESTO CITY SCHOOLS
VOCATIONAL AGRICULTURE
EXTENDED SERVICE PROGRAM

SCHOOL
SITE_____________________ YEAR ___________ STAFF _______________________

Possible extra days of service (circle dates):

MAR. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
      18 19 20 21 22 23 24 25 26 27 28 29 30 31

APR. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
      18 19 20 21 22 23 24 25 26 27 28 29 30

MAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
     18 19 20 21 22 23 24 25 26 27 28 29 30 31

JUNE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
     18 19 20 21 22 23 24 25 26 27 28 29 30

JULY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
     18 19 20 21 22 23 24 25 26 27 28 29 30 31

AUG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
      18 19 20 21 22 23 24 25 26 27 28 29 30 31

2002 Stanislaus County Fair dates ____________________________

SIGNED: __________________________________ DATE ___________

INSTRUCTIONS: 1. Complete form and make two copies; Keep one copy.
2. Form must be submitted to Director of School-to-Career
   Education PRIOR TO ANY SERVICE DAYS BEING WORKED
MODESTO CITY SCHOOLS
COURSE OUTLINE

COURSE TITLE: Agricultural Skills 1-4 (Summer Course)

COURSE NUMBER:

RECOMMENDED GRADE LEVEL: 9-12

ABILITY LEVEL: Unsectioned

DURATION: 1-4 Summers

CREDIT: Variable; Up to 10 each summer for a maximum of 40 units

GRADING FORMAT: Standard 0-4 Grade. Pts.

MEETS GRADUATION REQUIREMENTS: N/A

REQUIRED FOR GRADUATION: No

SCHOOLS OFFERED: Beyer, Davis, Downey, Johansen, Modesto

CBEDS CODE: 4098

MEETS UNIVERSITY OF CALIFORNIA ENTRANCE REQUIREMENTS: No

MEETS CALIFORNIA STATE UNIVERSITY ENTRANCE REQUIREMENTS: No

REPLACES: N/A

Course Description: The major emphasis of the Agriculture Skills 1-4 course is to enable students to develop a broad understanding of opportunities available in the diversified areas of the agriculture industry. These summer offerings cover the increasing development of students' skills and abilities in the field of judging and exhibiting agricultural commodities. The following areas of skills are studied: dairy cattle, beef cattle, sheep, swine, poultry, small animals, goats, horse, vegetables, landscape gardens and public speaking. The students will keep records on his or her supervised occupational experience project (SOE) for examination of profit and loss margins. FFA material will be covered and each student will have an SAE. Each summer, the students will meet as a group once a week for two hours with the instructor, work daily on their project for thirty minutes beginning 60 days prior to the Stanislaus County Fair, and show at the Fair requiring a minimum of five hours per day over the eight days the Fair is in session.

Recommended Prerequisites: Permission of the Instructor, Enrollment in the FFA

Date Matched Against State Framework, Model Curriculum Standards and State Curriculum Guides

Board Approved:

June 2001
INSTRUCTIONAL MATERIALS

Basic Text(s):
None

Supplementary Texts

Modern Livestock & Poultry Production, Gillespie
FFA Record book
Kay, Farm Management, Planning, Control, and Implementation, McGraw-Hill, 1986
US Govt., Food From the Table, 1982
FFA Manual, National FFA, 1997
VEP, Livestock Showing and Fitting slides and videos
VEP, Dairy Cattle Showing and Fitting slides and videos
Western Garden Landscape and Design Book
Ortho Vegetable Gardening Handbook
Horse Showing and Equitation – AQHA handbook
Modern Dairy Cattle Production
ARBA Rabbit Production Guide
SUMMARY OF MAJOR UNITS OF INSTRUCTION

### Instructional Units

<table>
<thead>
<tr>
<th>Topics</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock exhibiting (sheep, swine, goats, dairy and beef cattle) or</td>
<td>40</td>
</tr>
<tr>
<td>Horse showing or</td>
<td>40</td>
</tr>
<tr>
<td>Displaying of garden plots and vegetables</td>
<td>40</td>
</tr>
<tr>
<td>Public speaking</td>
<td>10</td>
</tr>
<tr>
<td>FFA</td>
<td>5</td>
</tr>
<tr>
<td>Project record books</td>
<td>5</td>
</tr>
<tr>
<td>SOEP (projects)</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

Starting 60 days prior to the fair:

8 meetings @ 2 hours = 16 hours
30 minutes each day @ 60 days = 30 hours
8 days of fair @ 5 hours = 40 hours
Marketing, processing, misc vet work = 4 hours
1.0 GOAL:
In accordance with his or her abilities and capacities, the student will:

- Understand the principals and fundamentals of judging & exhibiting agricultural commodities and products
- Gain an understanding of and be familiar with conducting and marketing a agricultural commodity
- Develop basic leadership skills needed to communicate
- Develop speaking and letter writing skills
- Participate in FFA leadership activities, fairs, and shows
- Begin and continue the development and the demonstration of business skills through individual student projects (SOEP)
- Expand career interests and opportunities in the animal science and agricultural areas
- Develop projects for display
- Pursue career goals based upon skills and interests.

2.0 GOAL:
The student will use:

- Reading and vocabulary skills in understanding textbooks and reference materials
- Writing skills in their record book and daily record keeping
- Computation skills in keeping project records
- Science skills in the study of physiology, product processing and management practices
- Speaking abilities in small and large livestock projects
- Computing skills in preparing project budgets

3.0 GOAL:
The student will:

- Apply safe practices in work and farm activities
- Plan and develop an individual project
- Develop and continue skills in project record keeping
- Recognize identifying characteristics of specific large and small livestock breeds
- Develop skills in public speaking
- Recognize the wide range of opportunities in the FFA
- Follow the necessary steps in setting up and continuing supervised occupational experience project (SOEP)
- Describe basic principals of nutrition and livestock feeding
- Describe the basic principals of gardening techniques
Completed Travel Plans
# Modesto City Schools

## Field Trip/Activity Trip Request Form

### Requesting Person to Complete

- **School:** Beyer High School  
- **Date of Request:** 10/13/08
- **Teacher/Advisor:** Richard Wolfe  
- **Grade/Class/Group/Club:** FFA
- **Number of Students:** 3
- **Total Number of Persons Going on Field Trip:** 14
  - **Total from all high school FFA groups:**
- **Number of Staff and/or Adults:** 1
- **Contact Person:** Richard Wolfe  
- **Phone/Extension:** 4336
- **Purpose of Trip:**
- **Destination:** Indianapolis, Indiana & New England
- **Trip Related to What Aspect of Curriculum:** Attend National FFA
- **Dates Requested:**  
  - 1st: 10/18-25  
  - 2nd: __________  
  - 3rd: ________
- **Time of Trip:**  
  - **Leaving School:** 3 a.m./10/18  
  - **Return to School:** 10 p.m. 10/25
- **Method of Transportation:**  
  - **Bus:** √  
  - **Walk:** ☐  
  - **Other:** ☐
- **Cost of Trip Will be Paid by:** Students
- **Substitute(s) Needed:**
  - **Yes:** ☐
  - **No:** ×  
  - **# Needed:** __________
- **Principal’s Signature:**  
  - **Approved:** ×
  - **Disapproved:** ☐

### Notes

- **NOTE:** Approval required prior to trip or activity. Please forward to the appropriate Director (Elementary/Secondary Education) when trip/activity is outside Stanislaus County, State, or Country, or if the trip requires a substitute.

---

**White/Yellow Copies:** Director, Elementary/Secondary Education  
**Pink Copy:** Principal  
**Rev:** 3/2003
## Field Trip/Activity Trip Request Form

**Requesting Person to Complete**

<table>
<thead>
<tr>
<th>School: Beyer High School</th>
<th>Date of Request: 05/02/08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher/Advisor: Richard Wolfe</td>
<td></td>
</tr>
<tr>
<td>Grade/Class/Group/Club: FFA</td>
<td></td>
</tr>
<tr>
<td>Number of Students: 6</td>
<td></td>
</tr>
<tr>
<td>Number of Staff and/or Adults: 1</td>
<td></td>
</tr>
<tr>
<td>Total Number of Persons Going on Field Trip: 7</td>
<td></td>
</tr>
<tr>
<td>Contact Person: Richard Wolfe</td>
<td></td>
</tr>
<tr>
<td>Phone/Extension: 4336</td>
<td></td>
</tr>
<tr>
<td>Purpose of Trip: Officer Leadership Training</td>
<td></td>
</tr>
<tr>
<td>Destination: Pine Crest, Ca</td>
<td></td>
</tr>
<tr>
<td>Trip Related to What Aspect of Curriculum: Professional &amp; Leadership development</td>
<td></td>
</tr>
<tr>
<td>Dates Requested: 1st: 09/05/08-09/07/08</td>
<td></td>
</tr>
<tr>
<td>2nd:</td>
<td></td>
</tr>
<tr>
<td>3rd:</td>
<td></td>
</tr>
<tr>
<td>Time of Trip: Leaving School: 8:00 a.m. 9/5</td>
<td>Return to School: 3 p.m. 9/7</td>
</tr>
<tr>
<td>Method of Transportation: Bus: ☐ Walk: ☐ Other: ☑</td>
<td></td>
</tr>
<tr>
<td>Cost of Trip Will be Paid by: Ag Incentive Grant</td>
<td></td>
</tr>
<tr>
<td>Substitute(s) Needed: Yes: ☑ No: ☐ # Needed: 1</td>
<td></td>
</tr>
<tr>
<td>Principal's Signature:</td>
<td>Approved: ☑ Disapproved: ☐</td>
</tr>
</tbody>
</table>

**NOTE:** Approval required prior to trip or activity. Please forward to the appropriate Director (Elementary/Secondary Education) when trip/activity is outside Stanislaus County, State, or Country, or if the trip requires a substitute.

For District Office Use Only:

Actual Date of Trip: ☑ Substitute (if requested): Approved: Disapproved: Director, Elementary/Secondary Education Signature: Date: 05/08 Board of Education Approval (Out of State/Country) Date: ___________________________

Following Confirmation, Principal/Designee Notifies the Following:

Teacher (Date): ___________________________
Facility Personnel (Date): ___________________________
Cafeteria (Date): ___________________________
All Appropriate Forms per AR 6153: ___________________________

White/Yellow Copies: Director, Elementary/Secondary Education Pink Copy: Principal Rev. 3/2003
**MODESTO CITY SCHOOLS**  
**FIELD TRIP/ACTIVITY TRIP REQUEST FORM**

**Requesting Person to Complete**

<table>
<thead>
<tr>
<th>School: Beyer High School</th>
<th>Date of Request: 6/18/08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher/Advisor: Richard Wolfe</td>
<td>Number of Students: 6</td>
</tr>
<tr>
<td>Grade/Class/Group/Club: FFA Officers</td>
<td>Total Number of Persons Going on Field Trip: 11</td>
</tr>
<tr>
<td>Number of Staff and/or Adults: 5</td>
<td>Phone/Extension:</td>
</tr>
<tr>
<td>Contact Person: Richard Wolfe</td>
<td></td>
</tr>
<tr>
<td>Purpose of Trip: Leadership Retreat</td>
<td></td>
</tr>
<tr>
<td>Destination: Lake McClure</td>
<td></td>
</tr>
<tr>
<td>Trip Related to What Aspect of Curriculum: FFA and Leadership Development</td>
<td></td>
</tr>
<tr>
<td>Dates Requested: 1st: 7/1/08 and 7/2/08</td>
<td></td>
</tr>
<tr>
<td>2nd: ____</td>
<td></td>
</tr>
<tr>
<td>3rd: ____</td>
<td></td>
</tr>
<tr>
<td>Time of Trip: Leaving School: 7:00 a.m. - 7/1/08</td>
<td>Return to School: 4:30 p.m. - 7/2/08</td>
</tr>
<tr>
<td>Method of Transportation: Bus: ☐ Walk: ☐ Other: ☒</td>
<td></td>
</tr>
<tr>
<td>Cost of Trip Will be Paid by: FFA (590)</td>
<td></td>
</tr>
<tr>
<td>Substitute(s) Needed: Yes: ☐ No: ☒ # Needed: ____</td>
<td></td>
</tr>
<tr>
<td>Principal's Signature: __________ Approved: ☒ Disapproved: ☐</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Approval required prior to trip or activity. Please forward to the appropriate Director (Elementary/Secondary Education) when trip/activity is outside Stanislaus County, State, or Country, or if the trip requires a substitute.

---

**For District Office Use Only:**  
Actual Date of Trip: _____ Substitute (If Requested): Approved: _____ Disapproved: _____  
Director, Elementary/Secondary Education Signature: __________ Date: __________  
Board of Education Approval (Out of State/Country) Date: __________

**Following Confirmation, Principal/Designee Notifies the Following:**  
Teacher (Date): __________________________  
Facility Personnel (Date): __________________________  
Cafeteria (Date): __________________________  
All Appropriate Forms per AR 6153: __________________________

White/Yellow Copies: Director, Elementary/Secondary Education  
Pink Copy: Principal  
Rev. 3/2003
**Travel Request Form**

**INSTRUCTIONS**

1. This form must be completed and submitted for all requests outside of the school district. Proper approval must be obtained before the activity.
2. All original receipts must be submitted in order to qualify for reimbursement.
3. I understand that any claims for reimbursement must be signed below.
4. I understand that I am responsible for maintaining necessary records and receipts.
5. I understand that the District reserves the right to disallow the reimbursement for any claim that is questionable. Appropriate records and documentation (items 4 and 3) are required.
6. I am willing to prepare a brief summary as to the reason for which such expenses were incurred.

**Required**

- **Date of Request:** 12-13-2009
- **Reason for Trip:** (See Attached)

**Officer Leadership Training**

<table>
<thead>
<tr>
<th>DESCRIPTIVE &amp; AUTHORIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFA Officers Retreat</td>
</tr>
</tbody>
</table>

**MAXIMUM ALLOWANCE**

- **Travel:**
- **Private Auto:**
- **Public Transportation:**

**TELEPHONE**

- **N策划:**
- **Pireate Auto:**
- **Public Transportation:**

**ADVANCE PAYMENTS**

- **Prepaid Expense Advance:**
- **Prepaid Hotel Reserve:**
- **Prepaid Public Transportation:**
- **Prepaid Registration:**

<table>
<thead>
<tr>
<th>DATE</th>
<th>AMOUNT</th>
<th>PAID TO NAME AND ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>All paid by FFA</td>
</tr>
</tbody>
</table>

**MILES & RATE**

- **Miles:**
- **Rate:**

**ACCOUNT NUMBERS**

- **Prepared by:**
- **Checked by:**
- **Approved:**

**SUBMISSION**

- **Report:**
- **Date:**

**CERTIFICATION**

- **I hereby certify that this is a true and correct statement of expenditure for the purpose indicated above:**

**SIGNATURES**

- **Funding Source:**
- **Principal:**
- **Administrative Secretary:**

**DISTRIBUTION**

- **To:**
- **From:**
- **Date:**
July 20, 2009

Hello Kristy White,

Thank you for booking a program with Mountain Adventure Seminars (MAS). We are looking forward to working with you and are hereby confirming your group reservation for:

Program: Group Outdoor Rock Climbing & Nordic Loft Accommodations  
Date: August 12-13, 2009  
Location: Bear Valley CA  
Meeting Time: 9 AM (flexible)  
Return Time: 3 PM (flexible)  
Minimum participants @ $/day: 8 participants @ $40/day  
Nordic Loft Accommodations on August 12th: 1 night @ $225/night

MAS will provide all rock climbing equipment (rock climbing shoes, harnesses, and helmets), professional guides and instruction, registration materials, and insurance.

Your organization will disperse and collect registration forms for all participants. Completed registration forms should be sent to the MAS office one week prior to the course.

A $100 nonrefundable deposit is required to secure the reservation. One week prior to the course starting date, payment for the minimum number of students is due. We cannot offer refunds for cancellations made within one weeks of the course or once it has begun.

Any outstanding balance is due one week after course completion. If final payment is not received two weeks after course completion, a 10% penalty will be due and a 5% penalty will be added for each month thereafter.

Please mail or fax a signed copy of this contract to me. If you have any questions don’t hesitate to call us at 209-753-2345.

Signed:

[Signature]

July 20, 2009

Aaron Johnson  
Date

[Signature]

7/20/09

Kristy White  
Date

Mountain Adventure Seminars (MAS)  
Phone: (209) 753-8666 • Fax: (209) 753-2345  
146 Bear Valley Road, Bear Valley, CA 95223  
mail@mtadventure.com • http://www.mtadventure.com
**FFA Officer Retreat**

**August 12 - 13, 2009**

1. We are going to the mountains and staying for 2 days and 1 night in a cabin/condo. Much of our activities and location of the trip will be kept confidential as a part of the leadership training. We will be participating in several team building exercises that require your full participation in every activity.

2. Our goals for the trip are to:
   - Gain Leadership skills through team building exercises
   - Build camaraderie with other FFA officers
   - Work on FFA goals for the year and brainstorm improvements.
   - Have fun doing the above

**Trip Itinerary**

**Day 1**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am</td>
<td>Leave the Beyer Ag. Department</td>
</tr>
<tr>
<td>9:15am</td>
<td>Arrive at Lodging</td>
</tr>
<tr>
<td>10:00pm</td>
<td>Begin Workshop 1</td>
</tr>
<tr>
<td>1:00pm</td>
<td>Sack Lunch</td>
</tr>
<tr>
<td>3:00pm</td>
<td>Complete Workshop 1</td>
</tr>
<tr>
<td>3:30pm</td>
<td>Workshop Reflection</td>
</tr>
<tr>
<td>5:00pm</td>
<td>relax and prep for Dinner</td>
</tr>
<tr>
<td>6:00pm</td>
<td>Dinner</td>
</tr>
<tr>
<td>7:30pm</td>
<td>Workshop 2 (topic in progress)</td>
</tr>
<tr>
<td>9:00pm</td>
<td>Games</td>
</tr>
</tbody>
</table>

**Day 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am</td>
<td>Team building assignment</td>
</tr>
<tr>
<td>8:00am</td>
<td>Breakfast</td>
</tr>
<tr>
<td>8:45am</td>
<td>Workshop 3-Goal Setting</td>
</tr>
<tr>
<td>11:00am</td>
<td>Pack and clean up lodging</td>
</tr>
<tr>
<td>12:00pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00pm</td>
<td>Workshop 4</td>
</tr>
<tr>
<td>3:30pm</td>
<td>Leave for home</td>
</tr>
<tr>
<td>6:00pm</td>
<td>Arrive at Beyer (estimate)</td>
</tr>
</tbody>
</table>

**Things to bring:**

1. Clothes for 2 days and 1 night.
   a. Jacket? Could be cool in evening?
   b. Weather will change from cold to warm at times, bring shorts and pants
   c. Bathing suit
2. Sleeping bag and pillow
3. Sunscreen
4. Camera
5. Toiletries
   a. Toothpaste / Brush
   b. Towel
6. Flip-flops
7. Athletic shoes
8. Snacks?

**Things to keep in mind:**
Name: Kristy White Beyer FFA
Address: 1717 - Sylvan
City, State, Zip: Modesto, CA
Phone: 209-576-4336
Fax: 209-322-3079
Email: white.k@monterey.k12.ca.us
Birthday: Height: Weight: Gender:
Course: 8/12/09
How did you find out about M.A.S. and this course? Internet
How do you meet the prerequisites?

What would you like to learn and experience from this course? Team building for FFA Officer Retreat

Food: For courses with meals option, please check your preference and list any allergies. N/A
☐ Omnivorous ☐ Vegetarian ☐ Vegan ☐ Allergies: 

Gear: Please check gear that you would like M.A.S. to provide. Refer to course curriculum for gear list.
☐ Climbing ☐ Helmet ☐ Harness ☐ Climbing shoes Size: — per contract
☐ Snow Sports ☐ Shovel ☐ Probe ☐ Beacon ☐ Snowshoes

Medical: Please list any medical or physical conditions that might affect your participation in this activity (e.g., allergies, heart trouble, recent surgeries, diabetes, etc.). Note any medication you plan to carry. If you have no medical conditions, please write "None."

Emergency Contact:
Name: Kristy White or Rich Wolfe
Phone: 209-345-9640 or 805-710-4480
Relation: Ag Teacher

Payment Information:
☐ Check or money order enclosed.
☐ Bill my credit card (Visa or Mastercard) Amount: 
Account: Expiration: 

Cancellation Policy:
Cancellations or transfers more than 2 weeks prior to course will be refunded less a $25 non-refundable registration fee. Cancellations or transfers within two weeks prior of course will be refunded 50%. Cancellations or transfers within 1 week of course cannot be refunded. M.A.S. may cancel any course due to weather, enrollment or logistical complications and will grant a full credit towards another course. I accept the terms of this cancellation policy and understand I will be responsible for payment of the agreed upon amount.

Signature:
Directions to Bear Valley, CA
(elevation 7093 ft.)

From S.E. Bay Area: (3-4 hours) Take 580 East to 205 East then 5 North. Exit East on 120, then North on 99. Head East on 4, merge with 49 South and go through Angels Camp. Continue East on Highway 4 and Bear Valley is 25 miles east of Arnold.

From Sacramento: (2.5 hours)
Take 99 south to 12 east, merge w/Hwy. 49 south to Angels Camp. East on Hwy 4 to Bear Valley.

Note: Highway 4 closed between Lake Tahoe & Bear Valley in winter. Remember tire chains for your car.

To the MAS office and BaseCamp Lodge: From Highway 4, turn left onto Bear Valley Road. Drive past the Cross Country Center/Texaco Station for approximately 100 yards. BaseCamp is the three story shingled building on your left, just past the large gray Transportation Center.

General Bear Valley Notes:
- Bear Valley is a small mountain town where many of the stores close early, including the gas station. It can be difficult to find food after 9 PM so eating in Arnold is a good idea when arriving late.
- It is always a good idea to carry snow tire chains, even in the summer.
- Beware of deer on the roadways between sunset and sunrise.

Telephone numbers
M.A.S. office (209) 753-6556
Base Camp Lodge 753-2344
B.V. Cross Country 753-2834
B.V. Adventure Co. 753-2834
B.V. Mountain Resort 753-2301
Headwaters Cafe 753-2842
S.N.A.C. (Arnold) 795-9310
Section 28

CATA Membership Card
CALIFORNIA AGRICULTURAL TEACHERS' ASSOCIATION

Serving Agriculture by Teaching

2009/2010 Active Member

R. W. Wolfe
Section 29

Department Minutes
December 1, 2008

Members present: Mr. Wolfe, Mrs. White

Upcoming Items:
1. The Ag Department will hold our December FFA meeting on December 10th during 4th and 5th lunch. We will also hold our Greenhand Degree ceremony after school on the same day. There will be cake and punch served to all of our 1st year FFA degree recipients.
2. FFA officer meeting will be held Wednesday December 3rd. We will be discussing agenda items such as FFA sweatshirt sale, Competition teams and upcoming FFA participation opportunities.

Past Events and Results:
1. The Annual MJC Senior Day was Friday November 7th at 8am. We had 9 seniors attending the event showcasing the MJC Agricultural facilities and majors.
2. Made for Excellence conference (MFE) applications were due on November 7th. The FFA will pay 50% of the registration fee for the selected applicants. The overall outcome of this conference is personal growth through building student confidence and competence. Students will learn to identify the relationship between excellence and personal choices. This conference will be held in February with registration due December 1st.
3. The CATA Road Show was held on November 14th at Delta College. Both Mr. Wolfe and Mrs. White attended. The purpose of this is to develop a better understanding of the agricultural practices going on in California. This year teachers could choose from several different trips and workshops for the all day activity. Topics such as equipment construction, delta water resource management, turf management and record keeping were offered at this years’ Road Show.
4. Mr. Wolfe and Mrs. White attended the Fall CATA regional meeting on November 15th. This bi-annual meeting was held to discuss Ag. Education issues such as class and contest curriculum, the FFA organization, Ag. Incentive Grant funds, Perkins Funds, the CATA organization, scholarships and Fair board policies.
5. The Ag department went through a Program review on November 18th. This review is completed every three years to verify the compliance of the Incentive Grant requirements. This year we had excellent reviews by the Regional Supervisor Ken Harris. Copies of the 12 Quality Criteria areas, and how we meet them, are available if you would like to see the requirements to receive the Incentive Grant each year.
6. Administrator and Counselor Night Sponsored by MJC was held on November 20th. This annual event was held at the County Ag. Center to promote agricultural and
career technical education. Presentations by MJC instructors and students were the focus of the evening's program.

**Other Items:**

Cc: Scott Kuykendall
    Kevin Salaiz
    Eric Corgiat
    Debbie Ogden
    Karen Gates
    Sheryl Chamberlain

Dan Park
Shannon Brown
Denise L'Heureux
Bev Fernandes
Sara Waterman
January 5, 2009

Members present: Mr. Wolfe, Mrs. White

Upcoming Items:
1. The Ag Department will hold our January FFA meeting on Wednesday the 7th during 4th and 5th lunch. Items discussed will be the Annual Tri-Tip Dinner, FFA points and team competitions coming up in the spring.
2. Small Engines Team, Floriculture, and Creed practice start January 8th and will continue through the first week of May. These teams will be practicing after school Tuesday through Thursday.
3. State FFA degree applications are due and will be scored on January 21st. This year we will have 3 students receiving this degree.
4. Our sectional speaking competition will be held on January 29 at Enoch's High at 4pm. We will have 3 students competing in Job Interview and Creed.

Past Events and Results:
1. Our FFA Greenhand degree ceremony was held on December 10 in the Ag. shop. 27 freshmen received the degree as the first step into the agriculture program.
2. We held our sectional FFA activity at John's Incredible Pizza on December 18th. We had 24 students attend the event and had a night of food and fun.

Other Items:

Cc: Scott Kuykendall
    Kevin Salaiz
    Eric Corgiat
    Debbie Ogden
    Karen Gates
    Sheryl Chamberlain

    Dan Park
    Shannon Brown
    Denise L'Heureux
    Bev Fernandes
    Sara Waterman
October 20, 2008

Members present: Mr. Wolfe, Mrs. White

Upcoming Items:
1. Some of our Ag. students will be taking a tour of Harris Moran seed company on October 22nd from 3pm-4pm to experience how the germination and development process of plants is done for pumpkins.
2. Three of our FFA members are currently attending the National FFA convention October 18th – 25th in Indianapolis, Indiana. Our students are on this trip with 150 other FFA members from the state. Students include Holli Jacobsen, Kayla McGhee, & Roman Deponte with Ag. Teacher chaperones from Davis and Johansen.
3. The Caterpillar recruiter Max Jones has donated several types of lawn and garden equipment to the FFA Small Engine team and program. We will pick up the equipment on Saturday October 25th in Lincoln, CA.
4. We are continuing our aluminum can drive for the month of October. FFA members are asked to bring in cans for FFA points / participation until October 29th.
5. Our Harvest Festival will be held October 29th in the Ag. Shop and area. We will have food and games available from 4-8pm. All students on campus are welcome to come and have some fun with the aggies.

Past Events and Results:
1. R-2 were due last Wednesday October 15th. This report is to officially post students in our program, career paths, and their educational goals to the California State Department of Ag. Education. This satisfies one of the many requirements to receive the Incentive Grant funding.
2. The October FFA meeting will be held on Tuesday October 14th in the Ag. Shop during 4th and 5th lunch. Agenda items include OCC, National Convention and the Harvest Festival.
3. Opening and Closing practice will be held after school on Mondays and Wednesdays. This practice is to train our Intermediate and Advanced teams for the contest held a Davis high on October 14th @ 4:30pm.
4. Mr. Wolfe attended the small engines curriculum standards workshop on October 8th for Stanislaus County ROP.
5. The Chapter Officer Leader Conference (COLC) was held October 4th and 5th. All 6 of our FFA officers attended with Mrs. White. This conference included keynote speakers, leadership workshops and a Luau party on Saturday night.
Other Items:
    Have a great day.

Cc: Scott Kuykendall
    Kevin Salaiz
    Eric Corgiat
    Debbie Ogden
    Karen Gates
    Sheryl Chamberlain

    Dan Park
    Shannon Brown
    Denise L'Heureux
    Bev Fernandes
    Sara Waterman
March 9, 2009

Members present: Mr. Wolfe, Mrs. White

Upcoming Items:
1. We apologize for not keeping you up to date for the past month, but we have been extremely active all the way back to our last update on January 26th. Please take a look at the past activities to see what we, and our students, have been doing.
2. Our monthly FFA meeting will be held on March 19th during 4th and 5th lunch. We will be covering CDE competitions, officer elections and recruitment.
3. The FFA State Farmer degree ceremony will be held at the MJC Auditorium on March 24th at 6 pm. We will have 5 students attending this event. This degree is based off of their SAE project records books, and organization participation as well as community and school activity involvement. This year’s applicants represent the top students in our department. This is the second highest degree in the FFA, just below the American Degree. The Recipients are:
   - Colleen Bennett
   - Bryanna Zinnbauer
   - Kaitlyn Zaborsky
   - Elly Ghodsi
   - Lindsay Riddle
4. The Small Engines team will be competing at MJC on March 28th. This is their second competition of the year. This year's team is comprised of
   - Mike Stewart
   - John Breazeale
   - Cody Handle
   - Lindsay Riddle
   - Marcelino DeLaTorre
   - Chase Kilgore
   - Travis Jones
   - Zach Coulter
   - Holli Jacobsen

Past Events and Results:
1. Our sectional Speaking and BIG competition was held on January 29th at Modesto High. Marc Figueroa placed 2nd in this sectional competition, and placed 5th over all at the regional competition held at Galt High School on February 12th.
2. Proficiency Award scoring was held on February 4th in Ripon. We had one student, Alexandria Quesinberry, competing in Equine Management. Alex placed first in our section and second overall in our region.
3. The FFA held their annual Tri-Tip Dinner and silent auction on February 5th. This was the biggest dinner we have ever hosted with 456 people fed and over 430 pounds of tri-tip cooked. Profit numbers were actually down from previous years,
forcing us to rethink modifications to the event next year. All suggestions are welcome.

4. The Ag. Department attended The World Ag. Expo on February 10th in Tulare. This year Mr. Wolfe took 8 students who have shown time and efforts dedicated to the small engine mechanics program. We left Beyer at 4:50 am and returned at 8:30 pm. Students were able to witness the world’s largest gathering of agricultural equipment and become more familiar with job opportunities that are available in agriculture.

5. Mrs. White attended the Made For Excellence conference at the Double Tree Hotel on February 13 and 14th with 5 students participating in this event. The overall outcome of this conference was to develop personal growth through building student confidence and competence. Students learned to identify the relationship between excellence and personal choices. The conference focuses on the three pillars associated with excellence, talent, and skill.

6. The Ag. Department held an Ice cream social and Project animal meeting on February 16th at 5pm. The meeting was held to inform parent and students about the projects available and our department expectations for participating in the summer animal program for the county fair.

7. The central region CATA and FFA meeting was held Saturday, February 21st at MJC. Mr. Wolfe and Mrs. White attended with 2 FFA officers.

8. Mrs. White, Mr. Wolfe and 5 ag. department students attended the ROP Jr. High School to Career Exposition on February 27th at the Modesto Center Plaza. We had a double booth with hands on activities to promote our program and Beyer High School. Over 1200 students from the local Jr. High Schools attended, and participated in corsage making, engine demonstrations, Hersey kiss rose making, animal husbandry activities.

9. Open House was on March 3rd. The Ag. Department was well represented with 23 students, many of which brought their own displays to promote the program and FFA. We had a large amount of interest in the program pathways and great complement on our display.

10. UC Davis Small Engines competition was held Saturday March 7th. We are actually running 2 teams this year (A and B). Team A placed top 5 in each of the contest areas and placed 3rd overall, only 30 points behind 1st. Our B Team placed 6th overall. Mike Stewart placed 3rd high individual out of 68 competitors.

**Other Items:**

Have a great week.

Cc: Scott Kuykendall
    Kevin Salaiz
    Eric Corigli
    Debbie Ogden
    Karen Gates
    Sheryl Chamberlain

    Dan Park
    Shannon Brown
    Denise L’Heureux
    Bev Fernandes
    Sara Waterman
Section 30

Wish Lists
<table>
<thead>
<tr>
<th>Priority No.</th>
<th>Item</th>
<th>QTY</th>
<th>Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exhaust fan for greenhouse</td>
<td>1</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>1</td>
<td>6 ft Rotary 3-point mower LX5JD</td>
<td>1</td>
<td>$1,500.00</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>2</td>
<td>6 ft Box scraper w/ rip teeth Frontier</td>
<td>1</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>3</td>
<td>Warehouse shelving 50ft</td>
<td></td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Craftsman 14-Drawer Mobile Tool Cart, 52 in. Wide, Ball Bearing, Black</td>
<td>1</td>
<td>$1,100.00</td>
<td>$1,100.00</td>
</tr>
<tr>
<td>1</td>
<td>JD G15 walk behind mower w/ extra harnesses</td>
<td>1</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>1</td>
<td>JD 100 - x300 riding mower w/ harnesses</td>
<td>1</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>2</td>
<td>3- point Quickchange hitch</td>
<td>2</td>
<td>$300.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>2</td>
<td>Student Workstation computers</td>
<td></td>
<td>$927.00</td>
<td>?</td>
</tr>
<tr>
<td>2</td>
<td>Plasma Cam cutting machine (partnered with Galas)</td>
<td>1</td>
<td>$9,500.00</td>
<td>$9,500.00</td>
</tr>
<tr>
<td>2</td>
<td>LCD projector/ NEC VT695</td>
<td>1</td>
<td>$884.00</td>
<td>$884.00</td>
</tr>
<tr>
<td>2</td>
<td>Digital Camera</td>
<td>1</td>
<td>$500.00</td>
<td>$500.00</td>
</tr>
</tbody>
</table>

Thought this was interesting.

This is my wish list from 2007.

$26,084.00
<table>
<thead>
<tr>
<th>Catalog</th>
<th>Part Number</th>
<th>Description</th>
<th>Price</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briggs 10-19</td>
<td>19464</td>
<td>MULTIMETER</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>19462</td>
<td>PRIMER INSTL TOOL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>19200</td>
<td>TACHOMETER</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>19475</td>
<td>LEAKDOWN TESTER</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>19442</td>
<td>TORX DRIVER SET</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>100024</td>
<td>THREAD KIT-MASTER</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>100023</td>
<td>GASOHOL TEST KIT</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>19368</td>
<td>TESTER</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Briggs 10-19</td>
<td>19138</td>
<td>INSERT PULLER</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

ATTN: Ozzey

From: Wolfe
BHS My Department
<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 STIH 2-STROKE ENGINES</td>
<td>12.18</td>
<td>243.20</td>
</tr>
<tr>
<td></td>
<td>WITH TOOLS</td>
<td>TAX</td>
<td>15.15</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>2644.84</td>
</tr>
</tbody>
</table>

Bill's Mower & Saw
2372 Patterson Rd.
Riverbank, CA 95367

NAME: RICH WOLF

KEEP THIS SLIP FOR REFERENCE

PO #: 881911
DATE: 8/17/00

OKAY TO PAY

189796
Ag. Advisory Committee Meeting Agendas
Agriculture Advisory

Wednesday,
November 12, 2008
6:00 p.m.

Agenda

1. Approval of new summer Ag ROP classes
   (Mark Nower)
2. Other Business (Don Prather)

Beyer High
Ag Department

Regional Occupational Program (ROP) 576-4161
Agriculture Advisory

Tuesday, April 7, 2009
6:00 – 7:00 p.m.
Johansen High
Ag Department

Agenda

1. Course Updates
2. Gregori Update
3. Budget Report
4. Site Reports
5. New Advisory Chair
6. Approve continuation of current ROP curriculum and agriculture training program courses
Spring Ag Advisory  
Johansen High Ag Department  
April 7, 2009  
6:00 p.m.

Mike Brecht thanked everyone for coming and gave a brief overview of the Agriculture Program in Modesto City Schools. Ag instructors meet every Friday morning during the school year at 6:00 a.m. at Perkos, advisory members are welcome to attend.

Minutes

Present:
Don Prather
Jake Wenger
Leo Scheuber
Kimberly Hernandez
Cody Penfold
Chris Durrer
Mark Driver
Andrew Genasci
Jared Penfold
Joe Gonsalves
Bill Morris
Past Chair
Chair
Duarte Nursery
Haley Farms
California Poultry Federation
Durrer Dairy/Lorita Holsteins
Driver Farms, Inc./Stanis. Co. Farm Bureau
Genasci Dairy
Stanislaus Farm Supply
Stanislaus Farm Supply
Morris Nursery

Staff Present:
Scott Kuykendall
Mike Brecht
Susan Beatty
Roger Dickson
Mike Schilperoort
Jim Etchepare
Kristy White
MCS Director, CTE/ROP
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor
Nancy Miguel
Mark Nower
Natalie Stevano
Tammy Burris
Michele Larsen
Rich Wolfe
Gary Gerhardt
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor
MCS Instructor

Don Prather called meeting to order at 6:06 p.m.
Don Prather called for a motion to approve minutes of last meeting: Motion made to approve by Bill Ketcher, 2nd by Leo Scheuber. Minutes approved by unanimous vote of advisory.

1. **Course Updates** – Mark Nower reported that two courses; Agriculture Computer Literacy and Effective Agricultural Communication & Oral Interpretation both have cleared the district and have been issued course numbers. Agricultural Communication & Oral Interpretation’s UC credit status is still pending.

Jim Etchepare reported that Landscape Design and Maintenance class for Special Education students is going well at Johansen. Students are very receptive and excited. They have been working on beautification projects on the Johansen campus.

Natalie Stevano reported Floral Design course has received UC approval as a Visual Performing Arts.
Ag 1-5 courses added first semester, no other course or curriculum changes/additions for 2009-10 at this time.

2. **Gregori Update** – Mark Nower met with Principal Albritton to discuss the possibility of using some of the fields originally planned for athletic use for an Ag farm. The initial report came back that a school farm located on the premises would not violate any codes – so it could be a possibility. Gregori High School is on track to open Fall 2010 for freshman and sophomores.

3. **Budget Report** – Ag incentive reduced by 1%, specialized was taken totally. Enochs Barn must be under construction within 5-years of original grant fund date.

Scott Kuykendall – Three tiers of cutting consequences (1) – safe (2), but district could not take your money for other things (3) ROP – can take the money for other things. Immediate 15% cut - about $550,000 taken back. Next year ROP will be cut another 6%. We will be operating on 75-80% of our usual budget. Numbers must be up, cannot justify classes with 15 students. Next year we will be paid based on 2007-08 ADA generated minus 22%. If we generate more in 2008-09, it doesn’t matter because it is still based on 2007-08. Scott hopes not to eliminate any program, just cut backs. All classes should have at least 30 student enrolled. Low enrollment costs as much for the teacher as a full class. We will concentrate on costs that maintain our programs, no improvements. Leo Scheuber – asked what happens if you don’t have as much as 2007-08, doesn’t matter according to Scott, flat rate. We expect approximately $448,000 for next year in Carl Perkins funding. Lottery monies are questionable, would have been approximately $200,000 but we are not counting on it. We have put in an RFP for summer youth program, 14-17 year olds, serve about 200 students. If you have students who are economically disadvantaged, let us know.

4. **Site Reports** – Ag program updates were given for the following sites:

- **Johansen/Gerhardt** – students are excited about summer projects going to the Fair; rabbits, chickens, pigs, and landscape projects. Ballots for next year good.
- **Mike/Downey** – new principal is supportive of Agriculture program. Hogs, rabbits and goats all going to the Fair from Downey. Eight Downey students going to state conference. Ballots look good for next year; 129 freshman wanting to take Ag.
- **Davis** – strong, judging teams, poultry, floriculture, poultry, milk team in top 5, hogs, lambs/goats, poultry, rabbits, floriculture and heifer, landscape, school farm packed. Preliminary numbers for fall will require 15 sections, currently 9 sections.
- **Scott/Modesto** – missing Grider. All going well, floriculture team doing well, livestock judging team doing well, a lot of students going to Fair, probably double, 40-45 students. Ag Mechanics – sheep stands, keeping to smaller projects that can be completed by school year end.
Richard/Beyer – 239 students 10 sections, small engine floriculture, harvest festival turned out great, tri tip dinner, 450 people thanks to the support of community. White – floral program growing, doing very well. Eleven sections for next year.

Roger/Enochs - 25 going to fair, 52 in Ag related work experience projects, 1D money – currently working on drawings for sewer/drainage issues. Michele’s welding team doing well, horse team, special animal team came in 9th at UC Davis. Dickson announced he will be retiring at end of the year. Mr. Dickson will go through summer, maybe one period next year. Brecht thanked him for his great contribution to MCS Ag Program.

5. **New Advisory Chair** – Roger Dickson thanked Don Prather for his many years as chair. He has been a fantastic supporter of the agriculture program in Modesto City Schools and has fought many battles for the program. His service has truly been appreciated. Jake Wenger, new Ag Advisory Chair was introduced by Roger Dickson.

6. **Approve continuation of current ROP curriculum and agriculture training program courses** – Don Prather called for motion to approve the continuation of the current ROP courses and curriculum, 1st - Bill Ketcher, 2nd – Bill Morris, Vote - Unanimous

**Items of Interest**
Ag Aware luncheon, Thursday April 9, 2009 - 11:30 a.m. SOS
May 1 – Duarte Nursery Friends Day, luncheon, wine tasting
Flory industries – come visit

Adjourned: 7:39 p.m.
Ag Advisory Meeting
November 12, 2008
Beyer High
6:00 p.m.

Present:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don Prather</td>
<td>Investment Broker</td>
</tr>
<tr>
<td>Leo Scheuber</td>
<td>Duarte Nursery</td>
</tr>
<tr>
<td>Bill Morris</td>
<td>Morris Wholesale Nursery</td>
</tr>
<tr>
<td>Lewis &amp; Barbara Thompson</td>
<td>Davis High School</td>
</tr>
<tr>
<td>Richard Wolfe</td>
<td>Beyer High School</td>
</tr>
<tr>
<td>Kristy White</td>
<td>Beyer High School</td>
</tr>
<tr>
<td>Mark Nower</td>
<td>Davis High School</td>
</tr>
<tr>
<td>Natalie Stevano</td>
<td>Davis High School</td>
</tr>
<tr>
<td>Susan Beatty</td>
<td>Downey High School</td>
</tr>
<tr>
<td>Michael Schilperoort</td>
<td>Downey High School</td>
</tr>
<tr>
<td>Roger Dickson</td>
<td>Enochs High School</td>
</tr>
<tr>
<td>Nancy Miguel</td>
<td>Enochs High School</td>
</tr>
<tr>
<td>Michele Larsen</td>
<td>Enochs High School</td>
</tr>
<tr>
<td>Gary Gerhardt</td>
<td>Johansen High School</td>
</tr>
<tr>
<td>Scott Layne</td>
<td>Modesto High School</td>
</tr>
<tr>
<td>Victoria VanLieshout</td>
<td>Modesto High School</td>
</tr>
<tr>
<td>Scott Kuykendall</td>
<td>School-to-Career</td>
</tr>
</tbody>
</table>

Chair: Nurseryman
Nurseryman: Nurseryman
Parents: Parents
Instructor: Instructor

Meeting called to order by Roger Dickson: 6:10 p.m.

Mr. Dickson asked for introductions and notified the advisory that Don Prather, Advisory Chairperson, will be leaving that position after the Spring 2009 advisory meeting. We will be looking for a new chair and hopefully will have a replacement at that time.

**Don Prather called for motion to approve minutes from last meeting,**

✓ 1st - Nancy Miguel, 2nd - Scott Layne – Vote: Unanimous

**Agenda**

1. **Approval of new Summer Ag ROP Classes (Nower)**

Mark Nower distributed copies of new agriculture curriculum. These courses were developed to enable students to advance in Ag courses in summer service without exceeding maximum hours of instruction in regular school year courses. Each course includes a MCS course outline format as well as the YROP format. The textbook for all of the new courses, Agriculture 1-5, is AgriScience Explorations and an AgriScience Explorations activity manual. A copy of each was made available to the advisory for review. Depending on available funds, we will have at least one classroom set per school.

**Don Prather called for motion to approve new course outlines and text as submitted**

✓ 1st – Leo Scheuber, 2nd – Bill Morris, Vote: Unanimous
2. **Other Business (Don Prather)**

Mr. Prather notified the advisory committee of his leaving for another area. He will stay through this school year and the Spring 2009 advisory will be his last.

**Items not on Agenda**

- **Updates:**
  - Roger Dickson reported that History and Art of Floral Design has been approved by the UC as a Visual and Performing Art for College entrance.
  - Modesto City Schools received Grant Award Notification for Agricultural Vocational Education Incentive Grant funds for 2008/09 in the amount of $109,856.
  - Modesto HS had the second place team in the Nation in Ag Sales.
  - Mark Nower has not been able to go forward with the Ag Communications & Oral Interpretation course approved by the advisory, Fall 2007. This course was developed at the request of Davis High School administration but seems to be held up due to the type of credential required to teach this course. Mr. Kuykendall will follow up on this issue.
  - Enochs school farm, project is moving forward $1.4 million matched from a couple pots of district money, gone to architect no DSA, could be as early as this summer.
  - Greenhouse – Risk management covering for Beyer since the old one burned. When that amount is determined, we will provide the same amount for the Enochs greenhouse.
  - Leo Scheuber, Duarte Nursery, offered vines and tours for Ag programs.
  - Mark Nower asked for update/location on Gregori Ag farm. Mr. Kuykendall suggested Mr. Albritton would have the information.
  - Mr. Kuykendall believes categorical money will be affected by state cuts.

- **Discussion:**
  - Money generated from summer service - Mr. Kuykendall says 90% goes to salaries and any leftover goes to directly supporting summer service.
  - Leo Scheuber- most districts have let vocational education go by the waste side and noted that ROP seems to be contributing a great deal to MCS Ag Programs.
  - Mr. Kuykendall reminded advisory that the District is contributing a large amount for the Ag Farm at Enochs high.
  - Don Prather says Rodney made vocational education and ROP look seamless.
  - Mr. Dickson stated that the reason for Ag success in MCS is the coming together of all Ag instructors.
  - Natalie Stevano believes the key to the future of Ag is in crossing over curriculum, i.e. speech, computers, fine arts so that Ag courses meet graduation requirements.
Textbook Approval:

Roger Dickson submitted textbook for approval for the Agricultural Drafting 3-4 course. Text will be used as a supplemental text and since this is a Perkins year for Drafting, those funds can be used to purchase the text.

Don Prather called for motion to approve AutoCAD Architecture 2008 as supplementary text for Agricultural Drafting 3-4 course, 1st - Mark Nower, 2nd - Leo Scheuber, Vote: Unanimous

Adjourned: 7:20 p.m. by Don Prather
Section A

Ag. Advisory Committee
Bylaws - Pending
Agricultural Education

Advisory Committee Manual

Agricultural Education
High School Leadership Division
California Department of Education
Table of Contents

Introduction .................................................................................. 3-4

Forming an Advisory Committee .................................................. 4-6

Functions and Duties of an Advisory Committee ......................... 6-7

Operation of Advisory Committees .............................................. 8-9

Opening Session Instructions for Agricultural Education
Advisory Committees ..................................................................... 10-11

Appendixes

Appendix A -
A Typical Advisory Committee Meeting Agenda .......................... 12

Appendix B -
A Typical Set of Minutes ............................................................ 13
Introduction

The use of advisory committees is well established in the public school system. These committees were conceived in the beginning to implement the development and improvement of educational programs. This manual is written for those planning to form new advisory committees, wishing to improve those already in existence, and for newly appointed members. Advisory committees will play a vital role in agriculture programs in the future.

This manual will help prevent unnecessary errors in the development of advisory committees. These guidelines have proven successful, and may be added to and modified for local and present conditions.

Even though mandated, advisory committees are useless unless they are properly developed with practical working groups. They must be based on the needs of the people and industry for which they serve. Advisory committees are established systems for using lay persons to assist professional educators.

With the increased need for rapid change in this technological age, there is a growing appreciation of the help provided by industry representatives serving on local advisory committees. Agriculture is a complex, highly scientific, and technological industry. Employment opportunities in agriculture are constantly changing. New technologies are continually being developed and incorporated into agricultural and educational industries.

Students must be trained for today's jobs as well as new opportunities that become available. There will be an increased need for agriculturists trained in specialized technical occupations. Advisory committees help teachers of agriculture stay abreast of these changing employment trends and opportunities. Increased interest in agriculture programs that include internships, work-study, and other types of on-the-job training will require close coordination with agricultural industry representatives.

Increased attention needs to be given to the education of at risk, disadvantaged, and other special needs individuals. Advisory committees can provide valuable assistance that is necessary for the success of these interrelated programs.

We must remember that lay advisory groups have no administrative or legislative authority. They can not establish policy or take the place of the administration or the board of education. Their function is to provide understanding between the school and the community it serves. Advisory committees provide balanced judgment to local problems and help give continuity and support to programs.

The purpose of this manual is to provide information for Agricultural Education coordinators, school administrators, boards of trustees, teachers of agriculture, and advisory committee members. Included is information on the formation, functions, duties, and operation of advisory committees. An outline format is being used to make the information easier to find and use.
Finally, a sample of opening session instructions, a sample agenda, and a sample set of minutes are offered for the benefit of those unfamiliar with these procedures.

**Forming an Advisory Committee**

Much of the success of an advisory committee is determined by the manner in which it is formed. Based on the experiences of many communities throughout the country, the following steps are suggested:

1. **Determine and Verify the Need**
   
   1.1 There must be a feeling of need and understanding of opportunity if an advisory committee is to succeed.
   
   1.2 If with its help, the advisory committee can make the (department, division, district) better, it serves a usable function.
   
   1.3 It can provide continuity of a quality program should teachers or administrative changes take place.
   
   1.4 It is important that the school administration, agricultural education staff, parents, and other patrons of the school thoroughly understand the character and purpose of the committee.

2. **Nomination of Committee Members**

   2.1 Once approval of the formation of an advisory committee by the board members is received, nominations should be made jointly by the principal or superintendent, the head of the agriculture department, and the chairperson of the school board.
   
   2.2 Each should have an equal voice in the selections.
   
   2.3 Avoid nomination of friends, as they may be less candid and honest in their advice.
   
   2.4 The advisory committee should be truly representative of the district. Members:
   
   2.4.1 Should be successful agriculturists and/or individual/s engaged in a significant related occupation.
   
   2.4.2 Must have recent, successful, firsthand, and practical experience in the field of agriculture.
   
   2.4.3 Should exhibit substantial interest in the agriculture program.
   
   2.4.4 Should be representative of different important agricultural commodities, parts of district, age groups, farm organizations, & ethnic or religious groups.
2.4.5 Should be sought as public-spirited individuals who understand a specialized area and are willing to contribute their knowledge and advice as a member of a cooperative, constructive group.

2.4.6 From the general school staff and/or the board should only be used when special circumstances warrant their appointment.

2.4.7 Should not have frequent dealings with the department in order to minimize conflict of interest problems.

2.4.8 Should include representatives of the service areas of agriculture.

2.4.9 Should recognize the time required and express a willingness to serve on the committee.

3. How Many Committee Members?

3.1 No fixed number will satisfy all situations.

3.2 The group needs to be large enough to be representative of the district and to provide a quorum if several members are absent.

3.3 Should not be so large that it is unwieldy or difficult to call together.

3.4 Seven to eleven persons are suggested with nine being a workable medium.

3.5 Present only the number of names previously decided upon by the local governing board for confirmation. (When more names are presented personalities become involved yielding undesirable results.)

4. How are Committee Members Notified of their selection?

4.1 Notification is usually done in writing, by the principal or superintendent, on behalf of the school board.

4.2 The letter should:

4.2.1 Indicate that the Ag teacher is supportive.

4.2.2 Indicate that the committee serves in an advisory capacity to him or her, the department, the principal, and to the school board.

4.2.3 Include a request that the member indicate whether he or she will accept.

4.2.4 Urge speed of acceptance to gain an orderly efficient start.

5. Understanding of Responsibility

5.1 Of greatest importance is that the committee is only advisory in character.

5.2 The advice is to the teacher, school administrator, or school board as appropriate to accept or reject.

5.3 It has no administrative or policy forming power.

5.4 It will make suggestions on policy and procedure, but the source of its influence is in the voluntary acceptance of this advice by the proper governing authority.
Experience has shown where all of the steps up to this point have been properly taken, a high percentage of acceptances may be expected.

Functions and Duties of Advisory Committees

1. Help to determine what type of Agricultural Education program is offered.

2. Assist the teacher(s) in finding suitable work stations (internships, work-study, cooperative learning, partnerships) for students in both production agriculture and agri-industry occupations.

3. Help the instructor establish curriculum that has a hands-on, technological approach.

4. Help attract and encourage qualified/capable students into the Agricultural Education Tech Prep program.

5. Help in recruiting and providing opportunities for special-needs students.

6. Help to evaluate the effectiveness of the Ag. Education program. Guidelines for evaluation should be developed cooperatively with the advisory committee, administration, school board, and the Agricultural Education Unit of the California Department of Education.

7. Help gain support for legislation and appropriations.

8. Help the teacher(s) develop a list of capable resource persons for use as speakers, and/or judges for both in-school and out-of-school tests and contests.

9. Help obtain sponsors for appropriating funds for awards, scholarships, or needed equipment and supplies that are useful in carrying out classroom activities and F.F.A. or other youth programs.

10. Help unify the activities of the Agricultural Education program with those of other groups and agencies interested in agriculture.

11. Assist the teacher in determining skills needed for particular jobs at entry, technical and professional levels so that he/she may be included in the instructional program.
12. When appropriate, serve as resource person to instructor visiting work place learning sites of students and participating in classroom instruction or demonstrations and accompanying or hosting field trips.

13. Study and make recommendations on problems presented to it by the school board on which further information is needed.

14. Provide the teacher with technical assistance and keep him/her aware of new developments in the agricultural industry.

15. Provide current resources to develop and maintain an Ag library of visual aids, magazines, and books concerning agriculture and agricultural occupations.

16. Serve as speakers at civic clubs, open houses, and career days to tell the story of school-industry cooperation.

17. Identify current standards for new equipment.

18. Assist in procuring opportunities to upgrade the teacher's technical skills and knowledge.
Operation of Advisory Committee

It is important that correct procedures and rules be established and clearly understood by committee members, school administrative staffs, and the board of education. These rules should be decided upon by the committee with assistance from the school. All correspondence should be sent to administrators and advisory committee members. Items to be considered are:

1. **Number of meetings**
   1.1 Must meet regularly and often enough to carry out their assignment.
   1.2 Monthly or bi-monthly meetings are usually the most desirable.
   1.3 Minimum number is two per year.
   1.4 Practical number is between three and eight per year.
   1.5 Necessity should always determine the exact number.
   1.6 Often the most valuable advice comes from busy individuals.
   1.7 Better to have fewer well planned, well attended meetings.

2. **Selection of Officers**
   2.1 Generally a chairperson, vice chairperson, and recorder are sufficient.
   2.2 Chairperson should be a lay person elected by the committee.
   2.3 It is usually best that the agriculture teacher serves as recorder and general consultant.

3. **Length of Service by Committee Members**
   3.1 Three-year terms are recommended.
   3.2 At formation meeting members draw for one, two, or three year terms to provide for continuity of membership.
   3.3 Individual preferences in length of service need to be considered.
   3.4 Limitation should be placed on reappointments.
   3.5 Nominees should be submitted to board of trustees for approval.
4. **Length and Place of Meetings**

4.1 For efficient and effective use of time, the agenda for each meeting must be well planned.
4.2 Ample meeting notice of 10 days to 2 weeks is recommended.
4.3 Copy of agenda, minutes from previous meeting, and any reading material requiring action should be sent in advance of meeting date.
4.4 Two-hour meetings, held at a time and date chosen by the committee, are recommended.
4.5 The meeting place should provide a conference table in a quiet environment.
4.6 Usually the agricultural department of the school provides the best meeting site, allowing members to become familiar with facilities of the department.

5. **Filling Committee Vacancies**

5.1 Vacancies which occur because of term completion or other reasons should be filled by nomination from the advisory committee, teacher, superintendent, department head, or principal, and approved by the board of education.
5.2 The committee may be asked for suggestions.
5.3 A committee *should not* be permitted to choose its own replacements.
   5.3.1 This would be self perpetuating.
   5.3.2 May become unrepresentative and unduly independent of the school administration.
5.4 Rules of procedure should indicate that if a committee member misses meetings repeatedly without reason, the position be declared vacant by the chairperson, and the school board so notified.

6. **Distribution of Minutes:** All committee members, the career education director, the principal, school board president and the regional supervisor.

7. **Making Decisions:** Currently many organizations operate by consensus approval of agenda items. When consensus cannot be reached or decorum is in question, refer to Robert's Rules of Order.
Opening Session Instructions for Agricultural Education Advisory Committees

*Instructions to Your New Advisory Committee*

1. You constitute an advisory committee for the (your school district).

2. I welcome you on behalf of the board and administration.

3. You are agents of and appointed by the (your school's board of trustees).

4. While you are not a policy making body, you are advisory to (your department), and through channels, to the principal, superintendent, and board. We need your expertise in this area.

5. The (your district) is interested in the best possible Agricultural Education program. We need to know what is ideal for this program from the standpoint of the community. Bear in mind that what we eventually can do, while we want the ideal if possible, must be compatible with available funds and state rules and regulations.

6. You will be a working committee and students & school staff expects to benefit from your work.

7. We need help to:

   7.1 Review existing programs, courses of study, facilities, equipment.
   
   7.2 Propose new programs and/or courses when needed based on solid data for this community.
   
   7.3 Evaluate existing programs and proposed new programs.
   
   7.4 Revise existing programs, suggest changes or deletions, and develop educational specifications for the programs. (For use in building the program and planning for equipment and facilities.)
   
   7.5 Help develop building plans, review architects plans, etc., where new buildings are being proposed.
   
   7.6 Help point out changes needed for the future in your area of interest - Keep the program up to date.
   
   7.7 Help in placement and in evaluating performance of our Agricultural Education students at (your school or college).

8. You will be a "helping group" (as well as advisory) to the instructor, as the program is implemented and progresses.
9. This committee serves at the pleasure of the school board and may be dissolved at any time by board action.

*Getting Started:*

1. Review present course offerings and majors -- catalogs, studies, data, classrooms, labs, and other facilities.

2. Conduct studies, if needed, to get community data on which to base your decisions.

3. Decide areas to study or review (both geographic and educational areas) and determine how to do this (formal study, informal, follow-up studies).

4. Your findings and decisions will be in the committee minutes which will be distributed to the instructors, administration, and the board.

*Here's What You Need To Do To Get Started:*

1. Elect a chairperson.

2. The recorder will be an instructor, or department chairperson, and he or she will also be a resource person for you to help interpret educational language and concepts, provide materials, and be the liaison person with the administration.

3. Determine rotation (1-2- or 3 years?). You will also decide length and term and who serves what term. (Subsequent appointments will be 3 years each.)

4. Decide if more than one committee is needed. Large departments may have subcommittees.

5. Announce that any member who can not continue serving for any reason, should notify the chairperson so that a replacement appointment can be made.

*Note: Be sure to start and end on time!*

WE NEED YOUR HELP. WE APPRECIATE YOUR WILLINGNESS TO GIVE IT AND BE OF SERVICE TO YOUR SCHOOL.
Appendix A
(SAMPLE)
Advisory Committee Meeting Agenda

TO: List committee members here
FROM: Chairperson
DATE: Date agenda is published
RE: Next Advisory Committee Meeting

DATE: Date of next meeting
TIME: Time of next meeting
PLACE: Place where meeting is being held

AGENDA

1. Review and approve minutes of the previous meeting.
2. Call for additional agenda items to be added to this meeting's agenda.
3. Committee and progress reports.
4. Consideration of recommendations for a new class or activity.
5. Review of revised course of study.
6. Report and review of F.F.A. and/or other youth organization activities.
7. Set date, time, and place for next meeting.
8. Adjournment.
Appendix B
(SAMPLE)
Set of Minutes

Advisory Committee Meeting
January 21, 2004

The meeting was called to order by chairperson, Joe Smith at 3:00 p.m., January 21, 2004, in room 122 at Your High School.

The minutes of the previous meeting were read, amended, by changing the word shall to should in topic #8, and approved.

The call for additional agenda items was made.

Mr. X reported that the Field Day Committee met on January 14, 2004. It was decided that the best day for the annual field day is May 5th. It was moved, seconded, and passed that our annual field day will be held on May 5, 2004.

Mrs. Y reported on ticket sales of the coming Parent and Student Banquet. So far, 310 tickets have been sold. This is already 20 more than last year's attendance.

It was moved and seconded that a class on small gas engines be added to the Ornamental Horticulture curriculum. After a lengthy discussion, this was referred to a committee of five made up of Mrs. A, Mrs. B, Mr. C, Mr. D, and Mr. E. They are to report to the advisory committee on March 15th. Mrs. A will be the chairperson.

Mr. Z reported on the suggested revision for the Basic Plant Science class. Added topics being considered are: weeds, pathogens, and insects. Pruning practices will likely be deleted as a specific class in pruning is being considered for next Fall.

F.F.A. President, Bill G. reported on this year's calendar of events of the chapter. He was commended by the Chair for his leadership and hard work.

The next meeting is scheduled for 3:00 p.m., February 15th, in room 122 at Your High School.

The meeting was adjourned at 5:00 p.m. by chairperson Joe Smith.

Respectfully Submitted,

Mr. Q, Recorder
Agriculture Advisory Committee

Missouri State Law, Section 178.560, requires that an advisory committee be appointed in each district offering vocational subjects. The law states:

"The school board of any school district maintaining a pre-vocational or vocational school, department, or class receiving the benefit of state or federal monies under the provisions of Sections 178.420 to 178.580 as a condition of approval by the State Board of Education and State Commissioner of Education, shall appoint persons of experience in agriculture, industry, home economics and commerce to give advice and assistance to the school board in the establishment and maintenance of the schools, departments, and classes. The persons of experience shall serve without compensation."

In addition, Standard Thirteen in The Standards and Quality Indicators for Agriculture Program Improvement states:

"Input from students, parents, staff members and community representatives is used to develop and implement the agriculture program's goals and objectives."

When a school adds agricultural education programming, part of the formal application must include the names and occupations of the advisory committee members.

An agriculture advisory committee consists of volunteers who are officially appointed by the governing board of the local education agency or institution. With members drawn primarily from the private sector of the community, with appropriate public sector representation, the principle purpose of the committee is to improve the quality and impact of instruction in programs that prepare students for the broad field of agriculture. The committee provides advice in areas such as occupational performance competencies, instructional objectives, equipment selection, facility layout and modification, job requirements, credentials, program articulation, labor market needs as well as trends, career opportunities, instructor competencies and retraining strategies, and student recruitment and retention. However, it should be noted that committee activity is limited to suggestions, recommendations, and assistance. Authority does not include administrative or faculty control of the programs; these responsibilities are reserved for the local education agency or institution.

Because committee members have expert knowledge in the program field and because the council has chartered or constitutional authority granted by the governing board of the local education agency or institution, committee advice should be taken seriously by instructional program officials. Advisory committees are goal oriented toward program improvement. They promote constructive and necessary change within a program, generating and transmitting any ideas to the program from the employment community and from the program to the employment community.
Procedures for establishing an advisory committee, sample letters of invitation, and sample operational guidelines are included in the IML publication, *Facilitator's Guidebook For Implementing and Managing Partnerships and Advisory Groups*.
http://dese.mo.gov/divvoced/miscellaneous.htm and Section 18 of the Agriculture Teacher's Manual available from the National FFA or in the Local Program Success Guide.

**Selection of Members**

In order for the advisory committee to serve as a means of effective communication between vocational programs and the citizens to be served, the membership should be representative of the total school service area. Members may be selected to represent:

1. Geographical sections of the school district
2. All types of business and industry, particularly those predominant in the area
3. Both labor and management
4. Parents of agriculture students
5. Former students
6. Various age levels
7. Different educational levels
8. Both genders, handicapped individuals, and racial and ethnic minorities found in the area

This representation should enable the advisory committee to reflect the points of view of the various segments of the community being served by vocational education. In addition, the agriculture instructor(s) and representative of the administration should serve as nonvoting consulting members. Although the administrative representative need not be present at all meetings, the agriculture instructor(s) should be in attendance at all meetings to provide information and to participate in discussion.

**Size of the Committee**

The size of the committee is a very important consideration. It will vary by size of the community, the scope of the agriculture offering, diversity of businesses and industries in the community, and the purpose of the committee. Effective advisory committees must be large enough to reflect diversity of the employment community, yet small enough to be managed effectively. Six to twelve members are recommended.

**Term of Service**

Staggered terms of service for advisory committee members ensure both committee continuity and ability to accommodate change. At a given time, the majority of members will have served at least one year on the committee, thus ensuring continuity. Change is accommodated as new members with new ideas are added to the committee each year.

A rotational, three-year term of service most easily allows for continuity and change. One-third of the total membership will be appointed beginning each year after the first year of operation. To establish this rotation with a new committee, the original members draw lots that set the length of their terms at one, two, or three years, with one-third of the committee in each category. Then new members are appointed as terms expire.
Relatively few effective committees reappoint members to successive terms, but require at least a one-year absence before reappointment. Establishing the length of term as policy will clarify the time demands for members at the outset.

**Selection Process**

Members may be elected or appointed, depending on the policy of the institution. A widely used procedure for nominating members is for the instructor(s) and the appropriate administrator to recommend a list of possible nominees to the governing board. Following acceptance of the invitation to serve, notice of appointment should be made by letter from the board stating the term for which appointment is made. The appointment should also be presented to the local media for publicity.

The following samples are provided to assist in setting up an advisory committee:

- Sample Authorization Statement
- Sample Advisory Committee Charter
- Sample Advisory Committee By-Laws
Sample Statement of Authorization

Authorization for the Establishment of a Agricultural Education Program
Advisory Committee for

(name of school district)

The Board of (local education agency or institution) hereby approves and authorizes the establishment of a citizens' advisory committee for the agricultural education program. The work of the committee will be limited to the legitimate concerns of the agricultural education program unless otherwise authorized by action of the Board. The committee will operate as prescribed by the Policy Statement. The Board reserves the right to terminate the services of any committee member at any time it believes that such action would be in the best interests of the school system.

Date __________________
Sample Advisory Committee Charter

Charter for Agriculture Advisory Committee

I. The Committee will be called the (name of Committee).
   It is authorized by the (name of governing body) and will serve at the pleasure of the governing body.

II. Purposes

   The Committee is created for the purpose of working with the (name of agriculture program) and shall limit its activities to advising on matters that directly concern the instructional program. The specific purposes of the Committee may include the following responsibilities:

   - Assist in placing students at employment sites
   - Determine necessary entry-level skills, attitude and knowledge competencies as well as performance levels for target occupations
   - Facilitate cooperation and communication between the program and the community
   - Assist in program evaluation and improvement by utilizing the Agriculture Standards
   - Study number of workers needed by target occupation in the community
   - Help recruit students into the program
   - Assist the program in setting priorities, including participating in ongoing planning activities of the program
   - Facilitate instructor inservice education through arranging exchanges with agricultural personnel

III. Relationship of Committee to Educational Governing Board

   It is the role and sole prerogative of the Board to enact policy. The advisory committee is expected to offer recommendations for instructional programs and to provide information relevant to policy about the instructional program to the administration and instructors.

IV. Membership

   Composition: The advisory committee shall consist of (number of) members. Members will be selected and appointed by the Board. Committee members will constitute a cross-section of the employment community, with special emphasis on private sector employees and employers. Moreover, at least 60 percent of the committee membership should be employees in the target jobs or supervisors of such employees. Membership shall include representation of minority and target groups whose interests must be served in vocational education.
Term: A term of membership shall last for three years, with one-third of the membership appointed each year. Terms shall not be renewable within 11 months after conclusion of an earlier term. Terms will begin on August 1.

V. Organizational Structure

Officers: The committee shall select a chair, vice chair, and secretary who are elected for one-year terms by the membership. Elections will be held at the first meeting of the new membership year.

VI. Procedural Rules

By-Laws: The committee will draft and adopt a set of written by-laws at the organizational meeting of the committee. The by-laws govern committee operation. By-laws require a two-thirds vote for adoption or change.

Meetings: The committee will meet at least (number of) times per year. Written notices of upcoming meetings will be mailed to members at least ten days before a meeting.

Minutes: Minutes of each meeting will be kept. Copies will be mailed to the board, local administrator(s), instructors, and committee membership within two weeks after a meeting.

Recommendations and Reports: Committee recommendations and reports will be submitted in writing to the board. Documents will include both suggested action and justification for suggestions. The board will respond/react to such recommendations/reports in writing.

Dismissal: Members who are absent without reasonable cause from three successive meetings will be considered to have resigned their seat. The committee will move to fill the position.

Public Announcements: While members are expected and encouraged to discuss the instructional program within the community, members shall not report opinions expressed in meetings, nor shall they report independently on committee action.
Sample of Advisory Committee By-Laws

(Name of committee)
(Name of local education agency or institution)
(date)

I. Committee Operation
   A. Meetings will be held at 7 p.m. on the second Thursday of September, January and
      June unless otherwise specified.
   B. At least three meetings will be held each school year. The exact number of meetings
      will be determined by the needs.
   C. The Executive Committee will develop an agenda for each meeting.
   D. Meeting sessions will be limited to approximately two hours.
   E. Discussion to obtain consensus will be the prevailing procedure used at meetings.
      Parliamentary procedure will be used when a decision is to be recorded and
      transmitted as a recommendation.
   F. A quorum will consist of a simple majority of appointed members.
   G. Meeting minutes will be recorded for each meeting. They will be distributed to each
      member and appropriate school officials.

II. Subcommittees
   A. Standing subcommittees will be established for the adult program, leadership
      component (FFA, PAS etc.), curriculum and equipment, and employment experiences
      (SAE, etc.).
   B. Subcommittees may be of any size, but will usually include three or four members.
   C. Subcommittees will elect their own chairs.

III. Officers
   A. Officers will be elected by a simple majority. Officers will serve a one year term and
      may be re-elected following a one-year lapse between terms.
   B. Officers will include a chair, vice chair, and a secretary.
   C. Officers will be elected at the first meeting of each new year.

IV. Member Responsibilities
   A. Each member is expected to attend meetings and to participate in committee
      activities.
   B. Each member is expected to study the issues or problems which come before the
      committee in order to contribute to the resolution process.
Section B

Vocational Ag. Operating Budget
<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>2008-09 BUDGET</th>
<th>2009-10 BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC DECATHLON</td>
<td>$292.00</td>
<td>$321.00</td>
</tr>
<tr>
<td>AGRICULTURE</td>
<td>$2,817.00</td>
<td>$2,898.00</td>
</tr>
<tr>
<td>ART</td>
<td>$3,646.00</td>
<td>$4,010.00</td>
</tr>
<tr>
<td>ATHLETICS</td>
<td>$8,725.00</td>
<td>$3,725.00</td>
</tr>
<tr>
<td>BUSINESS</td>
<td>$1,462.00</td>
<td>$1,608.00</td>
</tr>
<tr>
<td>DANCE</td>
<td>$585.00</td>
<td>$643.00</td>
</tr>
<tr>
<td>DRAMA</td>
<td>$585.00</td>
<td>$643.00</td>
</tr>
<tr>
<td>DRIVER'S EDUCATION</td>
<td>$60.00</td>
<td>$66.00</td>
</tr>
<tr>
<td>ENGLISH</td>
<td>$2,047.00</td>
<td>$2,250.00</td>
</tr>
<tr>
<td>FOREIGN LANGUAGE</td>
<td>$1,047.00</td>
<td>$1,153.00</td>
</tr>
<tr>
<td>INDUSTRIAL EDUCATION</td>
<td>$3,509.00</td>
<td>$3,860.00</td>
</tr>
<tr>
<td>MATH</td>
<td>$2,339.00</td>
<td>$2,572.00</td>
</tr>
<tr>
<td>MUSIC/BAND</td>
<td>$3,354.00</td>
<td>$3,689.00</td>
</tr>
<tr>
<td>NEWSPAPER</td>
<td>$937.00</td>
<td>$1,030.00</td>
</tr>
<tr>
<td>PHYSICAL EDUCATION</td>
<td>$1,049.00</td>
<td>$1,153.00</td>
</tr>
<tr>
<td>SCHOOL NURSE</td>
<td>$320.00</td>
<td>$350.00</td>
</tr>
<tr>
<td>SCIENCE/HEALTH</td>
<td>$4,695.00</td>
<td>$5,164.00</td>
</tr>
<tr>
<td>SOCIAL SCIENCE</td>
<td>$1,462.00</td>
<td>$1,608.00</td>
</tr>
<tr>
<td>SPECIAL EDUCATION</td>
<td>$6,429.00</td>
<td>$6,429.00</td>
</tr>
<tr>
<td>SPEECH</td>
<td>$2,571.00</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>WORK EXPERIENCE</td>
<td>$172.00</td>
<td>$189.00</td>
</tr>
</tbody>
</table>
# Ag. Incentive Budget 08-09

<table>
<thead>
<tr>
<th>FUNDING / ALLOCATION SOURCE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag Incentive Grant</td>
<td>$14,172</td>
</tr>
<tr>
<td>Kristy White</td>
<td>$3,000</td>
</tr>
<tr>
<td>Rich Wolfe</td>
<td>$3,000</td>
</tr>
<tr>
<td></td>
<td>$6,000</td>
</tr>
<tr>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>Travels</td>
<td>3,000</td>
</tr>
<tr>
<td>Supplies</td>
<td>1,500</td>
</tr>
<tr>
<td>FFA Entrie</td>
<td>2,000</td>
</tr>
<tr>
<td>Repairs</td>
<td>1,000</td>
</tr>
<tr>
<td>Misc.</td>
<td>672</td>
</tr>
<tr>
<td></td>
<td>8,172</td>
</tr>
</tbody>
</table>

Amount Left: $0
### Ag. Incentive Expenses 08-09

<table>
<thead>
<tr>
<th>Funding / Allocation Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag Incentive Grant</td>
<td>$14,172</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kristy White</strong> PO's</td>
<td></td>
</tr>
<tr>
<td>Floral Supply Syndicate</td>
<td>($1,000)</td>
</tr>
<tr>
<td>NASCO</td>
<td>($500)</td>
</tr>
<tr>
<td>Floral Supply Center of Modesto-Simi</td>
<td>($500)</td>
</tr>
<tr>
<td>Home Depot</td>
<td>($1,000)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rich Wolfe</strong></td>
<td></td>
</tr>
<tr>
<td>Barnes Welding Supply</td>
<td>($400)</td>
</tr>
<tr>
<td>Harbor Freight</td>
<td>($500)</td>
</tr>
<tr>
<td>Home Depot</td>
<td>($1,500)</td>
</tr>
<tr>
<td>Bill's Mower and Saw</td>
<td>($1,500)</td>
</tr>
<tr>
<td>Modesto Steel Company</td>
<td>($500)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td></td>
</tr>
<tr>
<td>Camp Sylvester</td>
<td>-600</td>
</tr>
<tr>
<td>R-2 Leadership Packets</td>
<td>-2,051</td>
</tr>
<tr>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>CATA Conference</td>
<td>-2500</td>
</tr>
<tr>
<td></td>
<td>($2,500.00)</td>
</tr>
</tbody>
</table>

**Amount Left $1,621**
# PO Numbers

<table>
<thead>
<tr>
<th>Place</th>
<th>School</th>
<th>Number</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Welding</td>
<td>Bever</td>
<td>992026</td>
<td>$400.00</td>
</tr>
<tr>
<td>HOME DEPOT</td>
<td>Beyer</td>
<td>992038</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Harbor Freight</td>
<td>Beyer</td>
<td>992027</td>
<td>$500.00</td>
</tr>
<tr>
<td>Bill’s Mower and Saw</td>
<td>Beyer</td>
<td>992042</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Modesto Steel</td>
<td>Beyer</td>
<td>992043</td>
<td>$500.00</td>
</tr>
<tr>
<td>Other Purchases</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$4,400.00

ROP MONEY

Garton tractor Beyer
Section C

VEA District Allocation
<table>
<thead>
<tr>
<th>CO</th>
<th>DIST</th>
<th>AGENCY</th>
<th>ALLOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>75382</td>
<td>Mattole Unified School District</td>
<td>477.00</td>
</tr>
<tr>
<td>06</td>
<td>61606</td>
<td>Maxwell Unified School District</td>
<td>3,235.00</td>
</tr>
<tr>
<td>15</td>
<td>73908</td>
<td>McFarland Unified School District</td>
<td>32,129.00</td>
</tr>
<tr>
<td>10</td>
<td>75127</td>
<td>Mendota Unified School District</td>
<td>27,055.00</td>
</tr>
<tr>
<td>24</td>
<td>10249</td>
<td>Merced County Office of Education</td>
<td>37,616.00</td>
</tr>
<tr>
<td>24</td>
<td>65789</td>
<td>Merced Union High School District</td>
<td>312,236.00</td>
</tr>
<tr>
<td>43</td>
<td>73387</td>
<td>Milpitas Unified School District</td>
<td>48,774.00</td>
</tr>
<tr>
<td>50</td>
<td>71175</td>
<td>Modesto City High School District</td>
<td>406,517.00</td>
</tr>
<tr>
<td>15</td>
<td>63677</td>
<td>Mojave Unified School District</td>
<td>26,790.00</td>
</tr>
<tr>
<td>19</td>
<td>64790</td>
<td>Monrovia Unified School District</td>
<td>49,778.00</td>
</tr>
<tr>
<td>19</td>
<td>64808</td>
<td>Montebello Unified School District</td>
<td>307,171.00</td>
</tr>
<tr>
<td>27</td>
<td>10272</td>
<td>Monterey County Office of Education</td>
<td>12,312.00</td>
</tr>
<tr>
<td>27</td>
<td>66092</td>
<td>Monterey Peninsula Unified School District</td>
<td>68,428.00</td>
</tr>
<tr>
<td>56</td>
<td>73940</td>
<td>Moorpark Unified School District</td>
<td>34,040.00</td>
</tr>
<tr>
<td>33</td>
<td>67124</td>
<td>Moreno Valley Unified School District</td>
<td>252,117.00</td>
</tr>
<tr>
<td>43</td>
<td>69583</td>
<td>Morgan Hill Unified School District</td>
<td>48,423.00</td>
</tr>
<tr>
<td>36</td>
<td>67777</td>
<td>Morongo Unified School District</td>
<td>75,346.00</td>
</tr>
<tr>
<td>37</td>
<td>68213</td>
<td>Mountain Empire Unified School District</td>
<td>14,788.00</td>
</tr>
<tr>
<td>53</td>
<td>75028</td>
<td>Mountain Valley Unified School District</td>
<td>4,139.00</td>
</tr>
<tr>
<td>43</td>
<td>69609</td>
<td>Mountain View-Los Altos Union High School District</td>
<td>52,186.00</td>
</tr>
<tr>
<td>07</td>
<td>61754</td>
<td>Mt. Diablo Unified School District</td>
<td>219,480.00</td>
</tr>
<tr>
<td>15</td>
<td>63685</td>
<td>Muroc Joint Unified School District</td>
<td>10,117.00</td>
</tr>
<tr>
<td>33</td>
<td>75200</td>
<td>Murrieta Valley Unified School District</td>
<td>65,718.00</td>
</tr>
<tr>
<td>34</td>
<td>75283</td>
<td>Natomas Unified School District</td>
<td>23,912.00</td>
</tr>
<tr>
<td>29</td>
<td>66357</td>
<td>Nevada Joint Union High School District</td>
<td>57,546.00</td>
</tr>
<tr>
<td>01</td>
<td>61242</td>
<td>New Haven Unified School District</td>
<td>73,317.00</td>
</tr>
<tr>
<td>01</td>
<td>61234</td>
<td>Newark Unified School District</td>
<td>42,848.00</td>
</tr>
<tr>
<td>30</td>
<td>66597</td>
<td>Newport-Mesa Unified School District</td>
<td>128,111.00</td>
</tr>
<tr>
<td>27</td>
<td>73825</td>
<td>North Monterey County Unified School District</td>
<td>27,263.00</td>
</tr>
<tr>
<td>12</td>
<td>62687</td>
<td>Northern Humboldt Union High School District</td>
<td>33,729.00</td>
</tr>
<tr>
<td>19</td>
<td>64840</td>
<td>Norwalk-La Mirada Unified School District</td>
<td>159,228.00</td>
</tr>
<tr>
<td>21</td>
<td>65417</td>
<td>Novato Unified School District</td>
<td>33,254.00</td>
</tr>
<tr>
<td>50</td>
<td>75564</td>
<td>Oakdale Joint Unified School District</td>
<td>27,910.00</td>
</tr>
<tr>
<td>01</td>
<td>61259</td>
<td>Oakland Unified School District</td>
<td>534,350.00</td>
</tr>
<tr>
<td>37</td>
<td>73569</td>
<td>Oceanside Unified School District</td>
<td>157,403.00</td>
</tr>
<tr>
<td>56</td>
<td>72520</td>
<td>Ojai Unified School District</td>
<td>22,242.00</td>
</tr>
<tr>
<td>30</td>
<td>10306</td>
<td>Orange County Department of Education</td>
<td>77,276.00</td>
</tr>
<tr>
<td>30</td>
<td>66621</td>
<td>Orange Unified School District</td>
<td>183,419.00</td>
</tr>
<tr>
<td>04</td>
<td>61515</td>
<td>Oroville Union High School District</td>
<td>89,325.00</td>
</tr>
<tr>
<td>56</td>
<td>72546</td>
<td>Oxnard Union High School District</td>
<td>355,994.00</td>
</tr>
<tr>
<td>44</td>
<td>69799</td>
<td>Pajaro Valley Unified School District</td>
<td>142,308.00</td>
</tr>
<tr>
<td>33</td>
<td>67173</td>
<td>Palm Springs Unified School District</td>
<td>183,954.00</td>
</tr>
<tr>
<td>43</td>
<td>69641</td>
<td>Palo Alto Unified School District</td>
<td>34,043.00</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>63982</td>
<td>Lemoore Union High School District</td>
</tr>
<tr>
<td>---</td>
<td>----</td>
<td>-------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>07</td>
<td>61721</td>
<td>Liberty Union High School District</td>
<td>59,387.00</td>
</tr>
<tr>
<td>39</td>
<td>68569</td>
<td>Lincoln Unified School District</td>
<td>65,748.00</td>
</tr>
<tr>
<td>54</td>
<td>71993</td>
<td>Lindsay Unified School District</td>
<td>48,656.00</td>
</tr>
<tr>
<td>51</td>
<td>71399</td>
<td>Live Oak Unified School District</td>
<td>19,831.00</td>
</tr>
<tr>
<td>01</td>
<td>61200</td>
<td>Livermore Valley Joint Unified School District</td>
<td>84,758.00</td>
</tr>
<tr>
<td>39</td>
<td>68585</td>
<td>Lodi Unified School District</td>
<td>242,428.00</td>
</tr>
<tr>
<td>42</td>
<td>69229</td>
<td>Lompoc Unified School District</td>
<td>83,412.00</td>
</tr>
<tr>
<td>19</td>
<td>64725</td>
<td>Long Beach Unified School District</td>
<td>1,072,163.00</td>
</tr>
<tr>
<td>30</td>
<td>73924</td>
<td>Los Alamitos Unified School District</td>
<td>24,951.00</td>
</tr>
<tr>
<td>19</td>
<td>10199</td>
<td>Los Angeles County Office of Education</td>
<td>212,596.00</td>
</tr>
<tr>
<td>19</td>
<td>64733</td>
<td>Los Angeles Unified School District</td>
<td>8,594,914.00</td>
</tr>
<tr>
<td>24</td>
<td>65755</td>
<td>Los Banos Unified School District</td>
<td>42,741.00</td>
</tr>
<tr>
<td>43</td>
<td>69534</td>
<td>Los Gatos-Saratoga Joint Union High School District</td>
<td>34,473.00</td>
</tr>
<tr>
<td>52</td>
<td>71571</td>
<td>Los Molinos Unified School District</td>
<td>5,337.00</td>
</tr>
<tr>
<td>36</td>
<td>75051</td>
<td>Lucerne Valley Unified School District</td>
<td>8,995.00</td>
</tr>
<tr>
<td>40</td>
<td>68759</td>
<td>Lucia Mar Unified School District</td>
<td>61,220.00</td>
</tr>
<tr>
<td>19</td>
<td>64774</td>
<td>Lynwood Unified School District</td>
<td>183,071.00</td>
</tr>
<tr>
<td>39</td>
<td>68593</td>
<td>Manteca Unified School District</td>
<td>96,598.00</td>
</tr>
<tr>
<td>22</td>
<td>65532</td>
<td>Mariposa County Unified School District</td>
<td>16,588.00</td>
</tr>
<tr>
<td>07</td>
<td>61739</td>
<td>Martinez Unified School District</td>
<td>17,126.00</td>
</tr>
<tr>
<td>58</td>
<td>72736</td>
<td>Marysville Joint Unified School District</td>
<td>109,093.00</td>
</tr>
<tr>
<td>12</td>
<td>75382</td>
<td>Mattole Unified School District</td>
<td>587.00</td>
</tr>
<tr>
<td>15</td>
<td>73908</td>
<td>McFarland Unified School District</td>
<td>35,151.00</td>
</tr>
<tr>
<td>10</td>
<td>75127</td>
<td>Mendota Unified School District</td>
<td>28,084.00</td>
</tr>
<tr>
<td>24</td>
<td>10249</td>
<td>Merced County Office of Education</td>
<td>32,356.00</td>
</tr>
<tr>
<td>24</td>
<td>65799</td>
<td>Merced Union High School District</td>
<td>322,977.00</td>
</tr>
<tr>
<td>43</td>
<td>73387</td>
<td>Milpitas Unified School District</td>
<td>42,927.00</td>
</tr>
<tr>
<td>50</td>
<td>71175</td>
<td>Modesto City High School District</td>
<td>448,804.00</td>
</tr>
<tr>
<td>15</td>
<td>53677</td>
<td>Mojave Unified School District</td>
<td>29,261.00</td>
</tr>
<tr>
<td>19</td>
<td>64790</td>
<td>Monrovia Unified School District</td>
<td>57,952.00</td>
</tr>
<tr>
<td>19</td>
<td>64808</td>
<td>Montebello Unified School District</td>
<td>362,018.00</td>
</tr>
<tr>
<td>27</td>
<td>10272</td>
<td>Monterey County Office of Education</td>
<td>24,303.00</td>
</tr>
<tr>
<td>27</td>
<td>66092</td>
<td>Monterey Peninsula Unified School District</td>
<td>83,316.00</td>
</tr>
<tr>
<td>56</td>
<td>73940</td>
<td>Moorpark Unified School District</td>
<td>39,689.00</td>
</tr>
<tr>
<td>33</td>
<td>67124</td>
<td>Moreno Valley Unified School District</td>
<td>262,825.00</td>
</tr>
<tr>
<td>43</td>
<td>69683</td>
<td>Morgan Hill Unified School District</td>
<td>49,193.00</td>
</tr>
<tr>
<td>36</td>
<td>67777</td>
<td>Morongo Unified School District</td>
<td>96,774.00</td>
</tr>
<tr>
<td>37</td>
<td>68213</td>
<td>Mountain Empire Unified School District</td>
<td>16,305.00</td>
</tr>
<tr>
<td>53</td>
<td>75028</td>
<td>Mountain Valley Unified School District</td>
<td>4,349.00</td>
</tr>
<tr>
<td>43</td>
<td>69609</td>
<td>Mountain View-Los Altos Union High School District</td>
<td>55,033.00</td>
</tr>
<tr>
<td>07</td>
<td>61754</td>
<td>Mt. Diablo Unified School District</td>
<td>202,448.00</td>
</tr>
<tr>
<td>33</td>
<td>75200</td>
<td>Murrieta Valley Unified School District</td>
<td>48,361.00</td>
</tr>
<tr>
<td>34</td>
<td>75233</td>
<td>Natomas Unified School District</td>
<td>24,803.00</td>
</tr>
</tbody>
</table>
Section D

Department Budget Process
The Beyer Ag. Department receives an annual average of $18,000 through the Incentive Grant, ROP, and Perkins funding. At the beginning of each year the department meets to discuss program needs and which program area we should work on improving. Each year we traditionally allocate $3,000 to each full time teacher and roughly $7,000 is placed in our general department fund to pay for FFA dues, conferences, judging teams, and other incentive grant requirements. In most cases we will have $5,000 to use at the discretion of all department members. Each year we rotate this honey pot between our Ag. Mechanics, OH, and Ag. Science pathways to purchase new supplies and equipment. Any additional grants and funding pursued by any staff of the department is welcome and is the responsibility of that staff member to comply with all parameters of the funding source.
Section E

Department Chair
Responsibilities
<table>
<thead>
<tr>
<th>Department Chair Responsibilities / Activities for 2009-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organize weekly Ag. Teacher Meetings</td>
</tr>
<tr>
<td>Maintain department meeting minutes and distribute to admin.</td>
</tr>
<tr>
<td>Complete the Ag. Incentive Grant Application</td>
</tr>
<tr>
<td>Complete the Self and Advisory Committee review documents</td>
</tr>
<tr>
<td>Maintain any and all AIG documentation</td>
</tr>
<tr>
<td>Complete State Department R-2 Report and submit</td>
</tr>
<tr>
<td>Distribute R-2 Report and AIG summary to administration</td>
</tr>
<tr>
<td>Ensure Ag. Department meets all requirements of the AIG at all times</td>
</tr>
<tr>
<td>Complete and submit Specialized AIG documents as needed</td>
</tr>
<tr>
<td>Maintain Updated FFA members roster</td>
</tr>
<tr>
<td>Maintain Graduate Follow-up list and info</td>
</tr>
<tr>
<td>Maintain contact with Advisory Committee Chair and members between scheduled meetings</td>
</tr>
<tr>
<td>Develop department budget and maintain a 5 year expense plan</td>
</tr>
<tr>
<td>Complete all department travels</td>
</tr>
<tr>
<td>Complete all department trip requests</td>
</tr>
<tr>
<td>Complete any Department activity PO's, Buyouts, or check requests</td>
</tr>
<tr>
<td>Organize, Review and Assist student completion of State and American Farmer applications</td>
</tr>
<tr>
<td>Attend Record Book Grading - State and American Farmer degrees</td>
</tr>
<tr>
<td>Attend Hughson S/T CATA meeting</td>
</tr>
<tr>
<td>Attend Fall Regional Mtg CATA meeting</td>
</tr>
<tr>
<td>Attend Sectional planning meeting CATA</td>
</tr>
<tr>
<td>Attend Spring Regional Mtg CATA / FFA</td>
</tr>
<tr>
<td>Maintain School Farm and Lab facility condition in regards to weeds, soil prep, and clutter</td>
</tr>
<tr>
<td>Maintain School Farm and Lab equipment in regards to service intervals and maintenance</td>
</tr>
<tr>
<td>Organize annual student / parent fair meeting and paperwork for county fair (March)</td>
</tr>
<tr>
<td>Pick-up and distribute student Fair packets</td>
</tr>
<tr>
<td>Attend County Fair each day to manage student and other department teachers duties</td>
</tr>
</tbody>
</table>
Section F

Chart of Responsibilities
<table>
<thead>
<tr>
<th>Activities for 2008-2009</th>
<th>Rich Wolfe</th>
<th>Kristy White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly FFA Meetings</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Officer planning meetings</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Camp Syvester FFA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Back to school night FFA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Hughson S/T CATA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Softball/ Volleyball FFA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Greenhand Conf FFA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Denair COLC FFA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>MJC Open House</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>OCC Ceremonies FFA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Harvest Festival</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Road Show CATA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Fall Regional Mtg CATA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Admin/Counselor CATA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Speech/Creed/BIG FFA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>MFE/ALA FFA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Tulare Ag. Expo</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Record Book Grading FFA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Sectional planning meeting CA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Spring Regional Mtg CATA FF</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>UC Davis FFA Field Day</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Merced FFA Field Day</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Occupational Olympics</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>MJC FFA Field Day</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Fresno FFA Field Day</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>State FFA Convention</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Cal Poly FFA</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Banquet FFA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>State CATA Conf</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Stanislaus County Fair FFA</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Market Goats</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Meat and Show Rabbits</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Dairy Heifers</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Beef</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Work Experience</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Ag. Mechanics</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Landscape Plots / Floriculture</td>
<td>xx</td>
<td></td>
</tr>
</tbody>
</table>
Substitute Teacher Plans and Procedures
Substitute Plans and Instructions
You may take this binder with you to use throughout the day.
Leave it at Modesto High in the desk at the end of the day

You will be teaching:
1st period Ag. Mechanics at Beyer High,
2nd period is Prep/Driving time
3rd period Ag. Mechanics at Davis High
4th period Ag. Mechanics at Davis High
5th period lunch
6th period Prep/Driving time
7th period Ag. Mechanics at Modesto High.

1st Period at Beyer:
My parking spot is #118
Roll book is on the desk in P-91 next to this binder.
The Shop is in J-1 across the driveway.
If you have any questions, Ask Roger Dickson
Sign in at main office

Refer to included lesson plans / maps.

3rd and 4th Period at Grace Davis High
Refer to map for directions to school if needed.

Drive to the Ag. Department and park in any spot near the cattle trailer.
My office is in Room 500 where you will find my roll book on my desk.
My classroom/Shop is in 306
Natalie Sweeney, or Mark Nower in room 500 will direct you if you need help.
Sign in at main office

Refer to included lesson plans / maps.

7th Period at Modesto High
Refer to map for directions to school if needed.

Drive to the Ag. Department and park in any spot.
My Room/shop is in 71 where you will find my roll book on the desk
Scott Layne in the same room will help you if needed.
Sign in at main office

Refer to included lesson plans / maps.
SUB PLANS FOR 2/26/04

Periods 1,3,4 & 7 Lesson

Please give the Tool ID test week 19 to all periods after you take roll. It should take them 15-25 min to complete. Collect as soon as each student is done. If you want to do another activity with them, feel free. If not, show the CED Hand Tool Safety video.

If anyone misbehaves or is disrespectful write their names down and leave it in the roll book.

Special Notes:
1,3&4th periods have seating charts found in the roll book.

4th period leaves the classroom and goes into the shop at 11:15 because of an incoming class. The class is to remain in the shop until lunch at 11:29. They are not to use/turn on any equipment! If you feel it is easier to have them outside, do so. I would like a short summary of the behavior and conduct of this class, good or bad. If bad, I want names.
Section H

2 Plus 2 Articulation Agreement
MODESTO JUNIOR COLLEGE

SECONDARY-POST SECONDARY ARTICULATION
2+2 AGREEMENT

STATEMENT OF INTENT

This agreement enables students to receive college credit and/or a prerequisite waiver for course work completed at the secondary level. The granting of college credit is based on the achievement of competencies through a course or sequence of courses as defined below.

TERMS OF AGREEMENT

This agreement shall remain in force for three years but shall be reviewed for consideration or continuation at the completion of each academic year. This review will include an examination of the current course outlines and final examination. A discussion of current teaching methodologies may be required by college faculty. Either party may terminate this agreement at the close of any academic year by written notice to the MIC Articulation Officer or the principal/ROP Director of the high school.

SECONDARY INSTITUTION

Beyer High School
School/District or ROP

Agrees to certify those students who have successfully completed Small Engine Repair with a B grade or better.

COLLEGE DATA

Upon receipt of grades for students from the high school/district or ROP teacher from the above named secondary institution and completion of a fall or spring semester at Modesto Junior College, 3 units of college credit will be awarded for:

AUTEC 289/AGM 289*

PRINCIPLES OF POWER MECHANICS/SMALL ENGINES

Note: * The appropriate MJJC Agriculture/Technical Education faculty member listed on this Secondary-Postsecondary Articulation Agreement will award course credit upon completion and review. Credit will be recorded on the student’s transcript after s/he completes one semester at MJJC and completes an advanced Agriculture or Technical Education course.

Contract Date: Fall 2007 – Summer 2010
Modesto Junior College

G. Wray  11-29-07
Gerald Wray, Faculty  Date

Todd Cress  12-7-07
Todd Cress, Faculty  Date

Pedro Mendoza  12-13-07
Pedro Mendoza, Direct College Tech Ed  Date

Mark St. Angelo  12-17-07
Mark St. Angelo, Dean  Date

Peggy Kroll  1-7-08
Peggy Kroll, Director Early College/ Tech Prep 2+2

Beyer High School

Rich Wolfe  12-17-07
Rich Wolfe, Faculty  Date

Kevin Salazar  12-17-07
Kevin Salazar, Principal  Date

Rodney Ough  12-17-07
Rodney Ough, Director School to Career  Date
Section I

Reimbursement for Personal Expense Documents
**MODESTO CITY SCHOOLS**

**Travel Request Form**

**INSTRUCTIONS**

1. I understand this is the form to be used for all trips awarded by the school district. Permission must be secured before the trip is made.
2. All original receipts must be submitted in order to qualify for reimbursement.
3. I understand that my claim for reimbursement must be signed below.
4. Advances will be limited to 80% of total estimated expenses and must be for a minimum of $50.00.
5. I understand that surplus funds remaining from any travel advances will be submitted with the final claim form to the Business Office. Otherwise, the Business Office is hereby authorized to deduct the amount of the excess advance from my earnings.
6. I understand that the District reserves the right to limit the number of participants for any single trip or conference. Approval of request is conditional upon the availability of substitutes.
7. I am willing to prepare a brief summary to be shared with the staff members who would benefit from my experiences.
8. Refer to AR2335 for further clarification.

---

**June 21 through 27, 2009**

**DESCRIPTION OF TRIP - ATTACH AGENDA OR ACTIVITY ANNOUNCEMENT**

CATA Annual Conference

**REASON FOR TRIP - PLEASE STATE HOW THIS TRIP RELATES TO SCHOOL OBJECTIVES**

Ag. Incentive Grant Requirements

---

**ESTIMATE EXPENSES**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DATE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(P) HOTEL</strong></td>
<td>3/13/09</td>
<td>621.60</td>
</tr>
<tr>
<td><strong>(Q) REGISTRATION</strong></td>
<td>3/13/09</td>
<td>365.00</td>
</tr>
<tr>
<td><strong>(R) FOOD (MAXIMUM PER DAY - $40.00)</strong></td>
<td>4 days</td>
<td>160.00</td>
</tr>
<tr>
<td><strong>(S) BREAKFAST</strong></td>
<td></td>
<td>10.00</td>
</tr>
<tr>
<td><strong>(T) LUNCH</strong></td>
<td></td>
<td>11.00</td>
</tr>
<tr>
<td><strong>(U) DINNER</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Advance Payments**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DATE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality Suites</strong></td>
<td>1631 Monterey St. San Luis Obispo, CA 93401</td>
<td></td>
</tr>
<tr>
<td><strong>CATA</strong></td>
<td>PO Box 834 Elk Grove, CA 95759-0834</td>
<td></td>
</tr>
</tbody>
</table>

**Max. & VISA Initiate**

---

**FUNDING APPROVAL**

**TRAVEL**

- SCHOOL CAR
- DISTRICT CAR
- PRIVATE AUTO
- PUBLIC CONVEYANCE

**SUPERINTENDENT DESIGNEE**

---

**MILEAGE**

<table>
<thead>
<tr>
<th>MILEAGE</th>
<th>RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 Actual miles to be measured after trip</td>
<td></td>
</tr>
</tbody>
</table>

**ACCOUNTING DEPARTMENT USE ONLY**

**PREPAID**

- EXPENSE ADVANCE
- HOTEL DEPOSIT
- PUBLIC CONVEYANCE
- REGISTRATION

---

**I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT STATEMENT OF EXPENDITURE FOR THE PURPOSE INDICATED ABOVE**

**SIGNED**

[Signature]

**DATE**

---

**ACC-01**

White: Canary: Accounting
Pink: Funding Source
Goldenrod: Originator
Rev - 6/16/04
**ASSOCIATED STUDENTS**
**FRED C. BEYER HIGH SCHOOL**
1717 SYLVAN AVENUE
MODESTO, CA 95355

Payee: Rich Wolfe
429 California St.
Escalon, CA 95320

DATE SUBMITTED: 7-21-08
DATE NEEDED: ______________
MAIL CHECK TO PAYEE ______________
RETURN CHECK TO CLUB ______________

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION / INVOICE NUMBER</th>
<th>UNIT COST</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FFA officers retreat 7-1-08</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WinCo Food &amp; Supplies</td>
<td>302.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MID Mclure Lake entry 2das</td>
<td>24.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Household Rental &amp; Services</td>
<td>250.00</td>
<td></td>
</tr>
</tbody>
</table>

SPECIAL INSTRUCTIONS

<table>
<thead>
<tr>
<th>ACCOUNT NUMBER</th>
<th>ACCOUNT NAME</th>
<th>AUTHORIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>590</td>
<td>FFA</td>
<td></td>
</tr>
</tbody>
</table>

ADVISOR: Rich Wolfe
PURCHASE ORDER #: 14632
CHECK NUMBER: 14632 DATE PAID: 8/1/08

AUTHORIZED DISTRICT EMPLOYEE: __________________________
STUDENT REPRESENTATIVE: __________________________
CERTIFIED ADVISOR: __________________________

Associated Student Body
Request for Purchase Order/Payment
PLEASE ALLOW TWO WEEKS FOR PURCHASE ORDERS AND CHECK PROCESSING

576.22
Payee: Rick Wolfe

Associated Student Body
Request for Purchase Order/Payment
PLEASE ALLOW TWO WEEKS FOR PURCHASE
ORDERS AND CHECK PROCESSING

DATE SUBMITTED: 10/15/08
DATE NEEDED: 
MAIL CHECK TO PAYEE 
RETURN CHECK TO CLUB 

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION / INVOICE NUMBER</th>
<th>UNIT COST</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Opening / Closing Competitions</td>
<td>25.73</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coffee Grapes / Camp Greens</td>
<td>25.00</td>
<td></td>
</tr>
</tbody>
</table>

SPECIAL INSTRUCTIONS

TAX
SHIPPING
TOTAL 53.73

ACCOUNT NUMBER: 590
ACCOUNT NAME: FFA

ADVISOR
PURCHASE ORDER #: 11723
CHECK NUMBER: 11723
DATE PAID: 10/15/08

AUTHORIZED: 
STUDENT REPRESENTATIVE: 
CERTIFIED ADVISOR: 
AUTHORIZED DISTRICT EMPLOYEE: 
Section J

Calendar of Activities
Calendar of Activities

September:
School Holiday~7th
Harvest Luncheon~11th
Camp Sylvester~11th, 12th, & 13th
FFA Meeting~16th
Back To School Night~17th
Greenhand Conference~24th

October:
COLC~3rd & 4th
Opening and Closing Competition~13th
FFA Meeting~14th
National Convention~18th-27th
End of First Quarter~23rd
Harvest Festival~30th

November:
School Holiday~11th
FFA Meeting~18th
Thanksgiving Break~26th & 27th

December:
FFA Meeting~9th
Winter Break Begins~21st

January:
Winter Break Ends~3rd
FFA Meeting 6th
Semester Finals~13th, 14th, 15th
End of Second Quarter~15th
School Holiday~18th
BIG Speech Competition~28th
MESAAL~28th & 30th
February:
Tri-Tip Dinner~4th
School Holiday~12th & 15th
FFA Meeting~17th
Central Region Meeting~27th

March:
Open House~2nd
UC Davis Field Day~6th
FFA Meeting~17th
State Degree Ceremony~18th
Merced Field Day~20th
End of Third Quarter~22nd
MJC Field Day~27th

April:
Spring Break Begins~2nd
Spring Break Ends~11th
FFA Meeting~14th
Fresno Field Day/State Finals~17th
State Conference~17th, 18th, 19th, & 20th

May:
State Finals San Luis Obispo~1st
FFA Meeting~12th
Banquet~13th
School Holiday~31st

June:
Finals~1st, 2nd, & 3rd
Last Day of School~3rd