Master Of Agriculture Education

AGED 539

West High Bakersfield

LYNN TRENTHAM

Winter 2017
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Part I:
Quality Criteria
Reflection
Quality Criteria One

Curriculum and Instruction

The West High School Agriculture Department has been designed to meet the needs of a diverse population of learners. With multiple courses offered we prepare students for further education, multiple career opportunities, and becoming productive members of our society. All of the students that are enrolled in an agriculture class must participate in FFA activities and have an SAE record book for each year that they are in an Ag class. Currently there is one pathway that students can take.

Students take the Soil Science class as a freshman. Agricultural Soil Science is a one-year physical science course for the college-bound students who are interested in agriculture. The course explores soil composition and chemistry. This course is taught by demonstrating the relevance of agriculture to the student’s lives and the environment they live in. This course is the entry-level class for our students since it is directed towards the incoming freshman. This class meets the high school graduation Physical Science requirement and the UC A-G List Area D. After Ag Soil Science the students move to the Agriculture Biology class.

Ag Biology is a one year life science course that will teach students the molecular and cellular aspects of life, the chemical and structural basis of life, genetics of life, growth and reproduction in plant and animals, genetic ecological relationships among plants, animals, humans and the environment, nutrition in animals, health and diseases in animals and the similarities between animals and humans. This course is the second course that students will take in the agriculture pathway. This course is directed towards
sophomores after they have taken Agriculture Soil Science. This class meets the high school graduation Life Science requirement and additionally meets the UC Lab Science area “d”.

As juniors students take Floral Design as their Agriculture class. This course counts towards graduation credit as well as meets UC approval in the area of Fine Arts. The Art and History of Floral Design provides an introduction to artistic and creative perception including aesthetic valuing through a series of projects in various media including tempera, pencil, flowers, tile, and a variety of papers. Students are also introduced to the elements and principles of visual art design such as line, shape/form, color, balance, and emphasis using a series of floral-based projects to explore the connections, relations, and application to visual arts design. Students will research and study floral trends to understand and develop an appreciation for floral design within historical and cultural, formal and casual, ceremonial and traditional, including an understanding that floral designs are affected by society, culture, history, politics, and economic influence. Various assignments based on abstract two and three dimensional designs, historical culture and theory, color theory, and analytical critiques of various floral art works using design vocabulary in conjunction with development of technical skills in floral art will serve as a foundation for more complex works such as multi-part floral designs and creative expression through wedding consultations.

All courses in the Agriculture Program at West High School are year-long, which allows sufficient time for students to become proficient in that subject matter. In addition to the content matter taught, students are taught record book keeping through both the iRecord book and AET. At West High School technology is of utmost importance. The
school has purchased over 40 Chromebook carts and almost every teacher has their own chart in their room. The Agriculture department has a chrome book cart of their own to allow our students to utilize Google Classroom and become more of a technology-based classroom. I believe it is important to utilize technology in the classroom to help better prepare our students for their future. Students are also taught about different careers they can pursue within the field they are interested in and are required to complete a lesson on investigating agriculture careers.
Quality Criteria Two
Leadership and Citizenship Development

The West High School FFA Program was originally charted in 1967 and was one of the largest chapters in Kern County. The program was sadly closed in the mid 1980's. The current admin saw that they were lacking in career technical opportunities at West High School and decided to bring the program back. I was hired in spring 2015 and our FFA charter was re-established at the 88th California FFA State Conference.

Currently, seven chapter officers and I run the West FFA chapter. We have attended the San Joaquin Officer Boot Camp the last two summers and hope to have an officer retreat this coming summer to plan our coming year and help with team bonding.

Every student in an Ag class has the opportunity to participate in many FFA activities which are included in, but not limited to the list of activities from the FFA activities check sheet. In each class FFA participation is at least 10% of their total grade and each student and parent/guardian signs a syllabus that list the grading criteria including the FFA requirement. Students are required to participate in at least three approved FFA activities per semester. These activities can be monthly chapter meetings, chapter events, above chapter activities, and community service that the FFA chapter participates in. Students are required to sign in at the activities to ensure they will be awarded their points and must stay for the entire meeting portion. The FFA activities for the students are maintained in a database awarding the students a point for each activity. The points are then published periodically and included in the grades during each semester grading period. Those students who received above their required amount are
given extra credit for overreaching their minimum goal. We plan to award the top 12 students in the program by taking them on a Top 12 trip. Those Top 12 students will have the highest number of activities and will be awarded a trip during the summer months.

The students enrolled in any agriculture class are required to start a Supervised Agricultural Experience project and to keep record of it in the California FFA Record Book. Our school is now in central Bakersfield and most of our students do not have an agriculture background. This makes it difficult for the students to have an SAE project. It is also, only our second year and we are working to provide more SAE opportunities as we become more established. We had 2 students show livestock at the Kern County Fair this past year and both were able to keep their animals at their houses. If students would like to raise livestock for the fair they have to have an area they can keep the animal or keep the at the district farm which is about seven miles from West High School.
Quality Criteria Three

Practical Application of Agricultural Skills

Students in the West High School agriculture program are given many opportunities to develop practical application of agricultural skills. Students in all agriculture classes are required to prepare and present speeches and presentations. Students in floral design learn hands-on skills to developing arrangements and price arrangements. Students also have many opportunities to participate in a variety of Career Development Events.

As it is only our second year restarting a program from scratch, this is an area we are continuing to work on. There are not many SAE opportunities for our students at this point in time and we are working to provide more. The admin on campus and I have been working to find a space for a small farm on campus and we will be getting a greenhouse soon as well. As we continue to grow our program and gain support we hope to be able to offer more and more opportunities to our students.
CALIFORNIA DEPARTMENT OF EDUCATION

AGRICULTURAL EDUCATION

INCENTIVE GRANT CHECKLIST

SCHOOL  West High School                DATE 10/12/2015
AG DEPARTMENT CHAIR  Lynn Trentham

QUALITY CRITERIA 1 - 9

Failure to meet any part of a Quality Criteria may result in the loss of 10% of the incentive funds up to a maximum of 25%.

Loss of funds can be avoided with an approved variance request which may be granted for one year on any Quality Criteria 1-9.

QUALITY CRITERIA 10, 11 or 12

Failure to meet either Quality Criteria 10, 11 or 12 (when applied for) will result in the loss of the funds applied for in that criteria.

Department Head Signature

Advisory Committee Chairperson Signature (for programs conducting Advisory Committee Reviews)

Regional Supervisor Signature

Advisory Committee Chair Contact information

Name  Christine Dixon
Address
City
Phone  661-619-4146
Zip

Revised 1/10
# Incentive Grant Checklist

## 1. Curriculum & Instruction

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>X</td>
<td></td>
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<td>X</td>
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</table>

**1A.** The curriculum includes the components required under Section 52454 of the Education Code: organized classes in the study of agriculture science and technology; student supervised agricultural experience; and a program of leadership, organization and personal development.

**1B.** The Career Technical Education Model Curriculum Standards for the Agriculture and Natural Resources Industry Sector are the basis for content of courses offered. Curriculum addresses "Foundation" and "Pathway" standards within the program pathway(s) and course sequences.

**1C.** Career paths in agriculture have been identified and can be found on a chart or diagram in the Program Plan. (Foundation Standard 3.0)

**1D.** The school master schedule allows students to follow the recommended sequence of agriculture courses to complete the selected career path(s).

**1E.** Agriculture Career Awareness information is included in every course. (FS 3.1, 3.2)

**1F.** The agriculture department utilizes computer hardware and software as an instructional tool. (FS 4.2, 4.6)

**1G.** The agriculture curriculum includes the use of computer aided instruction by utilizing at least one of the following: (FS 4.2, 4.6)
- Computerized Record Book
- Agriculture Term Paper
- Job Resume
- Portfolio Letter of Introduction
- Agriscience Fair Report
- Agriculture/FFA Speech Manuscript
- Job Cover Letter
- Other Agriculture Related Project

**1H.** Recordkeeping is taught in all agriculture classes. Every student maintains and completes (closes out) either an actual SAE Project or Mock Problem. (FS 10.3, 11.0)

**1I.** Record books of all students are maintained in the Department files until one year following graduation.

**1J.** Agriculture courses have been submitted to meet high school graduation requirements and/or University of California a-g credit.

## 2. Leadership & Citizenship Development

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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<tr>
<td>X</td>
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<td>X</td>
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</table>

**2A.** An FFA Chapter has been chartered by the State Association or has been applied for.

**2B.** A Chapter Program of Work is developed annually and a copy is furnished to the Regional Supervisor by December 15th.

**2C.** Every student is given a grade based upon participation in leadership activities.

**2D.** All students enrolled in agriculture classes are affiliated with the State FFA Association.

**2E.** Based on previous year's records, the department participated in a minimum of 12 activities as listed on the FFA Activities Check Sheet. (Attached)
2F. A minimum of 80% of the students participate in at least three leadership development activities annually as verified by department records. Activities could include any three of the following intra-curricular activities: (FS 7.0, 9.1, 9.2, 9.3, 9.6, 10.1)
* Local Best Informed Greenhand Contest
* Local Opening & Closing Contest
* Local Program of Work Committee(s)
* Local Agriscience Fair Exhibition
* Local Parliamentary Procedure Contest
* Any Section, Region, or State Activity
* Local Creed Speaking Contest
* Local COOP Quiz Contest
* Local Demonstration Fair
* Local Public Speaking Contest
* Chapter Meeting or Activity
* Other Local Activities

3. PRACTICAL APPLICATION OF AGRICULTURAL SKILLS

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>3A. Student participation in Supervised Agricultural Experience (SAE) is part of the grading criteria for every agriculture student in the program. (FS 10.2)</td>
</tr>
<tr>
<td>X</td>
<td>3B. First year students have either been engaged in a SAE project(s) or have a plan in place for a SAE, as verified by the Student Data-Career Plan (FS 10.2, 10.3)</td>
</tr>
<tr>
<td>X</td>
<td>3C. A minimum of 80% of continuing students are engaged in SAE project(s) as verified by Department records. (FS 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0)</td>
</tr>
<tr>
<td>X</td>
<td>3D. Students with SAE projects are visited by their agriculture teacher at least twice per year as documented by Department records.</td>
</tr>
<tr>
<td>X</td>
<td>3E. A school vehicle is readily available to each agriculture teacher for all SAE activities associated with the program, or each teacher is adequately compensated for using their own personal vehicle.</td>
</tr>
</tbody>
</table>

4. QUALIFIED & PROFESSIONAL PERSONNEL

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>4A. Every agriculture teacher has the appropriate credential for teaching the subject(s) assigned. Copy of authorizing credential(s) is in the Comprehensive Program Plan.</td>
</tr>
<tr>
<td>X</td>
<td>4B. Based on the previous year’s records, every agriculture teacher, teaching at least ½ time agriculture, attends a minimum of four professional development activities: (Complete attachment).</td>
</tr>
<tr>
<td>N/A</td>
<td>4C. The agriculture staff meets a minimum of twice a month. (This criteria does not apply to single person departments - mark column N/A = Not Applicable)</td>
</tr>
<tr>
<td>N/A</td>
<td>4D. A written record of minutes is kept of action taken during agriculture staff meetings and is kept in Department files or the Comprehensive Program Plan. (This criteria does not apply to single person departments - mark column N/A = Not Applicable)</td>
</tr>
<tr>
<td>X</td>
<td>4E. Teachers are reimbursed for personal expenses they incur while participating in all approved integral activities associated with FFA, SAE, and professional CATA in-service activities.</td>
</tr>
</tbody>
</table>

5. FACILITIES, EQUIPMENT & MATERIALS

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>5A. Modification of facilities and equipment has occurred when necessary, based on the needs of students, including special populations.</td>
</tr>
<tr>
<td>X</td>
<td>5B. There is adequate storage space for materials, records, equipment and supplies.</td>
</tr>
</tbody>
</table>
|   | 5C. At least one of the below listed community or school-based laboratory facilities has been provided to accommodate students who have no place for their SAE project(s):
|   | * School Farm Laboratory
|   | * Growing Area
|   | * Greenhouse
|   | * Agriculture Shop
|   | 5D. The Agriculture Department has E-Mail capabilities.
|   | 5E. The reviewer verifies by visual observation that the agriculture facilities are neat, clean, and orderly.
|   | 5F. Facilities and equipment are regularly maintained, repaired, or replaced.

### 6. COMMUNITY, BUSINESS AND INDUSTRY INVOLVEMENT

|   | Yes No
|---|---
| **X** | 6A. The Advisory Committee is operational and reflects the committee membership as outlined in the "Aggricultural Education Advisory Committee Manual".
|   | 6B. The Agricultural Advisory Committee meets at least twice each year. (Minutes are available to verify meetings.)
|   | 6C. The Agricultural Advisory Committee has assisted in the development or revision of the following components of the Comprehensive Program Plan, as evidenced in the Ag. Advisory Committee minutes
|   | * Job Market Description
|   | * Total Program Goals & Objectives
|   | * Course Subject Matter Outlines
|   | * 5 Year Facility & Equipment Acquisition
|   | * Graduate Follow Up
|   | * Targeted Occupations
|   | * Program Description - Courses, SAE, FFA
|   | * Program Completion Standards
|   | * Current Year Budget
|   | * List of Active placement Sites
|   | 6D. The contact information of the Advisory Committee Chair has been provided on the cover of this checklist

### 7. CAREER GUIDANCE

|   | Yes No
|---|---
| **X** | 7A. Students are counseled regarding: (FS 3.0)
|   | * Career opportunities in Agriculture and Agribusiness
|   | * Agriculture and academic courses necessary to complete career pathway offerings
|   | * Post-secondary education and training options.
|   | 7B. All students have a completed career plan (Student Data Sheet) and it is updated annually. (FS 3.3)
|   | 7C. Efforts have been made, or completed, to articulate with Community Colleges and/or Universities (i.e., 2+2+2 articulation agreements).

### 8. PROGRAM PROMOTION

|   | Yes No
|---|---
| **X** | 8A. An Agricultural Education program recruitment brochure or similar document is used to promote the program.
|   | 8B. Students have alternative means of overcoming financial barriers to participate in program activities. (Includes FFA, SAE, Leadership Activities.)
|     | 8C. The Agriculture Department conducts recruitment activities with local feeder schools. |
9. PROGRAM ACCOUNTABILITY & PLANNING

<table>
<thead>
<tr>
<th>Yes No</th>
<th>9A. A Comprehensive Program Plan is on file with the Regional Supervisor and a copy is retained in the local department files.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9B. Updates of the Program Plan are sent to the Regional Supervisor by November 15th. These updates include: (1) Five Year Equipment Acquisition Schedule; (2) Chart of Staff Responsibilities; (3) FFA Program of Work; (4) Advisory Committee Roster; and (5) Advisory Committee Minutes.</td>
</tr>
<tr>
<td></td>
<td>9C. A follow-up system is used which gathers the following information from program * Status of employment or school enrolled within * Opinion regarding the value and relevance of the agriculture program * Suggestions for improving the agriculture program</td>
</tr>
<tr>
<td></td>
<td>9D. The Graduate Follow Up data collected was entered with the On-line R2/FFA Roster Data Entry by October 15th.</td>
</tr>
<tr>
<td></td>
<td>9E. The Agriculture Department analyzes their student retention numbers each year and develops strategies to help increase retention within the program.</td>
</tr>
<tr>
<td></td>
<td>9F. The R-2, AIG Expenditure Reports, and FFA Roster have been received by the Regional Supervisor and/or State FFA Financial Coordinator on or before October 15th.</td>
</tr>
</tbody>
</table>

QUALITY CRITERIA 10, 11and 12 MUST BE SCORED DURING THE REVIEW PROCESS. HOWEVER, SCORES WILL ONLY COUNT IF THESE CRITERIA HAVE BEEN APPLIED FOR VIA THE AGRICULTURE INCENTIVE GRANT APPLICATION.

<table>
<thead>
<tr>
<th>Yes No</th>
<th>10A. Shop and laboratory-based classes have no more than 20 students enrolled. Classroom-based classes have no more than 25 students enrolled.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10B. The total number of students enrolled in agriculture classes does not exceed 75 students per teacher. First year students enrolled in agriculture courses will be counted as .5 for purpose of determining the total count only. (This does not pertain to class size.)</td>
</tr>
</tbody>
</table>

11. FULL YEAR EMPLOYMENT

<table>
<thead>
<tr>
<th>Yes No</th>
<th>11A. A full-time equivalent teacher is employed year-round for each 75 students enrolled in the agriculture program and is compensated no less than $2000.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11B. During the school year, one teaching period for Supervision is assigned to each agriculture teacher. This project supervision period is in addition to the preparation period normally assigned to all teachers in the school. This requirement may also be met if a period is not available by financially compensating the agriculture teacher(s) at the equivalent cost of providing one period for supervision.</td>
</tr>
</tbody>
</table>

12. PROGRAM ACHIEVEMENT

<p>| Yes No | 12A. The Agriculture Program meets the requirements of Program Achievement (attach checklist) |</p>
<table>
<thead>
<tr>
<th>LEADERSHIP ACTIVITY</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attended State Leadership Conference</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Attended Regional Meeting</td>
<td></td>
<td>X</td>
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<tr>
<td>Attended Regional Leadership Conference</td>
<td></td>
<td>X</td>
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<tr>
<td>Attended Greenhand Conference</td>
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<td>X</td>
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<tr>
<td>Attended Made for Excellence Conference</td>
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<td>X</td>
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<tr>
<td>Attended Advanced Leadership Academy</td>
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<td>X</td>
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<tr>
<td>Attended Sacramento Experience</td>
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<td>X</td>
</tr>
<tr>
<td>Participated in Opening-Closing Contest - Sectional</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Participated in Best Informed Contest - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in Parliamentary Pro Contests - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in Prepared Public Speaking - Sectional</td>
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<td>X</td>
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<tr>
<td>Participated in Extemporaneous Speaking - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in Creed Recitation - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in Job Interview Contest - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in Agricultural COOP Quiz Contest - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Submitted State FFA Degree Application</td>
<td></td>
<td>X</td>
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<tr>
<td>Submitted American FFA Degree Application</td>
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<tr>
<td>Submitted Proficiency Application - Sectional or Regional</td>
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<td>X</td>
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<tr>
<td>Submitted Chapter Award Application - Sectional or Regional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in Project Competition - Sectional</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in any FFA Judging Activity (other than above)</td>
<td></td>
<td>X</td>
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<tr>
<td>Participated in any other FFA Sectional Activity</td>
<td></td>
<td></td>
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<tr>
<td>Participated in Local Leadership Activities (3 maximum - list below)</td>
<td></td>
<td></td>
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<tr>
<td>Sectional Skate Night</td>
<td></td>
<td></td>
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<tr>
<td>Sectional Elections</td>
<td></td>
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<tr>
<td>COLC</td>
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<tr>
<td>TOTAL AREAS MET</td>
<td>16</td>
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INCENTIVE GRANT IN-SERVICE ACTIVITIES DOCUMENTATION

CRITERIA 4.B

School Year

School West High School

Based on the previous year's record, every agriculture teacher, teaching at least ½ time agriculture, attends a minimum of four of the following professional development activities:

Qualified and Competent Personnel

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>TEACHERS NAMES</th>
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</thead>
<tbody>
<tr>
<td>Fall Region Meeting</td>
<td>X</td>
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<tr>
<td>Region In-service Day</td>
<td>X</td>
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<tr>
<td>Spring Region Meeting</td>
<td>X</td>
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<tr>
<td>Section In-service*</td>
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<tr>
<td>Section In-service*</td>
<td>X</td>
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<tr>
<td>Section In-service*</td>
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<tr>
<td>Section In-service*</td>
<td>X</td>
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<tr>
<td>Summer Conference</td>
<td>X</td>
</tr>
<tr>
<td>University AgEd Skills Week</td>
<td>X</td>
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<tr>
<td>Professional Development **</td>
<td>X</td>
</tr>
</tbody>
</table>

* Four Section In-service Meetings equals one Professional Development Activity

** Can utilize a maximum of two other "Agriculturally Related" Professional Development activities than those listed above. Explain the Professional Development:

1. Masters classes at Cal Poly
2. America Institute of Floral Design National Symposium - workshops and classes
3. California Floral Design Workshop in Sacramento

4. 

5. 
CALIFORNIA DEPARTMENT OF EDUCATION  
AGRICULTURAL VOCATIONAL EDUCATION INCENTIVE GRANT  
QUALITY CRITERIA 12

<p>| | |</p>
<table>
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<tbody>
<tr>
<td></td>
<td>Number of Students on Last Year's R-2 Form</td>
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<tr>
<td><strong>12A. Curriculum and Instruction</strong></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Number of UC Approved Agriculture Courses (must be at least one)</td>
</tr>
<tr>
<td><strong>12B. Leadership and Citizenship Development</strong></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Number of activities on the approved FFA activity list which the local chapter participated in (must participate in at least 80% of the activities).</td>
</tr>
<tr>
<td><strong>12C Practical Application of Occupational Skills</strong></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Number of students who received the State FFA Degree (must be at least 5% of the R-2 number)</td>
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<tr>
<td><strong>12D Qualified and Professional Activities</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Number of teachers who attended a minimum of 5 professional inservice activities (must attach approved Inservice Activities Verification Page)</td>
</tr>
<tr>
<td><strong>12E Community, Business and Industry Involvement</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Number of meetings held by the local Agriculture Advisory Committee (must meet at least 3 times with minutes attached)</td>
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<tr>
<td></td>
<td>Name of Agriculture Advisory Committee Chair</td>
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<td>Phone Number of Ag. Advisory Committee Chair</td>
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<tr>
<td><strong>12F Retention</strong></td>
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<tr>
<td>n/a</td>
<td>Number of students who were in their 3rd and 4th year of agriculture instruction (must be at least 25% of the R-2 number)</td>
</tr>
<tr>
<td><strong>12G Graduate Follow-Up</strong></td>
<td></td>
</tr>
<tr>
<td>n/a</td>
<td>Number of program completers graduating last year.</td>
</tr>
<tr>
<td></td>
<td>Number of those who graduated who are employed in agriculture, in the military, or continuing their education (must be at least 75% of the program completers) Attach graduate follow-up</td>
</tr>
<tr>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>
Quality Criteria Four

Qualified and Professional Personnel

I am currently the only Agriculture instructor at West High School. I am a probationary employee currently enrolled in the Kern High Induction Program (KHIP) program waiting for my clear credential. I will be completing my tenure status at the end of this year. I am qualified and competent, as I hold a valid California Agriculture Specialist Credential along with a Single Subject Agriculture Credential that allows me to teach agriculture classes. One requirement to receiving these credentials is a completion of a minimum of 3,000 hours of occupational work experience in the area of agriculture.

I have made an effort to improve the quality of instruction through the use of a variety of teaching techniques, methods, and strategies. The use of technology in the classroom has been a continuous improvement to the learning environment by recently incorporating Chrome books and Google Classroom into the classroom. The technology allows me to utilize a variety of teaching tools and strategies to help students learn in a more comfortable environment, and it helps to differentiate for all student’s needs.

Worked into the high school schedule, every Monday is an early out for students where the staff meet in Professional Learning Community (PLC) groups to discuss ideas for assignments, the pacing schedule and tests.

I am an active member of the CATA and receive career development specific to agricultural education. I attend the fall and spring regional meetings, the CATA Summer Conference, and the Road Show. All of these events are dedicated to educational workshops that encompass the three circles of agricultural education and collaboration.
with other people in the agricultural industry. Upon prior approval, the Kern High School District will reimburse the professional development costs including registration, hotel, and $40/ day for meals. The Ag truck is available for transportation and if we need to use personal vehicles, mileage may be reimbursed.

In addition to professional development provided by PLC's and CATA, the Kern High School District provides educational workshops and KHIP workshops.
Quality Criteria Five

Facilities

Facilities and equipment have been modified to meet the needs of the agriculture program. In the last year I have had my classroom painted, a display cooler installed in my room along with drainage for condensation, cabinets for storage, sinks along with drainage and running water, had a C-train brought in for storage, and had a 10ft x 10ft walk-in refrigerator installed. We hope to continue to improve our facilities by getting more storage cabinets and having an on campus farm area with greenhouse within the next year.

The majority of our agriculture students can function without the need of additional modifications. However, if there are students who need special accommodations changes can be made. We have many students with IEP’s and modifications are made to support these students to make sure they succeed.

All staff have district emails and have access to their e-mail through Microsoft Outlook. This program is installed on every school computer or laptop. District e-mail can be accessed anywhere you have a connection to the internet, simply by logging in with the proper information.

Agriculture teachers are responsible for keeping their area of interest neat and clean for the public eye. The maintenance staff hired by the Kern High School District is responsible for all upkeep of our classrooms.
Quality Criteria Six

Community, Business, and Industry

Development

Community support is a vital part to an agriculture program. All aspects of our program are successful due to those community members who donate their time to make our program run. One of the first things I did when I started at West High School was form an advisory committee. There are many past students who graduated in the 70’s, when they first had an agriculture program, who have pursued careers in agriculture and have been great assets in forming an advisory committee. This committee includes community members within the agriculture industry, ROP program coordinators and agriculture teachers. The Ag Advisory Committee will meet at least twice a year to discuss what assistance the agriculture program is in need of. Our advisory committee chairperson is Christine Dixon, a graduate of West High School and a retired ag teacher.
Quality Criteria Seven

Career Guidance

As an Agriculture program I believe that career guidance and preparation is very important. In each of the courses taught, students are taught career opportunities based on the current course of study. I believe in talking about careers as early on as the student’s freshmen year to get them to start thinking about their future.

Every student enrolled in our agriculture classes completes student data sheets every year. Students now receive a code to enter all of their data in the online program set up by the State FFA. Even if the student has filled one out in the past, they are required to update it in case their goals have changed. Student information is automatically updated once they submit their online form. The information can then be accessed by me on calaged.org.

Currently, our agriculture department does not have any articulation agreements between Community Colleges. Other programs in our district have paved the way for this to happen and we should have our floral design course articulated with Bakersfield College next year.
Quality Criteria Eight

Program Promotion

Program promotion is a major focus for me at West High School. The first year I was here I had to go out and recruit students for my classes as I was only teaching 2/5ths of the day. I was able to go from 2/5ths to 4ths.

Many people (even staff) still are not aware of our program. We are working on doing more on campus to promote servant leadership as well our program. Last year I worked hard to promote our program to incoming freshman. Our school hosts two different events for 8th graders that will be coming to West. The first is a “carnival” they invite all 8th graders to come and check out all the different programs/clubs that are available and students are then able to sign up and talk to current students about each club. We set up a booth for the carnival and have current students from our program at our booth to talk to the incoming students and their parents. We also have a brochure we pass out at the “carnival” and send with our counselors when they visit the surrounding middle schools. I also go to the freshman registration night and register freshman for their classes for the following year and encourage them to take agriculture soil science as their freshman science course. Next year we hope to implement more opportunities for freshman in particular.

In terms of social media, West FFA primarily uses Facebook, Instagram, and Snap Chat for program promotion. The advisors as well as the chapter Reporter manage these three social media platforms. The Reporter has gone through media training to
ensure that all of their hashtags, captions, images, and other postings are appropriate and representing West FFA in the best way.

Utilizing social media is a huge advantage to our program considering this day and age with smart phones and the huge interest in social media. We are able to tag students in postings, which allows us to recognize them in their accomplishments, engage parents in what’s going on with the program, and is very successful in reminding students of upcoming activities.

I have begun working on a West FFA web site and hope to have it up and running before the end of the school year. The website will allow potential members to find out more information about the program and highlight student success. It will allow parents to see our calendar of events and keep students up to date on the on goings of our chapter.
Quality Criteria Nine

Program Accountability and Planning

Currently the West High School agriculture Department does not have a comprehensive program plan. This is something that is currently being developed.
Quality Criteria Ten

Student- Teacher Ratio

Student to teacher ratio is a difficult criterion for our program to maintain as it is for most departments in California. The goal is to have 20 students maximum in a shop class and 25 students maximum in other classes but unfortunately it is not realistic. As the continued growth of the school and our program, our numbers are quite high when comparing to what the goal is.

As a new program our administration wants to see a hefty interest in our program. For this reason I have been encouraged to keep numbers high in all of my classes. Every class period is over the 25 maximum and because of this we have lost incentive grant funds this year. Before school started my floral class had 40+ students enrolled and is now down to 36. This is a very difficult class to teach with so many students and it is expensive supplying every student with the necessary materials for projects. The science classes are also over the 25 max ranging in enrollment from 29 students to 37 students and they were all higher at the beginning of the school year. In total there are 150 members in the Agriculture program at West high operating under one advisor.
Quality Criteria 11

Full Year Employment

I am employed year-round. I receive an 11-month contract. I do not receive an allotted project supervision period but during the summer, I receive a 36-day contract to allow me to supervise our animal projects for the Kern County Fair and plan our events with the chapter officers. To keep track of my hours in the summer I am responsible for filling out time cards for our school secretary to input into the district system and submit a calendar with projected days I will be working before summer begins.
EFFECTIVE JULY 1, 2015
Reflects 3% Increase

<table>
<thead>
<tr>
<th>STEP</th>
<th>CLASS I</th>
<th>CLASS II</th>
<th>CLASS III</th>
<th>CLASS IV</th>
<th>CLASS V</th>
<th>CLASS VI</th>
</tr>
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<tbody>
<tr>
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<td>WITH MASTERS</td>
<td>WITHOUT MASTERS</td>
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<td>91,618</td>
<td>93,609</td>
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<td>85,928</td>
<td>(Available only after 22 years of qualified educational service)</td>
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<td>88,701</td>
<td>91,618</td>
<td>(Available only after 27 years of qualified educational service)</td>
<td>   </td>
<td>   </td>
<td>   </td>
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<tr>
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<td>93,609</td>
<td>101,126</td>
<td>(Available only after 32 years of qualified educational service)</td>
<td>   </td>
<td>   </td>
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</tr>
</tbody>
</table>

**PLEASE NOTE:** This schedule will take effect on:

1. The minimum annual salary paid an employee (Class I, Step 1, W/O a master's degree) will be: 
   $47,168
   July 1, 2015
2. All requirements for the class shall have been satisfied by the employee as of:
   September 1, 2015
3. To be eligible for a step placement, an employee must have had the required yrs of experience as of:
   September 1, 2015
4. Steps 14, 15, 16 and 17 are awarded on basis of qualified educational service.
2015-2016 SALARY SCHEDULE FOR CERTIFICATED EMPLOYEES

CLASS I
(a) Bachelor's degree; or
(b) Appropriate credential (partial fulfillment or preliminary).

CLASS II
(a) Bachelor's degree, plus thirty (30) approved semester units; or
(b) Appropriate clear credential; or
(c) Appropriate clear vocational credential in Trades and Industry.

CLASS III
(a) Appropriate clear credential, plus forty-five (45) approved semester units beyond bachelor's degree; or
(b) Appropriate clear vocational credential plus thirty (30) approved semester units beyond issuance of clear credential.

CLASS IV
(a) Appropriate clear credential, plus sixty (60) approved semester units beyond bachelor's degree; or
(b) Appropriate clear vocational credential plus forty-five (45) approved semester units beyond issuance of clear credential.

CLASS V
(a) Appropriate clear credential, plus seventy-five (75) approved semester units beyond bachelor's degree; or
(b) Appropriate clear vocational credential, plus sixty (60) approved semester units beyond issuance of clear credential.

CLASS VI
(a) Appropriate clear credential, plus ninety (90) approved semester units beyond bachelor's degree; or
(b) Appropriate clear vocational credential, plus seventy-five (75) approved semester units beyond issuance of clear credential.

Note: All requirements for appropriate class placement shall have been satisfied by the employee no later than September 1, 2015.

CREDIT FOR TEACHING AND MILITARY EXPERIENCE

1. Maximum credit for all experience (teaching and military) for new teachers entering the District is for placement on Step 13 on schedule.

2. Teaching experience may be credited as follows:

   | One year   | Step 2 on schedule |
   | Two years  | Step 3 on schedule |
   | Three years| Step 4 on schedule |
   | Four years | Step 5 on schedule |
   | Five years | Step 6 on schedule |
   | Six years  | Step 7 on schedule |

   | Seven years| Step 8 on schedule |
   | Eight years| Step 9 on schedule |
   | Nine years | Step 10 on schedule |
   | Ten years  | Step 11 on schedule |
   | Eleven years| Step 12 on schedule |
   | Twelve years| Step 13 on schedule |

   Military experience of 18 months or more shall be credited one step.

3. Fringe benefits include health, dental, vision and life insurance.

Effective July, 2015
Quality Criteria Twelve

Program Achievement

West High School meets the standard of program achievement. In the Leadership Activities we continue to exceed the minimum of twelve areas. We are continuing to work on having more SAE opportunities which will lead to students applying for State degrees, which will allow us to then have students apply for American degrees. The Agriculture Incentive Grant checklist is attached as evidence of meeting the standards.
Part II:
Supporting Completion Materials
Table of Contents

1. Student Data Sheets
2. Agriculture Student Files
3. Course Outlines
4. Gradebook
5. SAE Supervision Form
6. SAE Requirements Course Syllabus
7. FFA Requirements Course Syllabus
8. Program of Activities
9. Recruitment Plan
10. FFA Chapter Scrapbook
11. Summer Activities Calendar
12. Graduate Follow Up Instrument
13. Graduate Follow Up Response
14. Comprehensive Program Plan
15. Advisory Committee Meeting Agenda
16. Advisory Committee Meeting Minutes
17. Advisory Committee Constitution & By-laws
18. Proficiency Standards
19. Credentials
20. Department Calendar
21. Professional Growth & Development Activities
22. R-2 Report
23. Travel Request
24. CATA Membership Card
25. Report to Administration
26. Department Wish List
27. Department Operating Budget
28. District/Department Budget Process
29. Chart of Responsibilities
30. Substitute Teacher Procedures & Plans
31. Description of Program Completers
32. Reimbursement Process
Please indicate below your plans after graduation from high school:

1. Go to Work Full-Time School:

2. Go to College
   - Some College Later
   - No Further Education

3. Go into Military Service
   - Non-Agricultural Major
   - Agricultural Major
   - Farmer Trainee Student
   - Full-Time Student
   - Four Year College
   - Community College

C. When you eventually take your place in this world, what would you plan a career in agricultural:
   - Not Interested. Placed in class.
   - Not a career. Just an interest in agriculture.
   - I plan a career in agriculture

D. Year in Agricultural Program:
   - Grade Level in School:
     (9, 10, 11, 12)
     (1st and 2nd yr)

E. Grade Level in School:

F. I am Taking This Course Because: (Select One)
   - (6, 11, 13)

K. Program of Instruction Being Pursued: (Select Only One)
   - Agriculture (470)
   - Forestry & Natural Resources (4060)
   - Commercial Horticulture (4050)
   - Agricultural Business (4040)
   - Agricultural Mechanisms (4030)
   - Animal Science (4020)
   - Plant & Soil Science (4010)

Please indicate below your plans after graduation from high school:

A. Country of Origin:
   - Latin America
   - Asia
   - Europe
   - Not sure

B. Are you Hispanic or Latino? (Check one): Yes
   - Female
   - Male
   - No

C. Ethnictiy/Race:
   - African American
   - Other
   - Not sure

D. Gender:
   - Male
   - Female

E. Name:
   - First Name
   - Last Name

F. Date:
   - H.
   - M.
   - Y.

G. Nickname:

H. Phone Number:
   - City, State:
   - Street Address:
   - Location Data

I. Email:

J. Must be named Mrs. Miss. Ms.

K. Program of Instruction Being Pursued: (Select Only One)

L. Have you ever been expelled from school?
   - Yes
   - No

M. Ever arrested or charged with a felony?
   - Yes
   - No

N. Have you ever been in a major accident?
   - Yes
   - No

O. Have you ever been addicted to a drug?
   - Yes
   - No

P. Have you ever been in prison?
   - Yes
   - No

Q. Have you ever been in jail?
   - Yes
   - No

R. Have you ever been in trouble with the law?
   - Yes
   - No

S. Have you ever been involved in a violent act?
   - Yes
   - No

T. Have you ever been in a violent act?
   - Yes
   - No

U. Have you ever been in a violent act?
   - Yes
   - No

V. Have you ever been in a violent act?
   - Yes
   - No

W. Have you ever been in a violent act?
   - Yes
   - No

X. Have you ever been in a violent act?
   - Yes
   - No

Y. Have you ever been in a violent act?
   - Yes
   - No

Z. Have you ever been in a violent act?
   - Yes
   - No

AA. Have you ever been in a violent act?
   - Yes
   - No

BB. Have you ever been in a violent act?
   - Yes
   - No

CC. Have you ever been in a violent act?
   - Yes
   - No

DD. Have you ever been in a violent act?
   - Yes
   - No

EE. Have you ever been in a violent act?
   - Yes
   - No

FF. Have you ever been in a violent act?
   - Yes
   - No

GG. Have you ever been in a violent act?
   - Yes
   - No

HH. Have you ever been in a violent act?
   - Yes
   - No

II. Have you ever been in a violent act?
   - Yes
   - No

JJ. Have you ever been in a violent act?
   - Yes
   - No

KK. Have you ever been in a violent act?
   - Yes
   - No

LL. Have you ever been in a violent act?
   - Yes
   - No

MM. Have you ever been in a violent act?
   - Yes
   - No

NN. Have you ever been in a violent act?
   - Yes
   - No

OO. Have you ever been in a violent act?
   - Yes
   - No

PP. Have you ever been in a violent act?
   - Yes
   - No

QQ. Have you ever been in a violent act?
   - Yes
   - No

RR. Have you ever been in a violent act?
   - Yes
   - No

SS. Have you ever been in a violent act?
   - Yes
   - No

TT. Have you ever been in a violent act?
   - Yes
   - No

UU. Have you ever been in a violent act?
   - Yes
   - No

VV. Have you ever been in a violent act?
   - Yes
   - No

WW. Have you ever been in a violent act?
   - Yes
   - No

XX. Have you ever been in a violent act?
   - Yes
   - No

YY. Have you ever been in a violent act?
   - Yes
   - No

ZZ. Have you ever been in a violent act?
   - Yes
   - No

AAA. Have you ever been in a violent act?
   - Yes
   - No

BBB. Have you ever been in a violent act?
   - Yes
   - No

CCC. Have you ever been in a violent act?
   - Yes
   - No

DDD. Have you ever been in a violent act?
   - Yes
   - No

EEE. Have you ever been in a violent act?
   - Yes
   - No

FFF. Have you ever been in a violent act?
   - Yes
   - No

GGG. Have you ever been in a violent act?
   - Yes
   - No

HHH. Have you ever been in a violent act?
   - Yes
   - No

III. Have you ever been in a violent act?
   - Yes
   - No

JJJ. Have you ever been in a violent act?
   - Yes
   - No

KKK. Have you ever been in a violent act?
   - Yes
   - No

LLL. Have you ever been in a violent act?
   - Yes
   - No

MMM. Have you ever been in a violent act?
   - Yes
   - No

NNN. Have you ever been in a violent act?
   - Yes
   - No

OOO. Have you ever been in a violent act?
   - Yes
   - No

PPP. Have you ever been in a violent act?
   - Yes
   - No

QQQ. Have you ever been in a violent act?
   - Yes
   - No

RRR. Have you ever been in a violent act?
   - Yes
   - No

SSS. Have you ever been in a violent act?
   - Yes
   - No

TTT. Have you ever been in a violent act?
   - Yes
   - No

UUU. Have you ever been in a violent act?
   - Yes
   - No

VVV. Have you ever been in a violent act?
   - Yes
   - No

WWW. Have you ever been in a violent act?
   - Yes
   - No

XXX. Have you ever been in a violent act?
   - Yes
   - No

YYY. Have you ever been in a violent act?
   - Yes
   - No

ZZZ. Have you ever been in a violent act?
   - Yes
   - No

AAA. Have you ever been in a violent act?
   - Yes
   - No

BBB. Have you ever been in a violent act?
   - Yes
   - No

CCC. Have you ever been in a violent act?
   - Yes
   - No

DDD. Have you ever been in a violent act?
   - Yes
   - No

EEE. Have you ever been in a violent act?
   - Yes
   - No

FFF. Have you ever been in a violent act?
   - Yes
   - No

GGG. Have you ever been in a violent act?
   - Yes
   - No

HHH. Have you ever been in a violent act?
   - Yes
   - No

III. Have you ever been in a violent act?
   - Yes
   - No

JJJ. Have you ever been in a violent act?
   - Yes
   - No

KKK. Have you ever been in a violent act?
   - Yes
   - No

LLL. Have you ever been in a violent act?
   - Yes
   - No

MMM. Have you ever been in a violent act?
   - Yes
   - No

NNN. Have you ever been in a violent act?
   - Yes
   - No

OOO. Have you ever been in a violent act?
   - Yes
   - No

PPP. Have you ever been in a violent act?
   - Yes
   - No

QQQ. Have you ever been in a violent act?
   - Yes
   - No

RRR. Have you ever been in a violent act?
   - Yes
   - No

SSS. Have you ever been in a violent act?
   - Yes
   - No

TTT. Have you ever been in a violent act?
   - Yes
   - No

UUU. Have you ever been in a violent act?
   - Yes
   - No

VVV. Have you ever been in a violent act?
   - Yes
   - No

WWW. Have you ever been in a violent act?
   - Yes
   - No

XXX. Have you ever been in a violent act?
   - Yes
   - No

YYY. Have you ever been in a violent act?
   - Yes
   - No

ZZZ. Have you ever been in a violent act?
   - Yes
   - No

AAA. Have you ever been in a violent act?
   - Yes
   - No

BBB. Have you ever been in a violent act?
   - Yes
   - No

CCC. Have you ever been in a violent act?
   - Yes
   - No

DDD. Have you ever been in a violent act?
   - Yes
   - No

EEE. Have you ever been in a violent act?
   - Yes
   - No

FFF. Have you ever been in a violent act?
   - Yes
   - No

GGG. Have you ever been in a violent act?
   - Yes
   - No

HHH. Have you ever been in a violent act?
   - Yes
   - No

III. Have you ever been in a violent act?
   - Yes
   - No

JJJ. Have you ever been in a violent act?
   - Yes
   - No

KKK. Have you ever been in a violent act?
   - Yes
   - No

LLL. Have you ever been in a violent act?
   - Yes
   - No

MMM. Have you ever been in a violent act?
   - Yes
   - No

NNN. Have you ever been in a violent act?
   - Yes
   - No

OOO. Have you ever been in a violent act?
   - Yes
   - No

PPP. Have you ever been in a violent act?
   - Yes
   - No

QQQ. Have you ever been in a violent act?
   - Yes
   - No

RRR. Have you ever been in a violent act?
Student files are all digital and stored in the shared drive on the school network as well as on AET and Calaged.com.
Agriculture Soil Science

A. COURSE INFORMATION

Grade Level: 9th Grade
Length of Course: 2 semesters
Maximum Credit: 10
Type: Physical Science Area “D”
Recommendation for Enrollment: Recommended for Freshman level students, but can be applied to all levels.
Prerequisites:
Co-Requisites:

B. COURSE DESCRIPTION (Include a brief explanation of the course; mention any prerequisites, including standardized test scores; and indicate whether the course satisfies a specific graduation requirement.)

Three-fourths of the world's food and nearly all of its fiber come from the fragile, thin skin of the land's surface—the soil. This course explores the physical and chemical nature of soil as well as the relationships between soil, plants, animals and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production. Using knowledge of scientific protocols as well as course content, students will develop an Agriscience research project to be conducted throughout the first semester of the course. To complete that whole project each student will investigate and test an Agriscience research question by formulating a scientific question related to the course content, formulating a hypothesis based on related research, conducting an experiment to test the hypothesis, collecting quantitative data, and forming a conclusion based on analysis of the data. The result of this research program will be an in depth research and experimentation paper that is technically written, based on scientific protocol, and cited using APA formatting. Additionally, students will develop and present a capstone soil management plan for agricultural producers, using the content learned throughout the course. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

C. INSTRUCTIONAL MATERIALS (List the basic text – include title, edition, author, and copyright – and other essential supplementary materials or instructional resources/materials used in the course.)

Miller and Levine, EARTH SCIENCE, Prentice Hall, copyright (2007)

**Supplemental Materials**


How to Write a Scientific Paper by Robert A. Day

National FFA Agriscience Fair Handbook

National FFA Research Report Template
https://www.ffa.org/programs/awards/agrisciencefair/Pages/default.aspx


D. **COURSE OUTLINE** *(List the major content areas of the course and divide them according to the semester in which they fall. Designate the approximate amount of time given to each of the content areas. Suggested length: one page.)*

**Unit One:**

**Agriscience Practices**

**Unit Description**

This introductory unit will focus on proper methods of agriscience inquiry. Through a series of minilab experiences based on the course content, students will learn to ask questions and define problems, conduct research to form a hypothesis, determine the experimental design and conduct experimentation, analyze and interpret data, develop conclusions and then communicate their findings in lab reports. Not only will the students learn to utilize proper scientific method protocol through conducting these minilabs, they will also learn what topics will be taught throughout the year in order to guide them in selecting the problem/question for their individual Agriscience Project. Through these minilab experiences and unit content, students will be provided with the skills and knowledge to successfully establish the idea they will pursue in their Agriscience Project. By the end of this unit, students will complete the Agriscience Project Research Proposal for their ongoing science experiment that will be conducted throughout the first semester of the course.

**Key Assignment**

1. **Soil Structure and Composition Mini-Lab Calgon Testing**

Students will learn that soil is composed of different size particles at varying percentages by conducting an experiment where students separate, examine and identify the major components of soil to better understand how these components give soil its unique physical characteristics. Students will learn to measure the percentage of sand, silt, and clay in a soil sample. Soil samples should be collected in the course of a walking field trip where students will take samples from varying locations on the walk. Students will mix one cup of soil sample with laundry detergent powder in a mason jar in order to dissolve the soil aggregates and keep the individual particles separated. Once the soil sample mixture sits for three days, students will measure and determine the percentage of each particle within their
specific soil sample. Students will write a lab report to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

2. Water and Soil Management Mini-Lab Water Percolation
Students will learn how to design a scientific experiment through proper scientific method and how to develop a research proposal. Students will be put into groups to produce a mini proposal which will include the specific water percolation problem/question they will research for this lab, three literary research references, a hypothesis and scientific procedure. Students will also learn how soil composition impacts the speed of water percolation or amount of water absorption by conducting the experiment they designed. Students will create a lab report that includes their data and analysis/conclusion. The lab not only develops students ability to write a proposal and a scientific experiment, but exposes them to the relationship between water and soil management.

3. Plant and Soil Management Mini-Lab Nutrient Uptake
Students will learn that plants utilize nutrients in soil to grow and develop. Each student will bring in a soil sample from their yard to utilize in this lab. They will divide the sample into two pots, one that will be a control sample and the other will be amended with animal manure compost. They will test the nutrients of these two pots of soil with a standard soil testing kit in order to record the levels of Nitrogen, Phosphorus, and Potassium in their control and amended samples. A bean seed will be planted in each pot of soil to germinate and grow over the course of a two week period. Throughout the two weeks, students will be recording quantitative data on seed germination, plant growth, and soil nutrients. After analyzing their data, students will determine how much of each nutrient was utilized by the bean plant. A lab report will be written to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

4. Animal and Soil Management Mini-Lab Animal Manure Amendment
To build on to the learning of nutrient uptake in the previous lab, students will extend their data analysis to make conclusions on why the bean plant in the amended soil sample had more optimal growth over the past two weeks than the bean plant in the controlled soil sample. This extended analysis of their data will allow the students to learn that animal waste can be composted and used as a soil amendment to increase soil nutrients for optimal plant growth. A lab report will be written to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

5. Technology Mini-Lab Soil Moisture Testing
Building on the learning of soil composition in the Calgon lab, in this minilab, students will learn that the moisture levels in soil vary depending on the soil composition through the use of soil moisture sensing equipment. Students will learn how to operate a soil moisture sensor by testing the moisture levels in various soils. Students will return to the locations where soil samples were collected for the Calgon testing lab in order to test the moisture levels of those specific soils. They will use their data from the Calgon testing lab alongside the data from the soil moisture tests to determine how the composition of the soil impacts the soil moisture levels. A lab report will be written to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

6. Chemistry, Fertilizer, and the Environment
Modern farmers face real life challenges while producing our food, fiber, and fuel. Supplying one nutrient while ignoring other plant needs, including other nutrients and environmental factors such as temperature, water, and light, may have little benefit or even be detrimental to the crop. In this lesson, students will learn about solutes and solvents and will use serial dilution while investigating parts per million—a term used to describe the nutrient concentration of a fertilizer solution. Students will use their knowledge of solutes, solvents, and parts per million to analyze fertilizer options that meet plant nutrient requirements while evaluating costs associated with managing plant nutrients. Most importantly, students will look at the role of nitrogen and show how various forms of nitrogen cycle through the environment. Students will look at how the different forms of nitrogen undergo various chemical and physical transformations that are all critical to the global nitrogen cycle. Students will measure the pH of a soil sample and learn how pH affects the availability of nutrient uptake by plants. Students will
determine if and how their soil pH should be modified through the application of soil amendments. In this lesson, students will test for plant-available soil nitrogen and learn how farmers use this test to precisely match fertilizer application to meet crop needs and reduce the amount of nitrogen left in the soil in order to minimize nutrient loss and environmental impact.

7. Agriscience Research Project Proposal
The key assignment for this introductory unit will be writing a research proposal for the student’s planned Agriscience Project. To guide the students in deciding their agriscience research questions/problem, the mini lab experiences completed in this unit should be utilized. The written proposal will include their chosen problem/question that they will be researching and investigating, five pieces of literary references, and the steps to complete for their research project. This assignment marks the first in a series of assignments that will be necessary for students to complete in order to successfully complete their agriscience research project.

Unit Two: The Nature of Soil

Unit Description
Students will use the methods of scientific inquiry, developed in the previous unit, to investigate the composition of the physical world, and discover how matter and energy change forms through biogeochemical cycles. This unit will focus on geomorphology as it relates to soil formation and management practices. Students will understand where soil originates by investigating the role of the rock cycle in soil formation, sea floor spreading, volcanic activity, and mountain building. Students will learn how the electron configurations of different elements, present in the parent material, give them unique physical and chemical properties, and will further investigate how these properties impact soil characteristics. Students will identify how the climate, weather, natural resources and hazards, and environment impact the soil properties, and will examine the role erosion plays in soil science as influenced by human activity. Students will collect soil samples from a variety of sources, and will use industry methods to determine the chemical composition of the soil and how this composition affects its physical and chemical characteristics. Students will connect to prior knowledge of life science by looking at how biotic factors impact soil type, composition and texture through investigation and experimentation. Students will use the results of their soil testing and the locations from which they took their samples to create a soil map of their local area. Students will compare their map to existing soil maps and analyses, and analyze the similarities and differences with the previous research

Key Assignments

1. Classifying Rocks and Rock Formation
The students will explore the internal and external processes that form igneous, sedimentary, and metamorphic rocks. The students will identify how natural resources and hazards such as earthquakes, volcanism, erosion, and weathering drive the rock cycle. Students will learn about seafloor spreading and mountain building in plate tectonics as it relates to the formation of new parent material for soil and rock formation. Using charts, magnifying lenses, streak plates, hardness tests, and various rock and mineral samples the students will be able to identify rocks and minerals by their physical characteristics. Students will turn in a lab report identifying the provided rock and mineral samples. The report will include a description of how the rocks formed, parent material type, effect of climate and erosion on rock formations and how this influences human activity and soil management concerns.

2. Sedimentary Rock Lab
In this activity students will model how sedimentary rock is formed by simulating weathering and erosion. Because sedimentary rock is the parent material for major components of many high quality soils, students will investigate the physical and chemical processes which create sedimentary rock. In this lab, students will use brown sugar to simulate the effect of water on soluble rock, show how water can dissolve various minerals, show how freezing water can crack porous rock, show the effects of water’s impact by pouring water on sand, and use a hairdryer and sand to simulate wind erosion on copper sulfate crystals. Students will turn in a lab report that details the results of the lab and that
identifies which processes are examples of physical change (water expanding in cracks to break rocks, sand particles wearing away rock, etc.), and which processes are examples of chemical change (slightly acidic water dissolving limestone, oxidation of minerals to create metal oxides, etc.). (http://www.rsc.org/education/teachers/resources/jesei/weather/home.htm)

3. Collect and Test Soil Samples: Physical & Biological Properties (figure out what elements might be in them based on chemical properties)
In this lab, students will learn how to test the physical characteristics of soil, so that they can learn how these characteristics affect a soil’s capabilities in later units. They will be able to assess and amend a soil to achieve a specific agricultural application. Students will collect soil samples from a variety of locations around their community. After receiving instruction in lab safety protocols, students will choose appropriate lab testing and safety equipment, and will carry out a battery of industry standard tests to determine what physical and biological characteristics the soil samples possess. After receiving instruction in what physical properties of matter are measured in soil testing, students will use the ribbon test, and also look at physical factors such as soil texture, composition, and particle size. Students will examine the soil for presence of living organisms, such as nematodes. Based on these properties, students will hypothesize what chemical elements are present in the soil. Students will research what chemicals are prominent in the soil in their test areas, and check their hypotheses against this research. Students will turn in an annotated bibliography detailing the major findings of their research. Students will give a presentation on their annotated bibliography, and give details on where their soil came from, the lab tests they performed, the results of the tests, their data analysis, and how that analysis compared to their research.

4. Background Scholarly Research and Forming a Hypothesis
As they begin work on their semester long research project, students use skills in research and forming hypotheses developed in the previous units to develop a hypothesis for their agriscience research project. Students will use credible sources to conduct background research on the agricultural issue they are investigating by reading and deconstructing scholarly journal articles to identify the key components of their agriscience research project. They will use this research to generate a testable hypothesis related to the scientific problem they have identified. The hypothesis developed by the student will be constructed with the independent and dependent variables in mind, and ultimately reviewed by the instructor.

5. Test Soil Samples: Chemical Properties
In this lab, students will learn how to test the chemical characteristics of soil, so that as they learn how these characteristics affect a soil’s capabilities in later units, they will be able to assess and amend soil to achieve a specific agricultural application. Students will test the soil samples that they collected for the previous lab to determine the chemical properties of the samples. After receiving instruction in lab safety protocols, students will choose appropriate lab testing and safety equipment. After learning what chemical characteristics of soil are commonly tested, what reactions occur in the testing process, and how these tests are performed, students will carry out a battery of industry standard tests to determine chemical characteristics, such as pH, nitrogen levels, potassium levels, phosphorous levels and presence of micronutrients. Students will use their chemical tests to compare what chemical elements they found in the soil with what they hypothesized based on physical characteristics, and what they found in their research. Students will turn in a lab report which details where their soil came from, the lab tests they performed, the results of their tests, and the analysis of their results as compared to their findings in the previous assignment.

6. Experimental Design and Conducting Experimentation
Students continue work on their semester long agriscience project by constructing an experimental design to test the hypothesis they developed in earlier in this unit. A written experimental design should be constructed consistent with scientific protocols using the systematic approach outlined in the previous units. Students will have their experimental designs reviewed by professional contacts (industry experts, agricultural instructors, local growers/ producers, researchers or university representatives). After validating the design using the peer review process, students will move to the experimentation phase of their research. Experimental designs should include replicates, control
groups, and determine the variables to be controlled and how. Additionally, a determination should be made as to the type of data that will be collected and in what ways, with the emphasis placed on quantitative data or quantifying data that is qualitative in nature. Students will use their experimental design to test their hypothesis. Raw data should be recorded using a field book or electronic device.

7. Creating Soil Maps
Students will take the soil analysis results from the previous assignments to construct a soil map of their local area. Based on the physical properties, such as soil texture, composition and particle size, the chemical properties, such as pH, nitrogen levels, micronutrient levels, etc., and the specific location from which the soils came, students will categorize the soil samples and the class will construct a comprehensive soil map of the local area. Students will then compare their map to existing soil maps, and analyze the similarities and differences with the previous USDANRCS maps.

8. Soil Management Project
The soil management project, which students begin in unit 2, will be ongoing throughout the length of the course. Students will develop best practices for agriculture soil use. The teacher will procure samples of soil from a variety of local farms and these samples will be kept as individual soil plots, or can be kept in plastic containers. Students will perform a variety of tests on these soil samples throughout the course in order to determine the characteristics that the individual samples possess, to analyze how these characteristics impact agricultural outcomes, and how amendments can be made to the soil samples in order to achieve a desired outcome. Students will also look at the cost-benefit ratios of the different soil characteristics and amendments on desired outcome. In this unit students will use the skills they learned in the previous labs to test and record the physical and chemical characteristics of the soil, and identify organisms living in the soil. Students will keep ongoing records of the data they collect during each of the units learning labs. This data will include information about the physical and chemical characteristics of their soil sample, results from testing pH, moisture, nutrient levels, water holding capacity, ability to grow target crops, and other factors in subsequent units.

Unit Three:

Water and Soil Management Unit Description
Using knowledge accessed from previous units on the physical and chemical properties of soil, students will analyze how the water cycle impacts soil based on its soil type (sand, silt, clay) soil location (geographic and topographic), vegetative state and natural slope of land. In order to understand how water becomes available for plant growth, students will explain the movement of water through soil with respect to how intermolecular forces impact percolation, capillary action, pore size, cohesion and adhesion. Furthermore, students will address how the concentration of organic matter in soil impacts the movement of water. Students will explain the impact that soil has on the quality of their water and will use water analysis tests to determine the safe and appropriate levels for potable water. Students will also be able to provide solutions to possible contaminations and/or toxic levels of residues/nutrients in the water samples. Students will determine how different irrigation, tillage and planting practices will impact the soil and surrounding area by testing water quality, pH and checking for possible contaminants due to leaching. Students will determine proper and efficient irrigation practices based on the chemistry behind the soil and the way water moves through the soil particles. Students will use GPS to enable students to more accurately analyze watersheds in their area and rationalize how the drought can impact both water quality and quantity as well as soil composition.

Key Assignments

1. Soil Erosion and Runoff Lab
Using soil plots from the previous labs, students will analyze how soils with vegetation (including organic matter) have a greater water holding capacity and less runoff than soils without vegetation by collecting runoff water from each plot and testing not only the amount of water collected from each plot, but also the percent of solids collected from runoff from each of those plots. Students will complete their lab write up to emphasize their understanding of these key concepts. They should discuss climate, natural hazards, and human activity that can influence the potential for soil erosion and runoff as it
impacts soil nutrient availability and crop production. Students' lab reports should include qualitative and quantitative observations of the composition of runoff from the soil plots. They should analyze this data to draw conclusions about the water holding capacity of the soils and should discuss the intermolecular interactions which allow soil to hold water at the molecular level. This assignment prepares them for decisions that will be made in their capstone project of creating a soil management plan.

2. Water Quality Testing
Students will begin by examining properties of subatomic particles and will create models to illustrate bonding of hydrogen and oxygen, accounting for the polarity of the water molecule. The focus of this unit will continue to develop an understanding of how hydrogen bonds give water a number of properties that allow it to percolate through soil, adhere to pollutants and transpire through plants. https://www.lcmn.org/education/resource/onwaterecology/worksheetwaterqualitytesting.pdf

Above is the link to the lab where students will test water samples from various sources throughout their community to determine the quality of the water. They will test and record data on pH, phosphates, nitrates, dissolved oxygen, and turbidity. Students will then analyze this data to draw conclusions on what can be done to improve the quality of the water. Students should also indicate what steps can be made in agriculture to protect water quality and ensure a safe water source for the community. Students will make a presentation to the class that summarizes their lab procedure, results, and conclusions. To extend learning, the group that has the most thorough presentation can present their findings to the School Board, local Farm Bureau, or any other local organization.

3. Analyzing data, interpreting data and forming conclusions.
Students will determine the best methods for organizing the data from their semester long Agriscience Project by creating data tables. The skills in analyzing and interpreting data used during Key Assignments One and Two in this unit will be applied to the final agriscience research project. Students will make similar determinations on their Agriscience research. Students will use mathematical principles to synthesize their data, calculating a mean. Furthermore, a statistical analysis of the data will help the student determine if the results are due to chance or the independent variable that was tested. Students will choose the best way to present their data using graphs they believe will most effectively demonstrate their findings, and will further summarize what each graph shows. Finally, students will interpret the data and formulate conclusions based on the results. In the written conclusion, students will use their data to either accept or reject the original hypothesis. Conclusions should be directly supported by the data and by previous research. Students will also identify the limitations of their research, improvements that could be made to the experimental design, as well as future studies that may be conducted that relate the study at hand.

4. Tillage Practices and the Impact they have on Runoff, Erosion and Soil Chemistry
Students will explore how chemical bonding, chemical reactions and chemical equilibrium are demonstrated through the relationship between tilled soil and water runoff. Students build upon their knowledge of atomic structure to explore the various forms of chemical bonding that takes place between atoms of different elements as well as the role of valence electrons. To deepen understanding of chemical interactions, students will investigate both the physical and chemical changes that take place during tillage. Students will utilize locally sourced soil samples at both pretillage and posttillage intervals to compare the effects of tillage on the physical and chemical nature of soil. Ideally, multiple tillage types will be examined including conventional tillage, deep ripping tillage and conservation tillage. Soil pH, effective cation exchange capacity, soil organic carbon, and soil nutrient levels will be measured in addition to an analysis of the physical structure of the soil. Examination of the physical structure can allow students to predict potential erosion and runoff issues. Students will then develop suggestions for best tilling practices by using GPS and topographic maps to determine the natural slope of a given plot of land. They will be asked to design the most efficient “tillage” for this plot to conserve water, prevent soil erosion and cause the least disturbance to soil and water bonding. Students must explain in a written report, including a detailed diagram, why they selected the design they did and how it will be the most beneficial for the environment using conservation techniques for the soil and water as learned in this unit. They will also explain why the alternative designs would be poor choices.
5. Ground Water Contamination and Aquifer Lab
Students will demonstrate how aquifers filter different contaminants by constructing a model of an aquifer and testing how groundwater contamination occurs by using common agricultural contaminants. They will analyze two different types of aquifers and determine which type they would want to place a well into and why. Students will explain how the size of the pores affects the intermolecular interactions between contaminated water and the rock, and how this in turn impacts how well an aquifer can filter out contaminants. Students will examine how the pH of different solutions is directly affected by soil type and aquifer porosity. Students will model this by capturing water that comes through their aquifer model. Students will then determine the concentration of this type of solution through a standardized titration experiment. Once they have used their models as a means of understanding how easily groundwater can be contaminated, they will complete their conclusion and create a multimedia production in the form of a TED talk or Infomercial that educates their community on what agriculturists do and can do to improve water quality in their local area. They will present their productions to a panel of judges and the winners will have their video/multimedia presentation broadcast schoolwide.

6. Irrigation Practices in Agriculture
Students will understand how evaporation (due to temperature) and soil type plays a huge role in the irrigation methods and practices employed in the agriculture industry. Students will be given 3 different soil types. Students will divide these 3 soil types into 9 different samples, 3 of each in a different setting, but they will receive the same amount of water to simulate “irrigation”. Students will hypothesize what they think will happen based on soil type and temperature with regard to moisture retention and how this will impact decisions in irrigation selection. In the control group the 3 soil samples will be placed outside. In test group #1, 3 samples will be placed under a heat lamp to simulate an environment with a hotter ambient temperature. In test group #2, 3 samples will be placed in a location cooler than your outside temperature. In all 3 of the test locations students will water all of the samples with equal amounts of water. The following day students will test the moisture content of all soil samples using a Kelway Soil Acidity and Moisture Meter to determine the effects that temperature and soil type had on moisture retention. Using this data, students will then complete the lab write up and finish a conclusion by summing up how this lab impacts irrigation practices.

7. Semester One Capstone Project

Land Planning Model
Land use can be defined as how land is utilized. Examples include “Park”, “Intermediate Density Residential”, and “Industrial”. Decisions about land use and land cover can affect how much our climate will change and what kind of vulnerabilities humans and natural systems will face as a result. Humans affect climate through changes in land use activities taking place on land, like growing food, cutting trees, or building cities and land cover, the physical characteristics of the land surface, including grain crops, trees, or concrete. In addition, climate changes can be caused by emissions of heat-trapping greenhouse gases from energy, industrial, agricultural, and other activities.

Purposes of the term project:
• To explore the selection of land for a specific purpose based on how soil properties influence different land uses.
• To challenge you to demonstrate creativity in a rigorous academic planning exercise.
• To foster your ability to communicate, delegate, lead, and share responsibility in a peer group.
• To provide an opportunity for you to develop public speaking skills through presentation of your projects in front of your class.

Your group is required to “purchase” a complete tract of land of the 20 tracts (from soil surveys) “for sale”. A minimum of 6 acres must be used for agriculture either crops or livestock the rest of the land use is up to your group. You do not have to use all of the tract for your specific land use, but you must include all the entire tract in your inventory of soils, describe why you are not using some land, and how the unused portion of your tract will be managed (i.e., left in forest, pasture, etc.). The purchase and specified land use you choose must be reasonable, in economic terms (i.e., if you buy a 50-acre lot for a 30-acre farm, explain what will be done with the other 20 acres and how your business will be able to
afford the extra land). Final management plans will be developed and a written report will be turned in as well as groups will give an oral presentation to the class.

Your method for choosing your site should be logical and clearly articulated in your written and oral reports. The way you choose your site should demonstrate that you based your land planning decisions on all the information available, general and specific. i.e., look at the capability class descriptions, soil series descriptions (including slope) as well as land use classifications. Students will provide a soil inventory which lists all the soil series and then organizes them into a smaller number of groups that have practical significance for your planned use of the land (e.g., you could group 10 soil series by drainage class, three poorly drained, three moderately well drained and four well drained, OR you could group them into those that have severe, moderate and slight limitations for streets and roads). The soil survey may not rate soil for exactly the use you intend. For example, a campground project might include a category of suitability for paths and trails, but probably not a category for suitability of land for homes with basements (except for construction of the office or shower rooms).

Groups will construct soil maps. One of your maps must combine at least two types of soil characteristics (e.g., suitability for habitat elements and slopes) which together present a clearer view of why certain areas may or may not be suitable for various uses that you specify. Your project should also consider texture at the depths appropriate for your land use. In the soil survey, suitability for “topsoil” pertains to the removal of the top layer for use in landscaping elsewhere. Therefore, a soil which is a good source of topsoil might have a restrictive layer beneath, making it poorly suited for farming. You are also expected to use other suitability classes, which are in the soil survey report.

In your land planning project include natural resources access such as access to fresh water, regions of fertile soils, and minerals and fossil fuels. Explain how the availability of these natural resources has influenced the purchase of your land tract and the specified land use you choose. Lastly your group should look at climate, severe weather if applicable, and surface processes such as soil erosion and how that can affect the types of crops and livestock that can be raised. Also does the land use your group chose affect the climate either positively or negatively in any way. For example, cities are warmer than the surrounding countryside because the greater extent of paved areas in cities affects how water and energy are exchanged between the land and the atmosphere. This increases the exposure of urban populations to the effects of extreme heat events.

**Unit Four**

**Plants and Soil Management**

**Unit Description**

Building on knowledge acquired from the previous units on the physical and chemical properties of water and soil, students will begin to determine the effects of plant, soil and water interactions with respect to maintaining or restoring environmental health and structure. Students will model how carbon, water, and nitrogen cycle through the environment, providing a foundation for plants and animals. In addition, the students will learn about nutrients necessary for plant growth and will analyze how pH affects nutrient availability by changing chemical equilibrium, determine water holding capacity with respect to water availability for plant growth, and identify possible nutrient deficiencies based on plant observations. Students will apply this learning to developing knowledge of soil nutrients and their role in the environment by testing and analyzing soil samples for optimal soil structure, nutrient value and availability and determining possible soil amendments and practices to improve soil quality.

**Key Assignments**

1. **Biogeochemical Cycles**

The students will model how water, nitrogen, and carbon cycle through the atmosphere, biosphere, geosphere, and hydrosphere, providing conditions that are necessary for plant growth. Students should investigate an agriculture ecosystem, such as forestry, rangeland, vineyard, annual crops, orchards, etc., to determine what cycle is being affected to the greatest degree. Students must be able to explain
the changes that are taking place, the extent humans have an impact on these changes, and what is being done to alleviate potential problems. Students will complete a report that details their agriculture ecosystem and includes a model of the biogeochemical cycles.

2. Plant Requirements from Soil Lab
Students will demonstrate their knowledge of plant growth requirements by creating a controlled experiment to compare the difference between natural and synthetic fertilizers on plant growth. Students will make qualitative and quantitative observations of plant growth and analyze their data in order to draw conclusions regarding the availability of nutrients and the practical application for crop growers. Fertilizers are identified with particular isotopes and as part of the assignment, students will describe nuclear processes and radiation, describing their methods of use in determining fertilizer application in commercial agriculture. Students will then create a written recommendation to a local crop producer regarding which type of fertilizer to use for their farm in order to achieve production goals, highlighting chemistry concepts as a fundamental part of the assignment. Optional extension: Students can analyze the amounts of fertilizers needed in order to reach the desired amount necessary for plant growth and determine whether the addition of fertilizers is cost effective.

3. Soil Management Project
Students will analyze their data collected from unit 2 and determine which crops can be grown based on the current physical and chemical properties of the soil. Students will make recommendations for soil amendments which would increase the nutrient availability of the soil in order to grow a desired crop. Students should consider how pH, and chemical equilibrium will impact the availability of nutrients in the soil in their recommendations. Students will then plant a crop from a given list of cover crops (clover, grasses and legumes) in their soil test plot, allow it to grow and then retest the soil to see if there is a difference in the nutrient concentrations. Students will incorporate their knowledge of biogeochemical cycles into their lab report and will provide an explanation of how nutrients are being transferred from the soil to the plants. The research and experimentation conducted in this project will be added to their Soil Management Capstone Project.

4. Plant and Soil Interactions
Students will compare their nutrient values from the previous project with other groups during a classroom discussion. Students will analyze the data and develop explanations for why there is a difference in the amount of nutrients the plants extracted from the soil. Students will then revisit the Soil Erosion and Runoff Lab from Unit 3 and measure the amount of runoff and soil erosion that occurs on each of the cover crops and compare the data to the data collected from Unit 3. Students will communicate their results in a lab write up.

Unit Five: Animals and Soil Management

Unit Description
Using knowledge from previous units about soil nutrient content, students will identify the key macrominerals and microminerals necessary for normal livestock growth and reproduction. The students will correlate the minerals present in soil with the nutrient content of typical livestock concentrate and roughage feeds. Using local resources, the students will identify mineral deficiencies or toxicities in the soil and relate the deficiencies or toxicities to livestock health. Students will identify crop and range management practices to improve the nutrient content of soil, and will explain what reactions take place at the molecular level to improve nutrient content. Students will identify various methods of using animal waste and the environmental impacts including the use of animal waste as soil amendments and fertilizers. Students will relate the units of concentration used in agriculture practice to units used in chemistry labs, as they identify problems and contaminants associated with livestock waste disposal and related health and safety regulations.
Key Assignments

1. Nutrient Deficiencies in Livestock
Students will examine the correlation between soil and plant nutrient levels with health problems in livestock. Using their knowledge of solutions and concentration, students will identify soil nutrient deficiencies in a geographic area. They will relate the nutrient deficiencies with livestock diseases. For example, if an area has a deficiency in selenium, students will identify problems such as white muscle disease in calves and lambs. Working in groups, the students will analyze a case study on selenium deficiencies in cattle and offer a solution and/or design a system to prevent or correct a mineral deficiency in livestock caused by a soil deficiency. Their analysis will be presented in a written report. An optional extension to this assignment could include testing other nutrient deficiencies, such as copper toxicity, and reporting these findings in a group oral presentation using the case study as an example.

2. Livestock and Water Quality
Students will examine the nutrients present in animal waste and identify possible environmental contaminants in the waste. To examine the effects of water runoff from livestock facilities, students will design a controlled experiment to test water samples from soils exposed to livestock for nitrates, phosphate, heavy metals, pH, dissolved oxygen and other factors. Students will utilize their previously collected soil samples or soil plot and design a model to simulate water runoff from a livestock production facility. Alternately, students will test water runoff samples from existing livestock facilities. At the conclusion of the experiment, students will provide a written recommendation to a county land use commission with a protocol for the optimal use of the animal effluent.

3. Livestock Waste Management
Students will examine the challenges involved with livestock waste management. The problems may include ammonia emissions, phosphorus runoff, nitrate leaching and heavy metal runoff. The instructor will provide a problem and scenario that relates to livestock waste management from an agricultural operation. Students will research the problem and design a system or solution. For example, if a school builds a school farm and raises 10 head of cattle in confinement, how will the waste be handled? The students will consider factors such as environmental concerns, health and safety regulations, amount of waste produced, reactivity of the waste products, uses for the waste, possible cost and labor requirements.

4. Soil Management Project
The soil management project, which students begin in unit 2, will be ongoing throughout the length of the course. In this unit, students will identify the nutrient deficiencies or toxicities present in the soil samples that might influence livestock production. Students will develop a written proposal for the tested soil, including soil amendments, fertilizers and application of animal waste or changes in livestock management practices to address these deficiencies or toxicities. As part of the recommendation process, students will examine the use of animal waste as a method of enhancing soil quality, using background knowledge of nuclear processes to describe variability in nutrient availability in uptake. For any toxicities present, students will examine the chemical profiles of the elements and recommend strategies for resolving agricultural issues for those elements. Students will use these soil management profiles as a component of their final course project as well as use them for subsequent units.

Unit Six: Soil Sustainability

Unit Description
Based on the accumulation of knowledge, examples and research conclusions from throughout the year, students will develop an understanding of sustainable agriculture by employing a Sustainability evaluation tool, “The 3Pillars of Sustainability, economic, environmental and social impacts” of agriculture. Students will critically evaluate and justify perspectives and determine benefits/concerns based on research and credible information. Students will investigate and evaluate the sustainability of agricultural practices. Students will design and conduct a phytoremediation lab to analyze the efficacy of salt tolerant accumulators to remove saline from the soil. Students will formulate potential solutions
using the three pillars of sustainability to soil and land management problems based on agricultural scenarios and debate agricultural issues.

Key Assignments

1. Phytoremediation Lab
Students will learn about the remediation effects of plants in the uptake of soil contaminants, in this example, reducing soil salinity. Students will research saltwater intrusion causes and implications, research phytoremediation, develop a hypothesis, design an experimental procedure, identify safety procedures specific to this experiment, collect and analyze data, and formulate conclusions. Through these steps, students will determine which types of plants are best in phytoremediation of saline ("halophytic" or salt loving plants) and the maximum amount of saline which can be removed from the soil in this way. Possible extension: Compare efficacy of procedure with different soil types Students will complete a formal lab write-up.

2. Tillage Protocols: Impact on Soil Structure and Soil Sustainability Lab
The purpose of this lab is to determine the effects of tillage practices on soil sustainability and plant growth. Using a prepared miniplot with all three tillage examples (conventional, no till, and low till) soil structure, students will measure and compare soil fertility, water holding capacity, and percolation. Students will analyze and graph their data, explain the implications of the each of these tillage systems with respect to soil and water sustainability and extrapolate those results to the effect of tillage practices effect on plant health. Students will create a poster to illustrate the benefits and drawbacks of each tillage system with respect to Soil Plants Water.

3. Land Use Planning Model
Student groups will make soil/land management decisions based on specific agriculture and land use restrictions on pieces of land such as large urban gardens, range management, forest management, and farmlands. Students will use their knowledge of physical and chemical properties of soil in regards to plants, animals and water to highlight the importance of sustainable agriculture. Getting a land use plan approved and in place with multiple interest groups is complicated and relies on the checks and balances to determine the success of the project. Each student in the group needs to take on a specific role in order to determine their Land Use Plan (such as conservationist, developer, owner, law enforcement, Department of Public Works, Anthropologist, City Planner, etc.). Each role will highlight their concerns with the Land Use Plan in relation to the impact on Earth’s atmosphere, water, land, plant/animal populations, or human population. Groups will then prepare a presentation to present their plan. This presentation could be presented to the class and instructor or even community/local industry members

4. Agriculture Issue Debate and Policy Proposal
Students will begin by conducting secondary research using industry journals into the global use of methyl bromide as a chemical soil sterilant. Students will examine the pros and cons of the use of methyl bromide in terms of manipulations to the chemical profile of soil, microbiology, effects on groundwater, effects on the environmental ecosystem, runoff challenges and effects on agricultural productivity. Research should highlight chemical reactions as the primary point of focus. Students will then be assigned a perspective related to the methyl bromide investigation (runoff or microbiology, for example) to represent in the debate, using their list of chemistry and agriculturally focused pros and cons to inform their contributions. Students will end the debate with a comprehensive analysis of the issue of methyl bromide use in agriculture from multiple angles in order to develop a model policy for their county regarding the possible use of methyl bromide in agricultural applications.

5. Soil Management Project
The soil management project, which students began in semester 1, has continued throughout the length of the course. At the end of Unit 6, students will incorporate knowledge gained from all previous labs, and the conclusions drawn from the Phytoremediation and Tillage Protocols: Impact on Soil Structure and Soil Sustainability Labs to test, analyze, treat and/or modify soil structure and fertility for specific
usage/in order to achieve desired outcomes. This work will be used as evidence in the Soil Management Capstone Project and will also aid in drawing the final conclusions of the yearlong research and experimentation.

6. Effects of Climate Change
Students will research scientific journal articles, laws, regulations, case studies or other scientific evidence that illustrates the Effects of Climate Change on Agriculture, Land Resources, Water Resources, and Biodiversity in the United States. The students will be completing a literature review report and make a presentation to the class. Valuable website for students to use is http://nca2014.globalchange.gov/report/sectors

Capstone Project and Portfolio

1. Soil Management Capstone Project
As the final course capstone project, students will be given a scenario and soil sample designed around their local agriculture industry. The given scenario will provide students with specific information about the topography and climate/rainfall data of the location where the soil sample was collected. Students will use knowledge and skills learned in previous units to physically and chemically analyze the soil sample. Their soil analysis should include the composition and nutrient, pH, and salinity levels. The data collected from their soil sample analysis and the provided land information should be included in the soil management plan that the students create. The student's Soil Management Plan will recommend soil amendments, proper tillage practices, optimal irrigation methods, crop recommendations, and animal use suggestions. They should identify and evaluate a technological solution that reduces human impact on the environment including, but not limited to: water pollution, air quality, run-off, nutrient depletion, soil amendments, erosion, etc. Their recommendations and suggestions should be justified in terms of the 3 pillars of sustainable agriculture.

2. Course Portfolio
The course portfolio will provide evidence of real world agriculture application of scientific research done throughout this course. The portfolios will highlight student work from throughout the course to show a progression of learning, experimentation, and application of course content. Items that will be included in the portfolio are student lab reports, the Agriscience Research paper, and their Soil Management Plan.

E. COURSE OBJECTIVES FOR  (The objectives area to include the specific, major skills or understandings which students will be able to demonstrate or acquire instruction in the course. A minimum of eight to twelve objectives should be identified for each semester of the course. Each objective is to be clearly linked to the Board adopted standards for the course or subject area; indicate the link by placing the number of the appropriate standards (s) after each objective. Minimum length: one page)
<table>
<thead>
<tr>
<th>Unit</th>
<th>Ag Standard</th>
<th>NGSS Standard</th>
<th>Science and Engineering Practices</th>
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<tbody>
<tr>
<td>1. Agriculture and Agricultural Research Skills</td>
<td>C1.0 Evaluate the role of agriculture in the California economy.</td>
<td><strong>HS-ETS1-1:</strong> Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</td>
<td>Planning and Carrying Out Investigations: Planning and carrying out in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.</td>
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<td>C1.2 Describe how California agriculture affects the quality of life.</td>
<td><strong>HS-ETS1-2:</strong> Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</td>
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<td>C1.4 Research the economic impact of leading California agricultural commodities.</td>
<td><strong>HS-ETS1-3:</strong> Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</td>
<td>Constructing Explanations and Designing Solutions: Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly. (HS-LS1-3)</td>
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<td>C1.5 Assess the economic impact of major natural resources in California.</td>
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<td>C3.1 Describe how technology affects the logistics of moving an agricultural commodity from producer to consumer.</td>
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<td>C3.2 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, and communication.</td>
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<td>C3.5 Integrate the use of technology when collecting and analyzing data.</td>
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<td>C13.1 State the steps of the scientific method.</td>
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<td>C13.2 Analyze an agricultural problem and devise a solution based on the scientific method.</td>
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<tr>
<td>2. The Nature of Soil</td>
<td>C10.1 Recognize the major soil components and types.</td>
<td><strong>HS-PS1-1:</strong> Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</td>
<td>Using Mathematics and Computational Thinking: Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to</td>
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<td>C10.2 Summarize how soil texture, structure, pH, and</td>
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<td>C10.3 Assess water delivery and irrigation system options.</td>
<td>HS-PS1-3: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</td>
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<td>C10.4 Differentiate among the types, uses, and applications of amendments and fertilizers.</td>
<td>using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions. Use mathematical and/or computational representations of phenomena or design solutions to support explanations. (HS-LS2-1) Use mathematical representations of phenomena or design solutions to support and revise explanations. (HS-LS2-2) (\xi) Create or revise a simulation of a phenomenon, designed device, process, or system. (HS-LS4-6)</td>
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<td>E3.1 Demonstrate techniques used to classify soils.</td>
<td>HS-ESS2-2: Analyze geoscience data to make the claim that one change to Earth’s surface can create feedbacks that cause changes to other Earth systems.</td>
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<td>E3.2 Explain the reasons for, and importance of, soil conservation.</td>
<td>HS-ESS2-1: Develop a model to illustrate how Earth’s internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features</td>
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<td>E3.3 Analyze soils found in the different natural resource management areas.</td>
<td>HS-ESS2-3. Develop a model based on evidence of Earth’s interior to describe the cycling of matter by thermal convection</td>
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<td>F5.3 Prepare and amend soils, implement soil conservation methods, and compare results.</td>
<td>HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth’s systems result in changes in climate.</td>
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<td><strong>3. Soil and Water</strong></td>
<td><strong>Obtaining, Evaluating, and Communicating Information:</strong> Obtaining, evaluating, and communicating information in 9–12 builds on K–8 and progresses to evaluating the validity and reliability of the claims, methods, and designs.</td>
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<td>E6.1 Summarize the different types of aquatic resources.</td>
<td><strong>Constructing Explanations and Designing Solutions:</strong> Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.</td>
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<td><strong>HS-PS1-1:</strong> Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</td>
<td><strong>Asking Questions and Defining Problems:</strong> Asking questions and defining problems in 9–12 builds</td>
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<td>E6.4 Analyze the relationship between water quality and aquatic species habitat.</td>
<td>the patterns of electrons in the outermost energy level of atoms. <strong>HS-PS1-3:</strong> Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</td>
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<td>F2.4 Experiment with the factors that influence plant growth, including water, nutrients, light, soil, air, and climate.</td>
<td><strong>HS-PS1-3:</strong> Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles. <strong>HS-PS1-2:</strong> Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.</td>
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<td>F5.1 Explain how basic soil science and water principles affect plant growth.</td>
<td><strong>HS-PS1-2:</strong> Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. <strong>HS-PS1-4:</strong> Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</td>
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<td>F5.2 Illustrate basic irrigation design and installation methods.</td>
<td><strong>HS-PS1-6:</strong> Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.*</td>
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<tr>
<td>F5.3 Prepare and amend soils, implement soil conservation methods, and compare results.</td>
<td><strong>HS-PS1-6:</strong> Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.* <strong>HS-PS1-7:</strong> Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.</td>
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<td>F5.4 Research major issues related to water sources and water quality.</td>
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<td>F5.5 Explain the components of soilless media and test the use of those media in various types of containers.</td>
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<td>G6.4 Research how soil biology affects the environment and natural resources.</td>
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<tr>
<td>G8.2 Research and describe the local, state, and federal agencies that regulate water quality and availability in California.</td>
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**Developing and Using Models:**
Modeling in 9–12 builds on K-8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed worlds.

**Analyzing and Interpreting Data:**
Analyzing data in 9-12 builds on K-8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.

**Engaging in Argument from Evidence:** Engaging in argument from evidence in 9-12 builds on K-8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or
<table>
<thead>
<tr>
<th>G8.3 Define the definition of a watershed and explain how it is used to measure water quality.</th>
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<tr>
<td><strong>HS-PS1-7:</strong> Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.</td>
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<tr>
<td><strong>Planning and Carrying Out Investigations:</strong> Planning and carrying out investigations in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.</td>
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<tr>
<td>G8.4 Explain effective water management and conservation practices, including the use of tailwater ponds.</td>
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<tr>
<td><strong>HS-ESS3-1.</strong> Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</td>
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<tr>
<td><strong>HS-ESS3-2.</strong> Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.*</td>
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<tr>
<td>G8.5 Use water-testing standards and perform bioassay and macro-invertebrate protocols to assess water quality.</td>
</tr>
<tr>
<td><strong>HS-ESS3-1.</strong> Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</td>
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<td><strong>HS-ESS3-2.</strong> Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.*</td>
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<tr>
<th>4. Soil and Plants</th>
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<tbody>
<tr>
<td>G10.1 Practice local cultural techniques, including monitoring, pruning, fertilization, planting, irrigation, harvest treatments, processing, and packaging practices for various tree, grain, hay, and vegetable classes.</td>
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<tr>
<td><strong>HS-PS1-3:</strong> Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</td>
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</table>
| **Using Mathematics and Computational Thinking:** Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and...
<p>| G11.1 Research how changing technology, such as micro-propagation, biological pest controls, plant production, yields, and management. | HS-PS1-2: Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. | computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions. § Use mathematical and/or computational representations of phenomena or design solutions to support explanations. (HS-LS2-1) § Use mathematical representations of phenomena or design solutions to support and revise explanations. (HS-LS2-2) § Create or revise a simulation of a phenomenon, designed device, process, or system. (HS-LS4-6) |
| G6.1 Understand soil types, soil texture, structure, and bulk density and explain the U.S. Department of Agriculture (USDA) soil-quality rating procedure. | HS-PS1-2: Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. | |
| G6.2 Analyze soil properties necessary for successful plant production, including pH, electrical conductivity (EC), and essential nutrients. | HS-PS1-4: Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy. | |
| G6.3 Explain soil biology and diagram the cycles in nature as related to the soil food chain. | HS-PS1-6: Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.* | Constructing Explanations and Designing Solutions: Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories. |
| G6.4 Research how soil biology affects the environment and natural resources. | HS-PS1-7: Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction. | |
| G3.4 Research the factors that influence plant growth, including water, nutrients, light, soil, air, and climate. | HS-PS1-3: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles. | Engaging in Argument from Evidence: Engaging in argument from evidence in 9–12 builds from K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science. |
| HS-PS1-5: Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs. | HS-ESS2-6. Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere. | |</p>
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<tr>
<th>5. Soil and Animals</th>
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<tr>
<td>D7.1 Evaluate a rangeland and identify methods of rangeland improvement used in an effective animal production program.</td>
<td><strong>HS-PS1-3</strong>: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles. <strong>HS-PS1-4</strong>: Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy. <strong>Planning and Carrying Out Investigations</strong>: Planning and carrying out investigations in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.</td>
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<tr>
<td>D7.2 Summarize how rangeland management practices affect pasture production, erosion control, and the general balance of the ecosystem.</td>
<td><strong>HS-PS1-6</strong>: Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.*</td>
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<tr>
<td>D7.4 Evaluate a plan to balance rangeland use for animal grazing and for wildlife habitat.</td>
<td><strong>HS-ESS3-3</strong>: Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.</td>
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<td>D8.1 Assess treatment and disposal management systems for animal waste.</td>
<td><strong>HS-PS1-2</strong>: Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.</td>
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<td>D8.2 Compare various methods for using animal waste and the environmental impacts associated with each method.</td>
<td><strong>HS-PS1-2</strong>: Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.</td>
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<td>D8.3 Research the health and safety regulations that are an integral part of properly managed animal waste systems.</td>
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<td>D10.1 Formulate and implement optimum requirements for diet, genetics, habitat, and behavior in the production of large and small animals.</td>
<td><strong>HS-LS2-4</strong>: Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.</td>
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<td>D2.1 Assess the flow of nutrients from the soil,</td>
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<td>通过动物，然后回到土壤。</td>
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|D2.2 探索提供适当、平衡的饲料原则，以适应生产阶段，包括反刍动物和单胃动物。

<table>
<thead>
<tr>
<th>6. 土壤可持续性与农业技术</th>
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|G9.3 区分“整体系统管理”各组成部分。

|C3.5 集成运用技术收集和分析数据。

|C3.2 了解技术如何影响因素如劳动、效率、多样性、可用性、机械化和沟通。

|C2.1 识别农业环境影响土壤、水和空气。

|C2.2 解释当前与农业相关的环境挑战。

|C2.3 总结如何在农业中使用自然资源。

|C2.4 对比和对比资源管理的可持续和非可再生资源。

|HS-LS1-6. 根据糖分子中的碳、氢、氧等元素结合形成氨基酸，可能形成其他大型碳基分子的解释和修订。

|HS-LS4-6. 创建或修订模拟测试解决方案来减轻人类活动对生物多样性的影响。

|HS-LS2-7. 设计、评估并改进人类活动对环境和生物多样性的影响的解决方案。

|用数学和计算思维：
数学和计算思维在9-12年级建立在K-8年级的经验和进步上，通过使用代数思维和分析，对线性和非线性函数，包括三角函数、指数函数和对数函数以及计算工具进行统计分析，来分析各种数学模型的基本假设。

|HS-LS2-2. 创建或修订一种现象的数学代表，设计或修改设备、过程或系统。
<table>
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<tr>
<th>E3.4 Develop and implement a soil management plan for a natural resource management area.</th>
<th><strong>HS-ETS1-2.</strong> Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</th>
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<tbody>
<tr>
<td>E3.5 Understand how to analyze existing soil surveys to develop effective management plans.</td>
<td><strong>HS-ETS1-2.</strong> Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. <strong>HS-ETS1-1.</strong> Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</td>
</tr>
<tr>
<td>G9.1 Identify and classify the plants and animals in an agricultural system (as producers, consumers, or decomposers).</td>
<td><strong>HS-ETS1-1.</strong> Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. <strong>HS-ETS1-4.</strong> Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.</td>
</tr>
<tr>
<td>G9.2 Compare and contrast the elements of conventional, sustainable, and organic production systems.</td>
<td><strong>HS-ETS1-4.</strong> Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem. <strong>HS-ESS3-4.</strong> Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. <strong>HS-ESS3-5.</strong> Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.</td>
</tr>
</tbody>
</table>

**Engaging in Argument from Evidence:** Engaging in argument from evidence in 9–12 builds from K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science. **Constructing Explanations and Designing Solutions:** Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.
F. **STUDENT EVALUATION STANDARDS** (List the criteria on which students will be graded in the course. Give the approximate weight for each of the grading criteria in determining the student's grade, such as tests, homework, labs, class participation. Also indicate the weight given to quarter grades and semester final in tabulating the final grade.)

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Labs</td>
<td>30%</td>
</tr>
<tr>
<td>Assessments</td>
<td>30%</td>
</tr>
<tr>
<td>FFA and SAE Participation</td>
<td>10%</td>
</tr>
</tbody>
</table>

G. **SUGGESTED INSTRUCTIONAL ACTIVITIES** (This item is optional and is not required of the course of study. If it is completed, it should include teacher and/or student activities such as field trips, demonstrations, speakers, or special procedures that will assist the students in learning the course objectives.)

Prepared by Elizabeth Bledsoe, Carolee Trimble
COURSE OF STUDY

Floral Design 1, #5540       Agriculture 10
__________________________       ____________
Course Title               Grade Level    Department    Max. Credit

(Title must correlate with Course Code Catalog)

Does this course satisfy a graduation Requirement in another subject area? YES
If so, what subject area? Fine Arts Graduating Credit; UC fine Arts Credit

Prepared by: Jennifer Wilke---------------------------------
Bakersfield High School       4/2008
School       Date

Approval of Site Administrator: __________________________________________

Signature       Date

A. COURSE INFORMATION

Grade Level: 9 - 12
Length of Course: 1 year
Maximum Credit: 10 units
Recommendation for Enrollment: None.

B. BRIEF DESCRIPTION OF THE COURSE

The Art and History of Floral Design provides an introduction to artistic and creative perception including aesthetic valuing through a series of projects in various media including tempera, pencil, flowers, tile, and a variety of papers. Students are also introduced to the elements and principles of visual art design such as line, shape/form, color, balance, and emphasis using a series of floral-based projects to explore the connections, relations, and application to visual arts design. Students will research and study floral trends to understand and develop an appreciation for floral design within historical and cultural, formal and casual, ceremonial and traditional, including an understanding that floral designs are affected by society, culture, history, politics, and economic influence. Various assignments based on abstract two and three dimensional designs, historical culture and theory, color theory, and analytical critiques of various floral art works using design vocabulary in conjunction with development of technical skills in floral art will serve as a foundation for more complex works such as multi-part floral designs and creative expression through wedding consultations.

C. BOARD – ADOPTED TEXTBOOKS

The Art of Floral Design, by Norah T. Hunter; pub Delmar
D. **SUPPLEMENTARY INSTRUCTIONAL MATERIALS**

Art Talk, by Rosalind Ragans; pub Glencoe & McGraw-Hill  
The Art of Floral Design, by Norah T. Hunter; pub Delmar  
Art Fundamentals, by Otto Ocvirk; pub McGraw Hill  
Discovering Art History, by Gerald F. Bromer; pub Davis  
Exploring Visual Design: The Elements & Principles; pub Davis  
The Visual Experience; pub Delmar  
Essential Impressionist; pub Parragon  
The Natural Way to Draw, by Kimon Nicolaides  
Elements of Design (video); pub Crystal Productions

*Floriculture: From Greenhouse Production to Floral Design*, Delmar Publishing  
*California Vocational Agriculture Model Core Curriculum*, Ornamental Horticulture  
Basic Floral Design Workbook  
University of California Content Standards for Visual and Performing Arts

A variety of handouts, overheads, and guest speakers from our community will be utilized. The students will be using our shop, computer lab, and greenhouse to supplement classroom activities

E. **BRIEF OUTLINE OF FLORAL DESIGN COURSE CONTENT**

<table>
<thead>
<tr>
<th>Unit of Instruction/Objectives</th>
<th>VPA Standards</th>
<th>Key Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit I: Introduction to Art</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. The Variety of Art</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Artistic perception</td>
<td>Aesthetic Valuing 4.1, 4.3 Connections, Relationships, Applications 5.4</td>
<td>- Students will write an art evaluation on one of the below: Ikebana Design, Vincent Van Gogh, Pablo Picasso, Edouard Monet, Klaus Wagner, Gregor Lersch, Els and George Hazenberg, Georgia O'Keeffe, Pierre Renoir</td>
</tr>
<tr>
<td>B. When is it Art?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Philosophy of Arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Aesthetic Value of Objects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Artistic Inspirations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Art Appreciation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The Art World</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Unit of Instruction/Objectives

#### C. Floral Symbolism
1. Identify flowers and foliage and their symbolism in art.
   a. Historical and modern works of art
   b. Cultural
   c. Design
   d. Ikebana

#### Unit II: Historical Contributions and Cultural Dimensions

##### A. Interpretation
2. The meaning of art
3. Elements of Art History

##### B. History of Floral Art
1. The Floral Art Designs of Ancient Civilizations
2. Floral visual art design styles and their origination

##### C. Research the Influences of Floral Artists of the 20th and 21st Century
1. Styles and techniques
2. Artistic Inspirations
3. Visual themes used in various cultures
4. Artistic components of various time periods and cultures
5. Time periods in floral art history
6. Historical style and periods
7. Floral art design: culture, ethnicity, time periods, and media
8. Cultural Themes: religious, holiday, funeral and wedding
9. Cultural Design
10. Design alternatives

### VPA Standards

<table>
<thead>
<tr>
<th>VPA Standards</th>
<th>Key Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artistic Perception 1.5</td>
<td>Students will research and write a description of the historical symbolism of specific flowers and foliage.</td>
</tr>
<tr>
<td>Historical &amp; Cultural Context 3.1, 3.3, 3.4</td>
<td>Students will choose a flower or foliage, find the symbolism and from it create a floral design.</td>
</tr>
<tr>
<td>Aesthetic Valuing 4.1</td>
<td>Add information, lecture notes, and drawings to <em>Interactive Notebook</em> on historical flower symbolism</td>
</tr>
<tr>
<td>Artistic Perception 1.3, 1.5, 1.6</td>
<td>Evaluation of art examples from various time periods</td>
</tr>
<tr>
<td>Creative Expression 2.4, 2.5, 2.6</td>
<td>Create a visual presentation on history of Floral Design</td>
</tr>
<tr>
<td>Historical &amp; Cultural Context 3.1, 3.2, 3.3, 3.4</td>
<td>Project on floral art history and specific art periods including: European Period, Impressionistic Era, Oriental Influence, and American Styles</td>
</tr>
<tr>
<td>Aesthetic Valuing 4.1, 4.2, 4.3, 4.5</td>
<td>Create a two and three dimensional visual display of floral art: Freeform Expression, Geometric Mass, Art Deco, Art Noveau, and Modern Contemporary through the use of various media</td>
</tr>
<tr>
<td>Connections, Relationships, Applications 5.2</td>
<td>Practicum using a given theme: two dimensional layouts, three-dimensional arrangements, fresh and dry cut flower designs, and container arrangements</td>
</tr>
<tr>
<td>Unit of Instruction/Objectives</td>
<td>VPA Standards</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td><strong>Unit III: Aesthetic Valuing and Making Judgments on Individual Works of Art</strong></td>
<td><strong>Creative Expression</strong>&lt;br&gt;2.2, 2.5, 2.6&lt;br&gt;&lt;br&gt;<strong>Connections, Relationships, Applications</strong>&lt;br&gt;5.3, 5.4</td>
</tr>
<tr>
<td><strong>A. Works of Art and Aesthetic Value</strong></td>
<td>1. Critique works of art using appropriate visual arts terms&lt;br&gt;2. Analyze art works in terms of art elements and design principles&lt;br&gt;3. Apply sensory qualities to works of floral art&lt;br&gt;4. Explores various styles and periods of viewed art&lt;br&gt;5. Evaluate and critique art elements and art principles used in others and own works of art</td>
</tr>
<tr>
<td><strong>Unit IV: Art Elements of Design</strong></td>
<td><strong>Creative Expression</strong>&lt;br&gt;2.3, 2.6&lt;br&gt;&lt;br&gt;<strong>Aesthetic Valuing</strong>&lt;br&gt;4.2, 4.3</td>
</tr>
<tr>
<td><strong>A. Lines</strong></td>
<td>1. Implied and expressive use of line in visual art works&lt;br&gt;2. Vertical, horizontal, and diagonal use of line in floral art works</td>
</tr>
<tr>
<td><strong>B. Shapes/Forms</strong></td>
<td>1. Shape and form in visual art works</td>
</tr>
</tbody>
</table>
2. Visual art elements of shape and form in design through

**C. Colors**
1. The origin of color through visual art
2. Color harmony in various art works
3. Use of monochromatic, analogous, complementary, and triadic schemes in student and other visual art works

- Create a Color Wheel
- Additions to student art and floral Portfolio Projects: application using triangular, circular, vertical, and horizontal floral art designs and applying hue, primary, secondary, tertiary, warm, cool, value, tint, tone, and shades to floral artworks

<table>
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</thead>
<tbody>
<tr>
<td><strong>Unit IV: Art Elements of Design-continued</strong></td>
<td>Artistic Perception 1.1, 1.2, 1.3, 1.4 Creative Expression 2.3</td>
<td>• Add information, notes, and drawing to Interactive Notebook on color harmony, value, and schemes</td>
</tr>
<tr>
<td><strong>D. Textures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Visual and tactile components in floral art using fine, medium, and course-textured media 2. Container and material components of floral art 3. Flower and foliage use through arrangements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Value</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Light and dark in visual art designs 2. Light and dark change in floral art</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F. Space and Depth</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The use of space in two and three-dimensional visual art designs 2. Interpret space in our environment 3. The use of space in visual designs by applying angling and overlapping media in floral art designs 4. Significance of size and color of media in Floral Art</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Unit V: Principles of Art Design** | | |
| **A. Balance** | Artistic Perception 1.1, 1.2, 1.3, 1.4 Creative Expression 2.3 | • Complete worksheet for elements and principles of design • Create a design project utilizing all elements and principles of design • Emotions and color |
| 1. Symmetrical and asymmetrical balance in floral art 2. Asymmetrical or symmetrical balance through developing floral art works 3. Radial and open balance in visual | | |
### B. Proportion/Scale
1. Proportion and scale through application of floral art designs using the following techniques: flower to container, flower to flower, and flower to foliage, and arrangement to environment
2. Geometrical techniques in floral art and visual art designs

### C. Emphasis
1. Visual floral art works
2. Other visual art works: convey understanding of location, size, pattern, framing, and isolation in floral art designs
3. Emphasis in floral designs by using line direction and directional facing

### D. Rhythm
1. Floral art using repetition and eye movement
2. Transition and radiating line in floral art works

### Unit of Instruction/Objectives

<table>
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<tbody>
<tr>
<td><strong>Unit V: Principles of Art Design-continued</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### E. Harmony and Unity
1. Harmony and unity through applying color combinations to visual designs
2. Placement, transition, and proximity in visual art works and critique student works in floral design

### F. Contrast
1. Color schemes in floral art design using various media
<table>
<thead>
<tr>
<th>A. Two-Dimensional Media</th>
<th>Creative Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basic drawing and layout: simple perspective drawing, sketching original art works, and project layout</td>
<td></td>
</tr>
<tr>
<td>2. Painting techniques for floral art through developing a color wheel and still life floral artwork</td>
<td></td>
</tr>
<tr>
<td>3. Mosaic art designs for floral art using paper and tile</td>
<td></td>
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<tr>
<td>4. Printmaking to floral art using pressed flowers</td>
<td></td>
</tr>
<tr>
<td>5. Photographic and graphic design through computer art</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Three-Dimensional Sculptures</th>
<th>Creative Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Display flower and foliage media techniques for specific floral art: mass flower and foliage, filler flower and foliage, line flower and foliage, form flower and foliage, fresh flower and foliage, dry flower and foliage, and artificial flower and foliage</td>
<td></td>
</tr>
<tr>
<td>2. Mechanics, materials, and media through an introduction to proper care and proper usage of floral equipment and media</td>
<td></td>
</tr>
<tr>
<td>4. Demonstrate the process of evaluation and refining floral art projects</td>
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</tr>
</tbody>
</table>

- Create a presentation board displaying basic drawing and layout skills
- Create mosaic art designs for floral art using paper and tile.
- Create and display flower and foliage media techniques for specific floral art: Mass Flower and Foliage, Filler Flower and Foliage, Line Flower and Foliage, Form Flower and Foliage, Fresh Flower and Foliage, Dry Flower and Foliage, and Artificial Flower and Foliage.
- Create a floral project applying mechanics, materials, and media through an introduction to proper care, proper usage, equipment and media.
- Create a floral project displaying specific artists’ styles and techniques using Oriental, European, and Exhibition Styles
- Student will evaluate his/her floral art project and support a position regarding the aesthetic value of the project and either change or defend position after considering views of others
<table>
<thead>
<tr>
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<th>Key Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit VII: Connections, Relationships, and Applications Learned in Visual Art</strong></td>
<td>Creative Expression 2.3</td>
<td>• Create a mosaic art design utilizing geometric shapes</td>
</tr>
<tr>
<td></td>
<td>Historical &amp; Cultural Context 3.4</td>
<td>• Emotional poetic color influenced project designed visually for floral art</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Historical time periods and artistic works written three page report</td>
</tr>
<tr>
<td><strong>A. Relationships to Other Disciplines</strong></td>
<td></td>
<td>• Design a floral advertisement using art elements, principles,</td>
</tr>
<tr>
<td>1. Compare and contrast works of art to other discipline areas</td>
<td></td>
<td>and techniques to display student's work at an art exhibition.</td>
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<tr>
<td></td>
<td></td>
<td>• Create a two-dimensional or three-dimensional design incorporating elements</td>
</tr>
<tr>
<td></td>
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<td>and principles as applied to a specific theme and culture.</td>
</tr>
</tbody>
</table>

**F. BEHAVIORAL OBJECTIVES FOR FLORAL DESIGN**

- Employ senses to perceive and apply the elements and principles of visual design through works of art, objects in nature, events, and the environment
- Explore the role of floral design in human history and culture through creative design concepts in two and three dimensional media, based on floral arranging
- Derive meaning from artworks and floral art designs, including floral symbolism, through analyzing, interpretations, and judgment of various pieces developed by renown artists of different historical and contemporary periods
- Demonstrate skills in utilizing the language of visual arts design as the foundation for creating and analyzing the visual structures and functions of art
- Develop and create original artwork based on relating visual art design concepts and processes to their own personal experiences and lifelong learning

**Course Objectives**

**ARTISTIC PERCEPTION**

- Develop Perceptual Skills and Visual Arts Vocabulary
  - 1.1 Identify and use the principles of design to discuss, analyze, and write about visual aspects in the environment and in works of art, including their own.
  - 1.2 Describe the principles of design as used in works of art, focusing on dominance and subordination.
• Analyze Art Elements and Principles of Design
  o 1.3 Research and analyze the work of an artist and write about the artist's distinctive style and its contribution to the meaning of the work.
  o 1.4 Analyze and describe how the composition of a work of art is affected by the use of a particular principle of design.

• Impact of Media Choice
  o 1.5 Analyze the material used by a given artist and describe how its use influences the meaning of the work.
  o 1.6 Compare and contrast similar styles of works of art done in electronic media with those done with materials traditionally used in the visual arts.

2.0 CREATIVE EXPRESSION
• Skills, Processes, Materials, and Tools
  o 2.1 Solve a visual arts problem that involves the effective use of the elements of art and the principles of design.
  o 2.2 Prepare a portfolio of original two-and three-dimensional works of art that reflects refined craftsmanship and technical skills.
  o 2.3 Develop and refine skill in the manipulation of digital imagery (either still or video).
  o 2.4 Review and refine observational drawing skills.

• Communication and Expression Through Original Works of Art
  o 2.5 Create an expressive composition, focusing on dominance and subordination.
  o 2.6 Create two or three-dimensional work of art that addresses a social issue.

3.0 HISTORICAL AND CULTURAL CONTEXT
• Role and Development of the Visual Arts
  o 3.1 Identify similarities and differences in the purposes of art created in selected cultures.
  o 3.2 Identify and describe the role and influence of new technologies on contemporary works of art.

• Diversity of the Visual Arts
  o 3.3 Identify and describe trends in the visual arts and discuss how the issues of time, place, and cultural influence are reflected in selected works of art.
  o 3.4 Discuss the purposes of art in selected contemporary cultures.

4.0 AESTHETIC VALUING
• Derive Meaning
  o 4.1 Articulate how personal beliefs, cultural traditions, and current social, economic, and political contexts influence the interpretation of the meaning or message in a work of art.
  o 4.2 Compare the ways in which the meaning of a specific work of art has been affected over time because of changes in interpretation and context.

• Make Informed Judgments
  o 4.3 Formulate and support a position regarding the aesthetic value of a specific work of art and change or defend that position after considering the views of others.
  o 4.4 Articulate the process and rationale for refining and reworking one of their own works of art.
  o 4.5 Employ the conventions of art criticism in writing and speaking about works of art.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS
• Connections and Applications
  o 5.2 Create a work of art that communicates a cross-cultural or universal theme taken from literature or history.

• Visual Literacy
  o 5.3 Compare and contrast the ways in which different media (television, newspapers, magazines) cover the same art exhibition

• Careers and Career-Related Skills
5.4 Demonstrate an understanding of the various skills of an artist, art critic, art historian, art collector, art gallery owner, and philosopher of art (aesthete).

The course objectives are designed to help the students achieve the following Bakersfield High School ESLR’s: 1a, b, c, 2a, b, c, d, e, f, and 3a, b, c, d.

FOUNDATION STANDARDS
1.0 Academics - Students understand the academic content required for entry into postsecondary education and employment in the Agriculture and Natural Resources sector. (The standards listed below retain in parentheses the numbering as specified in the mathematics, science, and history–social science content standards adopted by the State Board of Education.)

1.3 History–Social Science: Specific applications of Principles of Economics standards (grade twelve):
(12.2) Students analyze the elements of America’s market economy in a global setting.
(12.2.2) Discuss the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular products.
(12.2.3) Explain the roles of property rights, competition, and profit in a market economy.
(12.2.5) Understand the process by which competition among buyers and sellers determines a market price.
(12.2.6) Describe the effect of price controls on buyers and sellers.
(12.2.7) Analyze how domestic and international competition in a market economy affects goods and services produced and the quality, quantity, and price of those products.
(12.2.10) Discuss the economic principles that guide the location of agricultural production and industry and the spatial distribution of transportation and retail facilities.

2.0 Communications: Students understand the principles of effective oral, written, and multimedia communication in a variety of formats and contexts. (The standards listed below retain in parentheses the numbering as specified in the English–language arts content standards adopted by the State Board of Education.)

2.1 Reading: Specific applications of Reading Comprehension standards (grades nine and ten):
(2.1) Analyze the structure and format of functional workplace documents, including the graphics and headers, and explain how authors use the features to achieve their purposes.
(2.2) Prepare a bibliography of reference materials for a report using a variety of consumer, workplace, and public documents.
(2.3) Generate relevant questions about readings on issues that can be researched.
(2.6) Demonstrate use of sophisticated learning tools by following technical directions (e.g., those found with graphic calculators and specialized software programs and in access guides to World Wide Web sites on the Internet).

2.2 Writing: Specific applications of Writing Strategies and Applications standards (grades 9-10)
(1.1) Establish a controlling impression or coherent thesis that conveys a clear and distinctive perspective on the subject and maintain a consistent tone and focus throughout the piece of writing.
(1.2) Use precise language, action verbs, sensory details, appropriate modifiers, and the active rather than the passive voice.
(1.3) Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources.
(1.5) Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium (e.g., almanacs, microfiche, news sources, in-depth field studies, speeches, journals, technical documents).
(2.3) Write expository compositions, including analytical essays and research reports:
  a. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
b. Convey information and ideas from primary and secondary sources accurately and coherently.
c. Make distinctions between the relative value and significance of specific data, facts, and ideas.
d. Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs.
e. Anticipate and address readers’ potential misunderstandings, biases, and expectations.
f. Use technical terms and notations accurately.

(2.5) Write business letters:
  a. Provide clear and purposeful information and address the intended audience appropriately.
  b. Use appropriate vocabulary, tone, and style to take into account the nature of the relationship with, and the knowledge and interests of, the recipients.
  c. Highlight central ideas or images.
  d. Follow a conventional style with page formats, fonts, and spacing that contribute to the documents’ readability and impact.

(2.6) Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):
  a. Report information and convey ideas logically and correctly.
  b. Offer detailed and accurate specifications.
  c. Include scenarios, definitions, and examples to aid comprehension (e.g., troubleshooting guide).
  d. Anticipate readers’ problems, mistakes, and misunderstandings.

**Specific applications of Writing Strategies and Applications standards (grades eleven and twelve):**

(1.3) Structure ideas and arguments in a sustained, persuasive, and sophisticated way and support them with precise and relevant examples.

(1.6) Develop presentations by using clear research questions and creative and critical research strategies (e.g., field studies, oral histories, interviews, experiments, electronic sources).

(1.7) Use systematic strategies to organize and record information (e.g., anecdotal scripting, annotated bibliographies).

(1.8) Integrate databases, graphics, and spreadsheets into word-processed documents.

(2.5) Write job applications and résumés:
  a. Provide clear and purposeful information and address the intended audience appropriately.
  b. Use varied levels, patterns, and types of language to achieve intended effects and aid comprehension.
  c. Modify the tone to fit the purpose and audience.
  d. Follow the conventional style for that type of document (e.g., résumé, memorandum) and use page formats, fonts, and spacing that contribute to the readability and impact of the document.

(2.6) Deliver multimedia presentations:
  a. Combine text, images, and sound and draw information from many sources (e.g., television broadcasts, videos, films, newspapers, magazines, CD-ROMs, the Internet, electronic media-generated images).
  b. Select an appropriate medium for each element of the presentation.
  c. Use the selected media skillfully, editing appropriately and monitoring for quality.
  d. Test the audience’s response and revise the presentation accordingly.

**2.3 Written and Oral English Language Conventions :** Specific applications of English Language Conventions standards (grades eleven and twelve):

(1.1) Demonstrate control of grammar, diction, and paragraph and sentence structure and an understanding of English usage.

(1.2) Produce legible work that shows accurate spelling and correct punctuation and capitalization.

(1.3) Reflect appropriate manuscript requirements in writing.

**2.4 Listening and Speaking:** Specific applications of Listening and Speaking Strategies and Applications standards (grades nine and ten):

(1.1) Formulate judgments about the ideas under discussion and support those judgments with convincing evidence.

(1.7) Use props, visual aids, graphs, and electronic media to enhance the appeal and accuracy of presentations.

(2.2) Deliver expository presentations:
a. Convey information and ideas from primary and secondary sources accurately and coherently.
b. Make distinctions between the relative value and significance of specific data, facts, and ideas.
c. Include visual aids by employing appropriate technology to organize and display information on charts, maps, and graphs.
d. Anticipate and address the listener's potential misunderstandings, biases, and expectations.
f. Use technical terms and notations accurately.

(2.3) Apply appropriate interviewing techniques:
a. Prepare and ask relevant questions.
b. Make notes of responses.
c. Use language that conveys maturity, sensitivity, and respect.
d. Respond correctly and effectively to questions.
e. Demonstrate knowledge of the subject or organization.
f. Compile and report responses.
g. Evaluate the effectiveness of the interview.

**Specific applications of Listening and Speaking Strategies and Applications standards (grades 11-12)**

(1.8) Use effective and interesting language, including:
a. Informal expressions for effect  
b. Standard American English for clarity  
c. Technical language for specificity

(1.14) Analyze the techniques used in media messages for a particular audience and evaluate their effectiveness (e.g., Orson Welles' radio broadcast “War of the Worlds”).

(2.4) Deliver multimedia presentations:
a. Combine text, images, and sound by incorporating information from a wide range of media, including films, newspapers, magazines, CD-ROMs, online information, television, videos, and electronic media-generated images.
b. Select an appropriate medium for each element of the presentation.
c. Use the selected media skillfully, editing appropriately and monitoring for quality.
d. Test the audience's response and revise the presentation accordingly

**Career Technical Standards**

**3.0 Career Planning and Management**

Students understand how to make effective decisions, use career information, and manage personal career plans:

1. Know the personal qualifications, interests, aptitudes, information, and skills necessary to succeed in careers.
2. Understand the scope of career opportunities and know the requirements for education, training, and licensure.
3. Develop a career plan that is designed to reflect career interests, pathways, and postsecondary options.
4. Understand the role and function of professional organizations, industry associations, and organized labor in a productive society.
5. Understand the past, present, and future trends that affect careers, such as technological developments and societal trends, and the resulting need for lifelong learning.
6. Know important strategies for self-promotion in the hiring process, such as job applications, résumé writing, interviewing skills, and preparation of a portfolio.

**4.0 Technology: Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments:**

1. Understand past, present, and future technological advances as they relate to a chosen pathway.
2. Understand the use of technological resources to gain access to, manipulate, and produce information, products, and services.
3. Understand the influence of current and emerging technology on selected segments of the economy.
4. Understand geographic information systems (G.I.S.).
5. Determine the validity of the content and evaluate the authenticity, reliability, and bias of electronic and other resources.
4.6 Differentiate among, select, and apply appropriate tools and technology.

5.0 Problem Solving and Critical Thinking : Students understand how to create alternative solutions by using critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques:
5.1 Apply appropriate problem-solving strategies and critical thinking skills to work-related issues and tasks.
5.2 Understand the systematic problem-solving models that incorporate input, process, outcome, and feedback components.
5.3 Use critical thinking skills to make informed decisions and solve problems.

6.0 Health and Safety : Students understand health and safety policies, procedures, regulations, and practices, including the use of equipment and handling of hazardous materials:
6.1 Know policies, procedures, and regulations regarding health and safety in the workplace, including employers’ and employees’ responsibilities.
6.2 Understand critical elements of health and safety practices related to storing, cleaning, and maintaining tools, equipment, and supplies.
6.3 Understand how to locate important information on a material safety data sheet.
6.4 Maintain safe and healthful working conditions.
6.5 Use tools and machines safely and appropriately.
6.6 Know how to both prevent and respond to accidents in the agricultural industry.

7.0 Responsibility and Flexibility : Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings:
7.1 Understand the qualities and behaviors that constitute a positive and professional work demeanor.
7.2 Understand the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
7.3 Understand the need to adapt to varied roles and responsibilities.
7.4 Understand that individual actions can affect the larger community.
7.5 Understand the importance of time management to fulfill responsibilities.
7.6 Know how to apply high-quality craftsmanship to a product or presentation and continually refine and perfect it.

8.0 Ethics and Legal Responsibilities : Students understand professional, ethical, and legal behavior consistent with applicable laws, regulations, and organizational norms:
8.1 Know the major local, district, state, and federal regulatory agencies and entities that affect the industry and how they enforce laws and regulations.
8.2 Understand the concept and application of ethical and legal behavior consistent with workplace standards.
8.3 Understand the role of personal integrity and ethical behavior in the workplace.
8.4 Understand how to access, analyze, and implement quality assurance information.

9.0 Leadership and Teamwork : Students understand effective leadership styles, key concepts of group dynamics, team and individual decision making, the benefits of workforce diversity, and conflict resolution:
9.1 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace settings.
9.2 Understand the ways in which preprofessional associations, such as the Future Farmers of America (FFA), and competitive career development activities enhance academic skills, promote career choices, and contribute to employability.
9.3 Understand how to organize and structure work individually and in teams for effective performance and the attainment of goals.
9.4 Know multiple approaches to conflict resolution and their appropriateness for a variety of situations in the workplace.
9.5 Understand how to interact with others in ways that demonstrate respect for individual and cultural differences and for the attitudes and feelings of others.
9.6 Understand leadership, cooperation, collaboration, and effective decision-making skills applied in group or team activities, including the student organization.
10.0 Technical Knowledge and Skills: Students understand the essential knowledge and skills common to all pathways in the Agriculture and Natural Resources sector:

10.1 Understand the aims, purposes, history, and structure of the FFA student organization, and know the opportunities it makes available.
10.2 Manage and actively engage in a career-related, supervised agricultural experience.
10.3 Understand the importance of maintaining and completing the California Agricultural Record Book.
10.4 Maintain and troubleshoot equipment used in the agricultural industry.

11.0 Demonstration and Application: Students demonstrate and apply the concepts contained in the foundation and pathway standards.

CTE Course Standards as relevant to past and/or current agriculture course enrollment will be applied and enforced as related to the subject areas addressed in the course outline above.

G. ASSESSMENT PROCEDURES

1. The students will be assessed on the following:
   a. Daily Participation (Journals, Timecards, etc...) 15%
   b. Leadership (FFA) 15%
   c. Classwork/Homework 30%
   d. Quizzes/Tests/Floral Design Assessments 25%
   e. Supervised Agriculture Experience Project & Record Keeping 15%

Semester Grades are based on the following:

| Quarter 1 | 45% |
| Quarter 2 | 45% |
| Final     | 10% |

** Semester final is a project incorporated in the second quarter grade.**
COURSE OF STUDY

Agricultural Biology P 10-12 Agriculture/Science 10
Course Title Grade Level Department Max. Credit

(Title must correlate with Course Code Catalog)

Does this course satisfy a graduation requirement in another subject area? Yes
If so, what subject area? Biology CP (3204) Life Sci

Prepared by: Ralph Mendes School: Foothill High School Date: Oct 2003

Approval of Site Administrator Brenda Lewis, Asst. Princ.-Foothill Date: Oct 2003

(This form should be used by school sites for all courses of study other than “District-wide” courses)

A. COURSE INFORMATION

Grade Level: 10-12
Length of Course: 2 Semesters
Maximum Credit: 10 Units
Recommendation for Enrollment: Successful completion of Ag Sci 1 or approval of instructor

B. BRIEF DESCRIPTION OF THE COURSE

This course is a one-year, college preparatory course that is designed as a Biology Class that meets both graduation credit requirements and UC A-G requirements for a Laboratory Science (D requirement) and is for students who have a concentration in Agriculture. Using Agricultural topics as the vehicle, the course emphasizes principles, central concepts, and inter-relationships among the following topics: molecular and cellular aspects of life, energetics of life, growth and reproduction in plants, animals, and microorganisms, animal and human environments, plant and animal genetics, taxonomy of modern agricultural plants and animals, the ecology of farming, nutrition, health and disease of agricultural plants and animals, and the cultural practices of selected crops and livestock of the area. The course is centered on an extensive laboratory component in order to connect the big ideas to the life science of Agriculture. Other curricular areas including written, oral, and media communications will also be employed. A leadership component of the class will be conducted using activities involving public speaking and evaluation skills. THIS COURSE MEETS THE UC A-G COLLEGE ENTRANCE ELECTIVE CREDIT (“D”) REQUIREMENT. Prerequisites/Corequisites: Completion of Ag Sci 1 (or permission of instructor), enrollment in Alg 1 and English CP or higher.
C. **BOARD-ADOPTED TEXTBOOKS**


*Agriscience Fundamentals and Application*, Del Mar Publisher, 1990, Elmer Cooper


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D. **SUPPLEMENTARY INSTRUCTIONAL MATERIALS**

The following are some supplemental text and materials to be used in the class.

*Introduction to Livestock and Companion Animals*, Interstate Publishers, 2000,
Lee/Hutter/Rudd/Wenstrom/Bull/Mohr/Pollok


*California Agricultural Teachers Association Curricular Code of Activities*, 2003

*Brass Tacks of Animal Health*, James, Blakely. Doane Agricultural Service, Inc. 1978, St. Louis, Missouri CA ST Bio Standards


*The New Horizons*, magazine, bi-monthly copies available to each individual student. Alexandria, Virginia.


### E. BRIEF OUTLINE OF COURSE CONTENT

<table>
<thead>
<tr>
<th>UNIT</th>
<th>Semester/Days</th>
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<tbody>
<tr>
<td>A. Introduction to Agricultural Biology</td>
<td>Fall-10</td>
</tr>
<tr>
<td>1. What is agricultural biology and why is it important?</td>
<td></td>
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<tr>
<td>2. How does biology in agriculture impact the student?</td>
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<td>3. What are the career opportunities for the student in agricultural biology?</td>
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<tr>
<td>B. Agricultural Research</td>
<td>Fall-10</td>
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<tr>
<td>1. Why is research important?</td>
<td></td>
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<tr>
<td>2. What does an agricultural researcher do?</td>
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<td>3. How do researchers go about conducting research?</td>
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<tr>
<td>4. What are the principles of research?</td>
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<td>a. Project formulation and development</td>
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<td>b. Project management</td>
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<tr>
<td>c. Analysis of project results</td>
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<tr>
<td>C. Agriculture and the Environment</td>
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<tr>
<td>1. What are the characteristics of living things?</td>
<td>Fall 25</td>
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<tr>
<td>a. Cells - The Building Blocks of All Life Forms</td>
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<tr>
<td>1) Plant and animal cell identification and function</td>
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<td>2) Cell structure</td>
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<td>3) Cellular respiration</td>
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<td>4) Cellular transport</td>
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<td>5) Cell differentiation</td>
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<tr>
<td>2. What are the inorganic characteristics that support life?</td>
<td>Fall -10</td>
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<tr>
<td>a. Soil and Water: The Chemical Foundation</td>
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<tr>
<td>1) Atom and molecule structure and chemical bonding</td>
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<tr>
<td>2) Soil: What are the components of soil and why are different soil samples found where they are?</td>
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<tr>
<td>a) basic soil components</td>
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<td>b) soil formation factors and horizons</td>
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<td>c) soil texture, and structure</td>
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<td>d) soil organisms and organic matter</td>
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<td>e) interrelationships of plants and soil</td>
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<tr>
<td>3) Water a) water movement properties</td>
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<tr>
<td>4) Soil and water management</td>
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<tr>
<td>3. How do living organisms interact with the environment?</td>
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<tr>
<td>Why do the weather and other abiotic factors affect living organisms?</td>
<td>Spring-10</td>
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<tr>
<td>a. Structure and function of ecosystems</td>
<td></td>
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<tr>
<td>b. The Food Web</td>
<td></td>
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<td>c. The &quot;agricultural revolution&quot; and the environment</td>
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<tr>
<td>d. Demographics and the environment</td>
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<tr>
<td>e. Modern agricultural practices and the environment</td>
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</tbody>
</table>
4. How are plants and animals classified?  
   a. Taxonomy of living organisms    
   b. Evolutionary relationships with other major groups    
   c. Comparison of modern agricultural crops and livestock to ancestors

D. Plant Physiology, Reproduction, Photosynthesis and Growth  

1. What are the structures and functions of plants?  
2. How do plants grow?  
   a. Seed germination  
   b. Photosynthesis and respiration

3. How do plants reproduce?  
   a. Sexual reproduction  
   b. Asexual reproduction.

4. How have modern agricultural practices and biotechnology changed plants?  

5. What is the role of plants in nutrition and medicine?

E. Animal Physiology, Reproduction, Nutrition, Health and Behavior

1. What are the internal systems of animals? How do these systems differ among species? How are they similar?  
2. How do these systems interact to sustain life and promote growth?  
   a. The digestive process  
   b. The respiratory system  
   c. The reproductive system  
   d. The circulatory system  
   e. The endocrine system  
   f. The nervous system

2. Why do animals interact with each other? How does behavior affect management and feeding strategies?  

3. What do we feed domestic animals? How is food processed within the body? What are the important characteristics of feeds?  
   What are the animal’s nutrient requirements?  
   a. Feed identification and nutrient evaluation  
   b. Livestock nutrient requirements  
   c. Ration formulation

4. What are the major diseases that affect animals?  
   How do these diseases spread? How does the body prevent and fight diseases and infections? What management practices can reduce the incidence of health problems?
F. Plant and Animal Genetics

1. How are traits passed on?

2. How do cells reproduce?
   a. Mitosis
   b. Meiosis

3. What are the physical and chemical structures involved in genetics?

4. Who were some famous geneticists? What were their contributions?

5. Why are genetics important in production agriculture?

6. What are some future careers in genetics and biotechnology?

G. Testing and Conferences

F. **INTEGRATED LABORATORY ACTIVITIES**

The laboratory activities are examples of general types of laboratory and field experiments that integrate many areas of life, physical, and earth sciences and agriculture. The purpose of general, rather than specific, experiments is to give students an understanding of the interrelationships among scientific disciplines.

1. **Pollution and ecology activity #1:**

   Have the students set up a fish tank in the classroom and introduce small amounts of common pollutant chemicals, in order to increase the nutrient content of water over a period of time. Have the students regularly take and record measurements, including, water temperature, pH, water clarity, and visual observations of changes. Apply a heat source to the water to increase the algae growth. Visit a water treatment plant or irrigation district site. Have a water quality specialist speak to the class about his/her job and current problems and challenges facing California related to water quality. Have the students write a report on California water quality that includes experimental results as well as information from the guest speaker and field trip.

2. **Cell identification and function activity #2:**

   Prior to lecture and textbook readings regarding plant and animal cell similarities and differences, have the students take cheek cell samples and plant cell samples from any common houseplant or vegetable. Place both samples on a single slide and observe under a microscope. Have the students diagram both the plant and animal cell, label each component of the cells and describe the differences between the two. Based on observations have the students speculate why the cells differ in structure and function. Have available sample slides of blood, nerve, muscle, bone, and fat cells. Provide slide samples of single cell organisms (at least one plant and one animal organism) and have students compare and contrast the single cell organism to the other plant and animal cells. Take another cheek cell sample and place it in a petri dish.
Incubate for one week and place the resulting bacterial cells on a slide to observe growth and splitting of the cells. Use viable, live organism eggs (i.e. sea urchins) and observe both the egg and the sperm under the microscope. Combine the two and allow each student to observe the fertilization through the first splitting of the egg. Have the students outline the process of meiosis.

Apply a small amount of antibiotic to the sample in order to observe the cell response to stimuli.

3. Cellular environment and transport activity #3:

Use thin tubing or capillary tubes to demonstrate osmosis. Have the students experiment with the tubes using various solutions, ranging from pure water to a thick sugar and water solution. Have them describe the differences in transport.

4. Demographics, living systems, and the ecosystem activity #4:

Have the students draw a natural food web, including plants, insects, larger animal species, and humans. Compare the natural food chain to an artificial chain developed in production agriculture. The students will diagram the interrelationships of different systems in the food web, including the Nitrogen and Oxygen cycles, the effects of increasing populations, and the importance of plants to all participants in the food web. Use a trash can to make either compost or silage in order to demonstrate how the breakdown of organic materials leads to the production of beneficial elements.

5. Taxonomy of living organisms activity #5:

Have the students collect ten different plants and develop a key to determine the species of each. Given two similar plants of different species, have the students list the differences between the two, using a key. Perform the same activity using insect species. Have the students choose an animal species. Diagram the phylogenetic tree of the animal and list the differences that have occurred over time due to evolution. Compare modern agricultural plants, such as oats, to their relatives that grow in the wild in order to show the differences due to selection, heredity and biotechnology.

6. Plant physiology, reproduction and growth activity #6:

Start a small garden that includes plants from seed as well as transplants. Provide plant samples with different root, stem, flower, and fruit types. Have students develop models and diagrams of the different plants to demonstrate comparisons and contrasts and have them report on their findings. Using containers, grow similar plants in different soils to show the affects of soil texture and structure on plant growth. Have the students identify the important characteristics of each soil type, where the soil came from and why it is located where it is, and explain how it is beneficial or detrimental to the plant. Germinate seeds in an aquatic environment to demonstrate hydroponics. Have students practice grafting and budding techniques to demonstrate an understanding of asexual reproduction.
7. Animal physiology, nutrition and behavior activity #7:

Have the students draw and identify the organs involved in the digestive, respiratory, reproductive, circulatory, endocrine, and nervous systems of different animals. Where possible, bring organs to class. Visit a packing plant to observe the entire digestive tract of a livestock species. Identify live animals with various nutritional diseases. Have the students develop a balanced ration for their SOEP, taking into consideration the animal’s nutrient requirements, availability of feeds in the area, cost, and the animals behavioral patterns which would affect consumption of the ration. Have the students keep accurate records regarding the feeding program and write a report that includes the development of the project, day-to-day management, and results on the animal’s growth or reproductive performance as it relates to the diet.

8. Plant and animal genetics and reproduction activity #8:

Use microscopes or slides to show the structure of chromosomes. Have the students diagram the processes of mitosis and meiosis. Start a small garden with different varieties of peas of different colors. Cross pollinate the plants to demonstrate dominance. Graft two varieties of plants together. Have the students draw a flow chart showing the development of an animal from the single egg stage, through fertilization, growth, and parturition. Use slides or films to show embryo transfer, artificial insemination, cell splitting, and cloning techniques. Have students write, or give an oral report describing the future possibilities of bioengineering including the ethical and moral concerns that may arise as a result. Show the videotape, "Garden of Inheritance: a Documentary on Gregor Mendell" to show societal and political pressures associated with genetic research.

9. Term Research Project:

Each student will design and carry out a yearlong research project. During the first quarter of the year, each student will select a topic, perform library research and form a hypothesis, or research questions. The second quarter will include the development of the methodology, and conducting of an experiment to test the hypothesis. Students can design a new project, or replicate one from past research, making appropriate changes to improve the research design. The third quarter will consist of the data analysis and a summarization of results. During the fourth quarter, the students will complete the research paper, prepare an exhibit and present an oral presentation of their research.

G. BEHAVIORAL OBJECTIVES FOR (TITLE OF COURSE)

Upon completion of this course, the student will be able to:

Unit A. Introduction to Agricultural Biology
1. Explain the importance of Agricultural Biology in our society. Provide evidence for and defend your explanation. KHSD Ag 2, CA ST Bio Standards 6
2. Compare various careers in the area of agricultural biology. Report on careers held by persons in underrepresented populations? KHSD Ag 1, CA ST Bio Standards 6
Unit B. Agricultural Research
1. Explain the importance of research in agriculture. KHSD Ag 10, 11, CA ST Sci Investigation Standards 1
2. Describe the process of scientific research methods in agriculture. KHSD Ag 11, CA ST Sci Investigation Standards 1
3. Develop a Supervised Agricultural Experience Project, which involves the scientific method. KHSD Ag 3, CA ST Sci Investigation Standards 1
4. Formulate a term project focusing on one topic in agricultural biology. Relate it to other scientific disciplines. KHSD Ag 11, CA ST Sci Investigation Standards 1
5. Develop a research project that can be entered in the FFA Agriscience competition. KHSD Ag 11, CA ST Sci Investigation Standards 1

Unit C. Agriculture and the Environment
1. Identify the roles of plants and animals and their interactions in the web of life. KHSD Ag 4, CA ST Bio Standards 6
2. Describe the flow of energy through the biosphere. KHSD Ag 8, CA ST Bio Standards 7
3. Compare and contrast the oxygen and nitrogen cycles. Report on their importance in agriculture. KHSD Ag 12, CA ST Bio Standards 6. 7
4. Define the term "ecosystem." KHSD Ag 12, CA ST Bio Standards 6
5. Appraise at least three current issues in agriculture which biologically affect the environment. KHSD Ag 12, CA ST Bio Standards 6
6. Explain the impact of populations on the environment and the effect of the environment on populations. KHSD Ag 2, 12, CA ST Bio Standards 6
7. Report on both the good and bad effects of the agricultural revolution on the environment. KHSD Ag 2, 12, CA ST Bio Standards 6
8. Evaluate the economic effects of pollution and erosion on production agriculture. KHSD Ag 6, 12, CA ST Bio Standards 6
9. Develop and defend a plan to preserve limited resources related to agriculture. KHSD Ag 4, CA ST Bio Standards 6
10. Compare and contrast five forms of energy used in agriculture. KHSD Ag 3,4, CA ST Bio Standards 6
11. Design and conduct an experiment that shows the relationship between soil characteristics and plant growth. KHSD Ag 11, 12, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1
12. Describe how agriculture practices can modify soil to improve soil moisture relationships. KHSD Ag 3, 11, CA ST Bio Standards 6
13. Conduct an experiment that involves water movement through soil. KHSD Ag 3, 11, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1
14. Compare the internal systems of a single celled organism to those of multi cellular organisms. KHSD Ag 8, 11, CA ST Bio Standards 1
15. Describe the difference between plant cells and animal cells. KHSD Ag 8, CA ST Bio Standards 1, 3
16. Identify blood, bone, fat, nerve, and muscle cells. KHSD Ag 6, 8, CA ST Bio Standards 1, 3, 9
17. Identify and diagram male and female gametes in both plants and animals. KHSD Ag 8, CA ST Bio Standards 2, 9

18. Compare and contrast the processes of mitosis and meiosis. KHSD Ag 8, CA ST Bio Standards 2

19. Describe how cells respond to certain stimuli. KHSD Ag 7, 8, CA ST Bio Standards 2, 3

20. Explain the concept of cellular adaptation. KHSD Ag 8, 12, CA ST Bio Standards 4

21. Discuss the development of the biological concept of "Kingdom." KHSD Ag 8, CA ST Bio Standards 8

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22. Discuss three reasons for the current use of the modern system of plant classification. KHSD Ag 7, 12, CA ST Bio Standards 5

23. Apply taxonomy in three ways to the field of agriculture. KHSD Ag 7, 11, CA ST Bio Standards 7

24. Prepare a phylogenetic tree for at least one domestic animal species. KHSD Ag 7, CA ST Bio Standards 8

25. Explain how the process of natural selection affects plants and animals. Include the impact of external conditions in the explanation. KHSD Ag 12, CA ST Bio Standards 7, 8

26. Analyze the impact of increasing populations on the environment and its resources. KHSD Ag 12, CA ST Bio Standards 7, 8

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**Unit D. Plant Physiology, Reproduction, Photosynthesis, and Growth**

1. Compare and contrast the structures and functions of plants from different families. KHSD Ag 7, CA ST Bio Standards 9, 10

2. Design and conduct an experiment, which covers the entire lifecycle of a plant. KHSD Ag 11, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1

3. Defend the role of green plants in the maintenance of life. KHSD Ag 12, CA ST Bio Standards 6

4. Compare and contrast monocotyledons and dicotyledons with respect to leaf, stem, flower structure, and agricultural significance. KHSD Ag 8, CA ST Bio Standards 9

5. Analyze the interrelationships among the different systems within the plant. KHSD Ag 8, CA ST Bio Standards 9

6. Discuss abiotic environmental factors that affect plant growth (wind, temperature, solar radiation, soil conditions, humidity, pollution etc.). KHSD Ag 8, 12, CA ST Bio Standards 9

7. Explain the difference between sexual and vegetative reproduction. KHSD Ag 3, CA ST Bio Standards 4, 9

8. Demonstrate an application of both sexual and vegetative reproduction. KHSD Ag 3, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1

9. Discuss how sexual and asexual reproductions are used in agriculture. KHSD Ag 3, CA ST Bio Standards 6, 9

10. Research and report on the significant uses of plants in nutrition and medicine. KHSD Ag 3, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1

11. Compare the lifecycle of simple plants, such as algae or moss to a complex plant. KHSD Ag 3, 12, CA ST Bio Standards 4, 9

12. Grow at least one indoor and one outdoor landscaping plant or vegetable. Chart the growth pattern and report the results of observations. KHSD Ag 3, 5, CA ST Sci Investigation Standards 1
Unit E. Animal Physiology and Behavior

1. Demonstrate an understanding of the structure and function of the digestive system by tracing the pathways of food through the various types of livestock digestive systems, with emphasis on the function of organs in the digestive process. KHSD Ag 3, CA ST Bio Standards 9

2. Analyze the function of each mammalian body system. KHSD Ag 3, 8, CA ST Bio Standards 9

3. Compare the interrelationships of each system within the mammalian body. KHSD Ag 3, 8, CA ST Bio Standards 9

4. Compare and contrast the estrus cycles of cattle, sheep, and swine and the menstrual cycle in humans. Chart the process of fertilization in each species. KHSD Ag 3, 8, CA ST Bio Standards 9

5. Explain the importance of cellular respiration to living organisms. Develop a flow chart outlining the process of cellular respiration. KHSD Ag 3, 7, CA ST Bio Standards 1, 5

6. Develop a flow chart outlining the development of an embryo from conception through parturition. KHSD Ag 6, CA ST Bio Standards 9

7. Describe how animal behavioral patterns affect management and handling practices of domestic animals. KHSD Ag 5, CA ST Bio Standards 9

8. Dissect various organisms and identify the organs and systems of each. KHSD Ag 3, 5, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1

9. Compare and contrast the organ systems of different livestock species. KHSD Ag 3, CA ST Bio Standards 9

10. Analyze the nutrient requirements of various domestic species. KHSD Ag 3, 5, CA ST Bio Standards 9

11. Analyze the nutrient content of several feeds. KHSD Ag 5, 6, CA ST Bio Standards 9

12. Develop a low cost feed ration for one species of livestock for maintenance, growth and lactation, using concentrates and roughages available locally. KHSD Ag 3, 6, CA ST Bio Standards 9

13. Describe the symptoms of five common nutritional disorders caused by vitamin or mineral deficiencies or toxicity and explain the treatment and prevention of these diseases. KHSD Ag 3, 12 CA ST Bio Standards 10

14. Feed an animal through an entire production cycle, recording the types of feed used, rate of gain, and the lean to fat ratio. Report on observations and conclusions. KHSD Ag 3, 5, CA ST Bio Standards 9, CA ST Sci Investigation Standards 1

15. Develop a flow chart outlining the lifecycle of one internal and one external parasite. KHSD Ag 3, 12, CA ST Bio Standards 10

16. Describe the impact of parasites on livestock and on the agricultural industry. KHSD Ag 2, 4, 12, CA ST Bio Standards 10

17. Design a disease prevention and health care plan for a project animal. KHSD Ag 3, CA ST Bio Standards 10

18. Appraise the results of human medicine in relation to livestock medicine. KHSD Ag 2, 4, CA ST Bio Standards 10

Unit F. Plant and Animal Genetics

1. Compare and contrast the phenotypic traits of related breeds and varieties of animals and plants. KHSD Ag 3, 8, CA ST Bio Standards 3, 9
2. Explain the function of each of the following: gene, allele, DNA, and RNA. KHSD Ag 8, CA ST Bio Standards 3, 4, 5

3. Explain the role of enzymes in chromosome replication, and the implications of biotechnology involving these enzymes. KHSD Ag 3, 8, CA ST Bio Standards 4, 5

4. Discuss the contributions of Gregor Mendel to the field of genetics. KHSD Ag 8, CA ST Bio Standards 3

5. Conduct a simple experiment that exhibits dominant and recessive properties. KHSD Ag 8, 11, CA ST Bio Standards 3, CA ST Sci Investigation Standards 1

6. Evaluate the effectiveness of selection and heritability in production agriculture by comparing modern day crops and animals to their ancestors. KHSD Ag 3, CA ST Bio Standards 2, 3

7. Develop an experiment that develops a trait through selection and heritability. KHSD Ag 3, 6, CA ST Bio Standards 4, CA ST Sci Investigation Standards 1

8. Report on the importance of natural selection as the driving force of evolution and its importance in production agriculture. KHSD Ag 2, CA ST Bio Standards 3, 5

9. **Assessment Procedures**

1. 40% of the grade will be based on classroom instruction, including:
   - Exams
   - Quizzes
   - Papers
   - Homework and reading assignments

2. 40% of the grade will be based on laboratory and field research exercises

3. 20% of the grade will be based on the student portfolio, including:
   - Key classroom projects
   - Major field and laboratory activities
   - Written summaries of individual research projects
   - Ongoing Supervised Agricultural Experience Project record books
   - Summaries of FFA leadership/personal development achievements and activities
This is where FFA and SAE count in the gradebook as 10%.
SAE Supervision Form

Currently the West High School agriculture Department does not have SAE supervision forms.
On Site Instruction and SAE Evaluation Form

Date: ____________________________ Student's Name: ____________________________

Student Site of SAE Visi: [ ] Home [ ] School [ ] Lab [ ] Ag Bus. Worksite [ ] Other

SAE Description: ____________________________ Site Phone: ____________________________

Parent/Guardian: ____________________________ Phone: ____________________________

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<th>Excellent</th>
<th>Points x</th>
<th>weight factor</th>
<th>points earned</th>
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<td>Available/ Up-to-date with Documentation</td>
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<td>Little Student Work Observed/No Decision Making</td>
<td>Student Work is Evident with Some Student Responsibility</td>
<td>Student Work Shows Evidence of Consistent Effort and Responsibility</td>
<td>Student Work Shows Evidence of Consistent Effort, Responsibility, and Decision Making</td>
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<td><strong>TOTAL</strong></td>
<td>(50 points possible)</td>
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</tr>
</tbody>
</table>

Additional Comments: ____________________________________________

Teacher: ____________________________ Parent/Guardian/Student: ____________________________

(Signature) ____________________________________________________________________________

(Signature) ____________________________________________________________________________

2-21
The Art & History of Floral Design

Course Description
This class involves the fundamentals of floral design theory, techniques, and skills currently practiced in the floral design industry, including wedding, sympathy, party, holiday, and themed floral designs. Subjects will include applied art principles, cut flower care & handling practices, proper and safe use of florist tools and materials, pricing of floral products, and use of current floral business technology. Skills to be developed include customer relations, consultations, pricing, and use of technology in the industry. Course instruction also includes construction of corsages, floral arrangements, foliage plant items, introductory ornamental horticulture, identification of plants and flowers, professional industry organizations, and career opportunities. Construction and servicing of special events, party, and holiday floral displays are included. In addition, the inter-curricular FFA program supports and enhances the materials covered in the classroom. This includes involvement in FFA activities, planning of an agriculture based project, and keeping accurate records.

Course Objectives
- Demonstrate the skills necessary to safely use floral tools and materials.
- Correctly condition and handle cut flowers, foliage, and plants used in the floral industry.
- Construct floral products for holidays, art interpretations, weddings, displays, or resale.
- Demonstrate different floral design styles and arrangements, from different historic time periods.
- Demonstrate art principals & elements of design used in floral designs.
- Participate in basic horticulture production; demonstrate understanding of flower and foliage production.
- Create a professional portfolio of career technical skills.
- Design and construct arrangements used in wedding and sympathy floral work.
- Complete a wedding project for flowers used in the event including pricing and planning of designs.
- Motivate you as a consumer to appreciate floral design.
- Discover and consider possible careers as a professional in the floral industry.
- Exposure to FFA floral design career development events and supervised agricultural experiences in the floriculture industry.
- Integrate art standards, mathematics standards, language arts standards, and career employability standards including creative thinking and problem solving skills, and technological literacy related to the floral industry.

Course Outline
- Introduction to Floral Design
- Safety and Tool/Material Identification
- Art Definitions and Color Schemes
- Principles and Elements of Design
- History of Floral Design
- Holiday & Seasonal Flower Arrangements
- Basic Arrangement Shapes and Corsages
- Wedding Planning & Themes and Floral Accessories
- Dried and Silk Floral Designs
- Care and Handling of Cut Flowers and Foliage
- Basic Horticulture & Production
- Flower and Plant Identification
- Business Skills, Pricing, & Marketing
- Professional Skills & Opportunities in Floral Design & the FFA

Materials Needed
- Pen & pencil (highlighter and colored pencils are helpful, but not required)
- Provided notebook for interactive notebooks
- 1” White Binder with clear cover for Professional Portfolio (closer to end of semester)
Grading

35%   A. Classroom Assignments/interactive notebook
30%   B. Tests and Quizzes (on each Unit and the Final)
25%   C. Project Reports (Wedding Project, Art History Timeline, Professional Portfolio)
      E. FFA Participation (3 activities per semester)
      F. California Agriculture Record Book / Approved SAE Project (done in class)
      100% Total

A. Classroom Assignments and Homework: All daily activities are included in this category, such as video notes, work from the book, pricing estimates on the arrangements, and most importantly your arrangement evaluations. After each arrangement we make in class (whether it is for a customer or yourself) you will need to do a write-up on it, reflecting on what you learned. All general homework and classwork is included in this 35%. Class Notebook: Each student is required to maintain a binder or notebook for this class. Students should keep all handouts, notes, and class/homework organized in their notebook. This portion of their grade earned from the Binder comes from their Unit Note Packet turned in at the end of each topic unit and notebook checks. You will also keep the outlines of each arrangement, the pricing sheets, and ID notes.

B. Tests and Quizzes: Anytime we have a quiz or a test the points will count in this category. For all unit tests I will give you a study guide to review what will be on the test. The final is also included in this category.

C. Project Reports: All of our large projects or research reports will count here, such as the Wedding Project, your Professional Portfolio, the Art History project, and even any art projects in class like a collage. It is important to complete these projects since they make up 25% of your grade.

D. FFA Participation: FFA is an organization that makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education. The FFA is an integral part of every agricultural class. Every student’s grade will be enhanced by participation in this organization. Meetings, events, field days, fundraisers, conferences, community service, and competitions are just a few of the ways students can become involved in the FFA. There is a requirement of 3 FFA Activities per semester.

E. California Agriculture Record Book / Approved SAE Project: Students will complete a Record Book and maintain the information pertaining to their approved Supervised Agricultural Experience Project, and all FFA Activities. The Record Book (properly updated and correctly completed) is worth 5% of the total grade earned. This will be primarily an in-class activity, but the activities & participation recorded will be extracurricular. All students in the agricultural department are encouraged to maintain an SAE project; first year agriculture students will develop a plan for their SAE project for the coming year. This SAE may consist of a project in the field of agriculture, science, or industrial technology, and will allow students to experience career skills in the industry. Examples include: metal or wood shop projects, customer service, horticulture, community service, gardening, working in floral design, landscaping, and livestock (breeding or market animals).

Student Responsibilities

The agricultural department is successful because the students have pride in the activities of the department and care about what takes place in their class. It is essential that students who choose to take a class with the Agriculture Department be aware of and assist in meeting the expectations of the department.

Classroom Rules

1. Class begins when the bell rings. Students are expected to BE ON TIME, BE SEATED, BE PREPARED, and BE ATTENTIVE. Students will be considered tardy if they are not in their proper seat when the bell rings. Students should have class materials (notebook, book, writing utensil, etc.) ready at the start of class.
2. Students are expected to BE RESPECTFUL and treat their teachers, classmates, and classroom environment with respect. Disrespectful and/or rude behavior will not be tolerated.
3. Students are expected to BE RESPONSIBLE and BE ACCOUNTABLE for their actions and behavior. Students will be held accountable for their behavior and actions during class and towards their classroom assignments/responsibilities.

Late Work & Class Absences

Late assignments receive half credit of points earned.

Students may turn in late work from each grading period until the Friday before each grading period closes.

It is the student’s responsibility to make up classwork and tests/quizzes.

After missing a class period, the student should get their classwork from the teacher at the beginning of the next period.

All absent work is allowed the same time missed to make up work (if you are absent on Monday, you have Tuesday to make it up and it is due on Wednesday). One day absent = one day of make-up time.
It is required to keep this syllabus in your binder/notebook at all times.

Remember, you can always check your student's up-to-date grade on Synergy.

- I have read and agree to the information outlined in the course syllabus for The Art & History of Floral Design.
- I understand that work in class will include making flower arrangements, reviewing and reflecting on arrangements, book work, and projects.
- I understand that my student will need to participate in FFA activities for a small portion of their grade.
- I understand that late work will receive half credit.

By signing below I recognize that I have read and received the class syllabus, outline, grading procedures, and class rules; and I agree to these standards and requirements.

Student: ______________________

Parent/Guardian: ______________________

Date: ______________
Mrs. Trentham’s Agriculture Biology Class
Email- lynn_trentham@kernhigh.org  Phone #661-832-2822

Classroom Expectations
1. Come to class on time and prepared.
2. Follow directions.
3. Treat everyone in class with respect.
4. Actively participate in your learning.

Weekly Expectations
My class is separated into 4 units. Every unit you will be responsible for the items on the list below. All classwork and homework will go into your science notebook. This will become your study tool for all quizzes and tests. Having a correct and complete notebook will increase your success on assessments.

1. Daily warm-ups/exit slips
2. Science Notebook containing all work
3. Unit projects and labs
4. CFA’s (quizzes)
5. Unit Tests

Grading
The breakdown of your grade will be:
1. Science Notebook.................................................. 25%
2. CFU’s (Quizzes, warm-ups/exit slips)................. 15%
3. Assessments (Tests, labs & projects)..................... 50%
4. FFA and SAE (At least 6 FFA)............................. 10%
The goal in this class is to score a proficient (4) or advanced (5) on all assessments. Scores lower than proficient will result in intervention assignments and then a retake of the assessment.

    Learning is the only option!!

Units of Study
1. Molecules to Organisms:
   - Structures and Life Processes
2. Heredity:
   - Inheritance and Variation of Traits
3. Biological Evolution:
   - Unity and Diversity
4. Ecosystems:
   - Interactions, Energy and Dynamics

What should you do if you are...

Tardy Sit down immediately and do not make noise and disrupt the class already in session. If tardiness becomes a problem, the Dean will be notified and action will be taken.

Absent Make up work needs to be done outside of class. You will have the same number of days that you were absent to make up your assignments.

Need to leave the classroom You must have your school ID and bathroom pass. My policy is that a student may only leave 3 times per semester. Plan accordingly.

Lose your science notebook Notify the teacher immediately. You will need to redo all the assignments but I will provide you with the necessary papers.

Confused and need help Always ask me questions. I am available in class, before school, after school and every day at lunch. The schools tutoring program runs Tuesday- Thursday from 3-4:30

I ______________________________ have read and understood the class rules and procedures.

(Student’s name)

Parent signature ______________________________ email ______________________________

Preferred contact# ______________________ Preferred contact time morning afternoon evening
I. General Information

Instructor: Lynn Trentham
Course Title: Ag Earth Science
Grade Level: 9 CP
Room: K-1

II. Course Description

Agricultural Earth Science is a course that explores the Earth’s composition, structure, processes, and history; its atmosphere, fresh water, and its environment. Using agriculture as a learning vehicle, the course emphasizes the principles and practices of Earth Science as a way to demonstrate the relevance of agriculture to each student’s life and environment. Laboratory experiments introduce students to different lab techniques while building their skills in critical thinking, inquiry, and observation.

Another key aspect of this course involves leadership development in areas such as public speaking, critical thinking, goal setting and effective communication. Students are encouraged to further develop their leadership skills by actively participating in the FFA program and the many opportunities that it has to offer.

III. Grading Policies:

All grades will be determined by the instructor of the course. Grades will be percent weighted on the following scales:

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<th>% RANGE</th>
<th>GRADE</th>
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<td></td>
<td>100%</td>
<td>50-59</td>
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IV. Absence Policy:

If you miss a class meeting, and it was an excused absence, it is your responsibility to find out what you missed. **Collect make up work before school, at lunch or after school:** There is more time here for me to find what you have missed. You have **two class days** to make up class work or homework. **Tests and quizzes** may be made up by appointment before school, after school, or during lunch. **You will have three class days** to make up tests and quizzes.

V. Cheating Policy:

Cheating will not be tolerated in this class or at West High School. Any use of another student’s thoughts or answers will be considered cheating. Giving your answers to other students will also be considered cheating on both student’s parts and assignments for both students will receive a score of zero. Looking at another students test, copying homework or labs is cheating and will not be tolerated. A student who is caught cheating will be dealt with by the dean and school officials.
Rules Contract for Mrs. Trentham to Keep on File in Class

I have read the rules for Ag Earth Science and understand them and the consequences that will follow if they are broken. I agree to abide by these rules at all times.

Student Signature       Date

As the parent/guardian I have read these rules and agree to hold my son/daughter to these standards of classroom behavior and expectations.

Parent/Guardian Signature       Date

**Due no later than**
West High School
Ag Earth Science Course Syllabus 2016-2017

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Parent/Guardian Signature               Date

** Due no later than

Classroom Instruction

Supervised Agricultural Experience

Ag. Ed.

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Mrs. Trentham's Agriculture Biology Class
Email: lynn_trentham@kernhigh.org  Phone #661-832-2822

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(Student's name)

Parent signature ___________________________  email ___________________________

Preferred contact# _____________________  Preferred contact time  morning afternoon evening
Course Description
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Course Objectives
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- Business Skills, Pricing, & Marketing
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Materials Needed
- Pen & pencil (highlighter and colored pencils are helpful, but not required)
- Provided notebook for interactive notebooks
- 1” White Binder with clear cover for Professional Portfolio (closer to end of semester)
Grading

35% A. Classroom Assignments/interactive notebook
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25% C. Project Reports (Wedding Project, Art History Timeline, Professional Portfolio)
  E. FFA Participation (3 activities per semester)
  F. California Agriculture Record Book / Approved SAE Project
  5% G. Total

A. Classroom Assignments and Homework: All daily activities are included in this category, such as video notes, work from the book, pricing estimates on the arrangements, and most importantly your arrangement evaluations. After each arrangement we make in class (whether it is for a customer or yourself) you will need to do a write-up on it, reflecting on what you learned. All general homework and classwork is included in this 35%. Class Notebook: Each student is required to maintain a binder or notebook for this class. Students should keep all handouts, notes, and class/homework organized in their notebook. This portion of their grade earned from the Binder comes from their Unit Note Packet turned in at the end of each topic unit and notebook checks. You will also keep the outlines of each arrangement, the pricing sheets, and ID notes.

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C. Project Reports: All of our large projects or research reports will count here, such as the Wedding Project, your Professional Portfolio, the Art History project, and even any art projects in class like a collage. It important to complete these projects since they make up 25% of your grade.

D. FFA Participation: FFA is an organization that makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education. The FFA is an integral part of every agricultural class. Every student’s grade will be enhanced by participation in this organization. Meetings, events, field days, fundraisers, conferences, community service, and competitions are just a few of the ways students can become involved in the FFA. There is a requirement of 3 FFA Activities per semester.

E. California Agriculture Record Book / Approved SAE Project: Students will complete a Record Book and maintain the information pertaining to their approved Supervised Agricultural Experience Project, and all FFA Activities. The Record Book (properly updated and correctly completed) is worth 5% of the total grade earned. This will be primarily an in-class activity, but the activities & participation recorded will be extracurricular. All students in the agricultural department are encouraged to maintain an SAE project; first year agriculture students will develop a plan for their SAE project for the coming year. This SAE may consist of a project in the field of agriculture, science, or industrial technology, and will allow students to experience career skills in the industry. Examples include: metal or wood shop projects, customer service, horticulture, community service, gardening, working in floral design, landscaping, and livestock (breeding or market animals).

Student Responsibilities

The agricultural department is successful because the students have pride in the activities of the department and care about what takes place in their class. It is essential that students who choose to take a class with the Agriculture Department be aware of and assist in meeting the expectations of the department.

Classroom Rules

1. Class begins when the bell rings. Students are expected to BE ON TIME, BE SEATED, BE PREPARED, and BE ATTENTIVE. Students will be considered tardy if they are not in their proper seat when the bell rings. Students should have class materials (notebook, book, writing utensil, etc.) ready at the start of class.
2. Students are expected to BE RESPECTFUL and treat their teachers, classmates, and classroom environment with respect. Disrespectful and/or rude behavior will not be tolerated.
3. Students are expected to BE RESPONSIBLE and BE ACCOUNTABLE for their actions and behavior. Students will be held accountable for their behavior and actions during class and towards their classroom assignments/responsibilities.

Late Work & Class Absences

Late assignments receive half credit of points earned. Students may turn in late work from each grading period until the Friday before each grading period closes.

It is the student’s responsibility to make up classwork and tests/quizzes.

After missing a class period, the student should get their classwork from the teacher at the beginning of the next period. All absent work is allowed the same time missed to make up work (if you are absent on Monday, you have Tuesday to make it up and it is due on Wednesday). One day absent = one day of make-up time.
It is required to keep this syllabus in your binder/notebook at all times.

Remember, you can always check your student's up-to-date grade on Synergy.

- I have read and agree to the information outlined in the course syllabus for The Art & History of Floral Design.
- I understand that work in class will include making flower arrangements, reviewing and reflecting on arrangements, book work, and projects.
- I understand that my student will need to participate in FFA activities for a small portion of their grade.
- I understand that late work will receive half credit.

By signing below I recognize that I have read and received the class syllabus, outline, grading procedures, and class rules; and I agree to these standards and requirements.

Student: _______________________

Parent/Guardian: _______________________

Date: _______________
Grading

35%  A. Classroom Assignments/interactive notebook
30%  B. Tests and Quizzes (on each Unit and the Final)
25%  C. Project Reports (Wedding Project, Art History Timeline, Professional Portfolio)
  5%  E. FFA Participation (3 activities per semester)
  5%  F. California Agriculture Record Book / Approved SAE Project

100%  Total

A. Classroom Assignments and Homework: All daily activities are included in this category, such as video notes, work from the book, pricing estimates on the arrangements, and most importantly your arrangement evaluations. After each arrangement we make in class (whether it is for a customer or yourself) you will need to do a write-up on it, reflecting on what you learned. All general homework and classwork is included in this 35%. Class Notebook: Each student is required to maintain a binder or notebook for this class. Students should keep all handouts, notes, and class/homework organized in their notebook. This portion of their grade earned from the Binder comes from their Unit Note Packet turned in at the end of each topic and notebook checks. You will also keep the outlines of each arrangement, the pricing sheets, and ID notes.

B. Tests and Quizzes: Anytime we have a quiz or a test the points will count in this category. For all unit tests I will give you a study guide to review what will be on the test. The final is also included in this category.

C. Project Reports: All of our large projects or research reports will count here, such as the Wedding Project, your Professional Portfolio, the Art History project, and even any art projects in class like a collage. It important to complete these projects since they make up 25% of your grade.

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West High School
FFA Chapter
Program of Activities
2017-2018

Putting The Pieces Together
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2016-2017

REPORTER

SENTINEL

HISTORIAN
West High Administration

Terrie Bernardin- Principal

Megan Gregor—Assistant Principal, Curriculum

Ryan Coleman—Assistant principal, Administration
West FFA History

West FFA was first established when West High School first opened in 1965. In the mid 1980’s West unfortunately closed the program.

West FFA is now back! We reestablished the program in 2015. The FFA charter was reinstated at the 87th California FFA conference in April 2016.
# Calendar

## August 2016

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Committee

Why do committees exist?

Successful FFA chapters organize their POA by using committees. The number of committees will vary by chapter. The chapter vice president coordinates the work of committees, and every member should serve on at least one committee.
**What types of committees exist?**

FFA Chapters have three types of committees: standing, executive and special.

Standing committees usually function all year long and conduct activities that take place every year. A public relations committee is an example of a standing committee; members of the public relations committee plan publicity for all activities during the year, news releases, radio spots and more.

The executive committee usually consists of the chapter officers. In some chapters, chairpersons of standing committees also serve on the executive committee. The executive term lasts for one year and changes when new officers are elected.

Chapters use special committees for events that do not occur every year or are not part of a standing committee; in other words, they are to carry out a special event. A special committee lasts only until the specific event assigned is completed.
Point Awards

- 08/12 Boot Camp SLO = 1 point
- 08/20 SV COLC/CATA = 1 point
- 09/07 Back to School Barbeque = 1 point
  - Stayed for meeting = 1 point
  - Stayed for activity = 1 point
  - Dressing up = 1 point
  - Wearing uniform = 1 point
- 09/21 Kern County Fair = 1 point per exhibit
- 10/28 Tail-Gate Barbeque = 1 point
  - Stayed for meeting = 1 point
  - Stayed for activity = 1 point
  - Dressing up = 1 point
  - Wearing uniform = 1 point
- 11/01 Cookie Dough = 1 point per 4 items up to 3 points
- 11/15 SV O/C = 1 point for participation
  - High team = 1 point
- High Individual = 1 point
  - 11/16 Turkey Contest = 1 point
    - Stayed for meeting = 1 point
    - Stayed for activity = 1 point
    - Dressing up = 1 point
    - Wearing uniform = 1 point
  - 12/01 BIG Co-ops = 1 point for participation
    - High Team = 1 Point
    - High Individual = 1 point
  - 12/08 KI/SV Banking-Ag Pavilion = 1 point for participation
    - High Team = 1 point
    - High Individual = 1 point
- Skate Night = 1 point
- 12/19 Chocolate Fundraiser = 1 box = 1 point
- 12/21 Holy Cow Its Finals = 1 point
  - Stayed for meeting = 1 point
  - Stayed for activity = 1 point
  - Dressing up = 1 point
  - Wearing uniform = 1 point
- 01/28 SV Speaking Contest = 1 point for participation
  - High team = 1 point
  - High Individual = 1 point
- 02/15 Ag Expo = 1 point
- 02/17 MFE/ALA = 2 points
- 02/21-02/24 FFA Week Activities = 1 point per day
- 02/22 Movie Night = 1 point
  - Stayed for meeting = 1 point
  - Stayed for activity = 1 point
  - Dressed up = 1 point
  - Wearing uniform = 1 point
- 02/25 Region FFA Meeting = 1 point
- 03/11 Dinuba Floral Contest = 1 point
- 03/17 Region Speaking Contest = 1 point participation
  - High Individual = 1 point
- 04/22-04/25 State Conference = 1 point per day
  - Extra Responsibilities = 1 point
- 05/06 Cal Poly State Finals = 1 point
- 05/08 FFA Off Int. = 1 point
- 05/09 SV FFA Off Elections = 1 point
- 05/24 Awards Banquet = 1 point
  - Full Uniform = 2 points
  - Uniform w/out jacket = 1 point
**Budget**

**Estimated income**

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<tr>
<td>Chocolate</td>
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<tr>
<td>Cookie Dough</td>
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<td>Flower Sales</td>
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**Total Income** 7500

**Estimated Expenses**

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<td>Floral Contest</td>
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<tr>
<td>Officer Retreat</td>
<td>800</td>
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<tr>
<td>Misc. Food</td>
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**Total Expenses** 4800

**Estimated balance** 2700
Article I  Name and Purposes
Section A.  The name of this organization shall be the “West chapter of the Future Farmers of America” and the letters “FFA” may be used to designate the chapter, its activities, or members thereof.
Section B.  The purposes for which this chapter is formed are as follows:

   To develop competent and aggressive agricultural leadership.

   To create and nurture a love of agricultural life.

   To strengthen the confidence of students of vocational agriculture in themselves and their work.

   To create more interest in the intelligent choice of agricultural occupations.

   To encourage members in the development of individual occupational experience programs and establishment in agricultural careers.

   To encourage members to improve the home and its surroundings.

   To participate in worthy undertakings for the improvement of the industry of agriculture.
To develop character, train for useful citizenship and foster patriotism.

To participate in cooperative effort.

To encourage and practice thrift.

To encourage improvement in scholarship.

To provide and encourage the development of organized recreational activities.

Article II Organization
Section A. The West chapter of FFA is a chartered local unit of the California Association of Future Farmers of America that is chartered by the National FFA organization.

Section B. This chapter accepts in full the provisions of the constitution and bylaws of the California Association of FFA as well as those of the National FFA Organization.

Article III Membership
Section A. Membership in this chapter shall be of three kinds:

1. Active;
2. Alumni; and
3. Honorary, as defined by the national FFA constitution.

Section B. The regular work of this chapter shall be carried on by the active membership.

Section C. Honorary membership in this chapter shall be limited to the honorary chapter FFA degree.

Section D. Active members in good standing may vote on all business brought before the chapter. An active member shall be considered in good standing when:

1. They regularly attend local chapter
meetings with reasonable regularity.

2. They show an interest in and take part in the affairs of the chapter.

3. Are properly affiliated with the state and national FFA organizations.

Section E. Names of applicants for membership shall be filed with the membership committee.

Article IV Emblems

Section A. The emblem of the FFA shall be the emblem for the chapter.

Section B. Emblems used by the members shall be designated by the National FFA Organization.

Article V Membership degrees and privileges

Section A. There shall be four grades of active membership in this chapter. These grades are:

1. The Greenhand FFA degree,
2. The Chapter FFA degree,
3. The State FFA degree, and
4. The American FFA degree.

All Greenhands are entitled to wear the regulation bronze pin. All members holding the degree of Chapter FFA are entitled to wear the silver emblem pin. All members holding the State FFA degree are entitled to wear the regulation gold emblem charm. All members holding the American FFA degree are entitled to wear the regulation gold emblem key.

Section B. Greenhand FFA degree minimum qualifications for election: (Refer to state constitution for a complete list of degree requirements.)

1. Be regularly enrolled in a class in vocational education for an agricultural career occupation and have satisfactory and acceptable plans for a program of supervised farming and/or other agricultural
2. Learn and explain the FFA creed, motto and salute.
3. Describe the FFA emblem, colors and symbols.
4. Explain the proper use of the FFA jacket.
5. Have satisfactory knowledge of the history of the organization.
6. Know the duties and responsibilities of the FFA members.
7. Personally own or have access to the official FFA manual.
8. Submit written application for the degree and for the chapter records.
9. Must attend Greenhand degree banquet.

Section C. Chapter FFA degree minimum qualifications for election:
1. Must have the degree of the Greenhand and have a record of satisfactory participation in the activities of the local chapter.
2. Must have satisfactorily completed at least one year of instruction in vocational agriculture, have in operation an improved supervised farming and other agriculture occupational experienced program and be regularly enrolled in a vocational agriculture 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 the local chapter.
5. Be familiar with parliamentary procedure.
6. Must lead a group discussion for fifteen
minutes.

7. Must have earned by his/her own efforts from his/her supervised farming and/or other agricultural occupations program and deposited in a bank or otherwise productively invested at least $150.00 or whole 100 hours on his/her SOEP in excess of scheduled class time.

8. Have to attend Chapter FFA degree banquet.

9. Must fill out and turn in application for a chapter degree.

Section D. State FFA degree, minimum qualifications for elections:

1. Qualifications for the State FFA degree are those set forth in the constitution of the state association.

2. Must go to the state degree banquet.

Section E. American FFA degree, minimum qualifications for elections:

1. Qualifications for the American FFA degree are those set forth in the constitution of the National FFA Organization.

Section F. Special committees shall review the qualifications of members and make recommendations to the chapter concerning degree advancement.

Article VI. Officers

Section A. The officers of this chapter shall be as follows: president, three (3) vice presidents, secretary, treasurer, reporter, sentinel, and historian. The local advisor shall be the teacher of vocational agriculture in the school where the chapter is located. Officers shall perform the usual duties of their respective offices.

Section B. Leaders shall be elected annually by a majority
vote. There shall be 7 leaders chosen, and then between the chosen 7, they will be appointed to offices that fit their interest and capabilities. In the event that two or more leaders are interested in the same office, the individual with the most chapter votes is appointed.

Section C. An officer can be removed from office when the following situation exists:

1. The officer has lost interest in performing the duties of their office.
   2. He or she has missed 2 major events and/or
   3. He or she has 3 unexcused chapter or executive meeting absence.

In a closed officer meeting, the highest-ranking officer will entertain a motion to remove the officer from office. A second to the motion must be secured. The officer can only then be removed with a majority vote from the executive team, with the Advisor’s consent.

In the event this occurs, all of the past officer’s materials will be confiscated by the Advisor. A Vice President will take on the duties of that office until a replacement can be nominated at the next regular meeting.

Section D. The officers of the chapter with the chairman in charge of the major sections of the annual program of activities shall constitute the Chapter Executive Committee. The executive committee shall have full power to act as necessary for the chapter in accordance with actions taken at chapter meetings and various regulations or bylaws adopted from time to time.

Section E. Honorary members shall not vote or nor shall they hold any office in the chapter except that of advisor.

Section F. Chapter officers must hold the Chapter FFA Degree.

Article VII Meetings
Section A  Regular chapter meetings shall be held once a month during the school year and once during the remaining of the year at such time and place as is designated by the chapter executive committee. Special meetings may be called at any time.

Section B  Standard meeting equipment shall be used at each meeting. All regular meetings shall open and close with the official ceremony. Parliamentary Procedure shall be used in transacting all business at each of the meetings.

Section C  Delegates as specified by the State Constitution shall be elected annually from the active membership to represent the chapter at the State Leadership Conference. Other delegates may be named as necessary in order to have proper representation at various other FFA meetings within the state.

Section D  A majority of the active members listed on the secretary membership roll shall constitute a quorum, and a quorum must be present at any meeting at which business is transacted or a vote take committing the chapter to any proposal or action.

Article VIII  Dues
Section A  State and the Chapter or Grants when purchasing State FFA Leadership Packets shall pay National Dues.

Article IX  Amendments
Section A  This constitution may be amended or changed at any regular chapter meeting by a two-thirds vote of the active members present providing it is not in conflict with the State Association Constitution or that of the National Organization FFA.

Section B  Bylaws may be adopted to fit the needs of the chapter at any regular chapter meeting by a two-thirds vote of the active members present providing such bylaws conflict in no way with the constitution and bylaws of either the State Association or the National Organization
FFA Information

FFA Motto

Learning to Do, Doing to Learn,
Earning to Live, Living to Serve
**FFA Code of Ethics**

1. Develop my potential for premier leadership, personal growth and career success.
2. Make a positive difference in the lives of others.
3. Dress neatly and appropriately for the occasion.
4. Respect the rights of others and their property.
5. Be courteous, honest and fair with others.
6. Communicate in an appropriate, purposeful and positive manner.
7. Demonstrate good sportsmanship by being modest in winning and generous in defeat.
8. Make myself aware of FFA programs and activities and be an active participant.
9. Conduct and value a supervised agricultural experience program.
10. Strive to establish and enhance my skills through agricultural education in order to enter a successful career.
11. Appreciate and promote diversity in our organization.
FFA Creed

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 of agriculturists; in the promise of better days through better ways, 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 agricultural pursuits, is pleasant as well as challenging; for I know the joys and discomforts 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 interest 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.
Emblem

The national FFA emblem, consisting of five symbols, is representative of the history, goals and future of the organization. As a whole, the emblem covers the broad spectrum of FFA and agriculture. Each element within the emblem has unique significance.

The cross section of the ear of corn provides the foundation of the emblem, just as corn has historically served as the foundation crop of American agriculture. It is also a symbol of unity, as corn is grown in every state of the nation.

The rising sun signifies progress and holds a promise that tomorrow will bring a new day, glowing with opportunity.

The plow signifies labor and tillage of the soil, the
backbone of agriculture and the historic foundation of our country’s strength.

The eagle is a national symbol which serves as a reminder of our freedom and ability to explore new horizons for the future of agriculture.

The owl, long recognized for its wisdom, symbolizes the knowledge required to be successful in the industry of agriculture.

The words Agricultural Education and FFA are emblazoned in the center to signify the combination of learning and leadership necessary for progressive agriculture.

The emblem and the letters “FFA” are protected by trademark registration in the U.S. Patent Office and by Public Law 105-225, 105th Congress.
Recruitment Plan

Our school hosts two different events for 8th graders that will be coming to West. The first is a “carnival” they invite all 8th graders to come and check out all the different programs/clubs that are available and students are then able to sign up and talk to current students about each club. We set up a booth for the carnival and have current students from our program at our booth to talk to the incoming students and their parents. We also have a brochure we pass out at the “carnival” and send with our counselors when they visit the surrounding middle schools. I also go to the freshman registration night and register freshman for their classes for the following year and encourage them to take agriculture soil science as their freshman science course.

We also hope to start visiting middle school campuses to recruit.
West High School

Come Join the FFA Family!

WE WANT YOU

FFA
IN agriculture and FFA are

back at West High!

After nearly 20 years West High School is proud to announce the

return of an Agriculture Program.
Scrapbook

Currently West High School FFA does not have a scrapbook. We try to post pictures and what is going on in our chapter on social media.
January 2016

Sun | Mon | Tue | Wed | Thu | Fri | Sat
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8   | 9   | 10  | 11  | 12  | 13  | 14
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29  | 30  |     |     |     |     |     

**Lynn Trentham**

*Organization*
## July 2016

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**Lynn Trentham**

Primary Business Address
Address Line 2
Address Line 3
Address Line 4

Phone 555-555-5555
Fax: 555-555-5555
E-mail: someone@example.com

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**Organization**
# August 2016

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**Lynn Trentham**

Primary Business Address
Address Line 2
Address Line 3
Address Line 4

Phone 555-555-5555
Fax: 555-555-5555
E-mail: someone@example.com

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**Organization**
Graduate Follow Up

Currently our program is only in it's second year, because of this we do not have any graduates yet. I chose to make a graduate follow up form as my improvement project. The form was made on Google forms which makes it easy to share with graduates.
Graduate Follow up
* Required

1. Name (First and Last) *

2. Permanent Phone Number *

3. Employment Status (Check only 1) *
   Mark only one oval.
   
   - [ ] Full Time
   - [ ] Part Time
   - [ ] N/A

4. Are you apart of the military? *
   Mark only one oval.
   
   - [ ] Yes
   - [ ] No

5. School Status (Indicate ALL schools attended since high school, including present school.) *

6. College Major *
   Check all that apply.
   
   - [ ] Ag Major
   - [ ] Non Ag major
   - [ ] No College

7. College Major *
8. **Full Time or Part time student?** *
   *Mark only one oval.*
   - [ ] Full time
   - [ ] Part time
   - [ ] No College

9. **The most valuable aspect of FFA is (Only check one)** *
   *Mark only one oval.*
   - [ ] Officer and Committee Chair experience
   - [ ] Judging Contests
   - [ ] Recreation
   - [ ] Parli Pro, Speaking, Creed Speaking Contests
   - [ ] Advanced Degree and Proficiency Awards
   - [ ] Other:

10. **The least valuable aspect of FFA is (check one)** *
    *Mark only one oval.*
    - [ ] Officer and Committee Chair experience
    - [ ] Judging Contests
    - [ ] Recreation
    - [ ] Parli Pro, Speaking, Creed Speaking Contests
    - [ ] Advanced Degree and Proficiency Awards
    - [ ] Other:

11. **The most valuable aspect of SAE is (only check one)** *
    *Mark only one oval.*
    - [ ] Learning skills related to agriculture jobs
    - [ ] Development of responsibility
    - [ ] Learning how to keep records
    - [ ] Developing a record of agriculture experience for future employment references
    - [ ] A chance to produce income
    - [ ] Other:
12. The attitude of the community toward the agriculture program is: *  
   Mark only one oval.
   - Unaware
   - Very Supportive
   - Mildly Supportive
   - Disinterested
   - Mildly Critical
   - Very Critical

13. Suggestions for improving the instruction in the classroom:

14. Suggestions for improving the FFA:

15. Suggestions for improving projects:

16. Suggestions for improving facilities:
17. Suggestions for improving other:
Graduate Follow Up

Currently our program is only in its second year, because of this we do not have any graduates yet. I chose to make a graduate follow up form as my improvement project. The form was made on Google forms which makes it easy to share with graduates.
Comprehensive Program Plan

Currently West High School’s Agriculture program does not have a comprehensive program plan as it is only our second year. This is a project that is being worked on.
AGENDA

West Advisory Committee
June 2, 2016
5:00 p.m.

5:00 p.m.  Introduction/Tour
Welcome  Lynn Trentham

5:10 p.m.  Dinner
Olive Garden

5:40 p.m.  Agriculture Program Update
Classroom, SAE projects, West FFA  Lynn Trentham

6:00 p.m.  Curriculum/ Course Sequence
Lynn Trentham

6:20 p.m.  Closing Remarks/ Future Meeting dates/
Chairmen Selection

6:50 p.m.  Lynn Trentham

<table>
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<tr>
<th>Course Sequence</th>
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<tr>
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<tr>
<td>Juniors</td>
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<tr>
<td>Seniors</td>
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Agriculture Advisory Minutes
Thursday, December 8, 2016

Present at the meeting: Christine Dickson, Board Member
Jack Thomson, Board Member
Lynn Trentham, Ag Teacher

Meeting was called to order at 5:00pm by Lynn Trentham.

Lynn Trentham, conducted the meeting.

Dinner was served.

Lynn Trentham gave each member a copy of the Agricultural Education Grant Checklist. We went through each criteria, one by one and discussed how our department is/striving to meet the item. This brought up a lot of discussion about our course sequence and what class should be offered to seniors in the following years. Lynn Trentham explained that we just started our program in the 2015-2016 school year with sophomores and that next year 2017-2018 we will have our first senior class. The group agreed that seniors should take a business class with preference of Agriculture Government and Economics.

Meeting concluded at 6:00.
Agriculture Advisory Minutes

Thursday, June Thursday, June 2, 2016

Present at the meeting: Christine Dickson, Board Member
Michael Moore, Board Member
Lynn Trentham, Ag Teacher

Meeting was called to order at 5:30pm by Lynn Trentham.
Lynn Trentham, conducted the meeting.
Dinner was served.

Lynn Trentham gave a tour to the members present, went over the classes being taught in the West High School Agriculture Department. She also handed out the syllabi for the next school year 2016-2017.

Discussion between all members and instructors present about what is expected of the advisory board and members. Michael Moore suggested that meetings be short and concise. Christine Dickson suggested that board members help with finding job placement/internships/ job shadowing in the future.

Discussion of members to add to our committee. Michael Moore suggested finding a strong female in Ag finance to add. Christine suggested asking Lindsay Ono, horticulture instructor at Bakersfield College to be on our advisory committee.

Meeting concluded at 6:30.
Advisory Committee Constitution and By-Laws

Our advisory committee has only had the chance to meet 2 times and only 2 members have been able to come each time. I am hoping to use doodle poll to find a more accommodating time for all to meet and vote on a constitution and by-laws this spring.
C. Agriscience Pathway

The Agriscience 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 sciences.

C1.0 Students understand the role of agriculture in the California economy:
   - C1.1 Understand the history of the agricultural industry in California.
   - C1.2 Understand how California agriculture affects the quality of life.
   - C1.3 Understand the interrelationship of California agriculture and society at the local, state, national, and international levels.
   - C1.4 Understand the economic impact of leading California agricultural commodities.
   - C1.5 Understand the economic impact of major natural resources in California.
   - C1.6 Know the economic importance of major agricultural exports and imports.

C2.0 Students understand the interrelationship between agriculture and the environment:
   - C2.1 Understand important agricultural environmental impacts on soil, water, and air.
   - C2.2 Understand current agricultural environmental challenges.
   - C2.3 Understand how natural resources are used in agriculture.
   - C2.4 Compare and contrast practices for conserving renewable and nonrenewable resources.
   - C2.5 Understand how new energy sources are developed from agricultural products (e.g., gas-cogeneration and ethanol).

C3.0 Students understand the effects of technology on agriculture:
   - C3.1 Understand how an agricultural commodity moves from producer to consumer.
   - C3.2 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, communication, and so forth.
   - C3.3 Understand public concern for technological advancements in agriculture, such as genetically modified organisms.
   - C3.4 Understand the laws and regulations concerning biotechnology.

C4.0 Students understand the importance of animals, the domestication of animals, and the role of animals in modern society:
   - C4.1 Understand the evolution and roles of domesticated animals in society.
   - C4.2 Know the differences between domestication and natural selection.
   - C4.3 Understand the modern-day uses of animals and animal by-products. 19 AGRICULTURE AND NATURAL RESOURCES INDUSTRY SECTOR
   - C4.4 Understand various points of view regarding the use of animals.
   - C4.5 Understand unique and alternative uses of animals (e.g., Handi-Riders and companion animals).

C5.0 Students understand the cell structure and function of plants and animals:
   - C5.1 Understand the purpose and anatomy of cells.
   - C5.2 Know how cell parts function.
   - C5.3 Understand various cell actions, such as osmosis and cell division.
   - C5.4 Understand how plant and animal cells are alike and different.

C6.0 Students understand animal anatomy and systems:
   - C6.1 Know the names and locations of the external anatomy of animals.
   - C6.2 Know the anatomy and major functions of vertebrate systems, including digestive, reproductive, circulatory, nervous, muscular, skeletal, respiratory, and endocrine systems.
C7.0 Students understand basic animal genetics:
   C7.1 Differentiate between genotype and phenotype, and describe how dominant and recessive
genotypes function.
   C7.2 Compare genetic characteristics among cattle, sheep, swine, and horse breeds.
   C7.3 Understand how to display phenotype and genotype ratios (e.g., by using a Punnett
Square).
   C7.4 Understand the fertilization process.
   C7.5 Understand the purpose and processes of mitosis and meiosis.

C8.0 Students understand fundamental animal nutrition and feeding:
   C8.1 Know types of nutrients required by farm animals (e.g., proteins, minerals, vitamins,
carbohydrates, fats/oils, water).
   C8.2 Analyze suitable common feed ingredients, including forages, roughages, concentrates, and
supplements, for ruminant, monogastric, equine, and avian digestive systems.
   C8.3 Understand basic animal feeding guidelines and evaluate sample feeding programs for
various species, including space requirements and economic considerations.

C9.0 Students understand basic animal health:
   C9.1 Assess the appearance and behavior of a normal, healthy animal.
   C9.2 Understand the ways in which housing, sanitation, and nutrition influence animal health
and behavior.
   C9.3 Understand the causes and control of common animal diseases. 20 Agriscience Pathway
   C9.4 Understand how to control parasites and why.
   C9.5 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.

C10.0 Students understand soil science principles:
   C10.1 Recognize the major soil components and types.
   C10.2 Understand how soil texture, structure, pH, and salinity affect plant growth.
   C10.3 Understand water delivery and irrigation system options.
   C10.4 Understand the types, uses, and applications of amendments and fertilizers.

C11.0 Students understand plant growth and development:
   C11.1 Understand the anatomy and functions of plant systems and structures.
   C11.2 Understand plant growth requirements.
   C11.3 Know annual, biennial, and perennial life cycles.
   C11.4 Examine plant sexual and asexual reproduction.
   C11.5 Understand the photosynthesis process and the roles of the sun, chlorophyll, sugar,
oxygen, carbon dioxide, and water in the process.
   C11.6 Understand the respiration process in the breakdown of food and organic matter.

C12.0 Students understand fundamental pest management:
   C12.1 Understand the major classifications of pests (e.g., insects, weeds, disease, vertebrate
pests).
   C12.2 Understand chemical, mechanical, cultural, and biological methods of plant pest control.
   C12.3 Understand the major principles, advantages, and disadvantages of integrated pest
management.

C13.0 Students understand the scientific method: C13.1 Understand the steps of the scientific method.
   C13.2 Analyze an animal or plant problem and devise a solution based on the scientific method.
   C13.3 Use the scientific method to conduct agricultural experiments.
F. Ornamental Horticulture Pathway

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.

F1.0 Students understand plant classification and use principles:
   F1.1 Understand how to classify and identify plants by order, family, genus, and species.
   F1.2 Understand how to identify plants by using a dichotomous key.
   F1.3 Understand how common plant parts are used to classify the plants.
   F1.4 Understand how to classify and identify plants by using botanical growth habits, landscape uses, and cultural requirements.
   F1.5 Understand plant selection and identification for local landscape applications.

F2.0 Students understand plant physiology and growth principles:
   F2.1 Understand plant systems, nutrient transportation, structure, and energy storage.
   F2.2 Understand the seed's essential parts and functions.
   F2.3 Understand how primary, secondary, and trace elements are used in plant growth.
   F2.4 Understand the factors that influence plant growth, including water, nutrients, light, soil, air, and climate.
   F2.5 Understand the tissues seen in a cross section of woody and herbaceous plants.
   F2.6 Understand the factors that affect plant growth.

F3.0 Students understand sexual and asexual plant reproduction:
   F3.1 Understand the different forms of sexual and asexual plant reproduction.
   F3.2 Understand the various techniques for successful plant propagation (e.g., budding, grafting, cuttings, seeds).
   F3.3 Understand how to monitor plant reproduction for the development of a saleable product.

F4.0 Students understand basic integrated pest management principles:
   F4.1 Read and interpret pesticide labels and understand safe pesticide management practices.
   F4.2 Understand how pesticide regulations and government agencies affect agriculture.
   F4.3 Understand common horticultural pests and diseases and methods of controlling them.
   F4.4 Understand the systematic approach to solving plant problems.

Pathway

F5.0 Students understand water and soil (media) management practices:
   F5.1 Understand how basic soil science and water principles affect plant growth.
   F5.2 Know basic irrigation design and installation methods.
   F5.3 Prepare and amend soils, implement soil conservation methods, and compare results.
   F5.4 Understand major issues related to water sources and water quality.
   F5.5 Know the components of soilless media and the use of those media in various types of containers.

F6.0 Students understand ornamental plant nutrition practices:
   F6.1 Analyze how primary and secondary nutrients and trace elements affect ornamental plants.
   F6.2 Understand basic nutrient testing procedures on soil and plant tissue.
   F6.3 Analyze organic and inorganic fertilizers to understand their appropriate uses.
   F6.4 Understand how to read and interpret labels to properly apply fertilizers.

F7.0 Students understand the selection, installation, and maintenance of turf:
   F7.1 Understand the selection and management of landscape and sports field turf.
   F7.2 Understand how to select, install, and maintain a designated turfgrass area.
   F7.3 Understand how the use of turf benefits the environment.

F8.0 Students understand nursery production principles:
F8.1 Understand how to properly use production facilities and common nursery equipment.
F8.2 Understand common nursery production practices.
F8.3 Understand how to propagate and maintain a horticultural crop to the point of sale.
F8.4 Understand marketing and merchandising principles used in nursery production.

F9.0 Students understand the use of containers and horticultural tools, equipment, and facilities:
F9.1 Understand the use of different types of containers and demonstrate how to maintain growing containers in controlled environments.
F9.2 Operate and maintain selected hand and power equipment safely and appropriately.
F9.3 Select proper tools for specific horticultural jobs.
F9.4 Understand how to install landscape components and electrical land and water features.

AGRICULTURE AND NATURAL RESOURCES INDUSTRY SECTOR

F10.0 Students understand basic landscape planning, design, construction, and maintenance:
F10.1 Know the terms associated with landscape and design and their appropriate use.
F10.2 Understand the principles of residential design, including how to render design to scale.
F10.3 Understand proper landscape planting and maintenance practices.
F10.4 Prune ornamental shrubs, trees, and fruit trees.
F10.5 Develop clear and concise landscape business contracts.

F11.0 Students understand basic floral design principles:
F11.1 Understand the use of plant materials and tools.
F11.2 Apply basic design principles to products and designs.
F11.3 Handle, prepare, and arrange cut flowers appropriately.
F11.4 Understand marketing and merchandising principles used in the floral industry.
G. Plant and Soil Science Pathway

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.

G1.0 Students understand plant classification principles:
- G1.1 Understand how to classify and identify plants by order, family, genus, and species.
- G1.2 Understand how to identify plants by using a dichotomous key.
- G1.3 Understand how common plant parts are used to classify the plants.
- G1.4 Understand the differences between and uses of native and nonnative plants.
- G1.5 Understand the differences between monocots and dicots.
- G1.6 Understand the differences between plants under production and weeds.

G2.0 Students understand cell biology:
- G2.1 Understand the differences between prokaryotic cells and plant and animal eukaryotic cells and how viruses differ from them in complexity and general structure.
- G2.2 Understand plant cellular function reactions when plants are grown under different conditions.
- G2.3 Understand what functions organelles play in the health of the cell.
- G2.4 Understand the part of the cell that is responsible for the genetic information that controls plant growth and development.
- G2.5 Understand plant inheritance principles, including the structure and role of DNA.
- G2.6 Understand which organelles in plant cells carry out photosynthesis.

G3.0 Students understand plant physiology and growth principles:
- G3.1 Understand plant systems, nutrient transportation, structure, and energy storage.
- G3.2 Understand the seed's essential parts and functions.
- G3.3 Understand how primary, secondary, and trace elements are used in plant growth.
- G3.4 Understand the factors that influence plant growth, including water, nutrients, light, soil, air, and climate.
- G3.5 Understand the tissues seen in a cross section of woody and herbaceous plants.
- G3.6 Understand the factors that affect plant growth and predict plant response.

AGRICULTURE AND NATURAL RESOURCES INDUSTRY SECTOR

G4.0 Students understand sexual and asexual reproduction of plants:
- G4.1 Understand the different forms of sexual and asexual plant reproduction.
- G4.2 Understand the various techniques for successful plant propagation (e.g., budding, grafting, cuttings, and seeds).
- G4.3 Understand the proper sterile technique used in tissue culture.

G5.0 Students understand pest problems and management:
- G5.1 Understand how to categorize insects as pests, beneficial, or neutral and their roles.
- G5.2 Understand the role of other pests, such as nematodes, molds, mildews, and weeds.
- G5.3 Know conventional, sustainable, and organic management methods to prevent or treat plant disease symptoms.
- G5.4 Understand integrated pest management to prevent, treat, and control plant disease symptoms (including conventional, sustainable, and organic management methods).
- G5.5 Understand how biotechnology can be used to manage pests.

G6.0 Students understand soils and plant production:
- G6.1 Understand soil types, soil texture, structure, and bulk density and explain the U.S. Department of Agriculture (USDA) soil-quality rating procedure.
- G6.2 Understand soil properties necessary for successful plant production, including pH, EC, and essential nutrients.
G6.3 Understand soil biology and diagram the soil food chain.
G6.4 Understand how soil biology affects the environment and natural resources.
G7.0 Students understand effective tillage and soil conservation management practices:
   G7.1 Understand how to effectively manage and conserve soil through conventional, minimum, conservation, and no-tillage irrigation and through drainage and tillage practices.
   G7.2 Understand how global positioning systems, surveying, laser leveling, and other tillage practices conserve soil.
   G7.3 Use tools such as the USDA and the local Resource Conservation District soil survey maps to determine appropriate soil management practices.
G8.0 Students understand effective water management practices:
   G8.1 Understand California water history, current issues, water rights, water law, and water transfer through different distribution projects throughout the state.
   G8.2 Understand the local, state, and federal agencies that regulate water quality and availability in California.
   G8.3 Understand the definition of a watershed and how it is used to measure water quality.
   G8.4 Understand effective water management and conservation practices, including the use of tailwater ponds.
   G8.5 Know water-testing standards and perform bioassay and macro-invertebrate protocols to assess water quality.
G9.0 Students understand the concept of an “agrosystem” approach to production:
   G9.1 Understand how to identify and classify the plants and animals in an agricultural system (as producers, consumers, or decomposers).
   G9.2 Understand the elements of conventional, sustainable, and organic production systems.
   G9.3 Understand the components of “whole-system management.”
G10.0 Students understand local crop management and production practices:
   G10.1 Understand local cultural techniques, including monitoring, pruning, fertilization, planting, irrigation, harvest treatments, processing, and packaging practices for various tree, grain, hay, and vegetable classes.
   G10.2 Understand common marketing and shipping characteristics of local commodities.
   G10.3 Understand general maturity and harvest-time guidelines for specific local plant products.
G11.0 Students understand plant biotechnology:
   G11.1 Understand how changing technology—such as micropropagation, biological pest controls, and genetic engineering (including DNA extraction and gel electrophoresis)—affects plant production, yields, and management.
   G11.2 Understand the various technology advancements that affect plant and soil science (such as global positioning systems, global information systems, variable rate technology, and remote sensing).
   G11.3 Know how herbicide-resistant plant genes can affect the environment.
   G11.4 Understand how genetic engineering techniques have been used to improve crop yields.
   G11.5 Understand the effects of agricultural biotechnology, including genetically modified organisms, on the agriculture industry and the larger society and the pros and cons of such use.
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<thead>
<tr>
<th>Document Number</th>
<th>Document Title</th>
<th>Term</th>
<th>Status</th>
<th>Issue Date</th>
<th>Expiration Date</th>
<th>Original Issue Date</th>
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<td>123125476</td>
<td>Specialist Instruction Credential (Agriculture)</td>
<td>Clear</td>
<td>Valid</td>
<td>7/26/2012</td>
<td>8/1/2017</td>
<td>7/26/2012</td>
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<tr>
<td>123125022</td>
<td>Single Subject Teaching Credential</td>
<td>Preliminary</td>
<td>Valid</td>
<td>7/26/2012</td>
<td>8/1/2017</td>
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</table>

**Authorization/Subjects**

- **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 Requirements**

Please disregard any # signs you may see below and refer to the "Additional Description" column to the right for specific renewal requirements.

- **R20**: To renew this credential, the holder needs to submit only an application and fee to the Commission no earlier than 12 months before the expiration date. The renewal period is five years.

- **R1SP**: 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.

**Employment Restrictions**
WEST FFA CALENDAR OF ACTIVITIES 2015-2016

AUGUST
15-16 Chapter Officer Boot Camp @ SLO
19- School Starts
22- Chapter Officer Leadership Conference @ Shafter

SEPTEMBER
30- FFA Meeting and Activity Night - 4:00pm

OCTOBER
27- FFA Meeting and Activity Night - 4:00pm
22- Greenhand Conference

NOVEMBER
11- Veterans' Day Observance
11,12,16 Opening and Closing Practice
17- SV Opening & Closing Contest @ Independence
18- FFA Meeting and Activity Night - 6:00 pm
19- SV Prepared & Job Interview Manuscripts Due
24- Flower Making @ Shafter
23-27 Thanksgiving Recess

DECEMBER
3- SV Skate Night @ Skateland 6:00PM

JANUARY
21- SV BIG & Co-Op Contest @ BC - 5pm
22- Regional Officer Applications Due
26- State Degree & Proficiency Scoring
27- FFA Meeting and Activity Night - 4:00

FEBRUARY
10- Tulare Farm Show
20-21 MFE/ALA Conferences – Visalia
22-26 National FFA Week
24- FFA Meeting and Activity Night - 4:00PM
27- San Joaquin Regional Meeting @ Tulare

MARCH
8- SV Sectional Activity
12- Chico State Field Day
12- Wasco Dodge Ball Tournament

As additional activities come up they will be posted in class.
West FFA Calendar of Activities 2015-2016

18- SJR Speaking Contest @ COS
Tulare

21-28- Easter Recess

30- FFA Meeting and Activity Night
4:00PM

APRIL

5- SV State, Star, Proficiency Banquet
@ Ag Pavilion

9- Pomona Field Day

12- Sectional Officer Applications Due

16- Reedley and Kern Field Day

23- Fresno State Field Day

23-26 State FFA Leadership Conference
@Fresno

MAY

3- SV Sectional Elections
@McFarland -5pm

6-7- State FFA Finals @ Cal Poly SLO

25- Chapter Banquet - 6:00 pm

As additional activities come up they will be posted in class.
Professional Growth and Development

- CATA Summer Conference
- AIFD Conference
- San Diego Conservation Training
- Masters Program- Cal Poly
- GAFE Conference
- Classroom Management Training
- New Professionals
- San Joaquin Region Road Show
- San Joaquin Region Meeting (Spring and Fall)
- Floral Training in Sacramento
- Skills Trainings
- And more...
AGRICULTURAL EDUCATION  
INCENTIVE GRANT CHECKLIST  

SCHOOL  West High School  
AG DEPARTMENT CHAIR  Lynn Trentham  

QUALITY CRITERIA 1 - 9  
Failure to meet any part of a Quality Criteria may result in the loss of 10% of the incentive funds up to a maximum of 25%.  
Loss of funds can be avoided with an approved variance request which may be granted for one year on any Quality Criteria 1-9.  

QUALITY CRITERIA 10, 11 or 12  
Failure to meet either Quality Criteria 10, 11 or 12 (when applied for) will result in the loss of the funds applied for in that criteria.  

Department Head Signature  

Advisory Committee Chairperson Signature  
(for programs conducting Advisory Committee Reviews)  

Regional Supervisor Signature  

Advisory Committee Chair Contact information  
Name  Christine Dixon  
Address  
City  
Phone  661-619-4146  
Zip  

Revised 1/10
INCENTIVE GRANT CHECKLIST

1. CURRICULUM & INSTRUCTION

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>X</td>
<td>1A. The curriculum includes the components required under Section 52454 of the Education Code: organized classes in the study of agriculture science and technology; student supervised agricultural experience; and a program of leadership, organization and personal development.</td>
</tr>
<tr>
<td>X</td>
<td>1B. The Career Technical Education Model Curriculum Standards for the Agriculture and Natural Resources Industry Sector are the basis for content of courses offered. Curriculum addresses &quot;Foundation&quot; and &quot;Pathway&quot; standards within the program pathway(s) and course sequences.</td>
</tr>
<tr>
<td>X</td>
<td>1C. Career paths in agriculture have been identified and can be found on a chart or diagram in the Program Plan. (Foundation Standard 3.0)</td>
</tr>
<tr>
<td>X</td>
<td>1D. The school master schedule allows students to follow the recommended sequence of agriculture courses to complete the selected career path(s).</td>
</tr>
<tr>
<td>X</td>
<td>1E. Agriculture Career Awareness information is included in every course. (FS 3.1, 3.2)</td>
</tr>
<tr>
<td>X</td>
<td>1F. The agriculture department utilizes computer hardware and software as an instructional tool. (FS 4.2, 4.6)</td>
</tr>
<tr>
<td>X</td>
<td>1G. The agriculture curriculum includes the use of computer aided instruction by utilizing at least one of the following: (FS 4.2, 4.6)</td>
</tr>
<tr>
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<td>* Computerized Record Book</td>
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<td>* Agriculture Term Paper</td>
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<td>* Job Resume</td>
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<td>* Portfolio Letter of Introduction</td>
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<td>* Agriscience Fair Report</td>
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<td></td>
<td>* Agriculture/FFA Speech Manuscript</td>
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<td>* Job Cover Letter</td>
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<td></td>
<td>* Other Agriculture Related Project</td>
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<tr>
<td>X</td>
<td>1H. Recordkeeping is taught in all agriculture classes. Every student maintains and completes (closes out) either an actual SAE Project or Mock Problem. (FS 10.3, 11.0)</td>
</tr>
<tr>
<td>X</td>
<td>1I. Record books of all students are maintained in the Department files until one year following graduation.</td>
</tr>
<tr>
<td>X</td>
<td>1J. Agriculture courses have been submitted to meet high school graduation requirements and/or University of California a-g credit.</td>
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2. LEADERSHIP & CITIZENSHIP DEVELOPMENT

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>X</td>
<td>2A. An FFA Chapter has been chartered by the State Association or has been applied for.</td>
</tr>
<tr>
<td>X</td>
<td>2B. A Chapter Program of Work is developed annually and a copy is furnished to the Regional Supervisor by December 15th.</td>
</tr>
<tr>
<td>X</td>
<td>2C. Every student is given a grade based upon participation in leadership activities.</td>
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<tr>
<td>X</td>
<td>2D. All students enrolled in agriculture classes are affiliated with the State FFA Association.</td>
</tr>
<tr>
<td></td>
<td>2E. Based on previous year’s records, the department participated in a minimum of 12 activities as listed on the FFA Activities Check Sheet. (Attached)</td>
</tr>
</tbody>
</table>
2F. A minimum of 80% of the students participate in at least three leadership development activities annually as verified by department records. Activities could include any three of the following intra-curricular activities: (FS 7.0, 9.1, 9.2, 9.3, 9.6, 10.1)  
* Local Best Informed Greenhand Contest  
* Local Opening & Closing Contest  
* Local Program of Work Committee(s)  
* Local Agriscience Fair Exhibition  
* Local Parliamentary Procedure Contest  
* Any Section, Region, or State Activity  
* Local Creed Speaking Contest  
* Local COOP Quiz Contest  
* Local Demonstration Fair  
* Local Public Speaking Contest  
* Chapter Meeting or Activity  
* Other Local Activities

3. PRACTICAL APPLICATION OF AGRICULTURAL SKILLS

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<tr>
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<tbody>
<tr>
<td>X</td>
<td>3A. Student participation in Supervised Agricultural Experience (SAE) is part of the grading criteria for every agriculture student in the program. (FS 10.2)</td>
</tr>
<tr>
<td>X</td>
<td>3B. First year students have either been engaged in a SAE project(s) or have a plan in place for a SAE, as verified by the Student Data-Career Plan (FS 10.2, 10.3)</td>
</tr>
<tr>
<td>X</td>
<td>3C. A minimum of 80% of continuing students are engaged in SAE project(s) as verified by Department records. (FS 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0)</td>
</tr>
<tr>
<td>X</td>
<td>3D. Students with SAE projects are visited by their agriculture teacher at least twice per year as documented by Department records.</td>
</tr>
<tr>
<td>X</td>
<td>3E. A school vehicle is readily available to each agriculture teacher for all SAE activities associated with the program, or each teacher is adequately compensated for using their own personal vehicle.</td>
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4. QUALIFIED & PROFESSIONAL PERSONNEL

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<tbody>
<tr>
<td>X</td>
<td>4A. Every agriculture teacher has the appropriate credential for teaching the subject(s) assigned. Copy of authorizing credential(s) is in the Comprehensive Program Plan.</td>
</tr>
<tr>
<td>X</td>
<td>4B. Based on the previous year’s records, every agriculture teacher, teaching at least ½ time agriculture, attends a minimum of four professional development activities: (Complete attachment).</td>
</tr>
<tr>
<td>N/A</td>
<td>4C. The agriculture staff meets a minimum of twice a month. (This criteria does not apply to single person departments - mark column N/A = Not Applicable)</td>
</tr>
<tr>
<td>N/A</td>
<td>4D. A written record of minutes is kept of action taken during agriculture staff meetings and is kept in Department files or the Comprehensive Program Plan. (This criteria does not apply to single person departments - mark column N/A = Not Applicable)</td>
</tr>
<tr>
<td>X</td>
<td>4E. Teachers are reimbursed for personal expenses they incur while participating in all approved integral activities associated with FFA, SAE, and professional CATA in-service activities.</td>
</tr>
</tbody>
</table>

5. FACILITIES, EQUIPMENT & MATERIALS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>5A. Modification of facilities and equipment has occurred when necessary, based on the needs of students, including special populations.</td>
</tr>
<tr>
<td>X</td>
<td>5B. There is adequate storage space for materials, records, equipment and supplies.</td>
</tr>
</tbody>
</table>
5C. At least one of the below listed community or school-based laboratory facilities has been provided to accommodate students who have no place for their SAE project(s):

* School Farm Laboratory
* Greenhouse
* Growing Area
* Agriculture Shop

5D. The Agriculture Department has E-Mail capabilities.

5E. The reviewer verifies by visual observation that the agriculture facilities are neat, clean, and orderly.

5F. Facilities and equipment are regularly maintained, repaired, or replaced.

### 6. COMMUNITY, BUSINESS AND INDUSTRY INVOLVEMENT

<table>
<thead>
<tr>
<th>Yes No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
| X | 6C. The Agricultural Advisory Committee has assisted in the development or revision of the following components of the Comprehensive Program Plan, as evidenced in the Ag. Advisory Committee minutes:
* Job Market Description
* Total Program Goals & Objectives
* Course Subject Matter Outlines
* 5 Year Facility & Equipment Acquisition
* Graduate Follow Up
* Targeted Occupations
* Program Description - Courses, SAE, FFA
* Program Completion Standards
* Current Year Budget
* List of Active placement Sites |
| X | 6D. The contact information of the Advisory Committee Chair has been provided on the cover of this checklist |

### 7. CAREER GUIDANCE

<table>
<thead>
<tr>
<th>Yes No</th>
</tr>
</thead>
</table>
| X | 7A. Students are counseled regarding: (FS 3.0)
* Career opportunities in Agriculture and Agribusiness
* Agriculture and academic courses necessary to complete career pathway offerings
* Post-secondary education and training options. |
| X | 7B. All students have a completed career plan (Student Data Sheet) and it is updated annually. (FS 3.3) |
| X | 7C. Efforts have been made, or completed, to articulate with Community Colleges and/or Universities (i.e., 2+2+2 articulation agreements). |

### 8. PROGRAM PROMOTION

<table>
<thead>
<tr>
<th>Yes No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
</tr>
<tr>
<td>X</td>
</tr>
</tbody>
</table>
8C. The Agriculture Department conducts recruitment activities with local feeder schools.
### 9. PROGRAM ACCOUNTABILITY & PLANNING

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>9A. A Comprehensive Program Plan is on file with the Regional Supervisor and a copy is retained in the local department files.</td>
</tr>
<tr>
<td>❌</td>
<td>9B. Updates of the Program Plan are sent to the Regional Supervisor by November 15th. These updates include: (1) Five Year Equipment Acquisition Schedule; (2) Chart of Staff Responsibilities; (3) FFA Program of Work; (4) Advisory Committee Roster; and (5) Advisory Committee Minutes.</td>
</tr>
</tbody>
</table>
|     | 9C. A follow-up system is used which gathers the following information from program  
* Status of employment or school enrolled within  
* Opinion regarding the value and relevance of the agriculture program  
* Suggestions for improving the agriculture program |
|     | 9D. The Graduate Follow Up data collected was entered with the On-line R2/FFA Roster Data Entry by October 15th. |
|     | 9E. The Agriculture Department analyzes their student retention numbers each year and develops strategies to help increase retention within the program. |
|     | 9F. The R-2, AIG Expenditure Reports, and FFA Roster have been received by the Regional Supervisor and/or State FFA Financial Coordinator on or before October 15th. |

**QUALITY CRITERIA 10, 11and 12 MUST BE SCORED DURING THE REVIEW PROCESS. HOWEVER, SCORES WILL ONLY COUNT IF THESE CRITERIA HAVE BEEN APPLIED FOR VIA THE AGRICULTURE INCENTIVE GRANT APPLICATION.**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>10A. Shop and laboratory-based classes have no more than 20 students enrolled. Classroom-based classes have no more than 25 students enrolled.</td>
</tr>
<tr>
<td>❌</td>
<td>10B. The total number of students enrolled in agriculture classes does not exceed 75 students per teacher. First year students enrolled in agriculture courses will be counted as .5 for purpose of determining the total count only. (This does not pertain to class size.)</td>
</tr>
</tbody>
</table>

### 11. FULL YEAR EMPLOYMENT

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>11A. A full-time equivalent teacher is employed year-round for each 75 students enrolled in the agriculture program and is compensated no less than $2000.</td>
</tr>
<tr>
<td>❌</td>
<td>11B. During the school year, one teaching period for Supervision is assigned to each agriculture teacher. This project supervision period is in addition to the preparation period normally assigned to all teachers in the school. This requirement may also be met if a period is not available by financially compensating the agriculture teacher(s) at the equivalent cost of providing one period for supervision.</td>
</tr>
</tbody>
</table>

### 12. PROGRAM ACHIEVEMENT

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12A. The Agriculture Program meets the requirements of Program Achievement (attach checklist)</td>
</tr>
<tr>
<td>LEADERSHIP ACTIVITY</td>
<td>YES</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Attended State Leadership Conference</td>
<td></td>
</tr>
<tr>
<td>Attended Regional Meeting</td>
<td></td>
</tr>
<tr>
<td>Attended Regional Leadership Conference</td>
<td></td>
</tr>
<tr>
<td>Attended Greenhand Conference</td>
<td></td>
</tr>
<tr>
<td>Attended Made for Excellence Conference</td>
<td></td>
</tr>
<tr>
<td>Attended Advanced Leadership Academy</td>
<td></td>
</tr>
<tr>
<td>Attended Sacramento Experience</td>
<td></td>
</tr>
<tr>
<td>Participated in Opening-Closing Contest - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Best Informed Contest - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Parliamentary Pro Contests - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Prepared Public Speaking - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Extemporaneous Speaking - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Creed Recitation - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Job Interview Contest - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in Agricultural COOP Quiz Contest - Sectional</td>
<td></td>
</tr>
<tr>
<td>Submitted State FFA Degree Application</td>
<td></td>
</tr>
<tr>
<td>Submitted American FFA Degree Application</td>
<td></td>
</tr>
<tr>
<td>Submitted Proficiency Application - Sectional or Regional</td>
<td></td>
</tr>
<tr>
<td>Submitted Chapter Award Application - Sectional or Regional</td>
<td></td>
</tr>
<tr>
<td>Participated in Project Competition - Sectional</td>
<td></td>
</tr>
<tr>
<td>Participated in any FFA Judging Activity (other than above)</td>
<td></td>
</tr>
<tr>
<td>Participated in any other FFA Sectional Activity</td>
<td></td>
</tr>
<tr>
<td>Participated in Local Leadership Activities (3 maximum - list below)</td>
<td></td>
</tr>
<tr>
<td>Sectional Skate Night</td>
<td></td>
</tr>
<tr>
<td>Sectional Elections</td>
<td></td>
</tr>
<tr>
<td>COLC</td>
<td></td>
</tr>
<tr>
<td>TOTAL AREAS MET</td>
<td></td>
</tr>
</tbody>
</table>
INCENTIVE GRANT IN-SERVICE ACTIVITIES DOCUMENTATION

CRITERIA 4.B  
School Year  
School  West High School  

Based on the previous year's record, every agriculture teacher, teaching at least ½ time agriculture, attends a minimum of four of the following professional development activities:

Qualified and Competent Personnel

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>TEACHERS NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Region Meeting</td>
<td>X</td>
</tr>
<tr>
<td>Region In-service Day</td>
<td>X</td>
</tr>
<tr>
<td>Spring Region Meeting</td>
<td>X</td>
</tr>
<tr>
<td>Section In-service*</td>
<td>X</td>
</tr>
<tr>
<td>Section In-service*</td>
<td>X</td>
</tr>
<tr>
<td>Section In-service*</td>
<td>X</td>
</tr>
<tr>
<td>Section In-service*</td>
<td>X</td>
</tr>
<tr>
<td>Summer Conference</td>
<td>X</td>
</tr>
<tr>
<td>University AgEd Skills Week</td>
<td>X</td>
</tr>
<tr>
<td>Professional Development **</td>
<td>X</td>
</tr>
</tbody>
</table>

* Four Section In-service Meetings equals one Professional Development Activity

** Can utilize a maximum of two other "Agriculturally Related" Professional Development activities than those listed above. Explain the Professional Development:

1. Masters classes at Cal Poly
2. America Institute of Floral Design National Symposium- workshops and classes
3. California Floral Design Workshop in Sacramento
4. 
5. 
CALIFORNIA DEPARTMENT OF EDUCATION
AGRICULTURAL VOCATIONAL EDUCATION INCENTIVE GRANT
QUALITY CRITERIA 12

12A. Curriculum and Instruction

3 Number of UC Approved Agriculture Courses (must be at least one)

12B. Leadership and Citizenship Development

16 Number of activities on the approved FFA activity list which the local chapter participated in (must participate in at least 80% of the activities).

12C Practical Application of Occupational Skills

0 Number of students who received the State FFA Degree (must be at least 5% of the R-2 number)

12D Qualified and Professional Activities

1 Number of teachers who attended a minimum of 5 professional inservice activities (must attach approved Inservice Activities Verification Page)

12E Community, Business and Industry Involvement

1 Number of meetings held by the local Agriculture Advisory Committee (must meet at least 3 times with minutes attached)

Name of Agriculture Advisory Committee Chair

Christine Dickson

Phone Number of Ag. Advisory Committee Chair

661-619-4146

12F Retention

n/a Number of students who were in their 3rd and 4th year of agriculture instruction (must be at least 25% of the R-2 number)

12G Graduate Follow-Up

n/a Number of program completers graduating last year.

n/a Number of those who graduated who are employed in agriculture, in the military, or continuing their education (must be at least 75% of the program completers) Attach graduate follow-up
# REQUEST FOR APPROVAL OF LOCAL FIELD TRIP & TRANSPORTATION

**Local Field Trip or Co-Curricular Trip**  
(Less than 150 miles)  
Submit this form to West High Director of Activities at least ten (10) days in advance of trip

(PLEASE COMPLETE ALL QUESTIONS)  
PRINT OR TYPE

<table>
<thead>
<tr>
<th>Person in Charge:</th>
<th>Today's Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destination:</td>
<td>Group:</td>
</tr>
<tr>
<td>Purpose of Trip:</td>
<td>Distance/one way:</td>
</tr>
<tr>
<td>Transportation Requested:</td>
<td>Estimated Cost:</td>
</tr>
<tr>
<td>Day/Date of Leaving:</td>
<td># of Students:</td>
</tr>
<tr>
<td>Day/Date of Return:</td>
<td>Time/Leaving: am/pm</td>
</tr>
<tr>
<td>Group Responsible for Financing:</td>
<td>Time/Return: am/pm</td>
</tr>
<tr>
<td>Departure Location:</td>
<td>PO# Trip #</td>
</tr>
</tbody>
</table>

**EACH BUS MUST HAVE AT LEAST ONE WEST HIGH EMPLOYEE AS A CHAPERON**

Bus 1 Chaperon:  
Bus 2 Chaperon:  
Additional Chaperons: (ratio: 1 chaperon for every 15 students)

List any stops enroute:

If you are ordering a bus, all of the above information must be filled out, including the group responsible for financing and the West High employee who will be the chaperon on each bus. If your club or group is paying for the bus you need to fill out a Purchase Order Request form and submit it to Viking Hall. If the district is paying for the bus, please let me know the name of the department and the person who will be ordering your bus so that I can fax them a copy of this request in a timely manner.

***If you require a substitute for this trip or if the principal’s budget is paying for this trip, the AP in charge of finances must sign this form below.***

**Chaperone Check List**

- Activity Absence List or Student Trip List (Send to attendance office on day of departure)
- Grade Check Required
- Parent Permission Slips

Approved:  
Director of Activities  
Date

Approval by Asst. Principal in charge of Activities  
Date

****

Approval by Asst. Principal in charge of Subs or Finances  
Date

Transportation Scheduler  
Date

Revised 11/2007
CALIFORNIA AGRICULTURAL TEACHERS' ASSOCIATION

Lynn Trentham

SERVING AGRICULTURE BY TEACHING
2016/2017 ACTIVE MEMBER
Report to Administration

We have three members of our administration team; the principal, assistant principal of facilities and assistant principal of curriculum. It is hard to meet with all three at one time. I send emails periodically to administration as well as all staff, so they have an idea of what is happening within our program. I also meet with each one individually as needed, which is quite often. Our admin has been very supportive this year and communicate and meet together every Wednesday.

I hope to have a more formal report ready for them at the start of each school year covering the prior year and outlining our program goals for the coming year.
Last night we took 2 FFA teams to compete in 2 competitions, Co-Ops and BIG. Both were tests of knowledge BIG is a freshman contest only about the history and some other facts about FFA. Co-Ops is a math contest where students have different word problems that reality to the agricultural industry. Our Co-Ops team placed third in their contest! Please congratulate all of the students in the pictures below for a job well done.

Thank you for your support,

Lynn Trentham

>
West High School Agriculture Dept.
Equipment and Facilities
Acquisition Schedule 2016-17
(5 year Plan)

2016-2017
1. Truck Purchase Plan
2. Floral Storage
3. Science Textbooks
4. Aluminum Popper

2017-2018
1. Truck purchase plan
2. Lab Materials
3. Chromebook Cart
4. Trailer

2018-2019
1. Truck purchase plan
2. Color Printer
3. Digital Camera
4. Government/Econ Textbooks
5. Lab materials

2019-2020
1. Truck purchase plan
2. Floral Supplemental Textbooks
3. Lab Materials

2020-2021
1. Truck purchase plan
2. Greenhouse equipment/supplies
3. Lab Materials
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Category</th>
<th>Event</th>
<th>Type of Event</th>
<th>End Date</th>
<th>Cost per Student</th>
<th>Cost to Entire Club</th>
<th>Subsidy Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/2-9/13</td>
<td>FFA</td>
<td>Leadership Boot Camp</td>
<td>Leadership</td>
<td>2</td>
<td>$5.00</td>
<td>$30.00</td>
<td>FFA ASB Funds</td>
<td>Before School starts- School Vehicle</td>
</tr>
<tr>
<td>8-Sep</td>
<td>FFA &amp; CATA</td>
<td>COLC</td>
<td>conference</td>
<td>1</td>
<td>$0.00</td>
<td>$0.00</td>
<td>Regional FFA</td>
<td>Saturday-School Vehicle</td>
</tr>
<tr>
<td>14-Sep</td>
<td>FFA</td>
<td>Greenhills Leadership</td>
<td>conference</td>
<td>1</td>
<td></td>
<td></td>
<td>Ag Incentive</td>
<td>Sub - Thursday</td>
</tr>
<tr>
<td>9/21-10/2</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>12</td>
<td>$75.00</td>
<td>$75.00</td>
<td>FFA ASB Funds</td>
<td>After school on campus</td>
</tr>
<tr>
<td>15-Oct</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>175</td>
<td>$75.00</td>
<td>$75.00</td>
<td>FFA ASB Funds</td>
<td>Sub Needed- for some days not all days I will let you know ASAP</td>
</tr>
<tr>
<td>19-Oct</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>After school on campus</td>
</tr>
<tr>
<td>10/19-10/22</td>
<td>FFA</td>
<td>National Convention</td>
<td>conference</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>Not going this year but hopefully in the future</td>
</tr>
<tr>
<td>15-Nov</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>1</td>
<td></td>
<td></td>
<td>$75.00</td>
<td>Working up to this</td>
</tr>
<tr>
<td>11/16-11/27</td>
<td>FFA</td>
<td>New Professionals</td>
<td>Professional Devel</td>
<td>2</td>
<td>$175.00</td>
<td>$175.00</td>
<td>Principal</td>
<td>After school on campus</td>
</tr>
<tr>
<td>11/18-11/19</td>
<td>FFA</td>
<td>Road Show &amp; Fall Mgt</td>
<td>Professional Devel</td>
<td>2</td>
<td>$175.00</td>
<td>$175.00</td>
<td>Room Included in reg.</td>
<td>This is after school.</td>
</tr>
<tr>
<td>28-Nov</td>
<td>FFA</td>
<td>Big/Coops/Record</td>
<td>Competition</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Principal</td>
<td>This is after school.</td>
</tr>
<tr>
<td>1-Dec</td>
<td>FFA</td>
<td>Skate Night</td>
<td>Sectional Activity</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Principal</td>
<td>Sub needed- Wednesday and Thursday</td>
</tr>
<tr>
<td>8-Dec</td>
<td>FFA</td>
<td>Banking</td>
<td>Competition</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Principal</td>
<td>Sub needed- Friday, 2nd day is Saturday</td>
</tr>
<tr>
<td>21-Dec</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Principal</td>
<td>After School: May not have a cost. I will let you know ASAP,</td>
</tr>
<tr>
<td>21-Jan</td>
<td>FFA</td>
<td>CSUB Basketball Ag Night</td>
<td>Fun activity</td>
<td>9</td>
<td>Free</td>
<td></td>
<td>Free</td>
<td>After School: no transportation</td>
</tr>
<tr>
<td>28-Jan</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>8</td>
<td>$25.00</td>
<td>$25.00</td>
<td>FFA ASB Funds</td>
<td>After School- School van</td>
</tr>
<tr>
<td>31-Jan</td>
<td>FFA</td>
<td>Speaking</td>
<td>Competition @Wasco</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Principal</td>
<td>After School- School van</td>
</tr>
<tr>
<td>31-Jan</td>
<td>FFA</td>
<td>State Degree</td>
<td>Scoring</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Farm Account</td>
<td>After School</td>
</tr>
<tr>
<td>15-Feb</td>
<td>Other</td>
<td>Ag Expo</td>
<td>Career Exploration</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>Students pay for ticket/ Principal for bus</td>
<td>Bus: on a Wednesday all day- sub needed.</td>
</tr>
<tr>
<td>2/17-2/18</td>
<td>FFA</td>
<td>MRA/MLA</td>
<td>Conference</td>
<td>3</td>
<td>$150.00</td>
<td>$150.00</td>
<td>Hotel included in reg.</td>
<td>Sub on Friday, 2nd day is Saturday- School Vehicle</td>
</tr>
<tr>
<td>20-Feb</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>1</td>
<td>$0.00</td>
<td>$0.00</td>
<td></td>
<td>After School or on Weekend</td>
</tr>
<tr>
<td>22-Feb</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>1</td>
<td>$0.00</td>
<td>$0.00</td>
<td>FFA ASB Funds</td>
<td>After School- School van</td>
</tr>
<tr>
<td>2/2-2/25</td>
<td>FFA</td>
<td>National FFA Week</td>
<td>Campus activities for a</td>
<td>7</td>
<td>$75.00</td>
<td>$75.00</td>
<td>FFA ASB Funds</td>
<td>During school at lunch or after school no sub needed</td>
</tr>
<tr>
<td>25-Feb</td>
<td>FFA &amp; CATA</td>
<td>Spring Regional Mgt</td>
<td>Leadership</td>
<td>9</td>
<td>$150.00</td>
<td>$150.00</td>
<td>Principal</td>
<td>Saturday-School Vehicle</td>
</tr>
<tr>
<td>3-Mar</td>
<td>FFA</td>
<td>Chief Field Day</td>
<td>Competition</td>
<td>9</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$200.00</td>
<td>Sub Friday, 2nd day is Saturday</td>
</tr>
<tr>
<td>22-Mar</td>
<td>FFA</td>
<td>Chapter Mgt</td>
<td>on campus activity</td>
<td>9</td>
<td>$150.00</td>
<td>$150.00</td>
<td>$200.00</td>
<td>After School- School van</td>
</tr>
<tr>
<td>25-Mar</td>
<td>FFA</td>
<td>MLC Field Day</td>
<td>Competition</td>
<td>9</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$200.00</td>
<td>Saturday-School Vehicle</td>
</tr>
<tr>
<td>30-Mar</td>
<td>FFA</td>
<td>State Degree Banquet</td>
<td>Awards Banquet</td>
<td>9</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$200.00</td>
<td>Sub Friday, 2nd day is Saturday</td>
</tr>
<tr>
<td>8-Apr</td>
<td>FFA</td>
<td>Chief Mgt</td>
<td>on campus activity</td>
<td>9</td>
<td>$150.00</td>
<td>$150.00</td>
<td>$200.00</td>
<td>After School- School van</td>
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<tr>
<td>8-Apr</td>
<td>FFA</td>
<td>Pomona Field Day</td>
<td>Competition</td>
<td>9</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$200.00</td>
<td>Saturday-School Vehicle</td>
</tr>
<tr>
<td>22-Apr</td>
<td>FFA</td>
<td>Presso State Field Day</td>
<td>Competition</td>
<td>9</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$200.00</td>
<td>Saturday-School Vehicle</td>
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<tr>
<td>4/22-4/25</td>
<td>FFA</td>
<td>State Convention</td>
<td>Conference</td>
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<td>$300.00</td>
<td>$300.00</td>
<td>Principal</td>
<td>Saturday thru Tuesday Sub needed Monday and Tuesday</td>
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<tr>
<td>6-May</td>
<td>FFA</td>
<td>Cal Poly State Finals</td>
<td>Competition</td>
<td>9</td>
<td>$25.00</td>
<td>$25.00</td>
<td>$200.00</td>
<td>After School- no transportation needed</td>
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<td>8-May</td>
<td>FFA</td>
<td>Section officer screen</td>
<td>Leadership</td>
<td>9</td>
<td>$10.00</td>
<td>$10.00</td>
<td>$200.00</td>
<td>After School- no transportation needed</td>
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<tr>
<td>9-May</td>
<td>FFA</td>
<td>Section Elections</td>
<td>Officer Elections</td>
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<td>$10.00</td>
<td>$10.00</td>
<td>$200.00</td>
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<tr>
<td>17-May</td>
<td>FFA</td>
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<td>Awards Banquet</td>
<td>9</td>
<td>$10.00</td>
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<td>Summer- no sub needed</td>
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<td>6/5-6/5</td>
<td>CATA</td>
<td>Summer Conference</td>
<td>Professional Development</td>
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<td>6/7-6/7</td>
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<td>Summer Conference</td>
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<td>9</td>
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<td>$1,000.00</td>
<td>FFA ASB Funds</td>
<td>Saturday-School Vehicle</td>
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</tbody>
</table>
District/ Department Budget Process

The Kern High School District is a very large district. The district superintendent of business allocates funding to the school sites and the assistant principal divides funds as needed to the CTE departments on campus. Each year I discuss the needs of the department with our assistant principal and submit a wish list and budget to him. Funding comes in four different forms; Ag Incentive Grant Funds, Carl Perkins funds, CTIG, and FFA in the ASB accounts earned through fundraising. Ag Incentive is handled by Ralph Mendes the Ag Coordinator for the Kern High School District and is used for department supplies, conferences and contest registration fees. Carl Perkins funds are used for conferences, transportation, and professional development. CTIG money is used for equipment and textbooks. The most easily accessible account is our FFA account. This is where we put all of our fundraising money and use it to pay for any chapter meeting supplies and other events we may be hosting.
# WEST AGRICULTURE DEPARTMENT
## CHART OF RESPONSIBILITIES
### 2016-2017

<table>
<thead>
<tr>
<th>A. COURSES</th>
<th>Trentham</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture Science</td>
<td></td>
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<tr>
<td>a. Soil Science</td>
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<td>b. Agriculture Biology</td>
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<tr>
<td>c. Floral Design</td>
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<td>d.</td>
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<table>
<thead>
<tr>
<th>B. DEPARTMENT MANAGEMENT</th>
<th>Trentham</th>
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<tbody>
<tr>
<td>1. Department Chairperson</td>
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<tr>
<td>a. Agriculture Incentive Grant</td>
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<tr>
<td>1.) Ag Incentive Grant Application</td>
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<td>3.) Ag Incentive Grant Review Materials</td>
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<td>4.) Ag Department Program Plan</td>
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<td>b. Ag Department Purchase Orders</td>
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<tr>
<td>1.) Ag Incentive Grant Account</td>
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<td>2.) Perkins Grant Account</td>
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<td>3.) FFA ASB account</td>
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<td>c. Agriculture Curriculum</td>
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<tr>
<td>d. Agriculture Department Booster's Club</td>
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<tr>
<td>1.) Parents Club Meetings</td>
<td></td>
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<tr>
<td>a.) Ag Department Report</td>
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<tr>
<td>b.) FFA Advisor Report</td>
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<td>c.) FFA Member Participation</td>
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<tr>
<td>e. Ag Department Advisory Committee</td>
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<td>1.) Advisory Committee Meetings</td>
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<td>2.) Advisory Committee Meeting Announcement</td>
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<td>3.) Advisory Committee Meeting Agenda</td>
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<td>4.) Advisory Committee Meeting Minutes</td>
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<td>f. Agriculture Department Meetings</td>
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<tr>
<td>1.) Agriculture Department Meeting Agenda</td>
<td>X</td>
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<tr>
<td>2.) Agriculture Department Meeting Minutes</td>
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<td>3.) Agriculture Department Calendar</td>
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<td>4.) Agriculture Department Records</td>
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<td>g. Miscellaneous</td>
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<tr>
<td>1.) Agriculture Teacher Inservice Record</td>
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<td>2.) Agriculture Teacher Summer Hours</td>
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<td>2. FFA Advisor</td>
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<td>a. Student Data Sheets</td>
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<td>1.) Agriculture Department State R-2 Report</td>
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<td>a.) Graduate Follow-Up Survey</td>
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<td>2.) Ag Department State FFA Roster Update</td>
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<td>b. Activity Requests</td>
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<td>1.) Transportation Requests</td>
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<td>2.) Facility Requests</td>
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<td>3.) Master Calendar Requests</td>
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<td>4.) Fundraiser Requests</td>
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<td>a. Other Grant Applications</td>
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<td>4. Equipment and Facilities</td>
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<td>2.) Agriculture Department Stock Trailer</td>
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<td>a.) Agriculture Department Equipment</td>
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<td>b. Degrees</td>
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<td>1.) Greenhand Degree Applications</td>
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<td>2.) Chapter Degree Applications</td>
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<td>3.) State Degreee Applications</td>
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<td>4.) American Degree Applications</td>
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<td>c. Leadership Conferences</td>
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<tr>
<td>1.) Chapter Officer Leadership Conference</td>
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<td>2.) Greenhand Degree Conference</td>
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<td>3.) Made For Excellence Conference</td>
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<td>4.) Advanced Leadership Conference</td>
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<td>1.) FFA Chapter Officers</td>
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<tr>
<td>a.) Chapter Officer Meetings</td>
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<td>----------------------</td>
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<tr>
<td>1.) Chapter Officer Applications</td>
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<td>2.) Chapter Officer Retreat</td>
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<tr>
<td>b.) Chapter Program Of Work</td>
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<td>c.) Chapter Point Awards Program</td>
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<td>d.) Chapter Recruitment Program</td>
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<td>2.) Chapter Banquets</td>
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<tr>
<td>a.) Banquet Awards</td>
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<td>b.) Banquet Program</td>
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<td>c.) Banquet Slide Show</td>
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<td>3.) Community Service</td>
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<td>4.) Fundraisers</td>
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<tr>
<td>a.) FFA Welcome BBQ</td>
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<td>b.) FFA Week Activities</td>
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<td>c.) FFA Reward Trip (End of the Year)</td>
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<td>d.) Ag Expo (Tulare Farm Show)</td>
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<td>e.) FFA Jacket Orders</td>
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<td>f.) FFA State Finals Judging Contest Trip</td>
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### D. SUPERVISED AGRICULTURAL EXPERIENCE

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1. SAE Project Supervision</td>
<td>X</td>
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<tr>
<td>a. Livestock</td>
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<td>3.) Goats</td>
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<td>4.) Sheep</td>
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<td>5.) Swine</td>
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<td>d. Ornamental Horticulture</td>
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<tr>
<td>e. Agricultural Work Experience</td>
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<td>2. Fairs and Shows</td>
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<tr>
<td>a. SAE Project Supervision and Transportation</td>
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<td>b. Student Supervision and Transportation</td>
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<td>c. Chapter Supply and Equipment Transportation</td>
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<td>d. Fair and Show Entries and Fees</td>
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<td>e. Fair and Show Entry Tagging</td>
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<td>1.) Kern County Fair</td>
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<td>3. SAE Project Proficiencies</td>
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<tr>
<td>a. Chapter Proficiencies</td>
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<tr>
<td>1.) Chapter Proficiency Scoring</td>
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<td>b. Sectional Proficiencies</td>
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<tr>
<td>1.) Sectional Proficiency Scoring</td>
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<td>----------------------------------</td>
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<td>c. Regional Proficiencies</td>
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**E. JUDGING TEAMS**

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<thead>
<tr>
<th>1. Leadership Teams</th>
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<tr>
<td>2.) Open Opening and Closing Ceremonies</td>
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<td>3.) Freshmen Opening and Closing Ceremonies</td>
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<td>2.) Prepared Public Speaking</td>
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<td>3.) Job Interview</td>
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<td>4.) Impromtu</td>
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<table>
<thead>
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<th>5. Miscellaneous</th>
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<td>a. Banking</td>
<td>X</td>
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<tr>
<td>b. Coops</td>
<td>X</td>
</tr>
<tr>
<td>c. Novice Records</td>
<td>X</td>
</tr>
<tr>
<td>e. Best Informed Greenhand</td>
<td>X</td>
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</tbody>
</table>
Thank you for substituting at West High School today. We hope you have an enjoyable experience. Below is information to help answer questions which may arise throughout the day. Please pay special attention to the instructions for taking attendance.

PLEASE REFER TO BELL SCHEDULE ON REVERSE OF THIS SHEET FOR CLASS BEGINNING/ENDING TIMES.

EXTENSIONS:

School Secretary – 78031 (General questions)
Dean’s Secretary – 78013 (Discipline issues, dress code, electronics)
Athletic Secretary – 78053 (Athletic/Activity release times)
Counseling Secretary – 78020 (Counseling issues)
Attendance – 78029 (Attendance questions)

STUDENTS MUST BE SUPERVISED AT ALL TIMES. NEVER LEAVE YOUR CLASS UNATTENDED!!!

For serious discipline issues that require a student’s immediate removal from class call the

DEAN’S OFFICE: 78013
EMERGENCY PHONE NUMBER: *9

Please assist us in enforcing school rules. The following items are not allowed in the classroom. If you see them during class, call the Dean’s office, 78013, to report the violation. Note: Do not confiscate these items yourself.

- Hats
- Cell Phones
- IPOD / MP3 players

INFORMATION: CALL 78031 OR 78030

ATTENDANCE

PLEASE USE THE ATTACHED CLASS ROSTERS TO TAKE ATTENDANCE.

TO TURN ALL CLASS ROSTERS IN TO ATTENDANCE BY 3:45 pm.

- When taking attendance please use the following codes:
  - A – Absent
  - T – Tardy
- Each period’s roster must be signed and dated by the substitute
- Please turn completed roll sheets in to attendance no later than 3:45 pm

Given by our School Secretary upon arrival along with keys and roll sheets and bell schedule.
Sub Plans 02/24/2017

<table>
<thead>
<tr>
<th>Regular day Schedule</th>
<th></th>
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<tbody>
<tr>
<td>Period 1  Prep  8:15-9:15</td>
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<tr>
<td>Period 2  Ag Bio  9:20-10:20</td>
<td></td>
</tr>
<tr>
<td>Period 3  Soils  10:25-11:25</td>
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<tr>
<td>Period 4  Lunch  11:30-12:30</td>
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</tr>
<tr>
<td>Period 5  Soils  12:05-1:05</td>
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<tr>
<td>Period 6  Ag. Biology  1:10-2:10</td>
<td></td>
</tr>
<tr>
<td>Period 7  Floral Design  2:15-3:15</td>
<td></td>
</tr>
</tbody>
</table>

*2nd period TA is Thomas & Juan
*Announcements are made during 3rd period & Yancy is TA
*6th period Dai & Alaxas
*7th period Sierra is TA.

Thank you for taking my classes.
**Students are not allowed to go behind my desk and are not allowed in the cabinets or in the hallway or out the doors closer to the front.

Assignment:
- Periods 2 & 6: are all working on the worksheets to practice Punnett squares. Juan and Thomas can help them if they get lost but they should know how to do it.
- Periods 3 & 5: Are working on a research project about an agriculture career. They have been working on this the last couple days and today is the last day to work on it in class.
- Period 7: These students should be working on their art journal. We discussed what they should be doing yesterday. They may need in the cupboards and they know how to clean up everything.
- Theirs is written on the board they will need a textbook. They need to put up ALL the chairs at the end of the class period and pick up any trash before they can leave.
The Effects of Video Games on Your Brain

The fact is, 90% of school-aged children play video games, but did you know that the age of the average gamer today is 33 years old? Video games are found in nearly all households; in fact, after the one-month release of popular video games, there is an average of 68,000 years of game time played within homes across the U.S. It looks like they are here to stay.

First and foremost, video games are not good for your health. But, they are not necessarily bad for your health in reasonable doses. A reasonable dose is game time played anywhere from 5-15 hours a week.

1. What is the average age of a gamer these days? ______________________
2. What is considered a "reasonable dose" of video games? ________________

If you play action games within the 5-15 hours weekly range, the effect of video games on your brain can actually be positive. First of all, it can help to improve your vision in a number of ways. It has been proven in a laboratory setting that action gamers are better able to resolve small detail in the context of clutter. In addition, action gamers can differentiate between different levels of gray. The eyes working to coordinate with the brain lead to overall better vision. Video games that contain high levels of action, such as Unreal Tournament, can actually improve your vision.

Researchers at the University of Rochester have shown that people who played action video games for a couple hours a day over the course of a month improved by about 20 percent in their ability to identify letters presented in clutter—a visual test similar to ones used in eye clinics. In essence, playing video game improves your bottom line on a standard eye chart.

3. Describe ways in which your vision can improve from playing action video games: ____________________________________________________________
   _________________________________________________________________
   _________________________________________________________________
   _________________________________________________________________

Let's look at how the brain works while playing video games, using brain imagery. First, review what the colors mean (refer to these as necessary):

<table>
<thead>
<tr>
<th>Color</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>The most active area(s) of the brain</td>
</tr>
<tr>
<td>Orange</td>
<td>Active</td>
</tr>
<tr>
<td>Yellow</td>
<td>Somewhat active</td>
</tr>
<tr>
<td>Green</td>
<td>Mostly inactive</td>
</tr>
<tr>
<td>Blue</td>
<td>Inactive</td>
</tr>
</tbody>
</table>

The Negative Effects of Video Games

The studies above were all tested with subjects who played 5-15 hours a week, the "reasonable dose" of video games. However, devoting time to more than 15-20 hours a week of video games, puts health at risk. Here's how:

1. **Weight gain** - not being active enough.
2. **Poor circulation** - sitting too much without stretching or moving can lead to poor circulation (oh yeah, and weight gain).
3. **Sleep deprivation** - not having enough energy throughout the day (also, did you know too little sleep can lead to weight gain?)
4. **Spine and neck problems** - sitting for long periods of time can lead to poor posture. You may not be worried about it now, but poor posture can have severe and permanent affects on your neck and spine. It can also lead to kyphosis (hunchback).
5. **Isolation** - in severe cases, gamers do not get enough "face time" or social interaction with friends. This can lead to depression if for any reason they had to part with their video games and gaming network. This may lead to obsession.

There is much debate as to whether or not video games should be banned from young people, because of many reasons including childhood obesity, and that violent video games could cause violence in real life. Then, there are others, including many scientists that think video games can be good for learning, but in moderation and without extreme violence. No person claims that lots of game time is good for you. Nor do people claim that violent video games are optimal.

**What is your stance? Do you think that video games should be banned?** Yes or no? Suggest reasons for your decision. Also, provide a compromise, or a solution, that would make both sides of the debate satisfied.

**How do I feel about video games? What is one solution I can offer?**

---

Program Completer

In order to be a program completer students must be enrolled in an agriculture class 3 to 4 years. Last year we started our program with sophomores in Agriculture Biology and one section of Agriculture Earth Science. This year we started our freshmen in Agriculture Soil Science. From there they will go to Agriculture Biology as sophomores and as juniors they will take Floral Design.

My site administration and I are still working out the best path to take for our senior class. We will decide this before the end of the school year. Some possibilities for our seniors is to take floral 2 or agriculture government and economics.

As of now we do not have any program completers and will not for at least one more school year. We are hoping to have special recognition for these students by providing an FFA cord to wear at the graduation ceremonies.
Request for Payment and Disbursement Authorization
(Click Request)

Date of Request _______________________________  Amount _______________________________

Date approved by Club or Organization __________  Account Number ________________________

Mail _______________________________ Box ___________________________  Account Name ________________________

Vendor No. _______________________________  Purchase Order __________________________

Payee ______________________________________

Address ______________________________________

Phone No. _______________________________ Fax No. _______________________________

Federal ID # (Social Security) __________________________

Purpose ______________________________________

Authorized Signatures: ___________________________ Date: __________________________

Student ______________________________________

Athletic/Activities Director __________________________

Advisor ______________________________________

Principal ______________________________________

Representative

All disbursements over one hundred dollars require a signed authorization. Disbursements for student organizations require an authorization signed by a board designated employee, i.e., activities director, an advisor, and a student representative. Disbursements for non-student organizations require an authorization signed by a board designated employee and an approved representative of the organization. Other disbursements, such as scholarship distributions, require and authorization signed by a board designated employee and the principal.

Checks will not be processed without authorized signatures.

KHSD-019  DISTRICT COPY
KERN HIGH SCHOOL DISTRICT
REQUEST TO BE ABSENT
FROM ASSIGNED RESPONSIBILITIES FOR PROFESSIONAL ACTIVITIES

**Instructions:** This form is to be submitted by all personnel who expect to be absent from duties, other than for personal necessity or other leave. It must be received by the Office of Special Projects 10 days *prior* to absence.

Name: ___________________________  Social Security #: ___________________________

School:  West  Department: ___________________________

Destination (City/State): ___________________________
Attach letter of explanation for out-of-state travel.

Reason (Explain in detail): _______________________________________________________

Dates:  from ___________________________ to ___________________________  Total Days for this Activity: ______

Substitute: NO □ YES □  Dates and Periods: ___________________________

Funding Source/Substitute: Acct #: ___________________________
CASE Job #: ___________________________

Funding Source/Expenses: Acct #: ___________________________

Estimated Expenses:
☐ Registration  $ ___________________________
☐ Hotel/Motel Name  ___________________________
☐ Meals  no expense
☐ School Vehicle  ___________________________
☐ Private Car:  *Effective 1/1/08 mileage reimbursement: 50.5¢
☐ Other Transportation:  ___________________________
☐ Other:  ___________________________

TOTAL ESTIMATE:  $ ___________________________

Date: ___________________________  Signature ___________________________

SCHOOL AUTHORIZATION
The expenses listed above are approved.

Date: ___________________________  Principal’s Signature: ___________________________

DISTRICT AUTHORIZATION

Date: ___________________________  District Approval: ___________________________

(SEND TO OFFICE OF SPECIAL PROJECTS)
Part II:
The Project
Graduate Follow Up

Currently our program is only in its second year, because of this we do not have any graduates yet. I chose to make a graduate follow up form as my improvement project. The form was made on Google forms which makes it easy to share with graduates.
Graduate Follow up
* Required

1. Name (First and Last) *

2. Permanent Phone Number *

3. Employment Status (Check only 1) *
   *Mark only one oval.*
   - [ ] Full Time
   - [ ] Part Time
   - [ ] N/A

4. Are you apart of the military? *
   *Mark only one oval.*
   - [ ] Yes
   - [ ] No

5. School Status (Indicate ALL schools attended since high school, including present school.) *

6. College Major *
   *Check all that apply.*
   - [ ] Ag Major
   - [ ] Non Ag major
   - [ ] No College

7. College Major *
8. Full Time or Part time student? *
   *Mark only one oval.*
   - Full time
   - Part time
   - No College

9. The most valuable aspect of FFA is (Only check one) *
   *Mark only one oval.*
   - Officer and Committee Chair experience
   - Judging Contests
   - Recreation
   - Parli Pro, Speaking, Creed Speaking Contests
   - Advanced Degree and Proficiency Awards
   - Other:

10. The least valuable aspect of FFA is (check one) *
    *Mark only one oval.*
    - Officer and Committee Chair experience
    - Judging Contests
    - Recreation
    - Parli Pro, Speaking, Creed Speaking Contests
    - Advanced Degree and Proficiency Awards
    - Other:

11. The most valuable aspect of SAE is (only check one) *
    *Mark only one oval.*
    - Learning skills related to agriculture jobs
    - Development of responsibility
    - Learning how to keep records
    - Developing a record of agriculture experience for future employment references
    - A chance to produce income
    - Other: