

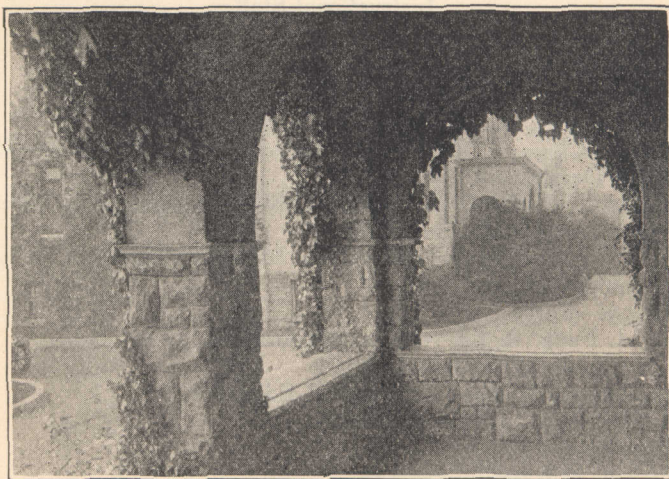
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THE CALIFORNIA POLYTECHNIC

BULLETIN

A STATE INSTITUTION OF
Agriculture, Mechanics, Engineering, Aeronautics,
Printing and Home Making
WITH
Junior College Division



North Portico of Administration Building

San Luis Obispo, California
1928-29

THE CALIFORNIA POLYTECHNIC CATALOGUE

Printed at the California Polytechnic Print Shop

1928

THE CALIFORNIA POLYTECHNIC
ADMINISTERED THROUGH
THE STATE DEPARTMENT OF EDUCATION

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G. W. Wilder, Ph. D.—Electrical Engineering.
John Eagle Physics and Applied Science.
Mathematics and English,
Artemus Washburn Dairying and Farm Management. *no class*

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SCHOOL CALENDAR

1928-1929

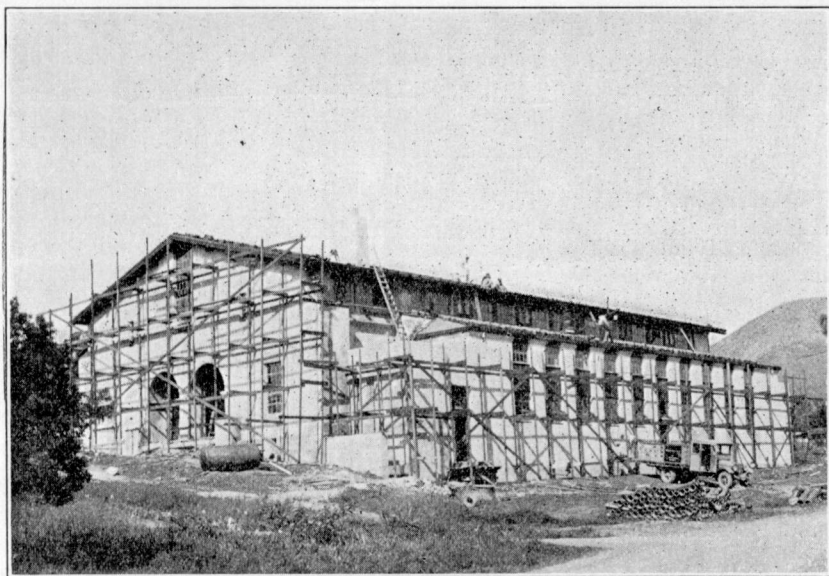
1928
Advanced registration of students,
Mon., Tues., Wed., Sept. 3, 4, 5.
Registration of new students, Thurs.,
Fri., Sat., Sept. 6, 7, 8.
Registration of old students, Satur-
day, Sept. 8, and Monday, Sept. 10.
Dormitories and Dining Hall open for
students, Tues., Sept. 4.
Class work begins Tues., Sept. 11.
Home-Coming Day, Sat., Nov. 3.
Armistice Day, Mon., Nov. 12, Bat-
talion and Band in parade.
Thanksgiving Recess, Wed. noon to
Sun. evening, Nov. 28-Dec. 2.
Christmas Vacation, Dec. 21-Jan. 6.

1929
Class work begins Mon., Jan. 7.
End of First Semester, Fri., Jan. 25.
Beginning Second Semester, Mon.,
Jan. 28.
Spring Vacation, Mar. 23 to Mar. 31.
Class work begins Mon., Apr. 1.
School Festival, Wed., May 1.
Decoration Day, Thurs., May 30. Bat-
talion and Band join in observance.
Commencement, Thurs., June 6.
School Closes, Fri., June 7.

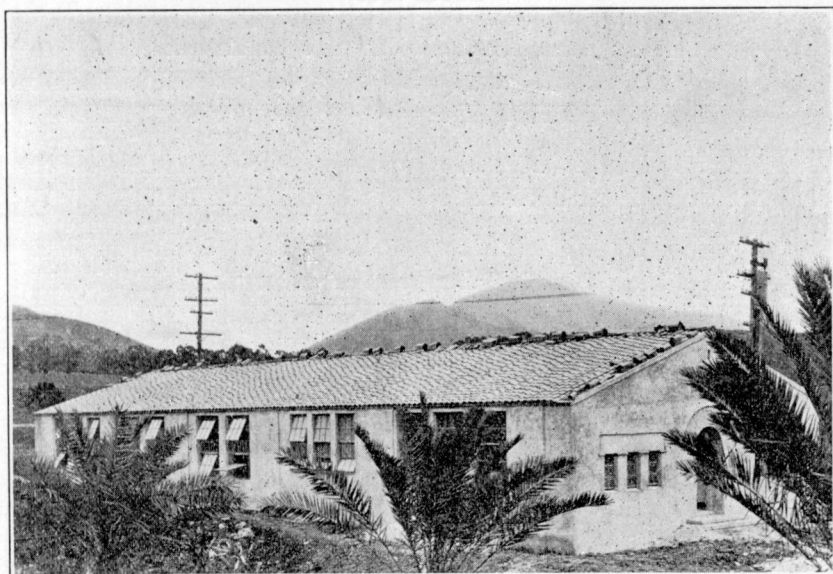
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CRANDALL GYMNASIUM



ELECTRICAL ENGINEERING BUILDING

LOCATION

The California Polytechnic is delightfully located upon a beautiful tract of land of about a thousand acres half a mile from the city limits of San Luis Obispo, the county seat. Paved highways lead by easy grades over the surrounding hills through passes to the north and south, toward the ocean, 13 miles to the west, and over the rolling hills that form a barrier between the ocean region and the San Joaquin valley. Natural advantages of climate are aided by the hills which halt the drifting fogs and break the occasional winds. There is an even temperature, with a minimum of 40 and a maximum of 90 degrees, affording one of the most uniform and enjoyable climates in California.

GROUNDS

The campus consists of thirty acres of gently undulating land, carefully landscaped and planted to trees and ornamental shrubs. Winding walks and drives traverse the entire campus. California Boulevard, leading from the city limits to the campus, is typical of beautiful California.

BUILDINGS

The Administration Building. This is a three-story structure with an attractive exterior of tan stucco. Here are the administrative offices, office of the President, and class rooms for English, Journalism, Economics, Agriculture, Applied Science and Mathematics. The department of Music, Dramatics and Public Speaking uses the east portion of the third floor. The first floor is occupied by the Military department as an armory, and by the department of Agricultural Chemistry.

Science Hall. This building forms one side of a quadrangle with the Administration as a second side. Science Hall is a stucco building the first floor of which is utilized for well equipped laboratories of Chemistry and Physics. The second floor is devoted to the students' Cooperative Store, and the combined Study Hall and Library. The Library is supplied with 5,000 reference books. Here the ambitious student may have ample opportunity for assigned and outside reading in English, History, Agriculture, Mechanics, Science and other subjects. About fifty magazines are regularly subscribed for, especially those dealing with Agriculture. An adequate supply of government and state bulletins is on file. Four sets of encyclopediae are available together with bound copies of various magazines for reference. On the third floor of Science Hall are two well-lighted drafting rooms and a room for freehand drawing.

Home Making Building. Of similar construction and stucco exterior, the Home Making building is primarily appropriated to the use of the women students. On the first floor is a gymnasium with adjoining shower and locker rooms. The second floor contains class rooms, and the third floor sewing and cooking laboratories, a pleasant dining room, and a reception room.

Print Shop. A well lighted, one-story frame building situated on the north edge of the campus. It is equipped with three late model linotype machines, cylinder and job presses, cutting and stapling machines, a battery of hand type cases, and other equipment usually found in a modern printing establishment. In addition to the regular instructional work of the

classes in printing, the students print the "Polygram," the student-body paper published bi-weekly; the "Hand Book," published once a year and sponsored by the Poly-Y Club; "El Rodeo," the student annual, and the regular school Catalog.

Heron Hall. This new building is an attractive two-story fireproof structure of concrete with stucco exterior and tile roof. It comfortably accommodates fifty-eight boys and is essentially for those who take college work. The rooms have built-in dressers and are equipped with new tables and chairs of golden oak. There is a pleasant recreation room. In Heron Hall, as well as in Deuel Hall and in the Barracks, boys are at all times under direct personal supervision.

Deuel Hall. In this two-story dormitory sixty boys find pleasant rooms. Two boys usually room together, and all are under direct supervision. In the recreation, or lounging, room are comfortable rocking chairs, an open fireplace and a table for playing pool. In this room the boys have their games and weekly business meetings.

The Barracks. Situated on the north side of the campus the Barracks holds accommodations for forty boys. As the name implies, the "Barracks" is unpretentious, and of frame construction with a comfortable room for every two boys. Here also, the boys are under direct personal supervision at all times.

The President's Residence. This new two-story building of beautiful Mission architecture is situated on a knoll in close proximity to the dormitories, and commands a wide view of campus and hills. President and Mrs. Crandall, who take deep interest in boys and boys' problems, find pleasure in entertaining the boys singly and in groups.

Crandall Gymnasium. In this new two-story building, student activities center. Assemblies of the student body, indoor athletics, dramatic performances, graduation exercises and receptions take place here. The gymnasium floor, 60 by 94 feet, free from obstructing pillars, offers opportunity for basketball, volleyball, etc. At the north end of this large room is a stage 24 by 32 feet. Opposite the stage are bleachers with a seating capacity of 600. When it is desired to use the room for Assembly or other occasions, folding chairs may be used to increase the seating capacity to twelve hundred. At the west end of the building are rest rooms, a social room of ample size, a small kitchen, and convenient office rooms for the instructor in athletics. Showers and locker rooms are located in the basement on the south side.

Dining Hall. A short distance north of Deuel Hall is an attractive, T-shaped building of stucco exterior. This Cafeteria Dining Hall is adequately equipped for boarding all the students.

Power Plant and Mechanics Laboratory. The school has its own electrical power generating plant. This consists of two 100 H. P. Sterling boilers with a 75 H. P. steam-electric generating unit, a 50 H. P. gas engine belted to an electric generator, a Diesel engine connected to an electric generator of 100 H. P. The student not only has the regular laboratory equipment of small gas and steam engines, but also large power-generating units for test purposes. There is adequate equipment for general laboratory instruction in gas and steam work.

Electrical Engineering Building. This new and attractive building, 40 by 110 feet, is placed close to the power plant. Designed for

electrical work, the building is modern and contains a test room 20 by 100 feet, two class rooms, an instrument room and a small room for more advanced electrical measurement work. The main test room is equipped with modern types of electrical machines, A. C. and D. C. switch boards, test tables, control apparatus, transformers, and instruments for running all kinds of commercial tests. Because of the proximity of the electrical building to the power plant, opportunity is afforded students of electricity to obtain practice in power plant operation as well as practical experience in substation operation.

Automobile Shop. This is one of a group of shops east of the academic buildings. The Automobile Shop is of frame construction and houses the work in automobile operation, upkeep and repair. It is equipped with a traveling crane for handling any heavy machinery parts to be repaired. It has stands, jacks, work benches and work platforms of the latest approved types. The cylinder boring machine will do reborings with such accuracy that finished jobs will vary less than one ten-thousandth of an inch. The oxyacetylene welding equipment includes four torches of the latest type.

Aeronautics Laboratory. Adjoining the Automobile Shop, and operated in conjunction with it, is the Aeronautics Laboratory. Here the student learns all ground work connected with aviation. Motors are torn down, overhauled and built up according to precise aeronautical specifications. The shop is equipped with aircraft motors of representative types including rotary, vertical and vee-type, also propeller balancing stands and test stands. Motors are given actual running tests. Adequate equipment is provided for learning ship design, construction and rigging.

The Forge Shop. Here are located twenty-four individual forges and anvils, a power grinder, power hammer, tire upsetting and tire binding machines, blacksmith shears, drill press and power blower and exhaust fans. All necessary small tools and equipment to go with this heavy machinery are supplied. In addition to the usual equipment found in the forge shop there is acetylene and electric welding equipment and a small brass foundry.

Machine Shop. This has a tool room where accurate check can be kept on all small tools being used. The large machinery includes eighteen lathes, two shapers, two drill presses, vertical mill, milling machine, tool grinder, planer, power hacksaw, an even-type gas furnace. A recitation room adjoins the shop.

Woodworking Shop. Here is equipment for woodwork instruction for both engineering and agricultural students. The equipment includes individual motor-driven surfacer, jointer, band saw and five turning lathes. There are twenty-one work benches with full equipment of tools for each.

Other Buildings. There are a number of agricultural buildings, including barns, creamery, poultry houses, green houses and shops.

STUDENT GOVERNMENT

The Student Affairs Committee, commonly called the "S. A. C.," has as its primary object the control of all student affairs. To make the body as representative as possible there are selected from among the students as members of the committee the six class presidents, a representative of the athletics committee, the school yell-leader, the editor-in-chief of



STUDENT BAND



CAST OF SCHOOL PLAY

the Polygram, together with the presidents of the following chief student organizations: Junior Farm Center, representing the Agriculture students; the Mechanics Association, representing the boys taking shop work; the Amapola Club, representing the girls; the Poly-Y Club; and the Block P Club representing the boys who have won major events in athletics. The faculty is represented by the president, vice-president and four other members, three of whom are advisers of student activities.

This committee decides all policies in regard to athletics, dramatics, operettas, school publications, and any other activities which include the students as a whole. For financing these activities, seven dollars a year is received from each student, five dollars going to athletics, and one each to the "Polygram" and "El Rodeo." In return for his money the student receives free admission to all school athletics on the campus, a bi-weekly copy of the Polygram and a copy of the annual edition of El Rodeo.

A general fund is maintained by the committee to support other student activities.

CLUBS

Amapola Club. A social club for girls. Its chief objective is to unite the girls in close association of friendship.

Band and Orchestra. These two organizations afford splendid opportunities to students who wish to learn how to play instruments and to know something of instrumental music. Although the California Polytechnic does not supply all the instruments, it does furnish sheet music to the student without cost. The present band is composed of thirty-five pieces, and the orchestra of twenty. The band is conducted as a complete military unit, as a company with full quota of officers. It plays at military drills, at patriotic observances, at school athletics and entertainments.

Block "P" Club. Exclusively for winners of the block letter in major athletics for boys.

Choral Club. A musical organization of both men and women. Membership depends upon ability and is subject to try-outs.

Circle "P" Club. An athletic organization of girls.

Co-operative Store. A store for books and supplies. Operated on the campus by and for students.

Debating Club. For those taking Public Speaking or Debating. The object of the club is to develop latent ability and to acquire self confidence.

Deuel Hall Club and Heron Hall Club. Organized among the boys for promoting school spirit and social activities.

Dramatics Club. For those interested in plays, makeup, stage effects and play production. Composed of both men and women.

Galley Slaves. A club of men and women students who receive instruction in type setting and printing.

Junior Farm Center. For students of Agriculture. This is an active organization co-operating with the Farm Bureau. The Junior Farm Center members take part in county farm work, contributing occasional articles to the Farm Bureau Monthly, exhibiting poultry and livestock at shows, visiting Farm Center meetings, and giving talks and entertainments.

Mechanics Association. The engineering and mechanics association is for the purpose of acquainting its members with phases of prob-

lems likely to be met in every day life after leaving school. Trips are arranged for, to include sugar refineries, oil fields and compressor plants, round houses, etc. The association's social program is varied and interesting.

Poly-Y Club. This is affiliated with the national Hi-Y Association, and is organized for the purpose of creating, maintaining and extending throughout the school and the community high standards of Christian character.

Press Club. Composed of men and women interested in Journalism and magazine work. Membership includes all students of the Polygram and El Rodeo staffs as well as Galley Slaves and the class in Journalism.

STUDENT PUBLICATIONS

El Rodeo. The student annual. Edited and printed by the students, El Rodeo is well written, profusely illustrated, typifies accurately the spirit and activities of the students, and affords excellent training for staff members.

Polygram. A bi-weekly paper printed in the school print shop by the students. It is newsy and full of interest.

The Hand Book. A compact little book of information for new students. It is presented annually by the members of the Poly-Y Club.

Polytechnic Catalogue. Although this annual catalogue is not strictly a student publication, the students of the Print Shop do all the linotyping and printing. From time to time small illustrated folders specially emphasizing certain phases of the school work appear, the printing of which is also done in the school shop by the students.

GENERAL INFORMATION

Entrance Requirements. Students of a wide variety of age and education may be found at the Polytechnic. The past year the ages ranged from thirteen to thirty-five. Most of those who come have had from one to three years of high school training, about 25 per cent are high school graduates, a few have had a little college work. The minimum entrance requirement is grammar school graduation, unless the applicant is at least sixteen years old and able to pass an aptitude test given by the school.

High School Credits. Credits received for work done in high school will be accepted here in so far as they cover subjects corresponding to those required in the course selected at this institution.

Board and Room. As there are no dormitories for girls on the campus it is required that girls whose homes are not in San Luis Obispo live in homes approved by the president. For boys, however, rooms are provided in the boys' dormitories, and in no case are boys whose homes are not in San Luis Obispo allowed to live elsewhere than in the dormitories unless accommodations in these buildings are exhausted, in which case the boys are referred to approved homes. Applications for room reservations in the dormitories must be made early and each application accompanied by a deposit of \$5.00. Dormitory students pay a flat rate for board at the Cafeteria dining hall on the campus.

Self Support. There is limited opportunity for the student who wishes to "work his way," especially for those students taking Agriculture.

However, it is inadvisable for any student to enter school without funds sufficient to cover four or five month's board and room in addition to the initial outlay referred to under the heading *expenses*. Opportunity in Agriculture is afforded under the project method, and is made in each case by personal arrangement between the student and the head of the Department of Agriculture. The new student who wishes to be assigned a project should, if possible, write in advance to the head of the Department of Agriculture, California Polytechnic, for detailed information. Aside from work in Agriculture, there is a limited amount of work to be done in spare time on the campus and in town. Work of this nature includes janitor service, office work, waiting on tables, etc.

SCHOLARSHIPS

For deserving students in need of financial assistance there are ten scholarships available each year. The faculty of The California Polytechnic annually subscribes seven scholarships of two hundred fifty dollars each.

Other scholarships are:

The Harold Anderson Memorial Scholarship, subscribed annually by the San Luis Obispo Rotary Club. This two hundred fifty dollar scholarship is usually awarded to an upper class student who is outstandingly a leader.

The Booth Brothers Scholarship of seventy dollars, subscribed annually by Booth Brothers of Paso Robles and San Luis Obispo.

The Berkemeyer Scholarship of seventy dollars, annually subscribed by Berkemeyer and Son, San Luis Obispo.

EXPENSES

No Tuition. There is no charge for tuition, and no registration fee except the student-body fee of seven dollars. A shop deposit of \$5.00, refunded at end of year, is required of all students. The registration deposit and room reservation deposit, referred to under *initial outlay*, are made only by boys rooming in dormitories, and these deposits are refunded at the end of the school year.

Personal Expenses. Boys rooming in the dormitories are expected to supply their own sheets, pillow cases, blankets, towels, soap, drapes and rugs. Beds, pillows, mattresses, dressers, tables and chairs are part of the room equipment and are furnished at no cost to the student. Rooms are assigned in the order in which applications are received. All rooms are outside rooms, comfortable and well lighted. The student will need to estimate his personal expences in the matter of extra clothing, incidentals and laundry. Sheets, pillow cases and towels are laundered by the school free of charge for students rooming at the dormitories, and there are adequate facilities in the dormitory basement in case the boy wishes to do his own laundry, thus saving the expence of having it done in town.

Initial Outlay for Boys. Boys who room at the dormitories should be prepared to pay a sum aggregating about \$120.00 at time of registration. This initial outlay covers items as follows:

(a) Military uniform, consisting of hat, shirt, trousers, puttees and shoes	\$25.00
(b) Registration deposit, refunded at the end of school year.....	30.00
(c) Board, one month in advance.....	28.00
(d) Room rent, one month in advance, the amount varying according to type of room,—but not exceeding.....	7.50
(e) Textbooks and school supplies for immediate needs.....	15.00
(f) Student-body fee. No refund after February 1st.....	7.00
(g) Shop deposit, refunded at end of school year.....	5.00
(h) Room reservation fee.....	5.00

Total initial outlay needed when registering.....	122.50
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Note.—For students taking mechanical drawing or machine work, item (e) will be ten to fifteen dollars higher. Items (b), (c), (d) and (h) do not apply to students living elsewhere than in dormitories. Under item (a) it is well to have two shirts instead of one, increasing this item four dollars and a half.

Further Expenses. For the remainder of the school year the student will need to pay:

Board, seven months at \$28.00.....	\$196.00
Room rent, eight months.....	60.00
Additional school books and supplies.....	20.00

Total	276.00
To which is added the initial outlay as listed above.....	122.50

Making the cost of one year at school.....	398.50
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Expenses for Girls. Girls are required to wear a uniform consisting of white middie with blue detachable collar, black tie, and navy blue woolen skirt. The cost of this uniform is \$9.50. A required gymnasium suit consists of black bloomers—made by girls of the sewing classes—white middie, black stockings and black tennis shoes. Girls taking Home Making courses are required to wear regulation white aprons made as part of sewing instruction. The regular student-body fee of seven dollars, and an additional shop deposit of five dollars are required. Board and room for girls in approved homes should not exceed thirty-five dollars a month. Text books and school supplies should not be more than fifteen dollars a year. Personal expenses including clothing, laundry, amusements, class and society dues, etc., vary with each individual.

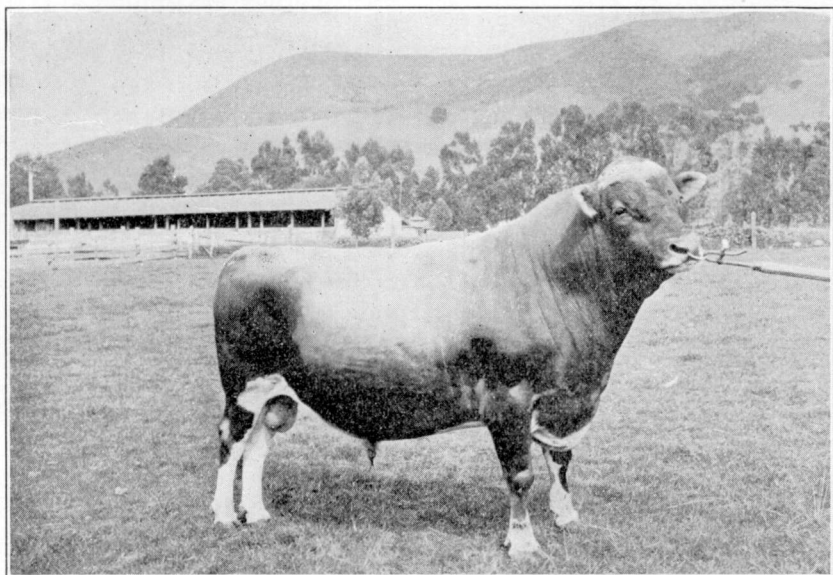
AGRICULTURAL COURSE

Slogan—"Earn while you learn"

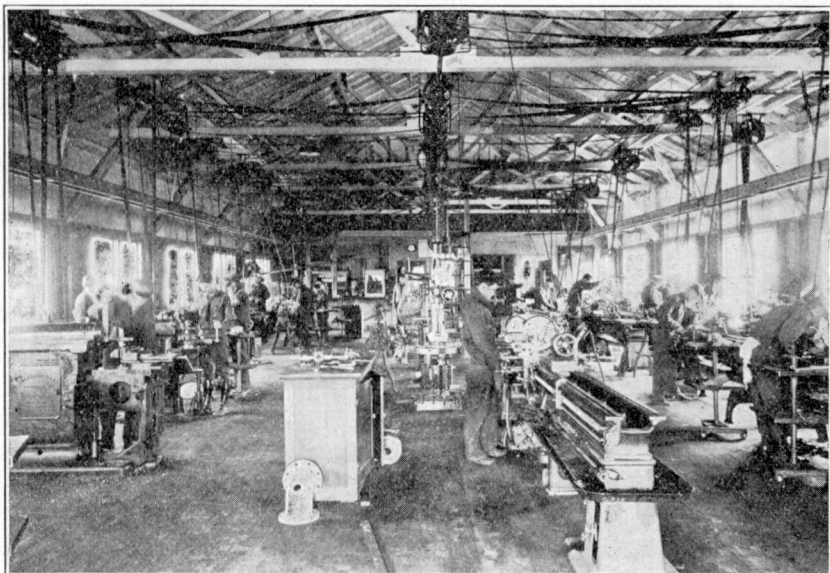
COURSE OF STUDY

First Year			Second Year		
	Class	Prac- tice		Class	Prac- tice
English I	5	0	English II	5	0
Vocational Mathematics I	5	0	Vocational Mathematics II	5	0
General Agriculture—field practice and project with records and supervision	5	8	Animal Husbandry I or Horticulture I with pro- jects, project records and supervision	5	8
Farm Mechanics I—carpen- try, concrete, buildings, harness and rope work..	2	6	Farm Mechanics II—forge, cold metal, soldering, care and repair of farm mach.	2	6
Elective—carpentry or forge	0	4	Physical Education.....	0	4
Study	0	5	Assembly	0	1
Physical Education.....	0	4	Study	0	5
Assembly	0	1	Elective—forge or carpentry	0	4
Total periods per week	17	28	Total periods per week	17	28
Third Year			Fourth Year		
	Class	Prac- tice		Class	Prac- tice
English III	5	0	U. S. History and Civics.....	5	0
Lab. Science—Biology, Chemistry, Physics.....	5	4	Elective—Physics, Math.....	5	0
Dairy Husbandry or Poul- try Husbandry with pro- jects, project records and supervision	5	8	Feeds and feeding and farm management or landscape gardening and truck gar- dening	5	8
Farm Mechanics III—Farm power, stationary en- gines, electricity	2	6	Farm Mechanics—auto, trac- tor, surveying	2	10
Elective	5	0	Study	0	5
Study	0	5	Physical Education.....	0	4
Physical Education.....	0	4	Assembly	0	1
Assembly	0	1	Total periods per week	17	28
Total periods per week	22	28			

Agriculture, of all industrial pursuits, is the richest in facts and most poorly comprehended. The agricultural aim of the school is to bring together in workable form facts gained from field and laboratories and to develop from these facts permanent principles of Agriculture. Methods of teaching, adapted for boys over sixteen years of age, are intensely practical. One half of each school day is spent on the farm, the other half in classrooms; a method which appeals to practical-minded boys. The project method of instruction in Agriculture, as developed at The California Polytechnic, is interesting and economically profitable. About one thousand acres of land are available for project work. There are buildings, laboratories, shops, barns, orchards, vineyards, herds and flocks of the leading breeds of sheep, cattle, hogs and poultry. These afford ample opportunity for obtaining practical and technical training in all phases of Agriculture. Adjacent farms render further opportunity for demonstration, study and judging of diversified farming, orchards, vineyards, poultry and livestock.



CALIFORNIA POGIS ENSHOW
Senior Herd Sire



MACHINE SHOP

If a student engages in project work requiring funds for his original investment, he may, if unable to secure funds, depend upon the local banks to lend him the necessary amount when the loan is approved by the agricultural department and the president of the school. If a boy is interested in poultry, the project method will allow him, according to the loan-fund plan, to purchase and incubate five hundred or a thousand eggs, brood the chicks and feed and care for the young poultry under ideal conditions and expert advice. If interested in livestock, the student will be able, by the project method supplemented by the loan fund, to select his young stock and purchase it for feeding and fattening. Baby beef is sold by students at the Fat Stock show in Los Angeles in December. Students also market hogs in carload lots when the animals have attained desirable market weight. The school dairy project allows three boys to work and to pay all their expenses through school. If a boy is interested in grain or vegetables or beans, he may lease land on a crop share basis, prepare the ground, seed it to the desired grain, harvest and thresh the crop, himself arranging all details and hiring his own crew. Practical training of this kind is coordinated with related classroom instruction. From the beginning, the student is taught to budget his needs in the matter of feed, seed, labor, etc., for a period of time, and to carry out his project within the budget specifications. In this way he "learns by doing, and earns as he learns." The student's work is practical "dirt farming" carried out with attention to scientific and economical ends. Many boys are paying their way, in part or whole, by their projects; others leave school at the end of the year with a satisfactory start in purebred livestock or poultry, in addition to possessing a good education. The Agricultural Department of the school is at times asked to recommend students for positions of responsibility, salaries ranging from \$75. with board to \$150.00 per month. Students are at all times in demand for positions as skilled laborers, which positions may lead to promotion upon evidence of training, ability to work, and other factors that usually make for success and advancement. The direct purpose of the Agricultural Department is to train a boy so that after he receives his certificate he may enter his particular branch as a tractor operator, farm machine repairer, diversified farmer, ranch worker, orchardist, truck gardener, florist, or expert in animal or poultry husbandry.

MECHANICS—ENGINEERING COURSES

Description. The Mechanics Engineering Department offers a general course and a number of specialized courses. It is the purpose of the department to develop that amount of trade skill sufficient to fit the student for the work in which he is to earn a living, and, at the same time, provide him with a foundation which will enable him to rise in his trade as opportunity offers. Opportunity is given the more advanced students to develop ability in leadership by placing them in charge of jobs, in shop work, with students working under them. All courses leading to graduation provide a good education based upon requirements of the State Board of Education for graduation from high school.

The General Course. is intended to meet the needs of those students who have not decided upon the courses in which they wish to specialize. If, however, a student has evidenced aptitude for a particular

work, he may be transferred from the general to the special course. The general course is of particular advantage for one who wishes to work into a position as minor executive in an industrial concern in which a general knowledge of mechanics is essential. The course provides training in at least two shops, a good grounding in mathematics, science, and both theoretical and practical knowledge of steam and gas engines, electricity, surveying and hydraulics. The general course is as follows:

GENERAL COURSE IN MECHANICS

First Year			Second Year		
	Class	Prac- tice		Class	Prac- tice
English I.....	5	0	English II.....	5	0
Applied Science	3	2	Geometry or Algebra.....	5	0
Algebra or Applied Math.	5	0	Mechanical Drawing 3 and 4	0	8
Mechanical Drawing 1 and 2	0	8	Study	0	5
Study	0	5	Machine Shop 1 and 2 (or elective)	2	12
Shop (forge, 1st sem.; wood work, 2nd sem.)....	0	9	Physical Education	0	4
Physical Education	0	4	Assembly	0	1
Assembly	0	1	Glee Club (elective).....	0	2
Glee Club (elective).....	0	2	Conference with counselor	0	1
Conference with counselor	0	1			
Total periods per week	15	30	Total periods per week....	12	33
Third Year			Fourth Year		
	Class	Prac- tice		Class	Prac- tice
English III.....	5	0	Electricity V.....	5	4
Physics	4	4	Advanced Algebra (1st sem.)	5	0
Gas and Steam Engines....	3	4	Hydraulics (2nd semester 3, class and 4 practice pds.)	0	0
Solid Geometry and Trigo- nometry	5	0	U. S. History and Civics....	5	0
Mechanical Drawing 5 and 6	0	8	Surveying	1	4
Study	0	6	Shop Sketching and Math....	3	2
Physical Education.....	0	4	Study	0	5
Assembly	0	1	Shop Work (elective).....	0	5
Conference with counselor	0	1	Physical Education.....	0	4
			Assembly	0	1
			Conference with counselor	0	1
Total periods per week	17	28	Total periods per week....	19	26

Gas and Steam Engines. An elementary course in the study of the theory and practice connected with gas and steam engines. Among the subjects covered are: types of engines, indicator cards, mechanical and thermal efficiencies, care and trouble finding, and construction and care of boilers.

Elementary Hydraulics. A one semester course in Elementary Hydraulics dealing with the properties of water, at rest and in motion. It makes a study of problem, friction loss, pipe sizes, pump efficiencies and cost of pumping.

Surveying. A practical course in Elementary Surveying includes leveling, profiling, mapping, surveying for and computing area, and leveling for irrigation. The student becomes familiar with the careful handling and adjustment of instruments.

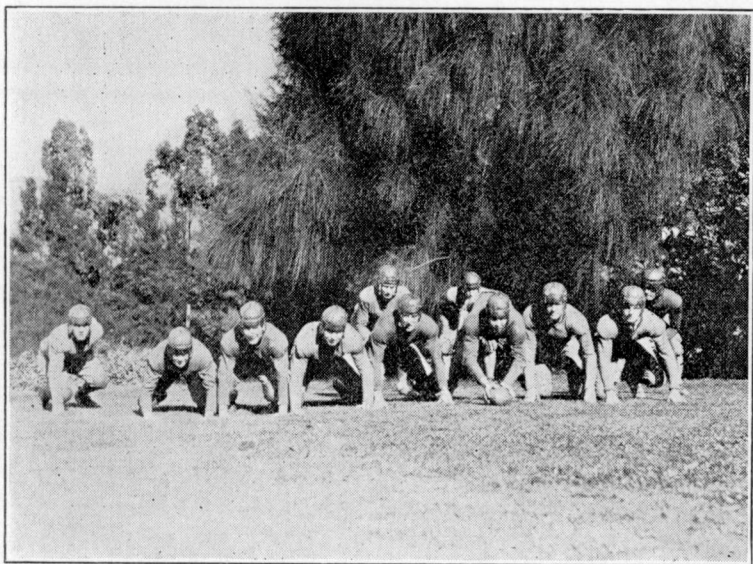
Shop Sketching and Mathematics. This is a study of design problems that will bring out the student's originality in whatever vocation he has chosen. The sketches are made freehand in a readable manner.

Forge Shop. A one year course in forge includes practical work in both iron and steel forging with studies in the properties, manufacture, and heat treatment of both iron and steel. The shop work includes the common operations in forging, such as drawing, bending, welding, tempering, tool-making and general repair work for farm and shop. In connection with the forge shop we have a small brass foundry and all of the students taking forge are required to make a few molds and pour the castings. This is to give them a general idea of how castings are made and the requirements of good pattern, and not to make molders of them.

Acetylene Welding. Practice is given in the use of the welding and cutting torch. This course is given as an elective for Auto Shop and Machine Shop students so they will be more useful in their line of work. Practice is given in welding of sheet metal, structural steel, pipe, and castings. Students must have forge work before taking welding.

Electrical Welding. This course is given primarily as an elective for students in the Machine Shop and the Auto Shop. It is to give them a knowledge of electric welding which will make them more useful in their vocation. There will be an opportunity for a limited number of students to specialize in welding as a vocation.

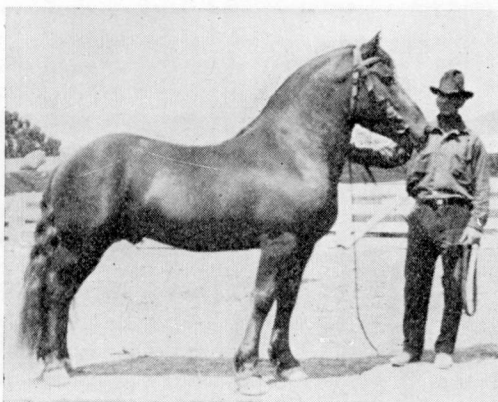
Special Courses in Mechanics. These courses are offered to students who wish to specialize as machinists, auto mechanics, electricians or draftsmen. The arrangement of the courses is such that related work is applied directly to shop work, and for convenience the shop work is grouped according to the vocation chosen, as machinists, electricians, auto mechanics, draftsmen, and carpenters.



ATHLETICS ARE POPULAR AT "CAL POLY"

OUTLINE OF SPECIAL COURSES—MECHANICS

First Year			Second Year		
	Class	Prac- tice		Class	Prac- tice
All Groups:			English II.....	5	0
English I.....	5	0	Algebra I.....	5	0
Vocational Math. I.....	5	0	Physical Education.....	0	4
Mechanical Drawing 1 and 2	0	8	Assembly	0	1
Applied Science.....	3	2	Study	0	3
Physical Education.....	0	4	Glee Club (elective).....	0	2
Assembly	0	1	Conference with counselor	0	1
Study	0	3	And one of following groups:		
Glee Club (elective).....	0	2	Machinists:		
Conference with counselor	0	1	Blue-print reading.....	0	2
And one of following groups:			Machine shop II and III....	2	20
Machinists—Forge shop 1st			Electricians:		
sem., mach. shop 1, 2d sem.	0	11	Electric shop II.....	5	4
Electricians—Elec. shop I	5	6	Electrical Drawing I.....	0	6
Auto Mech.—Forge shop 1st			Forge and Machine shop 1	0	8
sem., mach. shop 1, 2d sem.	0	11	Study	0	1
Draftsmen—Wood work 1st			Auto Mechanics:		
sem., Forge 2nd sem.....	0	11	Auto shop I.....	5	10
Carpenters—Wood work I	0	11	Machine shop 2 and 3....	2	6
Aeronauts—Forge shop 1st			Draftsmen:		
sem., Wood work 2nd sem.	0	11	Machine shop 1.....	2	8
Total periods per week.....	45		Mechanical Drawing II....	0	14
			Carpenters:		
			Mechanical Drawing 3, 4	0	8
			Wood work II.....	0	16
			Aeronauts:		
			Machine shop 1.....	2	6
			Mechanical Drawing 3, 4	0	6
			Engines and Welding.....	0	10
			Total periods per week.....	45	



BEN'S MOTIF

Third Year			Fourth Year		
	Class	Prac- tice		Class	Prac- tice
All Groups:			All Groups:		
English III.....	5	0	U. S. History and Civics.....	5	0
Physical Education.....	0	4	Physical Education.....	0	4
Assembly	0	1	Assembly	0	1
Study	0	3	Conference with counselor	0	1
Conference with counselor	0	1	And one of following groups:		
And one of following groups:			Machinists:		
Machinists:			Chemistry	4	4
Physics	4	4	Machine shop VI.....	0	12
Trigonometry 1st sem.....	5	0	Shop sketching and math.		
Machine shop IV and V	0	23	1st semester.....	3	2
Electricians:			Electricity V	5	4
Physics	4	4	Electricians:		
Electric shop III.....	5	4	Chemistry	4	4
Trigonometry 1st sem.....	5	0	Electric shop IV.....	5	8
Gas and steam engines....	3	4	Shop sketching and math.		
Electrical drawing II.....	0	7	one half year.....	3	2
Auto Mechanics:			Elective	0	8
Physics	4	4	Auto Mechanics:		
Auto shop II.....	5	15	Auto shop III.....	0	24
Machine shop 4 and 5.....	0	8	Elective	0	10
Draftsmen:			Draftsmen:		
Mechanical drawing III	0	16	Mechanical Drawing 2, 3	0	12
Physics	4	4	Machine shop II.....	0	8
Gas and steam engines			Elective	0	5
or elective.....	3	4	Electricity V	5	4
Carpenters:			Carpenters:		
Physics	4	4	Wood work III.....	0	20
Mechanical Drawing 5....	0	3	Electric shop V.....	5	4
Trigonometry 1st sem.....	5	0	Elective	0	5
Wood work III.....	0	15	Aeronauts:		
Aeronauts:			Aero drafting	0	8
Physics	4	4	Engines	3	8
Engines and Welding....	5	8	Ship construction	5	8
Ship construction	0	5	Meteorology and Aero		
Trigonometry 1st sem.....	5	0	dynamics	2	0
Total periods per week.....	45		Total periods per week.....	45	

EXPLANATION OF MACHINISTS COURSE

Machine Shop I. The student begins with the chipping, care, tempering and grinding of chisels; the filing and study of different kinds of files and polishing of finished surfaces. Class work is given in blue print reading, and the use of the common small tools. Machine work is begun on the drill press.

Blue Print Reading. A study and analysis of machine shop blue prints. The student is taught to pick out parts of a complicated drawing so that he may make any part of a machine from the prints of the whole. This course is given in connection with the machine shop work.

Machine Shop II and III. This begins with the simple turning on a lathe. As a student develops skill, the machine work assigned becomes more difficult until he has completed all of the work commonly done on a lathe.

Machine Shop IV and V. A continuation of course III and in addition planer and shaper work is taken up with a study of each machine and the kind of work done on each. The student begins with plain surface

finishing and as his skill develops takes up more complicated work.

Machine Shop VI. This course deals largely with operations of milling machines and automatic tool grinders, with practice in general repair work. The student is also given an opportunity to obtain some experience in shop foremanship.

EXPLANATION OF ELECTRICIANS COURSE

Electric Shop I. Elementary electricity and magnetism. This course is for beginners and those whose electrical experience has been limited. The course begins with magnetism and takes up the elements of magnetism and electricity.

Electric Shop II. Direct current machinery. This is a continuation of the previous course in which the theory and its application are devoted to different types of generators, motors and switch boards, regulating and control devices, tests and studies of machine characteristics.

Electric Shop III. Alternating current machinery. The theory of generation and distribution of alternating current with a study of A. C. equipment and problems.

Electric Shop IV. A general course in problems and practical work to prepare the student for a particular job including conduit wiring and switchboard work, and repairs to equipment.

Electric Shop V. The work begins with magnetism and simple circuits and goes as far as the induction motor with its controls and protective devices. This course is intended for the student in other vocations who should have a knowledge of electrical equipment to assist him in his vocation. Agricultural students will be accepted in this course if they have had physics.

Electric Shop VI. A course in the electricity of the home, especially arranged for students in home making. Studies and tests are made in the operation costs and the efficiency of different types of household appliances. Instruction is given in methods of interior lighting, decorative effects, interpretation of lighting power bills, proper use of fuses, fire risks and work in first aid.

Electric Shop I and II. For the benefit of those students who have graduated from the high school there is a combination course of Electric Shop I and Electric Shop II. Two years of the regular course is covered in one year thus making it possible for the four year electrical course to be covered in two years.

Electric Shop III and IV. A combination course of Electric Shop III and Electric Shop IV for the benefit of those students who have completed the combination course Electric Shop I and II.

EXPLANATION OF AUTO MECHANICS COURSE

The courses in the auto shop are to develop skill and ability in the student on real repair jobs, under conditions as nearly as possible like those found in a commercial shop. All courses overlap in subject matter and material, and the progress of the student depends upon his own earnestness and application.

Auto Shop I. Shop work on simple selected repair jobs graded according to the ability of the student. Class work on the fundamental principles of construction, with assigned readings from a text book.

Auto Shop II. Shop work in general automobile repair work, including "trouble shooting," generator and electrical system repairs, machine work and welding on repair jobs. Class work and discussions depending upon jobs in the shop with assigned reading and studies in shop management and shop records.

Auto Shop III. Specialized work for the advanced students. The student is allowed to specialize in any particular line of work he prefers after he has shown that he has the necessary general knowledge of auto repair work.

EXPLANATION OF DRAFTING COURSE

Mechanical Drawing I. Elementary principles. This is a course for beginners in which the use of drawing instruments is taught by following simple exercises in lines, lettering, circles and curves. A selection of graded exercises brings out the major principles used in all general mechanical drawings.

Mechanical Drawing II. Engineering drawing. This course takes up the principles of drawing as used in the industrial world. It takes up problems in orthographic projection, isometric projection, and general detail drawings of machines and cross sections.

Mechanical Drawing III. A continuation of Mechanical Drawing II for students who wish to become mechanical draftsmen. Special attention is given to see that the student is assigned work in which he most needs practice.

Mechanical Drawing IV. A more advanced course in shop drawing, taking up structural drawing, sheet metal drawing and detailed machine construction.

Architectural Drawing I. Exercises in conventional symbols and diagrams as applied to simple carpentry work. The design and methods of construction of simple objects with estimates of amounts and costs of materials. This course is intended for students who are majoring in carpentry, or those who expect to be architectural draftsmen. Open to students who have completed Mechanical Drawing I.

Architectural Drawing II. This is a continuation of the preceding course. Students are given elementary problems in the design of buildings, and changes in the design of existing buildings, interior arrangement, lighting, heating, sanitary arrangement and elementary specifications.

Architectural Drawing III. A continuation of Architectural Drawing II. Original design of larger buildings and residences with complete blue prints, specifications, bills of materials, and estimates of cost.

Electrical Drawing I. An elementary course for regular students in electricity who have completed Mechanical Drawing I. This course consists of simple and conventional diagrams supplemented by drawing of circuits used in shop work and class room problems.

Electrical Drawing II. A continuation of Course I. The student is advanced to more difficult problems of designs and switchboard drawing as rapidly as he masters the work.

Electrical Drawing III. Continuation of Course II. The student specializes on some line of electrical drafting or design.

EXPLANATION OF WOOD-WORKING COURSE

Wood Work I. A practical course in bench wood work. The course is so planned that the student will obtain practice in making the common joints used in carpentry and cabinet making. Work is given on the use and care of hand tools. Study of the various kinds of lumber and the uses for which they are particularly adapted is also made.

Wood Work II. This course continues the work given in course I and takes up the use and care of power machines, saw filing, and the use of the steel square. Particular emphasis is laid on the principles of carpentry construction as exemplified in farm buildings and small houses, estimating and bills of materials.

Wood Work III. Elective courses in Carpentry, Cabinet Making, Pattern Making or Wood Turning. The student will be expected to elect one line of wood work and follow it throughout the year. Advanced students will be given practice as shop foremen and foremen of repair gangs, thus giving them practice in handling men as well as the responsibility of production.

Wood Work IV. Problems in estimating buildings from the standpoint of the contractor and architect. Figuring costs of lumber, hardware, plumbing, electrical fixtures, painting, labor, etc. Practical work on buildings and building repairs and remodeling.

EXPLANATION OF AERONAUTICS COURSE

It is the aim of the aeronautics department to prepare the student to take care of an airplane and do necessary repairs to plane and the engine. It is to train skilled workmen to build and repair airplanes and engines. One or more planes are constructed in the school shop every year and experience is given to all students in overhauling and repairing different types of engines.

Engines I. Practice in overhauling and repairing airplane engines. The student begins the work on some of the older types of engines and becomes familiar with the methods and accuracy required in airplane work. Brake tests are run, and tests are made for different causes of engine failure. The class work covers the fundamentals of the gas engine and of air craft engine construction.

Engines II. A continuation of the above course. The class work goes more into the detail theory of the gas engine. Study and shop work deal with modern types of engines. Six different types of engines are now in the shop and these are timed and run on the test stand.

Engines III. A continuation of course II. A special study is made of the care and cause of trouble in the engine.

Welding. Theory and practice in electric and acetylene welding. Special attention is given to welding of sheet metal and steel tubing used in air craft construction.

Ship Construction I. A study is made of the different types of construction in airplanes. In the shop the student works on the construction of a plane. One or more airplanes are constructed in the school shop each year. Special attention is given to materials of construction, strength of materials, and shapes to give greatest strength.

Ship Construction II. A continuation of course I with a more theoretical consideration of wind resistance and wing shapes for greatest lift. Special attention is given to the costs of different types of construction. In the shop the student is given more responsibility and is fitted to do the more important parts of the construction work.

HOME MAKING COURSE

Purpose. The purpose of the Home Making Course is primarily to fit girls for home life. The course is founded in the belief that the making of a home and its proper management entail demands that are all too seldom recognized: demands for general education, for a knowledge of the sciences underlying good housekeeping, for a training in habits of good housewifery and artistic self-expression.

The course also serves as admirable preparatory training for girls who wish to fit themselves for nursing. In fact, the training period is materially shortened for girls who have graduated from this course. It serves, too, as a preparatory course for the university and for teachers' colleges, although in this case a few modifications are recommended.

Throughout the four years of work a consistent effort is made to keep the girls close to natural conditions. They are trained in economy in both the purchase and use of materials, whether for dress, food, furnishings or adornment. They are taught to serve meals on a limited amount of money, to adapt themselves to the needs of families of various types, which may include infants or invalids, and to learn the principles of table service. They are trained in the wise planning and the appropriate furnishings of a house, whether the amount to be expended is large or small. They learn the responsibility of the woman to spend the family income wisely.

First Year		Second Year	
	Pds. Wkly.		Pds. Wkly.
English I.....	5	English II.....	5
History I.....	5	History II.....	5
Phys. Ed. and Assembly.....	5	Phys. Ed. and Assembly.....	5
Study and Counselor period.....	5	Study and Counselor.....	5
Home Making I, including hygiene, first-aid, art, household arithmetic, home gardening, clothing and foods.....	25	Home Making II, including home nursing, house management, applied art, clothing, foods, directed reading.....	25
Third Year		Fourth Year	
	Pds. Wkly.		Pds. Wkly.
English III.....	5	U. S. History.....	5
Biology	7	Elective	5
Study and Counselor.....	5	Study and Counselor.....	5
Phys. Ed. and Assembly.....	5	Phys. Ed. and Assembly.....	5
Home Making Specialization.....	23	Home Making Specialization.....	25
Advanced study in any of subjects desired.			

PRINTING COURSE

For those who select printing as a vocation, a four-year course is recommended. Equipment of the shop is complete. The following course is usually followed by printing students:

First Year		Second Year	
	Periods		Periods
English I	5	English II	5
History I	5	History II	5
Physical Education	4	Physical Education	4
Assembly	1	Assembly	1
Print shop work.....	29	Print shop work.....	29
Conference with Counselor.....	1	Conference with Counselor.....	1
<hr/>		<hr/>	
Total periods per week.....	45	Total periods per week.....	45
Third Year		Fourth Year	
	Periods		Periods
English III	5	U. S. History.....	5
Biology	5	Journalism (optional)	5
Physical Education	4	Physical Education	4
Assembly	1	Assembly	1
Print shop work.....	24	Print shop work.....	32
Journalism	5	Conference with Counselor.....	1
Conference with Counselor.....	1	<hr/>	
<hr/>		Total periods per week....	45
Total periods per week.....	45		

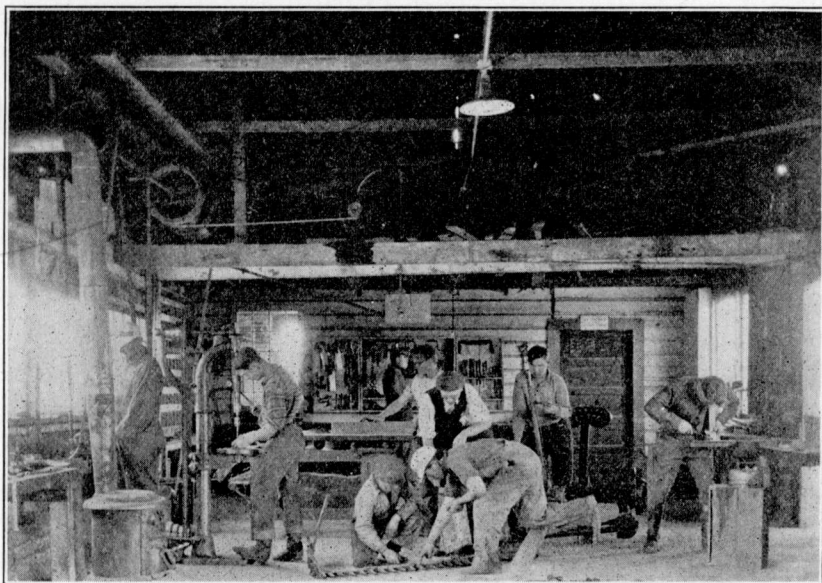
THE ACADEMIC DEPARTMENT

The work of the Academic Department is designed primarily to meet the needs of the students in the vocational courses. Much of the work in these courses is dependent on an adequate foundation in English, mathematics and the arts and sciences. The relation of vocational to academic work is shown in each case under the outline of the course.

In addition to this work the department also offers an Academic Course. This course is given chiefly to meet the needs of students who enter the vocational courses, but who, finding that they possess the desire and aptitude for more advanced study, desire to add to their work the few subjects which will properly prepare them for college. A limited number may also be enrolled who are unable to obtain an adequate high school education at their own homes.

No definite course is laid down for the students in this department as their objectives should determine its content. The minimum requirement for graduation is sixteen units including three years of English, a year of laboratory science, and a year of American History and Civics. All courses should be so arranged as to provide for three years of work in at least one academic subject besides English. Students who wish to enter college should take at least twelve units of academic work, which should be so arranged as to provide three years of work in at least two academic subjects besides English. The exact work taken would depend upon the course in which the student wishes to enroll in college. In every year electives may be chosen from the vocational subjects. Physical education is required throughout the course.

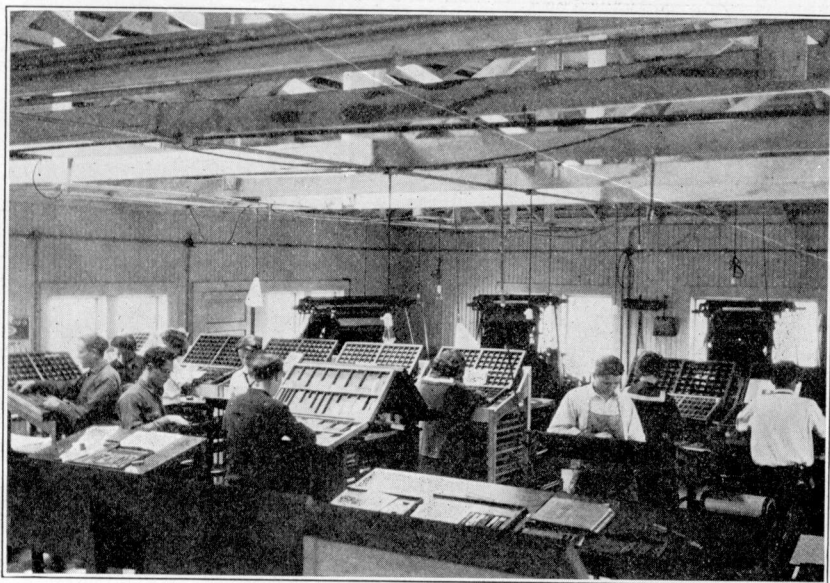
The following list indicates the subjects offered. It is not essential that all of them be taken or that they be arranged in the exact order given:



FARM MECHANICS SHOP WORK



ELECTRIC-ARC WELDING



PRINT SHOP



ACETYLENE WELDING

First year—English I, Algebra, History I, foreign language electives.
Second year—English II, Geometry, History II, foreign language electives.

Third year—English III, Trigonometry and Solid Geometry, Chemistry, foreign language electives.

Fourth year—English IV, Algebra II, U. S. History and Civics, Physics, electives.

Among the electives offered are biology, music, dramatics, journalism, public speaking, mechanical drawing, freehand drawing, and subjects chosen from the courses in agriculture, mechanics, engineering, and home making.

ENGLISH

English I. This course has two divisions, composition and literature. The first emphasizes clearness, conciseness, and accuracy of written and oral expression. The second attempts to arouse an appreciation of good modern literature and to teach the student to express the ideals expressed by the authors in terms of his own experiences.

English II. This course is a continuation and extension of the work in English I. Ability to address an audience is further developed by informal debating and reports. The work in literature and composition is correlated with the vocational needs of the students.

English III. The purpose of this course is to prepare the student for college and for the enjoyment of leisure hours. The work is as practical as possible, but is cultural as well as vocational. In composition the organization of material of fifteen hundred words or more is emphasized. The development of the ability to give reports of some length and to take charge of organizations and present propositions in a clear manner constitute the aim in oral English.

English IV. This course gives the student opportunity to read more widely from the masterpieces of English literature than is desirable in earlier courses. It aims to stimulate a love for good literature and to establish simple but trustworthy standards by which the student may test his reading. A few modern selections are assigned for rapid reading. The composition work in this course gives finer practice in all forms of writing, but is designed mainly to follow out the lines of the pupil's individual needs and capabilities.

Journalism I. The purpose of this course is three-fold: (1) to teach the students to read newspapers and magazines discriminately; (2) to teach them to recognize and collect news material; (3) to teach them to organize and write what they find in a form suitable for publication. Plenty of practical experience is available for the student who is willing to work, as the Journalism classes form the nucleus of the student group which puts out the school publications: *El Rodeo*, *The Polygram*, and *The Parakeet*. Three weeks are devoted to the study of advertising. Some attention is given to individual instruction in English, but, in order to enter the course, the student should have completed four semesters of high school English, with recommending grades for at least two of these semesters. English III, unless previously taken, must be taken as a parallel course. Ordinarily it is inadvisable for the student to enter the course in Journalism I in the middle of the year as the background work in technique is given early in the year.

Journalism II. An extension of Journalism I, designed for Seniors and Junior College students who wish to continue their work in Journalism. Only those who have satisfactorily completed Journalism I or its equivalent are admitted to Journalism II. The fact that this course is limited in membership affords opportunity for individual attention and experience. Journalism students are active in The Press Club.

MATHEMATICS

The courses in mathematics are designed to develop reasoning power and ability to solve actual problems as they are likely to occur. Emphasis is placed upon vocational needs.

Algebra. Expands one's knowledge of arithmetic, and presents a system of reasoning which simplifies the solution of complicated problems.

Geometry, plane and solid. Deals with the facts of plane and solid figures, squares, triangles, cubes, etc.

Trigonometry. Essential to land measurements and engineering.

Vocational Mathematics, I and II. The first and second sections of a two and a half year course containing those elements of arithmetic, algebra, geometry and trigonometry essential to vocational work.

HISTORY

History I, Ancient and Medieval. The ancient and medieval world studied in relation to present-day life and institutions.

History II, Modern European. Emphasizing the gradual development of modern conditions.

History III, American History and Civics. A study of the history of the American people, especially with reference to economic, social and civic aspects. It includes a study of present-day conditions and the position of the United States as a world power.

SCIENCE

Applied Science. A study of principles of physical science essential to a knowledge of work of the vocational courses. It may be taken as an independent course or as a preparation for more advanced work in physics.

Biology. A study of the science of living things. It gives a knowledge of plant and animal kingdoms and of the relation of different species to the welfare of man. This course includes a study of metabolism, plant and animal breeding, reproduction, the living cell, evolution and hygiene.

Chemistry. This course contains the fundamentals of a foundation course for later work in the chemistry of industry, chemistry of agriculture and chemistry of the household.

Physics. A study of the mechanics of liquids, gases and solids, together with the laws of electricity, light and sound. It stresses the application of physics to industries, and prepares the student for higher courses in mechanics.

ART

Courses in Art and Applied Art are provided for home-making students, mechanics students who are taking Architectural Drawing, and others of special ability.

FOREIGN LANGUAGES

Three years of Spanish and three of French are provided for those who desire them. The courses are intended primarily for those who desire

to enter universities, although others who wish to enter vocations which require knowledge of foreign language are also admitted.

MUSIC

Courses in chorus singing, orchestra and band are offered to all students who have musical ability. Private work in voice and piano will be given to students who show talent if the instructor's hours permit.

PUBLIC SPEAKING

Interpretative speech is recognized as being not only ornamental and cultural, but also useful and necessary. Men and women in business and professional occupations are more and more recognizing the need of training for effective speech. It is the aim of this course to develop confident speakers who can convey their ideas or the ideas of others.

DRAMATICS

A course is given in play making, play production, makeup, stage effects and settings.

THE JUNIOR COLLEGE DIVISION

Work in the junior college division of The California Polytechnic has been in operation one year. For years previous, however, high school graduates have been attending in considerable numbers to take advantage of the opportunities for vocational training offered by the four-year courses. Those desiring advanced work were handicapped, by the lack of academic work sufficiently advanced to furnish the tools for needed technical training. This want has now been met by the addition of two years of college work. At the same time the vocational courses have been added to, revised, and strengthened.

During the first year of work, eighty students were enrolled in the college division. Most of these were vocational students, taking courses designed to fit them to become practical engineers or high class assistants, foremen or superintendents in many of the trades and industries. In offering these courses The California Polytechnic is rendering a service duplicated in kind by no other institution on the Coast. That there is a genuine need for this service is evidenced by the keenness of the demand for training by students from many parts of the State. Most of these are young men of fine ability. Some lack the type of ability required for the theoretical work of the university; others frankly prefer work of the practical type.

Of the students who come, a few find that they want university training. That they may be transferred to the University with no loss of time, foundation courses in English and Social Science are added. The work in science and mathematics provided for the vocational students is ample to meet the demands of the University. Only those students who were eligible to the University of California upon high school graduation and do creditable work in the college division may receive a recommendation to Sophomore or Junior university work. Other high school graduates who make passing grades in the required subjects may receive a diploma of graduation. Not more than 16 units may be carried in the first semester by an academic student.

A total of sixty-four units is required for graduation from all courses. All must comply with the following requirements: Subject A, no credit; English, 6 units; Social Science, 6 units; Science or Mathematics, 6 units;

Physical Education and Health, 4 units. All courses must be so arranged as to show at least 20 units in one department.

An examination in Subject A (English Composition) will be given at the California Polytechnic by the University of California some time in June. Those who fail to pass are required to take a course in English composition without credit.

ADVANCED COURSES

Related subjects offered:

FIRST YEAR					
First Semester			Second Semester		
	Cl.	Lab. Units		Cl.	Lab. Units
English.....	5	3	English.....	5	3
Physics.....	5	8 4	Physics.....	5	8 4
Analytical Geometry.....	5	3	Differential Calculus....	5	3
Advanced Algebra.....	5	3	Political Science.....	5	3
Political Science.....	5	3	European History.....	5	3
European History.....	5	3	Physical Education.....	4	1
Physical Education.....	4	1			
SECOND YEAR					
First Semester			Second Semester		
	Cl.	Lab. Units		Cl.	Lab. Units
English.....	5	3	English.....	5	3
Chemistry.....	5	8 5	Chemistry.....	5	8 5
Integral Calculus.....	5	3	Differential Equations..	5	3
Economics.....	5	3	Economics.....	5	3
English History.....	5	3	English History.....	5	3
Physical Education.....	4	1	Physical Education.....	4	1

The three year courses in French and Spanish offered in connection with the four year course meets the University requirements in foreign languages.

The results of the work of the students in all junior college subjects will be reported in six grades, four of which are passing, as follows: A, excellent; B, decidedly good; C, fairly good; D, barely passed; E, conditioned; F, failed. The standard set for grade D may not be lower than that formerly set for grade 3.

In all college subjects, grade points or quality units will be assigned as follows: A, 3 points per unit; B, 2 points per unit; C, 1 point per unit; D, no points per unit; E and F minus 1 point per unit. Removal of grades E and F will entitle the student to as many grade points as may have been lost by the condition or failure, but no more. For recommendation to the university the student must have attained at least as many grade points or quality units as there are time units or quantity units in all courses undertaken by him which he has carried.

ENGINEERING-MECHANICS DEPARTMENT

Electrical Measurements. A detailed course in measurements in electricity and magnetism and the applications of measurements to the commercial world. Advanced and theoretical problems in electrical ma-

chinery circuits, and magnetic circuits as considered in present day practice. Studies of instruments, relays, and switching devices are taken up and their application considered. This course follows Elec. IV.

Electrical Power Plants. Studies in the problems of operation of power generating stations from the standpoint of the public utility engineer. Consideration of costs, machinery, equipment, service and financial problems are taken up and the student is given a fair knowledge of the problems of power generation. A one semester course.

Outline of College Division Courses in Mechanics Department

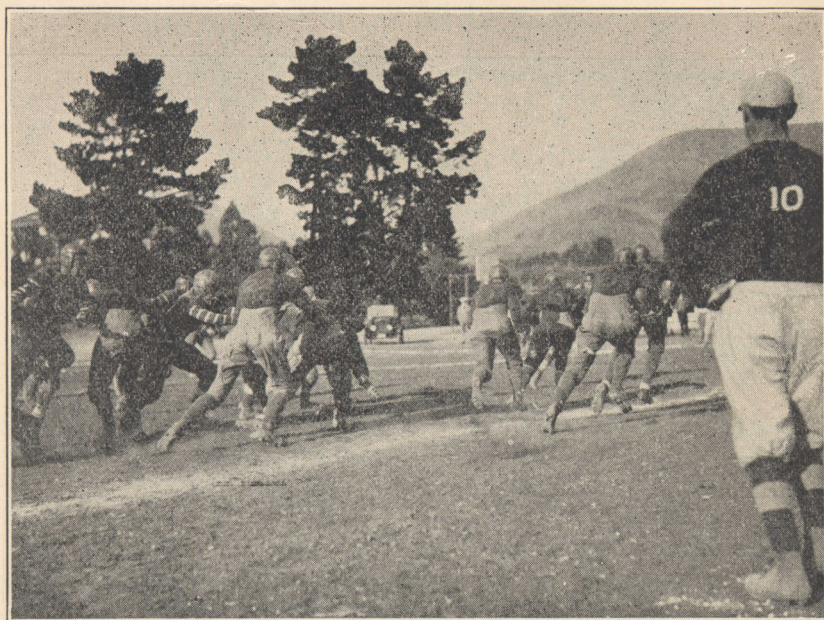
First Year			Second Year		
All Groups:		Cl. Shop	All Groups:		Cl. Shop
Analytic geometry and differential calculus.....	5	0	Integral Calculus and differential equations.....	5	0
Physics.....	5	8	Chemistry (or).....	5	8
Strength of Materials.....	5	0	Theoretical mechanics.....	5	0
Electricity: Electrical Measurements.....	5	8	Graphical solution of problems and kinematics....	2	4
Machine Shop: Heat treatment of steel and shop problems.....	3	10	Electricity: Electrical power plants and substations..	5	8
Drafting: Machine design...	3	10	Machine Shop: Shop management.....	5	10
Automobile:			Drafting: Problems in design	5	16
Heat treatment of steel and welding.....	3	4	Automobile: Shop management.....	5	10
Trouble hunting.....		8	Aeronautics:		
Aeronautics: Ship design and construction.....	5	8	Problems in design.....	2	4
			Ship construction.....	5	10



HERON HALL



AERONAUTICS CLASS AND
SIX PASSENGER PLANE BUILT BY THEM



THE LINE IN ACTION