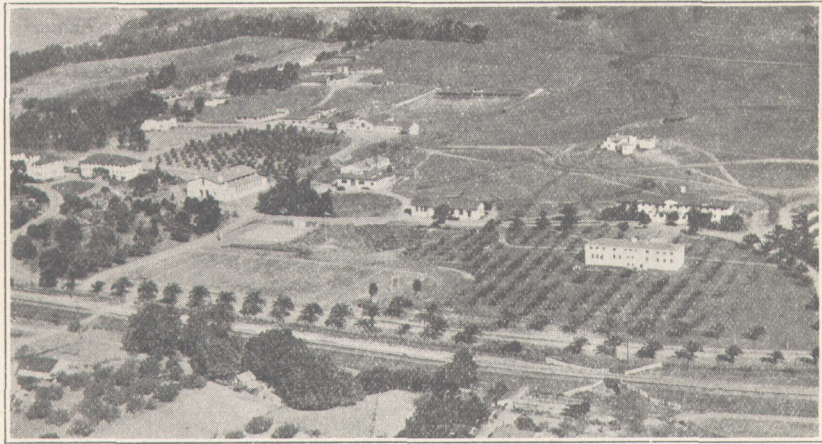


BULLETIN OF  
The California Polytechnic  
School

A TECHNICAL INSTITUTE FOR  
AGRICULTURE AND INDUSTRY

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Administered through the State Department of Education, Hon. Vierling Kersey, Director; Julian A. McPhee, Chief of the Bureau of Agricultural Education.



THE CAMPUS FROM THE AIR

SCHOOL YEAR 1933-34  
SAN LUIS OBISPO, CALIFORNIA

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## SCHOOL CALENDAR FOR 1933-34

### FALL SEMESTER

August 18, Friday—Dormitories and Dining Hall open.  
August 18, 19 and 21, Friday Saturday and Monday—Registration of students.  
August 22, Thursday—Instruction begins.  
September 9, Saturday—Admission Day.  
November 11, Saturday—Armistice Day.  
November 29 to December 3, Wednesday noon to Sunday night—Thanksgiving  
Holiday.  
December 22, Friday noon—Christmas vacation begins.  
December 22—End of Fall Semester.

### SPRING SEMESTER

January 6, Saturday—Registration of New Students.  
January 8, Monday—Instruction begins.  
February 22, Thursday—Washington's Birthday, holiday.  
March 21 to April 1, Saturday to Sunday night—Spring Vacation.  
May 1, Tuesday—Annual Spring Festival.  
May 10, Thursday—Commencement.  
May 11, Friday—End of Spring Semester.

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## BUILDINGS AND EQUIPMENT

Dormitories—Jespersen, Deuel, Heron, Chase Hall, capacity 230 students.  
Classroom Buildings—Anderson Hall, Administration, Agricultural Education.  
Classroom and Laboratory—Electrical, Aeronautics, Agricultural Mechanics,  
Machine Shop.  
Laboratory—Welding and Forge Shop, Aero Motor Shop; Meat Animals,  
Dairy, Poultry, Horticulture, Greenhouse Units.  
Service—Power Plant, Automotive Repair, Miscellaneous.

## GROUNDS

School Property—Fourteen hundred acres.  
Campus—Eighty acres.  
Tillable Farm Land—Four hundred and fifty acres.  
Pasture and Range Land—Eight hundred and seventy acres.

## THE CALIFORNIA POLYTECHNIC SCHOOL

**The California Polytechnic School** is a state institute for vocational training in specific fields of agriculture and industry. It was established in 1903 to provide such instruction and remains today the only state institution designated for vocational training leading to direct employment in these fields.

The level of instruction has been constantly raised and offerings for the school year of 1933-34 are designed primarily for those boys who have had vocational training and experience equivalent to that of a high school graduate. One to two years of lower-division work is provided for students who have not had sufficient vocational training and experience in agriculture or industry to qualify for advanced training.

**The school will enroll only male students** who have completed not less than two years of high school training, and who shall be deemed capable of profiting by the type of instruction offered. Selection of students is based on records of student accomplishments in vocational fields of agriculture or industry, citizenship as evidenced by activities, and scholastic standing. The type of individual instruction offered requires certain limitations on enrollment.

### COURSE OFFERINGS

Courses offered are under the divisions of agriculture and industrial education. Department offerings and details of classwork are listed in the later pages of this catalog.

**The student program provides a complete schedule** of activities of interest to the average high school upperclassman or graduate, including interscholastic and intramural athletics, publications, music organizations, class and departmental groups, dramatics and recreational functions.

The agriculture students have a chapter of the Future Farmers of America, with a full program of events within the chapter, with the agriculture students participating in these as well as in the student body functions. The aeronautics students have an organization known as the Aero club, and the electrical students belong to the Polyphase club. All three organizations meet frequently for business and recreation. There is also a Poly-Y club for development of ideals and citizenship, the Block P club for lettermen, and dormitory clubs for all resident students.

In athletics, California Polytechnic competes in the Central Junior College league with a complete schedule in football, baseball, basketball and track. Last year, the institution was in the championship series in three of the four sports, winning the track cup in straight meets and losing basketball and baseball trophies by close scores in play-off competition. In football, the school made a strong showing.

### LIVING ACCOMMODATIONS

**Living accommodations for students** are excellent and are equal to those of any public educational institution. Four modern dormitories are provided for the students, while meals are furnished at an up-to-date dining hall in the dormitory quadrangle. Rooms are well-lighted and comfortable, and dormitories are equipped with lounging rooms, music rooms and recreational quarters.

The dormitories and dining hall are operated on a non-profit basis, offering students the lowest possible rates in room and board. Although there is dormitory supervision and regulation, students are put largely on their own responsibility as to study hours and personal conduct.

The school is located about a mile from the center of San Luis Obispo. The city, of 8000 population, is on the main line of the Southern Pacific, and on the Coast highway. It is almost in the population center of the state and is half-way between the principal cities of San Francisco and Los Angeles.

The climate of San Luis Obispo makes it an ideal location for a school. Extreme heat or cold are unknown. The temperature during the school year varies principally between 40 and 80 degrees. The rainfall is average for the coast section.

The location of the school on the main highway and railroad make it accessible to all parts of the state. Paved highways reach into the San Joaquin valley. The ocean beaches 12 miles away and nearby mountain areas provide adequate opportunities for week-end excursions.

**Expenses at the school are as low as at any state educational institution.** An average amount computed from actual expenses of students last year shows that it is possible to complete the year on \$300. Considerable part-time employment in janitor service, gardening, cafeteria help, farm labor, milking, feed-grinding, live-stock and poultry feeding and other jobs, is available on the campus. In addition, every effort is made to find employment for students in the city of San Luis Obispo. Agriculture students are frequently able to derive a profit from their project operations. These sources of income enable a considerable number of students to complete the year on a limited amount of capital.

Students should not plan to enroll, however, with less than \$50 to \$75 and with assurance of sufficient money through the year to pay living expenses promptly. The student who is attempting to "get through" without sufficient funds frequently finds that he does not have sufficient time to properly attend to class work.

**Students enrolling at the school** should be supplied with ordinary school and work clothing, blankets, towels, bed linen, toilet articles, drapes and a small rug. Beds, mattresses, pillows, chairs and tables are part of the dormitory equipment. The expense of laundering towels and linen is included in the room charge. A minimum of textbooks and supplies are required, but must be purchased by the student.

## CERTIFICATES OF ACCOMPLISHMENT

**Satisfactory completion of the courses of study** in the divisions of agriculture and industry lead to certificates of accomplishment. These certificates list the specific skills and knowledge acquired by the holder, are signed by the state superintendent of schools, chief of the state bureau of agricultural education and the director of the division in which the student is enrolled. The certificate is a recommendation of proficiency in the fields listed. Where agriculture students successfully complete commercial practice work in addition to resident instruction their certificates also carry the signature of the owner or manager of the enterprise.

Because successful completion of the work leads to this definite vocational recommendation, the institution is based on units rather than years of enrollment. Students with greater previous training or experience may advance more rapidly than those without this background. The high school graduate in vocational agriculture should be able to enter the upper division upon enrollment and complete the resident course of study in two years. Students who have not completed high school or have little agricultural instruction or training will enter the lower division group. Industrial students who have been graduated from high school and have had vocational industrial courses will enter the technical division, while those of less than high school graduation or lacking in previous work in sciences, mathematics and drafting work, will enter the trade division of industrial education.

A free clinic for dormitory students provides ordinary medical attention. Students have access to the services of a physician on the campus four times each week without charge. If a student becomes so ill that he requires special treatment or hospitalization, he is able to obtain these services at a low rate.

## ATHLETICS

The new school gymnasium is equal in facilities to any on the coast. A standard basketball court with hardwood floor, indoor handball courts, concrete-floored shower and locker rooms, wrestling and boxing mats and every type of exercising equipment, are included. Athletic suits for all major sports, complete football, baseball, basketball, and track equipment and trainer's supplies are included. A turf football field and running track are near the gymnasium, together with two doubles tennis courts. Two outdoor handball courts and a separate baseball diamond are also in use.

**Students requesting further information** concerning the courses of study expenses, activities or living conditions should write for these details. Questions relating to industrial courses should be addressed to C. E. Knott, director of industrial education, California Polytechnic school, San Luis Obispo. Questions relating to agricultural courses should be addressed to C. O. McCorkle, director of agricultural education, California Polytechnic school, San Luis Obispo.

## DIVISION OF AGRICULTURAL EDUCATION

**The courses in the division of agricultural education** are designed to train young men from California secondary schools in the production and management of agricultural enterprises common in the state. The four major departments are meat animals, including study of swine, beef cattle and sheep; dairy department, including production and manufacturing; poultry department, and the horticulture department, including fruit, field and truck crops, landscape and greenhouse practice.

Work in each department is arranged for students of an age comparable to the twelfth grade and the first three years of college.

**The first year of instruction** is known as the lower-division unit. Students who have had little or no agricultural experience or high school training will be enrolled in this lower-division unit for general groundwork leading to the upper-division courses. Fundamental agricultural science, farm business management, agricultural mechanics and mathematics designed to bring the students to the instruction level of the upper division, are in the curricula.

High school graduates who have had vocational agriculture courses or considerable farm experience will enroll directly in the first year of upper-division work. Courses in each department are outlined in the following pages. Project operation forms the basis of instruction in the major courses in this unit.

**Students who have completed this unit of work**, or have had agricultural training in other agricultural schools or junior colleges, may be enrolled in the second year of upper-division work. Farm management practices in connection with the agricultural enterprises on the school's 1400-acre farm form the foundation for the major courses in this unit.

An additional year of non-resident supervised farm practice is recommended. This third year of upper-division work is provided in which an effort is made to place the student on a ranch or in a commercial enterprise in his major field. He may be on a full-time wage basis or may only earn his expenses, depending upon conditions. He remains under supervision of the agricultural education division and may be placed in permanent employment or enter an agricultural enterprise of his own during this year.

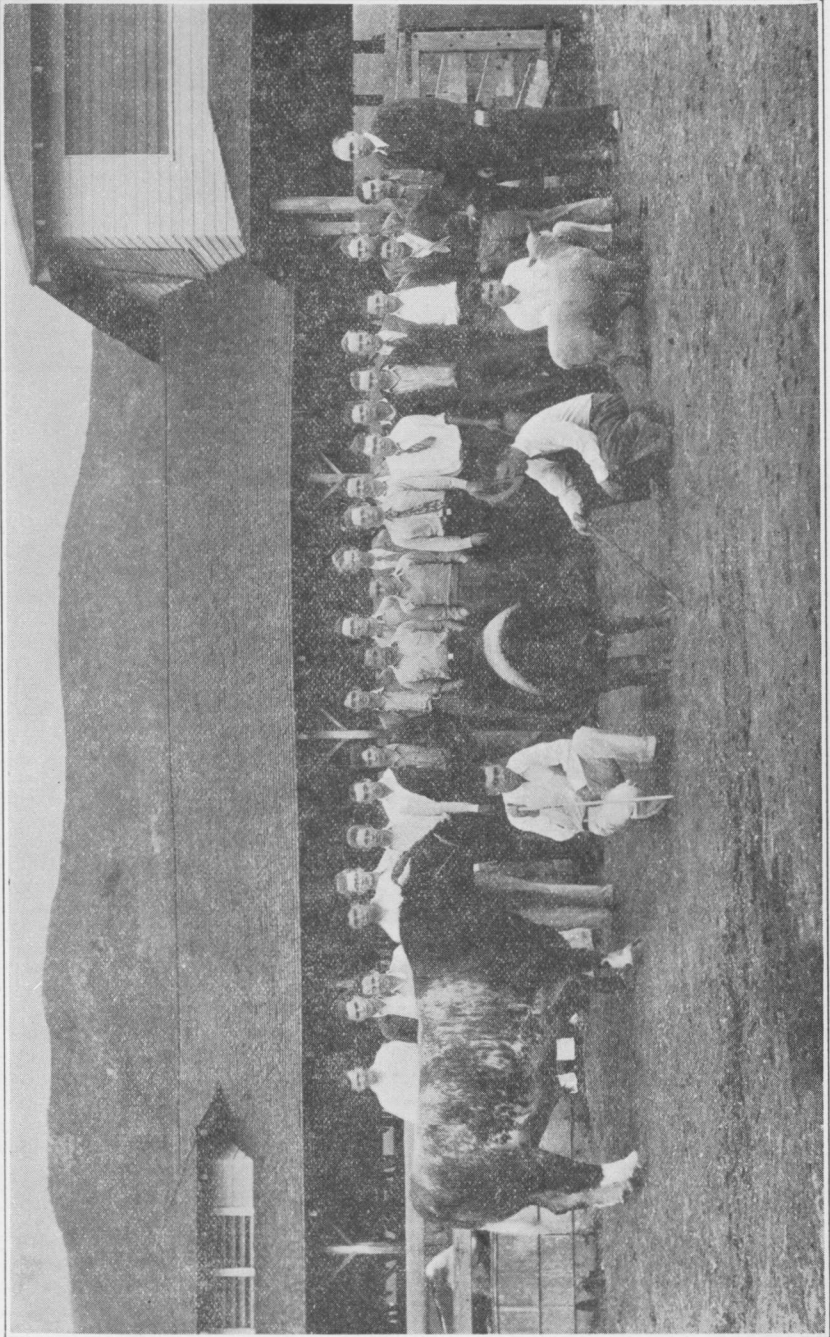
**To provide financial assistance** in carrying agricultural projects during the first two years of upper-division work, a project loan fund is available. No security other than the project itself and the students responsibility are required. After setting up a project plan covering the type of enterprise in which he wishes to engage, the student signs a contract with the project loan fund and the money is made available to conduct the operation through to completion. Students may carry individual projects or may enter partnership to feed out carload lots of market beef, sheep or swine. Prospective students who desire to study the contract prior to enrolling may write for a sample copy, stating the exact type of project desired.

**The California Polytechnic chapter of the Future Farmers of America** has an important function in the division of agricultural education. All agriculture students who possess the necessary qualifications become members of the chapter, while most of the agriculture graduates from high schools who enroll at the school already have membership.

A scholarship committee and an honor roll within the Future Farmer chapter are valuable aids to consistent study. Activities such as the Poly Royal agricultural show, annual "open house" event attracting hundreds of visitors, give the students greater training in meeting the public. A well-rounded program of community service, recreation and meetings is conducted by the chapter.

The annual summer conference and summer session of the high school agriculture teachers of California is held at the Polytechnic school; and members of the instructional and administrative staff of the division of agricultural education at the school also have important functions throughout the state in connection with the work of the state bureau of agricultural education.

Plans for the future call for a summer camp at the Polytechnic school for Future Farmers from all parts of California.





## MEAT ANIMALS DEPARTMENT

Courses in meat animals production and management are designed to train for specific employment in all branches of the industry. The course includes the major studies in the production of beef cattle, sheep and swine; feeds and feeding practices, breeds and their origin, principles of breeding, range management; growing of necessary grains, pasture and forage crops; and all necessary record-keeping, livestock marketing, animal pests and diseases, and other subject matter.

Related subject matter includes an agricultural science course relative to soils, soil preparation, fertilizers and plant physiology, a farm mechanics course in which is taught necessary mechanical skills to make and repair farm structures and implements; farm salesmanship courses, operation of farm organizations, farm business management, a study of laws relating to land ownership, tenancy and contracts.

Courses in meat animals production and management may be so arranged that the student may specialize in one branch of the industry, such as swine, beef cattle or sheep; or he may secure training in all three.

No project operation is possible for lower-division students because of lack of training and necessity of conserving space and equipment for upper-division classes. Lower-division students may select projects during the spring semester, however, for continuance in the upper-division classes.

The size of projects in the upper division depends on the skill and ability of the individual. Market beef cattle projects vary from a single steer to a carload; breeding stock from one to ten head. Ten to 50 head of fat hogs may make up a project, or one to six brood sows. Five to 30 market lambs or a like number of ewes may make up a sheep project.

No cash outlay is necessary to establish a project. A project loan fund is available for students who are not able to finance their own meat animals enterprise. Interest at 6 per cent is charged for the use of this money, and feed is purchased in large quantities and furnished to the students at cost. If the project shows a profit, all premium money from showing goes to the student. After interest and principal are deducted, two-thirds of the profit goes to the student and one-third to the project fund to take care of overhead and to insure the fund against loss. Shelter and equipment are furnished by the school.

All animals raised for market may be purchased from the school herds or from livestock ranches; or may be brought from home. Cattle must be t. b. and abortion tested, as the school herds are accredited. Hogs must be cholera immune.

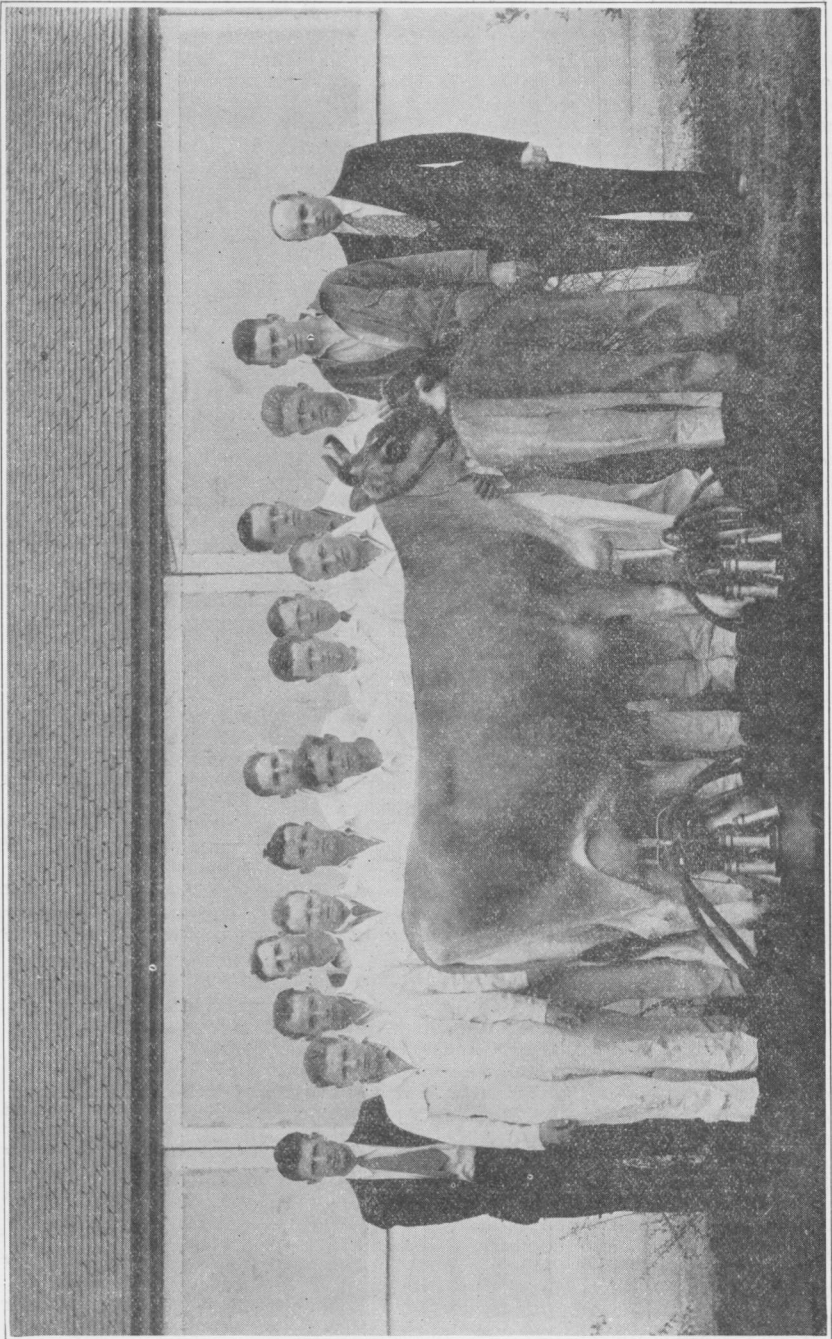
Students may bring a limited number of animals for breeding projects with them from home and continue with them under the same conditions, or may establish foundation herds with stock from the school herd or purchased from outside sources. Students contemplating bringing breeding animals with them should get in touch with the meat animals department immediately stating the number of sows, ewes or cows in the project, in order to insure proper shelter and equipmnt.

Project operation forms the basis for the work in the first year of the upper division. Sufficient time is allowed before and after school to care for the enterprise. Nine hours of work each week in the major subject, six hours of agricultural mechanics and the rest of the time divided into the related subjects classes, makes up a typical schedule in the division for the first year of the upper division.

The second year of upper-division work is based on management practices in the school-owned herds of purebred beef, sheep and hogs. All types of record keeping, practice in registration of animals, marketing studies, charts of variations in feed and meat prices, and similar studies, make up this year of work. Students may continue with projects established the previous year, or may diversify with a different type of project. Greater latitude is given for working out individual problems of management.

For the third year of upper-division work, the successful student may be placed in a typical meat-animals enterprise, either on a livestock farm, stockyards of feeding plant. He may earn part or all of his expenses, remains under the supervision of the school, and will receive in addition to the recommendation of the school, that of the owner or manager of the commercial enterprise, if his work proves satisfactory.

Special combinations of courses may be worked out in conference with department heads, if the combinations are practicable.





## DAIRY DEPARTMENT

**Courses in dairy production and manufacturing** are offered in the dairy department. It is possible for students to receive training in both fields, or the student may specialize in either.

Lower-division students who plan to enter the dairy courses will not be permitted to carry projects, but may select project animals during the spring semester for continuance the first year of upper-division work.

**Dairy projects are divided** into two classes. Students may raise calves for sale or keep mature animals for milk or butterfat production; and take home animals to form foundation herds upon completion of the courses at the school. Students may also bring project animals to school from previous agricultural enterprises, and care for them at the school.

**The project loan fund** at the school makes it possible for any dairy student to establish a project without immediate cash outlay. The loan is available for buying animals or feed.

The student repays the project fund for the money advanced for raising calves, when the animals are sold. The money advanced for mature cows can be repaid from the milk sales. In raising calves for foundation purposes, a common practice is to raise a few additional calves for sale purposes in order to earn money to repay the project loan; or to repay the fund by part-time employment.

The project forms the basis of study for the first year of upper-division work. Class work in the major field will include a study of selection and judging, feeds and feeding, milk production, disease and ailment control, growing of dairy cattle feeds, milk handling and dairy plant sanitation, herd record keeping and other subject matter.

The related subject matter includes necessary agricultural mechanics skills and knowledge necessary for dairy farm operation, general farm business management, farm salesmanship, farm organizations, agricultural science relating to soils and fertility, tillage and irrigation; laws relating to land ownership and tenancy, contracts and other material used by the practical dairy farmer.

**In the typical course in the first year of upper-division work**, the student will spend nine hours each week in his major classes, six hours in agricultural mechanics and the balance of the time in the related subjects courses.

During the second year of upper-division work, the student will continue with the dairy production studies, taking up such subjects as animal breeding, milk secretion and herd management, using the school herd as a basis for management practices; or may take the dairy manufacturing course.

In the latter field, arrangements have been made with two San Luis Obispo creameries for actual practice work in dairy manufacturing. Approximately half of the student's time between November and May may be spent in actual manufacturing and plant operation in these creameries. Prior to entering this practice course and during the period, class studies in dairy bacteriology and on the manufacturing of dairy products will be conducted. The student may also carry a dairy production project during this period.

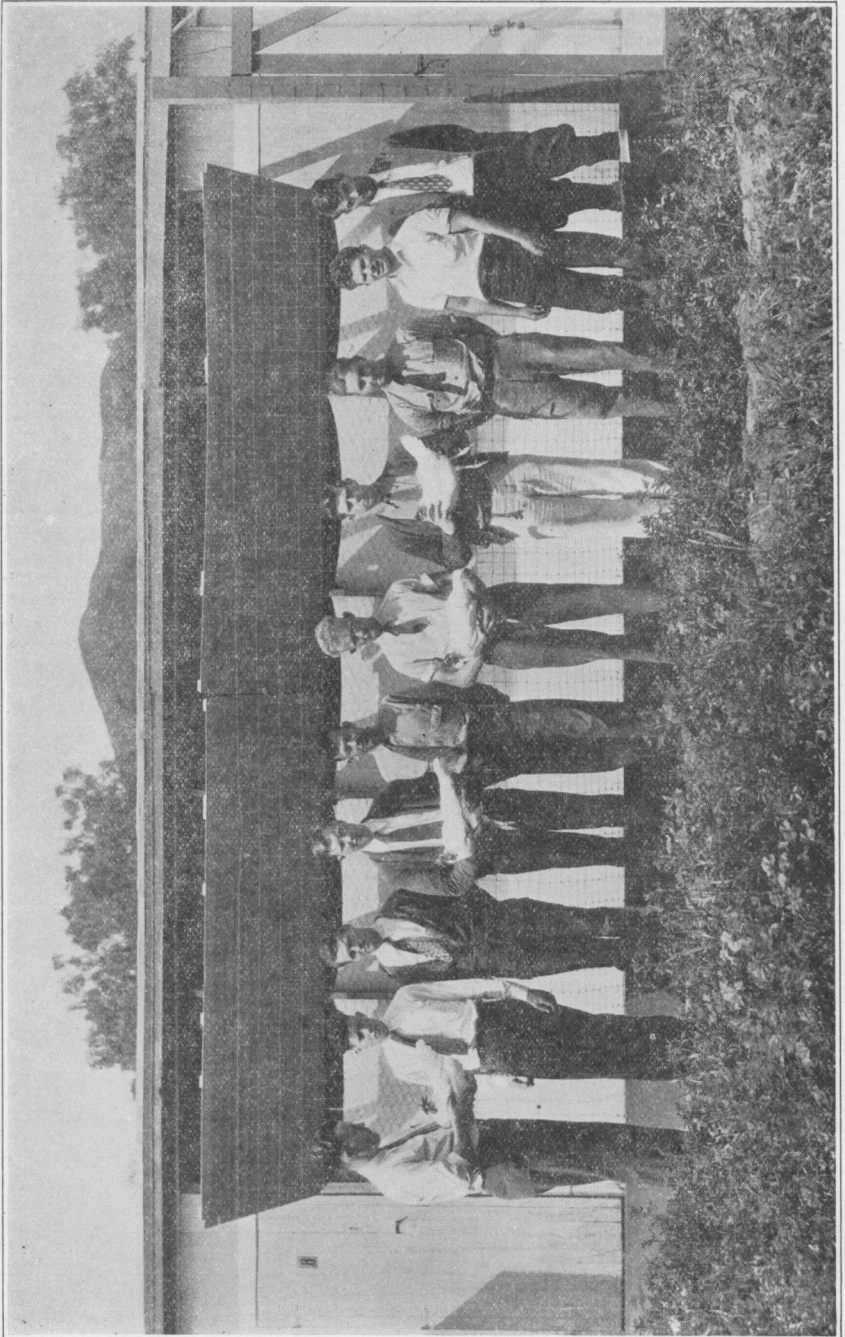
Successful students will have an opportunity of placement in other plants where vacancies occur, upon the recommendation of the local plant managers. The students will be under school supervision at all times.

**Students continuing with dairy production** during the second year of upper-division work will have as a basis of management practices the accredited school herd of approximately 100 purebred Jerseys, Guernseys and Holsteins.

**Modern equipment and dairy barn facilities** and a complete milk-handling plant furnish equipment for practice work. Milk is bottled and sold through the school cafeteria, and the surplus is sold on a butterfat basis. Field trips are made to dairy farms throughout the state.

For the third year of upper-division work, an effort is made to place students on a typical dairy farm or in a manufacturing plant where they may earn all or part of their expenses and continue under the supervision of the school. The recommendation of the farm or plant owner or manager will be of valuable assistance toward securing a job upon completion of the work.

Students desiring to bring project animals with them, or wishing part-time employment in the school dairy plant, should write at once to the dairy department.



## POULTRY DEPARTMENT

**Courses in poultry production and management** are designed to train students to enter the industry for themselves, or to secure employment on a commercial egg or meat production farm, egg or poultry handling plant, hatchery or breeding farm.

Project work in poultry is confined to upper-division students, although lower-division students who are planning to enter the poultry courses are given an opportunity to work with the flocks during the spring quarter of their first year.

**Work taken up during the first year of upper-division study** is based on project operation. Students may take up any one of a number of phases of poultry plant operation. They may care for a flock of birds in egg production, incubate with the school equipment, which is kept in operation most of the school year, brood egg-producing or meat birds from baby chicks to maturity, trapnest birds from the school flock, care for pedigree flocks from which hatching eggs are secured, or conduct a project of their own leading to a foundation flock to take home.

Because of the necessity of keeping up the permanent flocks, the school-owned laying hens do not change ownership for project operation but are rented to the students for the school period. Students have an opportunity, however, to incubate or brood chicks to sell, or to keep for a foundation flock of their own. High-quality hatching eggs are available from the school flocks or may be purchased.

**The project operation provides the basis** for studies of breeds of poultry, feeding and sanitation practices, pests and diseases, production of crops common in poultry plant operation, egg-handling, brooding and incubation, trapnesting and general record keeping, pedigree-flock management and other class material.

The income from the projects is divided between the project operator and the school. The share going to the school makes up the amount due for rental of the birds, replacement and equipment. The feed is bought in large quantities and sold to the projects at cost. The student's share is derived from labor and management.

Operating on this basis the last two years, students in the poultry department have been able to make an average income of from \$5 to \$15 per month, in addition to some part-time employment in the school plant. This assists materially in reducing the cash outlay necessary for the school year.

Standard egg-producing, dual-purpose and meat breeds are included in the school flocks. In addition, opportunity is given to work with various types of laying houses, including those with concrete yards, dirt runs and open range. Various types of brooding equipment including colony houses, battery brooders, gas and electric brooders, sun porches and numerous types of feeders are available, as well as different types of fattening pens, batteries and crates.

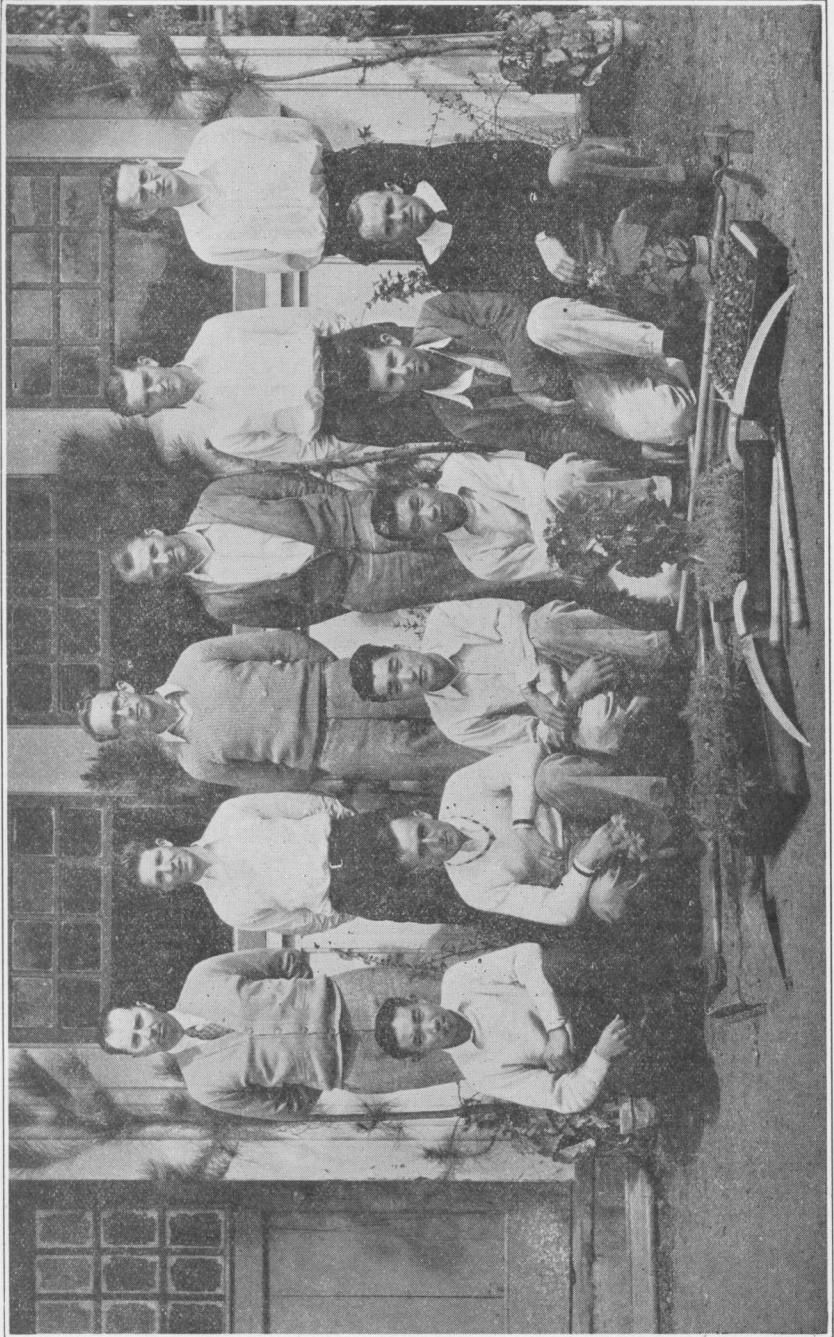
Candling of eggs and dressing of meat birds is practiced. Eggs are sold through a poultry cooperative, while dressed poultry is sold at retail and wholesale. Raising of turkeys has been started this year. No equipment is as yet available for pigeons, ducks or geese.

The typical course of study for the first year of upper-division work is nine hours each week spent in class work on the major enterprise, six hours in agricultural mechanics learning to build and repair necessary poultry structures and equipment; and the balance of the time divided between the related subjects. Sufficient time is allowed before and after class hours to care for project operation.

**Courses of study of the second year of upper-division work** are based on management practices in the school flock as a whole. Record-keeping and marketing studies are continued and specialization is followed according to the major interest of the student. Greater attention is given to the plant operation. Poultry students have complete charge of the commercial unit at the school, giving them unlimited opportunity for training and the development of responsibility.

**During the third year of upper-division work**, the student is advised in establishing himself in a commercial enterprise of his own, or assisted in finding employment on a poultry ranch or in a commercial plant. One student who completed resident instruction last year and is now doing such supervised practice work on a large poultry farm received three raises in wages during the first six months and is now a permanent employe holding a responsible position.

Students desiring part-time employment in the poultry plant should advise the poultry department as early as possible prior to enrollment stating the type of work desired.



## HORTICULTURE AND LANDSCAPE DEPARTMENT

**Courses in landscape gardening, truck crops, field crops and fruit production** are offered in the horticulture department. Each of these courses is designed to train the student for specific employment in each of these subjects.

Lower-division students who plan to enter any of the above courses will not be permitted to carry projects unless they show marked ability in their work.

The landscape gardening course includes study of design in both theory and practice. From the theory standpoint, it embraces a comprehensive study of types and their uses. From the practical standpoint, it takes up the actual laying out of these drafted designs, the building of lawns, the propagation of plants and plant identification.

**The campus**, consisting of about 80 acres, is being re-landscaped and the landscape design classes are doing this. There is an opportunity for new design and the rebuilding of old design. There are two modern glass houses, two lath houses and growing grounds. All the trees, shrubs and flowering plants for planting are grown by the students. Students in this work may carry projects in nursery stock to be sold to the local nurseries. This last year, ready sale has been found for this type of product. There is a constant demand for students to do gardening work, both on the campus and for local residents.

**The truck crops course** is designed to fit the student for the actual production of truck crops. The lower-division student planning on taking truck crops may carry such a project the second semester if he shows ability.

The student during the first year of upper-division work will devote his time to the study of soils, soil management, climatic conditions, insect and disease control as directly related to truck crops, and a study of varieties.

The student during the second year of upper division goes into a more comprehensive study of market varieties, marketing, prices and general management of truck crop farming. The management of the truck crops on the school farm will be almost entirely in his hands.

The coast counties section of California is noted for the quality of winter and spring vegetables produced. Some of the vegetables for which the district is noted are cauliflower, broccolli, cabbage, carrots, string beans, bush peas and pole peas, early corn and lettuce. There is ground available for trucks crops projects.

**The fruit production course** is designed to fit the student for the production and management of tree and vine fruits. In the second year of upper division the students take over the producing orchard as projects and handle the entire orchard from fruit crop to fruit crop.

The first year of upper division the student will take up the work necessary in running a successful orchard, soils and soil management, fertilizers, cover crops, planting, pruning, pest and disease control, irrigation and climatic factors.

The second year of upper-division work, the student carries on more comprehensive study of varieties and their uses, orchard management, cooperative fruit organizations, prices, shipping, drying and related materials.

This coming year it is planned to plant 12 additional acres of orchard and since the trees will be grown on the campus there will be an excellent opportunity to practice budding, grafting and nursery practices. The new orchard will consist of apricots, peaches, apples and plums.

**The field crops course** is designed to train the student in the production of cereal and forage crops, pasture grasses and commercial seed production.

In the first year of the upper division the student studies the botany of crop plants, climatic situations, soil management, fertilizers, fallowing, moisture studies, plant breeding and pest and disease control.

The second year of upper-division instruction includes a more detailed study of varieties, production and management. The school has more than 450 acres devoted to the production of field crops. There is ample opportunity for the study of this subject. Some of the crops produced in quantity are barley, oats, vetch, corn, alfalfa, Sudan grass and sorghum. It is possible for students to carry projects in both seed and forage production.

## RELATED AGRICULTURAL COURSES

**The purpose of the courses in agricultural education** is to provide young men with specialized knowledge and experience in agricultural production and management plus well-balanced training in citizenship functions, the ability to meet and deal with the public and thorough scientific groundwork in the vocational skills.

**Related most closely to the major production studies**, are courses in agricultural mechanics. In a large, well-lighted shop are taught the mechanical skills required on a farm or in a commercial agricultural plant. The use of tools typical of such a set-up is taught, with a minimum of power-driven shop equipment. In the agricultural mechanics shop students construct and repair equipment regularly used in the major agricultural enterprises. They repair and adjust farm machinery, learn farm blacksmithing and leather work and farm carpentry. Devices used in their own projects are constructed by the students.

As farm machinery represents a large part of the investment on the average farm, special attention is given to its operation and upkeep. To make this work of the greatest possible practical use the various makes and types of machines are carefully studied as to their efficiency, ease of operation, and cost. In the shop, these machines are dismantled, the working parts carefully examined and checked as to the method of operation and lubrication and then assembled again. In the field each student is given the opportunity to operate these same machines under varying conditions. By this method the student not only knows how a machine is constructed and how it operates but he also becomes proficient in its use in the field and is trained in its proper care and management.

**The agricultural science courses** take up a study of the types of soils, properties and uses of fertilizers, various methods of irrigation, plant physiology, soil management, and elementary agricultural chemistry. Students in all departments take these courses.

**The farm business management courses** include those problems with which every agricultural producer comes in contact in the daily conduct of his business. Taxes, leases, labor, and social problems form an important part of this work. The major emphasis, however, is placed on farm accounting. The accounting work covers the method of taking an inventory and determining values. By actually taking an inventory of the school farm and assigning values to the items listed a student gains practice in this work. A practical system of cost accounting which is readily understandable has been set up on the various enterprises on the school farm. As a part of his work, each student in business management keeps a set of these cost accounts using the data supplied by the operation of the farm. He is allowed to keep these accounts on the completion of his work as a working model for use either in his own agricultural enterprise or where he is employed. Mathematics sufficient to make all necessary computations, is also included in the farm management work, such as storage capacity of bins and tanks, measurement of stacked hay, flow of irrigation water, nutrition ratios and other valuable data.

**The principles and methods used in private and cooperative marketing** are studied in this course. Examples include individual selling, operating through a commission firm and cooperative transactions. The Future Farmer chapter marketing activities are practiced in relation to the various enterprises. Livestock is pooled in order to make up a shipment, eggs are handled in a cooperative manner so that each member bears his part of the expense and shares in the added profit, while some dairy cows are handled as a group project by the dairy students. The chapter has an arrangement for the transportation, handling, and selling of their stock at the various shows and fairs. Primary objectives and the set-up of various farm organizations are also taken up and students are given an opportunity to see the actual programs of the various farm groups.

**The farm salesmanship courses** are designed to train the student to "sell himself" to the public as well as to handle necessary business transactions. Under this heading is grouped training in public speaking, business letters and other written material, conduct of business meetings, display and advertising of agricultural products, and other material.

A course in government is included in the related material. This is designed to give the student an understanding of his responsibilities as a citizen in the county, state and nation.



## DIVISION OF INDUSTRIAL EDUCATION

**The objective of the industrial courses** is successful placement of the student in industry. This is accomplished first by training the student for a particular place in industry and then locating the job for him. A coordinator whose duty is to contact industrial concerns and place the students in the job for which they are fitted, is a member of the staff. This placement is accomplished after a careful study of each individual case, every effort being made to see that the student is placed in a job for which he is fitted and one in which he can advance to the full extent of his ability.

**The coordinator's contact with the industry** assists the school in giving the student the proper training to fit him for the job when he has finished his course. Assistance is also given to the student who must leave school before the completion of his course, by helping him get located in a suitable job.

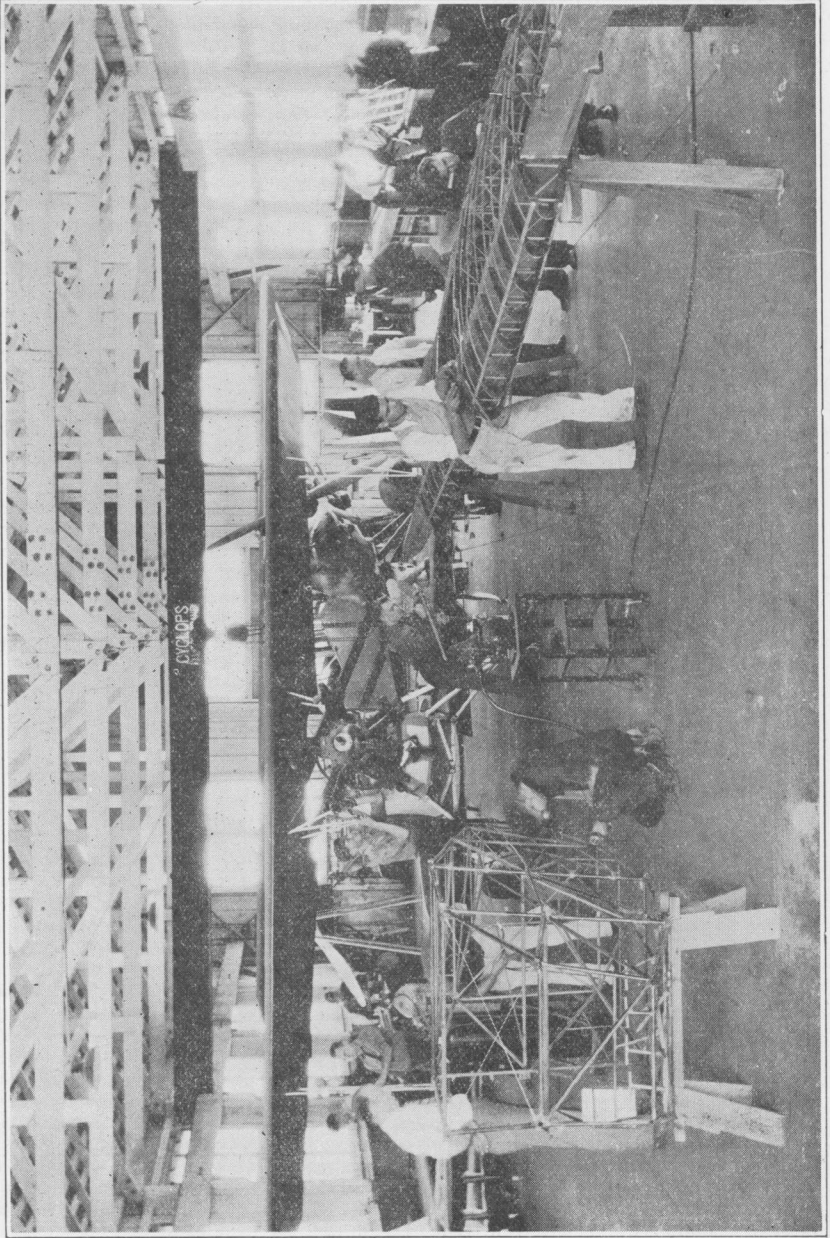
**The courses are following the usual arrangement** for the Smith-Hughes vocational courses, allowing a half-day for supervised training and a half-day for related class work. The first two years are of the trade level and the last two years are of the technical institute level. The student who has completed the first two years of high school work, or who has the average development of a seventeen-year-old boy is eligible for admission to the industrial courses. It is recommended that students complete the whole four-year course, obtaining the trade level training and also the more advanced technical training. However, the student who enters after completion of high school is able to cover the technical course in from two to three years, the time depending upon the amount of previous training he has had along the chosen line.

The industrial courses offered are listed under two general heads—**aeronautics and electricity.**

**The aeronautics is divided into two branches,** the engine mechanic and the airplane mechanic and it is recommended that the student prepare to take the examination in both. Before the student may take the engine mechanics examination the Department of Commerce requires that he must have had two years experience on internal combustion engines, one year of which must have been on airplane engines. Before taking the airplane mechanics examination the student must have had one year on airplane repair work. Since the aeronautics shop of the California Polytechnic school is a government-approved repair station and the instructors are licensed mechanics, the student may obtain all of this experience in this school. This makes it possible for the student to obtain a government license as an airplane mechanic or an airplane engine mechanic on completion of the course.

**The electrical work is divided into five different heads**—inside wireman, armature winder and motor repair man, industrial control technician, communications technician, and public service corporation employee. For the inside wireman it is recommended that the student be placed in employment at the end of the second year, while with the other four branches it is recommended that he remain in school three or four years. There is to be no graduation from the industrial courses, but instead a certificate of completion of the course will be given the student after he has completed eight months of successful employment in his chosen vocation.

**Aside from the purely trade or technical training,** the student receives related training in English, mathematics, history, public relations, and science. These related subjects are as nearly as possible connected to the line of work in which the student is specializing. For instance, the course of mathematics for the electrical students deals directly with the mathematics required in the electrical industry. The history course covers the economic and industrial history of the United States as it is related to the working man. The science is confined to the essentials of chemistry and physics, and the instructor will apply them directly to the trade in which the student is interested. The objective of the English course is to give the student a reading, writing, and talking command of the English language to assist him to advance in his chosen vocation. Special emphasis is placed on assisting the student to express his thoughts in an accurate and pleasing manner, both in speech and writing. The course in public relations is especially prepared for the students about to leave the school. The content of this course has been very carefully selected to be of assistance to the young man as he takes up the responsibility of earning his own living in the industrial world.



## AERONAUTICS DEPARTMENT

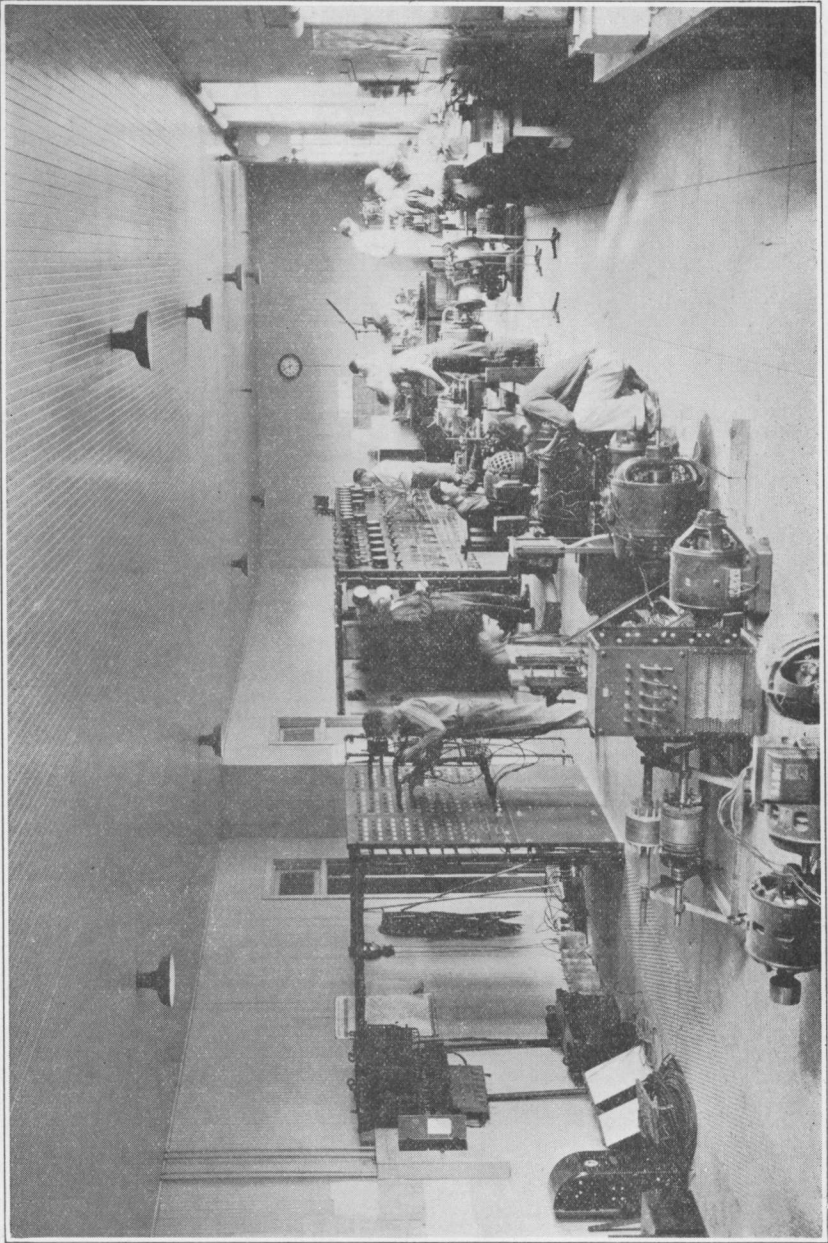
Since the main objective of the aeronautics course is to make it possible for the student to obtain a government license either as an airplane mechanic or engine mechanic, the requirements of the course are largely laid down by the Department of Commerce. The most of the students elect to take the examination for both of these licenses. For the average student entering this school without previous shop training or airplane experience this will probably require four years for the student who has not completed high school, and usually three years for the student who has completed high school. The exact time depends upon the student's ability.

**First Year—Trade Level.** The student who enters the California Polytechnic school from the 10th year in high school will enter the aeronautics course at this point if he has not had previous training in machine shop work and welding. If he has had work in high school in either of these subjects, an examination will be given him to determine just where he should enter the course. The shop work will consist of machine shop and welding, supplemented with aeronautical drafting, mathematics, science, and English. The student in this department should have a working knowledge of trigonometry and the mathematics offered will bring the student up to this level. The science deals with the essentials taken from a high school physics course, as these apply to the aeronautics course. The welding is practice work in acetylene welding of sheet metal and tubing of the same class as the usual welding done in airplane construction.

**Second Year—Trade Level.** Most of the high school graduates will enter the course at this point unless they have had previous training in aeronautics and shop work. Class work is given in airplane construction, and airplane engines. The shop work in airplane construction consists largely of work on the wooden parts of the airplane, ribs are constructed, spars repaired and rebuilt, and in general the wooden parts of the airplane put into first class condition. All work in the shops is done on licensed aircraft, so that the work must be airworthy. Every year the shop rebuilds and repairs several up-to-date commercial airplanes. The first half of the year in engines shop work is given over to carbureters, ignition systems, and auxiliaries. In the second half of the year students begin the overhauling of airplane engines. At first he works on the older type of engines. The engine is disassembled, checked for wear, and reassembled and then placed on the test stand and made to run long enough to prove that the work was well done. If the student has not had U. S. History, he takes the course this year.

**First Year—Technical Level.** In the third year, the class work in airplane construction deals largely with aerodynamics, the materials of construction, and their uses, and types of construction. In the shop the students assembled and finish the woodwork on complete wings, and repair fuselages and landing gears. The engine work includes both top and major overhauls, and bearing fitting. After an overhaul the engine is tested to prove that the work has been properly done. Class work on airplane engines is continued throughout the year. If the student has specialized either on engines or construction, he may take the examination for the mechanics license on completion of this year. Aeronautical drafting directly related to the repair work in the shop is offered, as well as the essentials of physics as they apply to aeronautics.

**Second Year—Technical Level.** In this year the construction work includes the finishing of the airplane after an overhaul in the shop. Repair work on the fuselage such as putting in new members or rebuilding the motor mount of a badly wrecked plane is done by the students. Then the airplane is covered, doped, painted, assembled, and rigged. The class work on construction is given over largely to rigging, and the final assembly of the airplane. The engine work is a continuation of the overhauling and testing of up-to-date engines. This may include engines from the planes in the shop for repairs, or engines in the laboratory. In all cases the engines are tested on the stand after an overhaul. The class work on airplane engines is a continuation of the preceding year with special emphasis placed upon later developments and magazine articles. The aeronautical drafting is a continuation of the preceding year's work. Class work is also given in meteorology, navigation, and instruments during this year. A course in public relations is also offered to all students before they have completed the aeronautics course.



## ELECTRICAL DEPARTMENT

In the electrical course the student is allowed to specialize in any one of five branches of electrical work—inside wiremen, armature winder and motor repair man, industrial control technician, communications technician, and public service corporation man. The laboratory is well equipped, so that the student may have the necessary equipment and machinery for experiments and tests along his chosen line of work. In addition to the laboratory the students have the whole campus for a workshop.

All of the electrical equipment on the campus is serviced by students and any new electrical installations are made by these classes. The school power plant, consisting of a 120 h. p. Diesel-electric generating unit, a 50 h. p. gas engine belted to an electric generator, and a 75 h. p. steam-electric generating unit is operated by the advanced electric class.

A machine shop and welding shop are available for students who wish to get some other experience in shop work in addition to the regular work offered.

The high school graduate who has had no previous training is usually able to complete the electrical course in two years, providing he has had three years of mathematics and a year of physics. An intensive electrical course is offered for those students which covers in one year most of the work offered in the two years of trade level courses.

**First Year—Trade Level.** Students entering this school who have completed only two years of high school will enter at this point in the electrical course. The first year is a general, or "finding" course and covers about the same work for all branches. During this first year the student chooses the branch he wishes to follow. The classroom work covers the fundamentals of electricity and magnetism, simple circuits, and electrical equipment as applied to the five branches mentioned above, with special emphasis upon the wiring for lights and power. The National Electric Code and safety rules are studied along with the textbook. The work in the laboratory parallels the classroom work with experiments and actual construction jobs. In addition to the electrical work, the students have work in English, mathematics, science and electrical drafting. On completion of this year the student may enter employment with an electrical contractor as an electricians helper.

**Second Year—Trade Level.** By the beginning of the second year each student should have chosen some branch of the electrical field for specialization. The class work, and the shop and laboratory work deals directly with the problems needed in the student's chosen field. However, at all times during this year, it is kept in mind that the fundamentals of electricity come first and the student is led to make applications of these fundamentals to his branch of the electrical work. Even at the end of this year the student may shift from one branch to another without serious loss of time. In addition to the electrical work the students continue with their electrical drafting and those who have not had U. S. History take this course at this time. On completion of this year the student may enter employment as an electrician's helper in his chosen line.

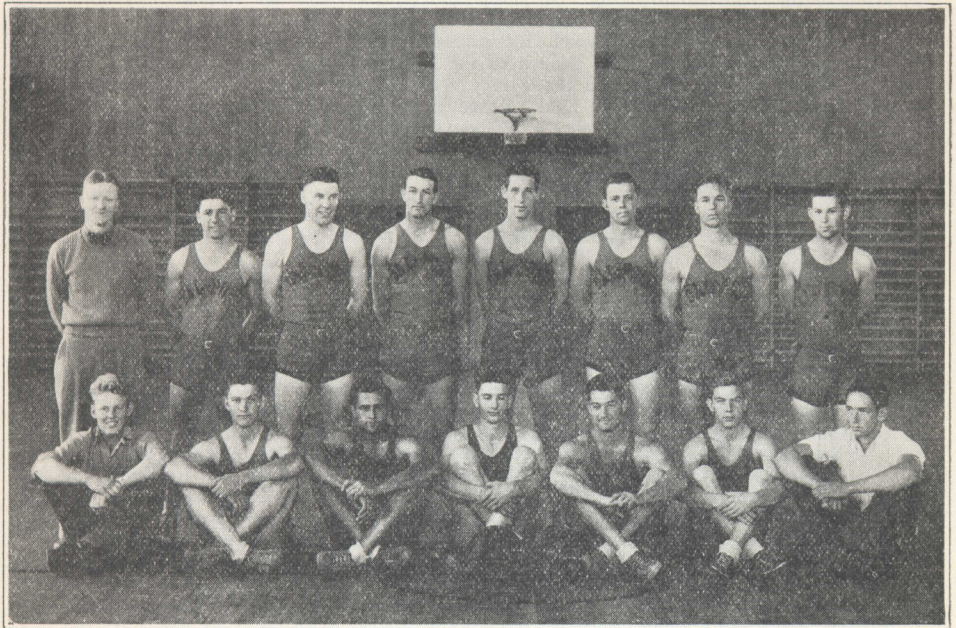
**First Year—Technical Level.** The third year of the electrical course is given over to specialization in the student's chosen field. Problems directly related to the work are discussed both in the shop and in the class. The shop work is largely directed toward giving the student the proper skills to go into the industry as a workman, and, as far as possible, is placed on a commercial basis. In addition to the electrical work, the student may take more electrical drafting and some English or advanced science during this year. On the completion of this year the student in most of the branches may enter employment on a man's job.

**Second Year—Technical Level.** The fourth year of the electrical course is a continuation of the third year. It is planned that the student will be ready for placement during this year and in most cases will complete this year on the job. By contact with the employers the school determines the specific type of training needed by the student for a particular job and when the student is sufficiently trained he is placed. The student, on completion of this year, can enter the electrical work in a man's job, and his advancement will depend upon his ability and industry. In addition to the specialized electrical training both in the classroom and the shop, the student continues with the electrical drafting if he needs it, and takes a course in public relations.





The Conference Championship Track Squad.



The Basketball Team, in the Championship Play-Off.