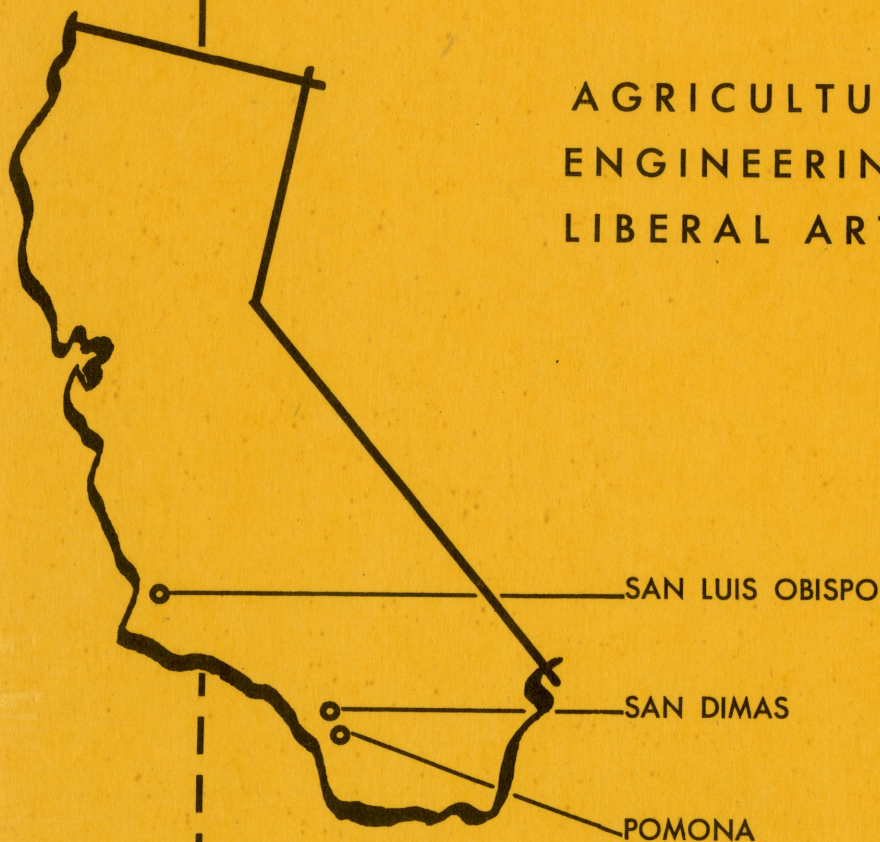


Annual Reports - Calif. State Poly College SLO 1952-53 Archives

1952-53 ANNUAL REPORT

CALIFORNIA STATE POLYTECHNIC COLLEGE

AGRICULTURE
ENGINEERING
LIBERAL ARTS



CALIFORNIA STATE POLYTECHNIC COLLEGE

ANNUAL REPORT

1952-53

to the

CALIFORNIA

STATE BOARD OF EDUCATION

AND THE

STATE DEPARTMENT OF EDUCATION

San Luis Obispo, California

April, 1953

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FOREWORD

Never before in the twenty years that I have had the privilege of serving as President of the California State Polytechnic College have I felt more enthusiastic about the future of this institution. Unfortunately it is difficult to transmit this enthusiasm through the medium of printed words, which, by tradition in an ANNUAL REPORT, must be limited to an accounting of activities of the past year.

Throughout the year we have enjoyed the encouragement of countless persons who have been convinced by the performance of our graduates, both as competent technicians and participating citizens, that a well conceived technological education is a good general education.

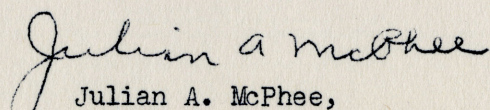
To be educated one must have not only knowledge, but must know how to apply that knowledge in all aspects of living. The success of Cal Poly graduates in converting knowledge into action has proved through the years that students who are given the opportunity to take direct part in "learn by doing" educational experience utilizing the hands as well as the head turn the funds spent on their education into a sound and lasting investment. At Cal Poly "learn by doing" techniques are used in preference to educational experiences which substitute secondary, ready-made situations for those of real life. Because a proper proportion of general education is a part of all occupational curricula at this college, students not only learn proficiency in their selected vocations but also acquire valuable knowledge of related arts and sciences which gives them the vision to see beyond their own specialties.

Because in this modern society few men are free of the economic necessity of earning a living, all educational programs offered at this college have been planned to lead to specific fields of employment. The college believes it is desirable for a student to have a definite occupational goal. It is easier to help a student arrive at a point of maximum employability if he knows his objective. To assist students who are not certain about their choice of major or their future occupation, the college provides personnel especially qualified to counsel students.

As the college begins its fifty-second year as an educational institution devoted to the philosophy of occupational education, we look forward with anticipation to the continued development of physical facilities on both the San Luis Obispo and Kellogg-Voorhis campuses.

It is my privilege again to express in this ANNUAL REPORT my sincere thanks to the State Board of Education, State Department of Education, and the Legislature for their continuing and active support.

Respectfully submitted,


Julian A. McPhee,
President

ENROLLMENT

2

Fall Quarter 1952

A total of 2259 full-time students registered at the San Luis Obispo campus of the college for the fall quarter, 1952, while a total of 413 men registered at the Voorhis campus during the same period---a total for both campuses of 2672.

At present no women students are enrolled as there are no adequate dormitory or physical education facilities available for them.

San Luis Obispo Campus Enrollment

<u>By Division</u>		<u>By Year</u>	
Engineering Division	962	First year	766
Agricultural Division	1069	Second year	521
Liberal Arts Division	185	Third year	447
Graduates	43	Fourth year	426
	2259	Fifth year	56
		Graduates	43
			2259

Enrollment by Departments

<u>Agricultural</u>		<u>Engineering & Industrial</u>	
Agricultural Engineering	168	Aeronautical Engineering	138
Agricultural Inspection	3	Architectural Engineering	186
Animal Husbandry	508	Air Conditioning & Refrig.	75
Field Crops Production	78	Electrical Engineering	76
Truck Crops Production	29	Electronics & Radio	199
Dairy Husbandry	82	Mechanical Engineering	235
Dairy Manufacturing	20	Printing	53
Fruit Production	14		962
Ornamental Horticulture	54		
Poultry Husbandry	52		
Soil Science	60		
Citrus Fruit	1		
	1069		

<u>Liberal Arts</u>		<u>Graduate</u>	
Biological Sciences	39	Agricultural Education	30
Mathematics	7	Education	13
Physical Education	70		43
Physical Science	9		
Social Science	38		
Agricultural Journalism	22		
	185		

Total 2259

Place of Legal Residence

COUNTY	Nov. 1 1946	Nov. 1 1947	Oct. 1 1948	Oct. 1 1949	Nov. 10 1950	Oct. 30 1951	Nov. 18 1952
ALAMEDA	35	63	85	108	106	93	87
ALPINE	0	0	0	0	0	0	0
AMADOR	0	0	1	2	0	0	1
BUTTE	1	4	6	10	10	8	7
CALAVERAS	0	0	0	0	1	2	5
COLUSA	2	1	2	3	12	4	5
CONTRA COSTA	13	12	30	37	45	36	36
DEL NORTE	0	0	1	1	1	0	0
ELDORADO	0	7	14	14	12	5	2
FRESNO	65	65	73	71	50	43	35
GLENN	3	5	10	16	14	14	10
HUMBOLDT	12	13	17	14	8	11	12
IMPERIAL	7	12	16	15	17	26	40
INYO	2	3	3	3	7	7	4
KERN	29	27	50	66	51	47	67
KINGS	18	17	17	15	17	13	15
LAKE	1	1	3	2	5	2	4
LASSEN	2	3	10	11	6	4	3
LOS ANGELES	397	439	588	651	596	481	454
MADERA	3	11	3	5	4	5	4
MARIN	3	10	11	17	14	12	15
MARIPOSA	0	2	1	2	1	2	0
MENDOCINO	9	13	7	6	6	8	17
MERCED	13	27	41	26	31	25	15
MODOC	1	4	4	6	5	3	1
MONO	0	1	0	0	0	0	0
MONTEREY	19	41	52	50	57	38	37
NAPA	4	4	7	10	5	2	9
NEVADA	3	4	5	6	5	2	3
ORANGE	40	59	78	93	84	51	50
PLACER	4	5	7	2	5	6	5
PLUMAS	0	0	0	1	0	0	0
RIVERSIDE	32	35	81	64	68	56	49
SACRAMENTO	13	27	38	42	46	47	54
SAN BENITO	5	9	11	10	7	3	4
SAN BERNARDINO	28	44	54	65	64	51	46
SANTA CLARA	43	53	53	73	79	55	55
SAN DIEGO	69	78	125	114	95	89	89
SAN FRANCISCO	34	61	53	66	68	57	48
SAN JOAQUIN	19	28	27	33	39	26	27
SAN LUIS OBISPO	175	427	225	215	199	186	185
SAN MATEO	22	28	37	42	43	35	53
SANTA BARBARA	32	64	89	108	120	91	116
SANTA CRUZ	28	33	32	31	34	34	25
SHASTA	1	5	5	5	5	8	8
SIERRA	2	2	2	2	1	2	0
SISKIYOU	4	4	3	7	6	3	8
SOLANO	1	5	11	11	12	7	11
STANISLAUS	15	38	43	63	46	32	36
SONOMA	19	21	25	38	31	26	31
SUTTER	2	9	11	12	9	6	7
TEHAMA	3	5	4	6	8	3	5
TRINITY	0	1	0	1	2	1	1
TUOLUMNE	6	3	1	1	3	4	3
TULARE	43	56	56	68	67	53	42
VENTURA	34	33	46	50	47	36	38
YOLO	2	4	2	4	4	4	2
YUBA	1	7	11	5	6	3	2
OTHER STATES	179	231	301	350	307	219	206
FOREIGN COUNTRIES	20	21	31	54	48	60	123
U. S. TERRITORIES			34	59	76	52	49
	1518*	2185*	2553*	2902*	2715*	2199*	2257*

* NOT ALL STUDENTS REGISTERED AT THE SAN LUIS OBISPO CAMPUS WERE INCLUDED IN THIS SURVEY AS SOME CARDS WERE NOT AVAILABLE AT THE TIME THE STUDY WAS MADE. IN 1946 ACTUAL ENROLLMENT WAS 1571. IN 1947 IT WAS 2229. IN 1948 IT WAS 2575, IN 1949 IT WAS 2909, IN 1950 IT WAS 2767, IN 1951 IT WAS 2213, AND IN 1952 IT WAS 2259. HAD THE BALANCE BEEN INCLUDED IN THIS STUDY, SOME ADDITIONAL COUNTIES WOULD BE REPRESENTED.

Summary of Enrollment Distribution Within The State

Following the trend which began in 1903 and has continued ever since, Cal Poly's enrollment is wide-spread throughout the state--in contrast to that of the regional state colleges. At the San Luis Obispo campus 52 of the 58 counties in the state were represented in the fall of 1952. At the Voorhis campus fall quarter, 1952, enrollment distribution shows students from 27 of California's counties.

Enrollment by Classes and Curriculum Level

<u>Agricultural</u>	<u>2 yr Technical</u>	<u>3 yr Technical</u>	<u>Degree</u>
Freshmen	90	14	256
Sophomores	30	24	192
Juniors	0	48	184
Seniors	0	0	208
Fifth Year	0	0	23
Graduate	<u>0</u>	<u>0</u>	
	120	86	863
		Total Agriculture	1069
<u>Engineering and Industrial</u>		<u>Technical</u>	<u>Degree</u>
Freshmen		9	354
Sophomores		11	223
Juniors		14	159
Seniors		0	172
Fifth Year		<u>0</u>	<u>20</u>
		34	928
		Total Engineering	962
<u>Liberal Arts</u>			<u>Degree</u>
Freshmen			43
Sophomores			47
Juniors			36
Seniors			46
Fifth Year			<u>13</u>
		Total Liberal Arts	185
<u>Graduates</u>			
Agricultural Education	30		
Education	<u>13</u>		
	43		

(All total - 2259)

Enrollment of Veteran and Non-Veteran Students

	<u>Veterans</u>	<u>Non-Veterans</u>	<u>Total</u>
Freshmen	92	674	766
Sophomores	103	418	521
Juniors	144	303	447
Seniors	190	236	426
Fifth Year	13	43	56
Graduates	<u>15</u>	<u>28</u>	<u>43</u>
	557	1702	2259

Enrollment of Married Students

Public Law 346	235	
Public Law 16 & 894	25	
Public Law 550	21	
State Veterans	<u>50</u>	
Married Veterans	331	Approximately 59.4% of veterans enrollment
Married Non-Veterans	<u>201</u>	
Total Married Students	532	Approximately 23.5% of total enrollment

Comparative Enrollments by Years
(San Luis Obispo)

<u>5-Yr. Intervals</u>	<u>1-Yr. Intervals</u>	<u>1-Yr. Intervals</u>
1903-04---- 20	1938-39----651	1945-46---- 819
1908-09----151	1939-40----780	1946-47----1571
1913-14----194	1940-41----739	1947-48----2229
1918-19----110	1941-42----711	1948-49----2575
1923-24----114	1942-43----570	1949-50----2909
1928-29----399	1943-44---- 80	1950-51----2767
1933-34----239	1944-45----128	1951-52----2213
		1952-53----2259

Kellogg-Voorhis Campus EnrollmentFall Quarter, 1952-53

	<u>Veterans</u>	<u>Non-Vets</u>	<u>Degree</u>	<u>Tech.</u>	<u>Voc.</u>	<u>Spec.</u>
Freshmen	21	150	171	-	-	-
Sophomore	24	65	89	-	-	-
Junior	39	48	87	-	-	-
Senior	<u>25</u>	<u>41</u>	<u>66</u>	-	-	-
	109	304	413			

Enrollment by Departments

Animal Husbandry	76
Fruit Production	45
General Crops Production	79
Horticultural Services & Inspection	94
Ornamental Horticulture	84
Soil Science	13
Pre-Transfer to San Luis Obispo	
in majors other than those listed above	<u>22</u>
	413

Place of Legal Residence (New Students Only)*

<u>County</u>		<u>County</u>	
Alameda	4	San Mateo	1
El Dorado	1	Santa Barbara	2
Los Angeles	114	Sutter	1
Monterey	1	Ventura	1
Orange	15	Yolo	1
Riverside	23	U. S. Territories	5
San Bernardino	21	Other States	1
San Diego	11	Foreign Countries	<u>2</u>
			204

*Place of legal residence of the 209 old students is not shown in this survey, but they are distributed in the above counties and in an additional 14 other California counties.

Enrollment of Married Students

Public Law 346	53
Public Law 16	9
State Veterans	3
Public Law 550	12
Public Law 729	1
Married Non-Vets	<u>44</u>
	122

DEGREES AND CERTIFICATES

Number of Degrees and Certificates Granted
(June, 1952--both campuses)

<u>Division & Department</u>	<u>Bachelor of Science</u>	<u>Vocational</u>	<u>Technical</u>	<u>Master of Arts In Education</u>
Agriculture				
Agriculture Engineering	17	0	5	0
Agricultural Inspection	24	0	0	0
Animal Husbandry	43	4	26	0
Dairy Manufacturing	4	0	0	0
Dairy Husbandry	11	1	1	0
Ornamental Horticulture	22	0	4	0
Poultry Husbandry	5	0	6	0
Crop Production, General	4	0	0	0
Citrus Fruit Production	9	0	1	0
Deciduous Fruit Production	2	0	1	0
Soil Science	17	0	0	0
Truck Crops	6	0	2	0
Field Crops	8	0	2	0
Engineering				
Aeronautical Engineering	21	0	3	0
Air Conditioning & Refrigeration	11	0	9	0
Mechanical Engineering	35	0	10	0
Electrical Engineering	20	0	2	0
Electronics & Radio Engineering	24	0	7	0
Printing	6	0	0	0
Architectural Engineering	39	0	0	0
Maintenance Engineering	2	0	0	0
Liberal Arts				
Biological Science	6	0	0	0
Health & Physical Education	15	0	0	4
Mathematics	4	0	0	7
Social Science	3	0	0	0
Physical Science	4	0	0	0
Education Agriculture	0	0	0	2
	<u>362</u>	<u>5</u>	<u>79</u>	<u>13</u>

Grand Total Graduates, June, 1952 -- 459

FACULTY

Combined Campuses

188 persons are on the teaching staff at the San Luis Obispo and San Dimas (Kellogg-Voorhis) campuses. The following tables indicate the distribution of the teaching staff according to degrees, as of April 1, 1953.

San Luis Obispo

Degrees:	
Doctorates	22*
Masters	67
Bachelors	56
None	14
Total	<u>159</u>

Kellogg-Voorhis

Degrees:	
Doctorates	5*
Masters	13
Bachelors	11
None	0
Total	<u>29</u>

*This includes one 6-year Engineering degree, and three D.V.M. degrees.

The California State Polytechnic College is a part of the state college system of California. It is administered by the State Board of Education and the State Department of Education.

Within the college it is the policy to allow the heads of the respective divisions to establish and carry out policies and procedures by which the respective divisions are operated insofar as those policies and procedures affect only one division. When policies and procedures are college-wide in their effect, they are established and coordinated through the President's Council with the approval of the President.

FUNCTIONS AND OBJECTIVES

While certain functions and objectives of the California State Polytechnic College are held in common with the other state colleges, there is ample official recognition that the functions of this college are not to be limited except within the boundaries established in the founding act. Examples of such official recognition of broadness of scope are:

"The primary function of the California State Polytechnic College is to educate young people in the arts and sciences, including agriculture, mechanics, engineering, business methods, domestic economy, teaching and such other branches as will fit the student for the non-professional walks of life." (Section 900, Adm. Code (1951) Title 5, Education, Chapter 1, Subchapter 4.)

"The California State Polytechnic College may, in accordance with the organic act establishing the college and upon recommendation by the Director of Education and approval by the State Board of Education, establish and maintain course patterns requiring college work of such length as is appropriate for the educational curriculum leading to each objective. The college may, upon recommendation by the Director of Education and approval by the State Board of Education, establish and maintain pre-professional curriculum patterns which require college attendance for the length of time, but not to exceed four years, appropriate to the objectives of each pre-professional curriculum." (Section 906, Adm. Code (1951) Title 5, Education, Chapter 1, Subchapter 4.)

"The California State Polytechnic College is an exception to the statement that the (state) colleges are primarily regional institutions. Although it by no means neglects the educational needs of its area, the institution is a state-wide institution in its appeal and student patronage." (Page 33, A Report of a Survey of the Needs of California in Higher Education, Strayer and Others, 1948, State Printing Office, Sacramento.)

General Objectives of the College

The primary function of instruction at California State Polytechnic College is to impart to students those techniques and sciences necessary to perform successfully the occupations in which they will be employed. To balance this concentration on offerings designed primarily for occupational competence, the curricula must therefore also emphasize general education subjects which help the student to understand the world in which he lives, assist him to express himself, help him to live harmoniously with other people, and to assume his appropriate citizenship and community leadership responsibilities. Currently, the offerings at the San Luis Obispo campus are grouped under three divisions of instruction, as follows: Agriculture Division, Engineering and Industrial Division, and Liberal Arts Division. The agricultural and general education offerings at the Kellogg-Voorhis campus are combined into one division for administrative purposes.

EDUCATIONAL PHILOSOPHY

Upside-Down Plan

California State Polytechnic College has established a unique educational plan sometimes described as the "upside-down educational plan." This plan is characterized by the grouping of as many job-preparatory courses in the first two years as possible. While general education courses are included in the first and second years, this area of preparation is extended throughout the four years of the college program. The net result is that a student who completes the four-year course leading to a degree will have covered substantially the same material as that covered in a similar major in a typical agricultural and mechanics arts type college---but in a somewhat inverted order. This way the student comes immediately into contact with the field of his major interest and does not feel thwarted by numerous hurdles which seem to him unrelated to his interest. He also acquires a realization of need for "theory" courses. This system enables a student to better earn a living, using the knowledge and skills he has acquired at whatever point he may complete his formal education.

Project System

The function of preparing students for maximum employability is carried out by a thorough integration of the "doing" practices with the underlying theory. The classroom instruction, the formal laboratory experiences, and the actual project operations on a commercial scale are each used in their proper proportion. The project system consists of self-owned or managerial projects operated by students in such a way as to give knowledge and provide experiences in the commercial production and marketing of agricultural products or in the construction, rebuilding, repair, or maintenance of industrial machinery or equipment. This combination of the practical "learn by doing" and "earn while you learn" philosophies not only enables a student to earn money while doing work directly related to his major academic interest, but also creates an added incentive for the more rapid acquisition of further skills and knowledge. A revolving fund from which students may borrow without co-signers makes it possible to finance the many projects.

THE FOUNDATION

The California State Polytechnic College Foundation is a non-profit corporation organized under the corporate laws of the State of California, April 23, 1940. Organized for the purpose of furthering the educational aims and the administrative objectives of the College, the Foundation follows the policy of conducting business operations that will be a basis for instruction in best practices.

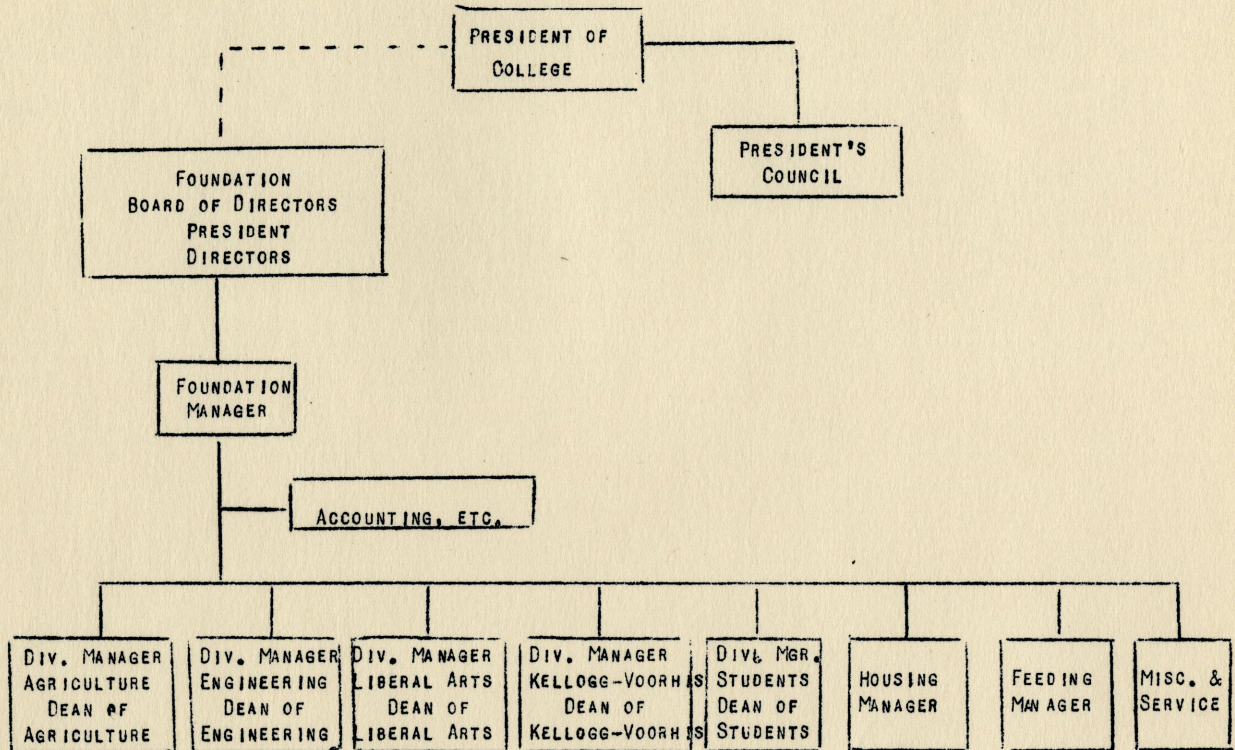
Organization

Foundation activities are directed by a board of seven directors who serve for a term of not more than four years. Directors are selected according to provisions in the By-Laws of the Articles of Incorporation.

A Foundation Manager, under the direction of the Board of Directors, initiates and is responsible for providing certain services and for establishing, conducting, and accounting for the operation of the Foundation properties.

He manages the properties so that facilities are provided for instructional purposes as well as providing student services, such as: post office, infirmary, housing, feeding, trust fund, etc.

A simplified chart shows the administrative organization of the Foundation:



College Foundation Relationships

The relationships of the College and the Foundation are subject to the provisions of the State-Foundation lease and have been defined in an agreement. This agreement pinpoints areas of responsibility in respect to use of facilities, maintenance of facilities, provision of Foundation herds and flocks, provision of other services to the college, financing of projects, keeping of accounts and other acts or services that aid in instruction or service.

Foundation Activities

Activities of the Foundation fall into these broad areas: provision of instructional aids to agriculture and engineering; management of housing and cafeteria facilities; and provision and management of special services.

Agriculture and Engineering: In agriculture activities are divided between student projects and the management of Foundation herds, flocks and crop programs. Students may borrow from the Foundation to operate various agriculture projects such as feeding animals, raising meat birds, developing basic production herds, or growing crops. These projects are designed to give the student actual practice in management problems in a small way but with the full scope of problems that producers must master. The Foundation herds are

used for additional training in management on a larger scope and in meeting the requirements for training in the many basic skills needed for successful production. Engineering activities include assorted productive projects and several management projects such as the student-managed electronic repair shop. The goals are to search for areas that increase the basic training in management thus better equipping students for the complicated problems involved in every day productive management.

Housing and Cafeteria: Management and operation of the campus housing and feeding facilities is an assigned responsibility of the Foundation. On-campus housing capacity during the year was 1367 single students and 308 married students. Of this total half of the single student housing is of temporary construction. The married student housing facilities are trailers and plywood movable houses, all of which are temporary. Two cafeterias, capable of accommodating 2,000 students per meal, are operated by the Foundation. An extensive program in resident student supervision is operated as a joint program of the Student Personnel Division and the Foundation.

Special Activities: The Foundation organizes, operates or accounts for many special activities on the various campuses that provide services for the student population. These include post office service, Health Center accounting, purchase and milling of livestock feeds, educational shows and exhibits.

On all campuses the Foundation has become a valuable medium for meeting the ever-increasing needs for educational aids and other services.

MAJOR CONSTRUCTION PROGRAM

San Luis Obispo Campus

While much progress has been made in recent years in every aspect of the College's operations, the one phase of development which has lagged seriously has been the building program. Only 13 per cent of the permanent instructional rooms approved in the Master Building program for the San Luis Obispo campus are presently in existence. Even with the anticipated completion in 1955 of structures which are now financed, the San Luis Obispo campus still will have less than 40 per cent of its approved permanent instructional facilities.

To this date no new permanent instructional classrooms have become available since the acceptance of the College's Master Building Program in 1949. At that time, only 23 of the 167 permanent rooms approved in the Master Building Program were in existence and that number has not yet been increased. The following chart best illustrates the situation:

Permanent Instructional Room Summary (San Luis Obispo Campus)

	<u>General Purpose</u>	<u>Special Purpose</u>	<u>Total</u>	<u>Percentages</u>
No. approved in Master Plan (1949)	57	110	167	13%
No. existing 4/1/53	11	12	23	
No. financed to 4/1/53 (Science Bldg. & Central Boiler & Power Plant)	13	29	42	
	24	41	65	39%

The major construction item completed during 1952-53 was that of five dormitories which the College was given permission to occupy on September 1, 1952. Each dormitory consists of 32 rooms, housing three boys to a room. Without the addition of these dormitories providing living quarters for 480 students, it would not have been possible this year for the College to have accommodated the 2259 students that have been enrolled during the current academic year. Facilities for housing approximately 1300 single students and 300 married students are now available on campus. Of this number, approximately 50 per cent of the single students are housed in what is termed as permanent facilities. The others range from barracks-type, wooden, frame structures to the very dilapidated 188 trailers that were moved on to the campus as a part of a Federal public housing program immediately following World War II. Many of these latter units are going out of existence this coming summer because they have deteriorated to a place beyond which it is impractical to repair them. For the most part the trailers are occupied by married students and their families. Many of the temporary facilities housing single men are grossly inadequate for college students. The poor quality of the largest percentage of the college facilities is mentioned in order to bring out the urgency of the need for student housing on this campus where over 90 per cent of the student body comes from counties outside of San Luis Obispo.

In the 1952 Legislative session a total of \$2,636,600 was appropriated for the following major construction items: Science and Classroom Building and Site Development and Site Clearance in connection with the new Science Building and the Central Boiler and Power Plant which had been financed previously. The working drawings for the Science and Classroom Building are now in the process of development by the private architectural firm of Allison & Rible in Los Angeles. The Division of Architecture has completed certain plans and is in the process of developing others relative to the work that is to be done under the Site Development projects indicated above.

During the past year the plans for the new Dairy and Poultry Units were completed. The bids for those projects are due in the Division of Architecture office on April 15, 1953. The Division of Architecture's estimate for the work that is to be done under the contracts is \$325,000. An additional \$75,000 has been allocated the College for work that it is to do in connection with these two units. Much of the work will be done by students during their vacation period thus following out the philosophy of the College of "earning while learning." The contractual work that is to be done on the Dairy and Poultry Units is scheduled to be completed by October 1, 1953; thus, it is the plan of the College to move its dairy operations from the present location in the center of the campus to the new unit early next fall. The transfer of poultry operations from the old unit to the new, however, is to be scheduled over a year period.

After the dairy operations are moved early in the fall, work will begin on removing the remaining buildings in order that construction can start on the Science Building. It is expected that the working drawings for the Science Building will be completed soon after January 1, 1954. If this goal is met, construction on the building itself, should be under way in the spring of 1954, but occupancy of the completed building is not anticipated before the fall term of 1955. The schedule for this building has been listed in some detail to illustrate why the rate of progress on our College buildings may appear slow. The planning and construction schedule on this building is typical of progress on buildings at this campus but probably is somewhat slower than that found at other State agencies. The slower rate is due to the complexities with which this college is faced because of building a new campus on the site of an old one.

"Checker-board" moves must be made in order to provide for certain existing functions before changes or additions outlined in the Master Building Program may be made. In spite of hurdles of various kinds, it is gratifying to note the steady progress that is made from year to year.

The College's capital outlay budget now being considered by the Legislature contains a request for one new building and an addition to an existing one. The new one is the Agricultural Engineering Building. Based on the preliminary plans that have been developed by the Division of Architecture, the cost is estimated to be approximately \$800,000. If the appropriation is made for this building, it will provide two more general purpose and eight special purpose classrooms which would bring the College's percentage of permanent room facilities up to 45 per cent of its approved program of facilities for 4080 Full-time Student Equivalents.

The addition of dressing rooms and two small exercise rooms is being requested for the gymnasium. The addition of this facility will be available for women when they are accepted for admission. In the meantime, the facilities will be used to supplement the inadequate dressing room space now available for the present male enrollment.

The plans for the Central Boiler and Power Plant which was financed over a year ago have only recently been completed and the job is now being advertised and a call for bids is expected around May 1, 1953. This building should be completed and ready for occupancy by the summer of 1954.

Kellogg-Voorhis Campus

The Division of Architecture is currently working on plans for the Science Building which is to be the first unit built following the Master Building Program at the Kellogg Unit. The Science Building was selected because it will provide the most flexible facilities needed for the instructional program. The style of architecture at this campus is being planned so that additional units may be added as the increased enrollment requires.

One million dollars was made available at the 1952 legislative session for the construction of the first unit and a second million dollars is in the College current year's budget. As plans for the first unit were being developed, it was found that much of the first million would be used in the development of essential utilities thus leaving a relatively small amount for the first building itself. It is anticipated that the second million will provide funds to complete approximately three-fourths of the ultimate Science Building which will be made up of four separate wings. It has been estimated by the Division of Architecture that the necessary utilities and three of the wings can be built with the two million dollars.

A great deal of work under the heading of minor construction has been done at the Kellogg Unit by the College during the past year. This work includes such projects as painting and repairing of existing buildings and alterations to make existing facilities more functional for the College program. One instance of this is the utilizing of an unused horse barn as a beef cattle shed to provide facilities for some 60 animal husbandry students attending at the Voorhis Unit to carry on projects in beef production.

MINOR CONSTRUCTION

In keeping with the philosophy of the College an attempt has been made to use, so far as is possible, the College's Minor Construction program as an instructional device. For many years the college has performed the bulk of the Minor Construction projects rather than turn them over to the Division of Architecture. This has given us programs which can be used for instructional materials and has saved us considerable amounts of money.

In dollar volume over the past few years the Minor Construction accomplished on a local basis has been between \$175,000 and \$250,000 per year. This represents from 60 to 70 different projects such as: campus painting, roadwork, erection and adaption of prefab buildings, classroom alterations, electrical wiring, improvements to lighting facilities, installation of irrigation systems, construction of earth and water reservoirs, etc.

In addition to the above type projects, preparation of sites for buildings in the Major Construction program has been undertaken as Minor Construction projects. Just completed is the preparation of the site for the new Dairy and Poultry Plants which involved the moving of approximately 80,000 cubic yards of dirt and rock. All of this was accomplished with student labor operating college owned or leased equipment.

SPECIAL SERVICES

In-Service Training in Agriculture

The College plays an active role in the in-service training of teachers of vocational agriculture by providing instructional staff and facilities for workshops and training programs cooperatively sponsored by the College and the State Bureau of Agricultural Education.

The college provides an annual summer skills program of from one to three weeks, depending upon the needs and desires of the teachers as these are expressed through the Bureau of Agricultural Education. College staff members provide up-to-date training in the technical phases of agriculture and also contribute to the professional improvement of teachers by offering instruction in teaching methods.

The annual summer conference of the California Agricultural Teachers Association is held on the San Luis Obispo campus with an attendance of 400-500 persons. Facilities, special speakers, exhibits, and other services are provided by the College.

Another very important service to the public school agricultural program that results from coordination between the College and the State Bureau of Agricultural Education is the visitations of College instructors to high schools and junior colleges to advise agricultural teachers and their students on technical agricultural matters. The College makes available, when possible, the services of selected members of its faculty for in-service professional and subject-matter assistance to individual teachers and groups of teachers in accordance with requests made by the Chief of the Bureau of Agricultural Education. During the school year, 1952-53, the College provided the full-time services of one faculty member each quarter for the purpose of giving in-service assistance in the specialized fields of poultry, crops and agricultural mechanics. Each of these specialists visited more than 22 high schools and junior colleges.

Other Services to Vocational Agriculture

Other services to vocational agriculture departments in the secondary schools of California are provided by the college through such activities as:

1. Providing facilities, supervision, etc., for the annual FFA state-convention which brings about 500 boys to the campus each year. The convention was held May 5-7 last year and is scheduled for 1953 on May 4-6.
2. Providing facilities and judges for the State Final FFA Parliamentary Procedure Contest, held last year on May 3.
3. Providing facilities, livestock and judges for the State Final FFA Judging Contest held May 3 last year with 650 boys and 50 agriculture teachers participating.
4. Furnishing of breeding stock and hatching eggs to improve herds and flocks owned by FFA boys throughout the state.
5. Furnishing experts to judge both adult and junior classes of livestock, poultry, crops and other agricultural products at such fairs as the Grand National Junior Livestock Show, San Francisco.
6. Providing instructional materials, including audio-visual aids, teaching manuals, etc.

Short Course and Workshop Programs

The college also makes its facilities and instructional staff available each year for a number of professional improvement short courses and workshop programs. Included among such programs during the past year were the following: Western Fairs Annual Judge's Conference with 175 enrolled; Fourth Annual Nurserymen's Refresher Course with 300 attending; Men and Women's Physical Education Workshops with more than 200 in attendance; Homemaking Teachers Conference; American Society for Engineering Education, Pacific Southwest Section with 150 attending; Private Camp Directors of California with 75 present; American College Public Relations Association (California, Nevada, Hawaii) with 125 registered; American Society of Agricultural Engineering, Pacific Coast Section with 100 present; Pest Control Conference held at the Voorhis campus with 200 in attendance; Representative Council, California Association of Secondary School Administrators with 75 present.

LIBRARY

During 1952 the library showed a steady growth both in holdings and service. The book collection of the library now contains approximately 34,000 volumes, and the periodical subscription list, 470 paid subscriptions and 170 free or gift subscriptions.

Average number of loans per student for the school year was 22.2, with combined faculty and student loans reaching the figure of 51,883.

Two outstanding improvements have been made in the operations of the Public Services Division through a complete revision and reorganization of periodicals records and the installation of a punch card charging system in the Circulation Department.

The revision and reorganization of the periodicals records produces a clearer picture at all times of the holdings of the library in this very important field of materials; the punched card charging system greatly increases the efficiency of the necessary record keeping on books loaned, reducing by over half the time formerly required to maintain these records and greatly increasing our ability to tell where any particular book is at any given time.

STUDENT PERSONNEL DIVISION

A continuing program of work directed toward improvement of student personnel services and integration of these services with other college activities was carried out during the year.

The Student Personnel Division is a service division providing for students and all other divisions of the College activities, aid and assistance under the following administrative functions: Guidance and Counseling, Activities; Admissions, including academic records, statistics, scheduling and evaluations; Placement, including on-campus, off-campus and follow-up; Health, including the Health Center work, environmental sanitation and athletic teams medical work; Room Assignment; Residence Hall morale and supervision (other than maintenance and custodial work); Intercollegiate Athletics; Graduate Manager's Office; Loans, Scholarships, and Alumni Activities.

Counseling Center

Approximately 1500 appointments were made for counseling interviews. An additional 35 per cent came in for counseling without prior appointment, making the total more than 2,000. Approximately 1050 different students came to the Counseling Center for some counseling during the year. Approximately 7400 entrance placement and other tests were administered by the Testing Center during the year.

Each new student had a conference with a counselor during his freshman year for the purpose of helping him: (1) evaluate the soundness of his choice of major curriculum, (2) determine his needs in such areas as academics, study techniques, and personal development and (3) establish major goals to be achieved while in college. A form, THE GUIDE FOR INTERVIEWING NEW STUDENTS, was developed this year and proved useful in this work.

Each student who wished to change his major was interviewed at the Counseling Center.

Students who withdrew from College were interviewed as part of the check-out procedure. Reasons for withdrawals were classified and summarized. Results of these summaries were provided instructional divisions to help them in instructional plans and improvements.

Admissions and Records

A new application for admission form has been devised which should improve the admission process. A file of contacts with secondary schools has been developed in the admissions office. This is used to insure systematic work in the school relations program. Articulation meetings were held with 14 junior colleges.

Student Activities

The Student Activity Program of a college must be a "tailor made" program to meet the needs and interests of the individuals currently enrolled, and it must be fitted to the facilities and activities of the surrounding community. The fact that this college is an all-male residence college with students on campus 24 hours a day necessarily influences the content of the student activity program.

The development of the individual toward competency in society as well as competency in his vocational and professional fields is one of the primary objectives of the College. The residence halls are one media for developing desirable social experiences. Residence hall organizations, student-managers in each dormitory, elected representatives from trailer and cottage areas, and the development of organized group activities (sings, socials, intra-murals, community improvement projects, etc.) met with considerable success during the year. The leadership-training program received special attention at an off-campus three-day conference for student leaders and faculty sponsors.

Typical of the enthusiasm shown by students this year was the student-sponsored Armed-Forces Blood Drive. The drive set another new national record for a three-day campus drive with 1317 pints collected---67.34 per cent of the student population.

The addition of a second full-time position in student activities made it possible to develop several new areas of social education. The assistant activities officer position is filled by a professionally-trained young woman.

Placement Service

The Placement Office acts as a liaison between the departments of the College, the student, and the employer. Placement is the co-responsibility of the Placement Office and the respective department heads. The Placement Office provides central facilities and information for a more efficient service to students and employers. An effort is made at all times to make the employment process of educational value to all students.

An even larger number of employers visited the campus this year than last year to discuss employment opportunities with graduating seniors and undergraduates. In addition to arranging interviews for seniors, the Placement Office has arranged for employers to discuss in group meetings the employment opportunities and trends for various industries. This provides the senior with an opportunity to choose employment in his field of interest and acquaints the undergraduate with current information and developments in the various fields. Again this year the employment clinic was sponsored by the Placement Office for all students interested in the employment process. The scope of the clinic was broadened to include representation from education and business as well as agriculture and engineering.

The Placement Office has an established procedure for serving former students who entered the Military Service directly after graduation and has encouraged them to keep in touch with the College. Some have been placed this year following their discharge from service.

The first steps of the follow-up program on the 1952 graduates has been completed. The information obtained is currently being used by the various departments of the college to evaluate instruction. The follow-up also has provided current occupational information, contributed valuable information on the success of our graduates.

Health Service

The Health Service has continued to improve its services to the students. The physician-patient relationship attitude found in the private practice of medicine prevails.

Physical examination procedures have been reorganized and extended. The addition of the ROTC program has increased the scope of examination. Each hospitalized student is given a complete examination on admission, including routine laboratory and followup examinations following recognized hospital procedures.

Approximately 19,000 visits were made last year to the out-patient department. This is an increase of 50% over the previous year. Approximately 600 bed patient days were accommodated during the year.

The plan of referrals of emotional cases from the Health Center to the Counseling Center, and of health cases from Counseling to the Health Center worked out the previous year appeared to be working effectively. A consulting staff of specialists has been added to the staff through an arrangement with practicing physicians in town who are specialists. On several occasions, specialists' services were used effectively, especially in orthopedics, anesthesiology, and internal medicine. A special survey of teeth was made to determine the general condition. Although the study is not complete, preliminary evidence indicates the general condition of teeth to be satisfactory.

Environmental sanitation recommendations resulted in improved methods of food handling. The inspection procedure revealed some potential danger spots caused by failure of water-heating equipment.

Intercollegiate Athletics

The College maintains an intercollegiate athletic program in 12 sports. Students are encouraged to participate. Last year over 15% of the student body was active in these sports. Ninety per cent participated in the intramural program.

For the first time, the College won the championship of the California Collegiate Athletic Association in football. The College boxing team won the Pacific Coast Intercollegiate Boxing Tournament held in Sacramento.

ACCREDITATION

The accreditation status of the College remained unchanged through the year. It is already fully accredited by the Western College Association and the Northwest Association of Secondary and Higher Schools.

The College has been granted regular reaccreditation by the State Board of Education to give the training and to make the recommendation for the following credentials:

- Special Secondary Credential in Vocational Agriculture
- Special Secondary Limited Credential in Agriculture
- Special Secondary Credential in Physical Education
- General Secondary Credential with majors in: Agriculture, Health and Physical Education, Life Science and General Science, Mathematics, Physical Science and General Science, and Social Studies.

CURRICULUM DEVELOPMENT

As a result of the curriculum study which began three years ago, under the guidance of the Dean of Instruction and the President, the 1952-53 catalog was completely revised to include the findings of the curriculum study.

In curriculum planning, the College has gone to the "grass roots" to help determine what competencies and degrees of competency need to be developed by the student. That the instructional programs have sufficient breadth, depth, and balance is evidenced by the fact that graduates are successful in a variety of positions and responsibilities. The college, however, is aware that conditions are constantly changing and the the evaluation and revision of curricula is a continuous process.

The program of curriculum development at the College has been set up not only as a continuing study on campus but as a continuing survey and interview program with employer representatives to determine: 1) needs of employers, 2) effectiveness of a curriculum in terms of employability of the graduate, and 3) potential areas of improvement in the instructional program.

AGRICULTURAL DIVISION

Objectives of the Division

The Agricultural Division of the college prepares men in the field of agriculture with the main objective of giving them a full and broad understanding of basic factors involved in production, management, and marketing, together with the necessary skills to make efficient operators. While the division stresses production techniques and basic management to benefit to the fullest extent those returning to the farm or entering employment in agricultural fields upon leaving college, it also requires a core of basic sciences related to the production courses of the major and a substantial block of general education subjects necessary to prepare the student to take his rightful place in a democratic society.

All curricula in the Agricultural Division are arranged so that a student receives a maximum of production courses in his major field early in the program. This means that even if a student terminates his formal education at any time prior to his graduation, he has acquired a background of fundamentals and skills which make him immediately employable in the occupational field of his choice. This system of taking production courses early in the curriculum makes it possible for the student to determine in a short time whether or not he is fitted for the curriculum he has selected. In addition, the early acquisition by the student of practical "doing" types of skills provides him with the incentive to learn the basic scientific explanations.

The Agricultural Division uses the California State Polytechnic College Foundation program of student projects to provide additional experience and practice to supplement regular production courses. This practical experience leads to the understanding of production and managerial problems that are important in the over-all training of a student in agriculture.

Curricula are offered in the following majors in the Agricultural Division at San Luis Obispo: Agricultural Engineering, Animal Husbandry, Field Crops Production, Truck Crops Production, Fruit Production, Dairy Husbandry, Dairy Manufacturing, Ornamental Horticulture, Poultry Husbandry, and Soil Science. The Veterinary Science Department offers courses which support the animal production majors.

The courses offered in each agricultural curriculum may be grouped into four areas as follows:

1. Major agriculture--The required sequence of courses offered by the department in which the student expects to graduate. These courses constitute the core instruction leading to specific preparation for the production field of the student's choice.
2. Related agriculture--Supporting courses in agriculture selected from closely allied fields. They supplement the major agriculture block in (1).
3. Science and Mathematics--Courses selected from scientific fields which provide basic biological, physical and social science, and mathematical background and support to the agricultural block in (1) and (2) above.

4. Humanistic-Social--Courses which provide cultural background for intelligent living in a complex world society.

The following chart illustrates the typical distribution of required units in the four areas indicating emphasis and balance through the four years. The entire program totals 198 quarter units including elective units which vary depending upon the student's major. Electives in the freshman and sophomore years are frequently chosen from agricultural courses.

	Freshman	Sophomore	Junior	Senior
Major Agriculture-----	12	12	12	6
Related Agriculture-----	9	18	12	11
Science and Mathematics-----	18	7	15	3
Humanistics-Social-----	10½	8½	6	12

Technical Curricula in Agriculture

A student not wishing to enroll in a four-year degree curriculum may enroll in the two-year technical program. This program offers a student selection from a wider field of production courses in the first two years. The student is required to follow one of the regular degree sequences as far as major production courses are concerned, but he is allowed to choose electives in other fields.

This arrangement allows a student to devote a major part of his program to production courses. Upon completion of 98 selected units a student may receive a technical certificate in the field of his major.

A student enrolled in the technical program may transfer to the degree program by completing the required courses in a specific four-year curriculum.

Agricultural Engineering

A total of 1027 students were enrolled in regular classes offered by the Agricultural Engineering Department during the fall quarter of 1952. Of this number 168 students were Agricultural Engineering majors.

One of the main functions of this department continues to be the offering of service courses to furnish training in the mechanical and engineering phases of agriculture to students majoring in other departments of the agricultural division.

In addition to the students enrolled in regular classes, a group of 14 men from Indonesia were sent here through the Mutual Security Agency and the United States Department of Agriculture for special training in the operation, maintenance and repair of heavy tractors and farm machinery and the use of this equipment in land clearing, primary tillage, soil conservation and drainage work. This group's six months' training program was financed by the Federal government.

The demand for graduates from this department continues to grow and is far in excess of the number which can be trained here each year. This year a large number of our graduates went to work for the U.S. Bureau of Reclamation, the Soil Conservation Service and for manufacturers of irrigation equipment, indicating the need for increasing training efforts along the lines of soil and water engineering. Most of the other graduates went to work on farms or went into the farm equipment business.

Animal Husbandry

As far as can be determined, this college continues to out rank other Agricultural colleges in the nation in the number of students enrolled in animal husbandry. A total of 508 students enrolled for the fall quarter, 1952.

Available for the first time this year for instructional purposes were the following new or remodeled facilities: 1) Beef feeding plant, 2) Meats Laboratory, 3) Judging pavilion, 4) remodeled barns, fences, and corrals, 5) Remodeled hog unit and feeder pens.

With these added facilities the department was able to give more training in practical commercial livestock production, especially in the fields of livestock feeding, management of livestock on range and pasture, and the killing and processing of cattle, sheep and hogs.

During the 1951-52 fiscal year the A.H. department through the California State Polytechnic Foundation sold approximately \$105,000 worth of livestock mostly to student projects.

The largest field for placement of graduates continued to be in livestock farming either on their family's farm or as farm foreman or managers. Other fields of placement are livestock feed lots, livestock buyers, agricultural teachers, Agricultural Extension Service, breed associations, livestock feed companies, etc.

Crops Production

The Crops Department is composed of three sub-departments: Field Crops, Truck Crops and Deciduous Fruits. Total enrollment for the department for the fall quarter, 1952, was 121 students. The department handled over 600 other agricultural students in service courses such as general fruit, field and truck crops, forage crops, cereal crops, citrus fruit production, viticulture, and plant breeding. A new course, grain technology, was added to the curricula this year. This course is offered only at this college.

The department sponsors three state-wide F.F.A. judging contests. To help instructors and students, the crops faculty prepared visual and mimeographed material on weeds, grains, truck crops, and judging procedures.

The head of the Crops Department spent a six-months' sabbatical leave visiting agricultural colleges, experiment stations, farms, and related industrial companies in the United States. His explicit and detailed notes have been mimeographed and put in the college library. He has brought back many new ideas and plans to the department.

Dairy Department

The Dairy Department offers instruction in both dairy husbandry and dairy manufacturing. During the fall quarter, 1952, a total of 102 students were enrolled. Eighty-two majoring in husbandry and 20 majoring in manufacturing. Facilities include barns, feeding sheds, and a breeding herd of 200 high producing dairy cows. The herd is owned by the Foundation.

The dairy project farm was improved during the year with new fences, improved roads, new corrals, repaired buildings, and irrigation system. The student-owned dairy cattle herd has increased in size and quality as well. Students will soon have fifty cows in milk and about the same number of young stock. These dairy cattle continue to earn a reasonable labor income to their student owners but the most important value received is much good experience and training and an opportunity to establish herd foundations while still in college.

Dairy cattle and products judging teams have continued to represent the college at the Pacific International at Portland, Oregon, and the National Intercollegiate Contest at Waterloo, Iowa. In four years of competition in the National contest, California Polytechnic now ranks highest on an official cumulative point rating system.

A general reconditioning program for the college creamery was completed during the year. Painting of equipment and new tile for walls and floors improved the appearance and rating of the creamery materially.

Ornamental Horticulture

During the fall quarter, 1952, the Ornamental Horticulture Department had an enrollment of 54 students. Seventeen graduates were placed in horticulture work including nursery selling, landscape design, landscape planting, grounds supervision and agriculture teaching.

Ornamental Horticulture students operated 32 projects with total sales of \$3,476.93. Shrubs, trees, and flowering plants grown by the students in their laboratory work were utilized for campus planting.

Wilbur Howes, head of the department since 1932, died suddenly during the winter quarter. Howard Brown, instructor in the department since 1948, was named acting department head. A new instructor was added to the staff.

Numerous gifts and donations were received by the department during the year including plants, insecticides, fertilizers and soil conditioners. A \$100 annual scholarship was made available by the California Association of Nurserymen.

Poultry Husbandry

The 1952 fall quarter enrollment of 52 students in Poultry Husbandry was larger than in any other college poultry department west of the Mississippi.

During the past year the Poultry Department completed 46 student projects. All poultry projects are student managed and represent a broad coverage of activities in meat bird production and marketing, turkey production, commercial egg production, hatching egg production in addition to hatchery operation and marketing. The students participate in the financial returns from the projects which aid them in meeting the costs of attending college.

Requests for poultry husbandry graduates continues to far exceed the number of students prepared in this rapidly growing branch of agriculture. About one-half of the graduates are employed either on their own ranch production, or work for an owner of a large ranch. The other half of the graduates are employed in closely related allied fields, such as sales and servicemen for feed companies or hatcheries, hatchery operators, teachers or technicians.

Plans developed during 1952 are well underway for the moving of the poultry plant to a new location. This move fits in with the general campus plan of growth and relocation of services. The new poultry plant will embrace more adequate space for classes and laboratories. It includes a new hatchery building and feed building as well as some new poultry flock units.

Soil Science

Course offerings in Soil Science attracted a total of 787 students including those with soils requirements from other fields and those electing additional soils courses. A total of 60 students were enrolled as majors.

Additional efforts were made in establishment of demonstrations on the college farm for class instruction and general public tours. These demonstrations of fertilizer usage, range management practices and conservation activities were designed to give students experience in such activities and to furnish information of value in a number of instructional fields. Combinations were used where two or more departments cooperated for mutual benefit.

Students completing undergraduate work in Soil Science had no difficulty finding employment in numerous fields. A majority went into commercial fields dealing with fertilizers and agricultural chemicals. Other fields of endeavor included — farming, conservation, reclamation, extension and graduate work at other schools. Demands for trained men in Soil Science still exceed present output of colleges offering such training.

Objectives of the Division

Progressive developments in industry determine areas and philosophies of engineering education. No longer is engineering limited to applied science; it has become an investigative and creative science as well. There is no longer a single pattern in engineering education which will adequately meet all the needs of industry for technically trained personnel. Engineering curricula must be adjusted to the technological changes of our time and to those sociological changes in our society which have necessitated changes in the pattern of general education.

As an undergraduate engineering school, California State Polytechnic College emphasizes the applicatory aspects of engineering and prepares men for some of the more important phases of industrial employment concerned with planning, product development, production, operation, distribution, management, and service. Curricula are offered in Aeronautical Engineering, Air Conditioning and Refrigeration Engineering, Architectural Engineering, Electrical Engineering, Electronic and Radio Engineering, Mechanical Engineering, and Printing. In addition, the Machine Shop Department and the Welding Department offer supporting courses. There are four characteristic features of the engineering program which distinguish it from the programs offered by traditional engineering colleges:

First, a high percentage of work in the major department is imperative if students are to be prepared for the specific areas of engineering employment in a highly diversified industrial economy. For this reason, courses in the major field begin in the first year.

Second, all curricula start with a maximum of courses which develop skills and technique peculiar to the major field. These courses also provide a descriptive and qualitative background for engineering courses which begin in the second year and help to give meaning to the fundamental sciences and mathematics which must be taught early in the curriculum. This is called the "upside-down" principle. The student who must leave college at the end of the first or second year is equipped to find technical employment in his field of interest. Certification of qualifications for specific employment will be issued to these students.

Third, throughout the program a real effort is made to avoid separating the learning process from the doing process. An opportunity to engage in constructive project work which emphasizes a balanced development of both the mechanical and analytical aspects of engineering gives the student an appreciation of the fundamental fact that engineers are paid to put ideas, components, and processes together to form something of technical and economic value.

Fourth, fundamentals and basic principles are taught through real situations. Emphasis is placed on the problem-solution technique of teaching. Progress is from the specific and practical case to the general principle. Laboratory work is treated as an activity which closely parallels the work of the engineer.

The engineering curriculum is divided into four areas or groups of courses. Each area has a specific objective which is characterized by its name:

1. Courses in the technical group train in the use of established procedures and operations for the development of manipulative skills and

understandings which are basic to engineering, such as surveying, welding, and drafting.

2. Courses in the engineering group train in the application of basic physical laws to useful situations.
3. Courses in the scientific group provide a foundation of scientific fact and train in the use of basic mathematical and scientific tools used in the practice of engineering.
4. Courses in the humanistic-social group provide the cultural background for intelligent participation in a complex world society.

The following chart of a typical curriculum shows the distribution of credit units, indicating both the emphasis and the balance through the four years. The entire program totals 210 quarter units of which 12 to 16 units are elective.

Area	Freshman	Sophomore	Junior	Senior
Technical	27	12	0	0
Engineering	0	13	29	18
Scientific	21	19	17	0
Humanistic-Social	6	11	3	18

Aeronautical Engineering

All 24 of the 1952 graduates of this department obtained employment in the aeronautical field. As in preceeding years the demand for graduates exceeded the supply. Enrollment was up slightly over last year with a total of 138 students registered during the fall quarter, 1952.

Additional tools and equipment have been added to the aeronautical laboratory giving greater versatility to the types of work which can be accomplished in the laboratory. As senior projects, the senior students are constructing laboratory equipment for experimental, test, and demonstration purposes.

The department received a gift of an experimental type helicopter from Hiller Helicopters of Palo Alto. This helicopter should prove very beneficial as a teaching aid in the study of construction and design of this type aircraft.

Air Conditioning and Refrigeration Engineering

Employers in the air conditioning and refrigeration field, recognizing the importance of attracting qualified young men into careers in this specialized engineering branch, established during the year a scholarship program which provides for scholarships of \$1000 and \$350 to be awarded each year to two California high school graduates enrolling in this department. The \$1000 scholarship is awarded the winner at the rate of \$250 per year, contingent upon satisfactory progress in the department.

A survey during the year of the 27 degree graduates of the class of 1951 showed: 26 employed in some phase of air conditioning and refrigeration engineering, and one serving in the Armed Forces.

Enrollment in the fall quarter, 1952, totaled 75 men.

Architectural Engineering

The department remains second in the nation in enrollment for schools of architectural engineering with 186 majors enrolled during the fall quarter, 1952.

Solving community architectural problems as student projects has been successful in benefiting student and community, and will continue in the future. Last year's projects, such as the San Luis Obispo shopping center, cultural center, and school received wide publication and approval this year.

Two scholarship awards were established during the year, one by an architect and the other by a local merchant. Placement has been excellent. Students have been doing very well on civil service examinations, with one student placing second in a statewide examination in competition with many men who had years of experience.

Electrical Engineering

The Electrical Engineering Department instituted its new "unified curriculum" this year. It resulted in the strengthening of the skills content of the lower division courses, as well as in the laying of a more firm foundation for the upper division engineering courses. In all of the course work in the department, the emphasis has been upon the comprehension of the basic theory which enables a more intelligent and practical application of electrical machines, devices, and practices to industry.

To facilitate the development of basic skills in the electrical field on the part of the student, considerable progress has been made in the physical development of the electrical shop.

Several valuable pieces of apparatus have been added during the year which enable the student to conduct studies in the laboratory designed to make him better equipped to enter the engineering field upon his graduation.

The demands on the part of industry, large and small, for graduates in the broad field of electrical engineering far exceeds the supply. The department graduated 22 in June, 1952 and had an enrollment of 76 in the Fall quarter, 1952.

Electronic and Radio Engineering

Enrollment in the Electronic and Radio Engineering department continued to reflect the current importance and growth of the electronic industry in California. Nearly 200 students were enrolled at the beginning of the year in September, 1952.

Since 1948 some 175 engineers have been placed, the majority of whom are working in California. A real effort was made to get a wide distribution of our June, 1952, graduates in California industry.

Considerable revision of the laboratory facilities was necessitated this year because of the fire hazard in the fifty-year old building which the department occupies.

During the year the Electronic Service Shop was put under the direction and management of the California Polytechnic Foundation. Several students were employed throughout the year. A portion of this activity was integrated with freshman courses in radio technology. This was equivalent to on-the-job training.

Mechanical Engineering

Members of the staff spent considerable time and energy during the year planning details of the new Mechanical Engineering Laboratory. Final plans of the laboratory, which will adjoin the new College heating plant, were being completed by the State Division of Architecture. Construction should start this year. Nearly all laboratory equipment now in use and new equipment being put to use is being planned specifically for transfer to the new facility.

It is expected that the new laboratory will allow much better coordination of the various laboratory courses in the M.E. curriculum by bringing most of the equipment under one roof.

In the Hydraulics Laboratory a piping system for studying air flow characteristics and methods of metering gas flow was put to use in regular laboratory classes. The air flow system is a product of the senior thesis program, now called Senior Project. Some saving in money was possible and an excellent educational medium was provided by assigning this development to the Senior Project course.

Enrollment for the year has averaged slightly more than 200 students. As usual the freshmen number about 70 and the seniors about 40. The remaining 90 students are about equally divided between the sophomore and junior classes. There were no notable changes in laboratory, drafting or office spaces. Major equipment additions are being curtailed in anticipation of moving into the new laboratory.

Printing Department

Remodeling of the Printing Department was completed during 1952-53. Due to increased enrollment and expansion of instruction into new fields to meet the demands of the publishers and commercial employers, it became necessary to remove the hall partitions, thus gaining 1000 square feet of laboratory space. A new daylight fluorescent lighting system was installed and all equipment rearranged to improve instruction and add a greater degree of safety to operation of the department.

The year started with a maximum enrollment of 53 major students and because of the limited space and popularity of the course it was necessary to select all new students from a large list of applicants. This necessitated the establishment of a "waiting list."

The revised curriculum has been well received by industry and those who are seeking to employ printing graduates. The lithography industry has requested the department study the possibility of starting a course in offset printing and developing a successful course in chemistry of lithography.

Machine Shop

The most important development in the Machine Shop department during 1952 was the change in the testing program. This involved changing from a written final examination to a performance type of test, giving a better measure of the skills learned by the students in their first year machine shop course.

As before, considerable work was done for other departments, both repair and construction, without cost or interference with instruction in the beginning courses.

Welding Department

During 1952-53, the Welding Department provided instruction in welding technique and design to approximately 375 students per quarter from the five main Engineering departments of the College. Within this number and not included in Agricultural Engineering were students in Truck Crops, Horticulture, Dairying, Animal Husbandry, and Horseshoeing.

As practical projects, students in the department: Designed and built fifty drafting stools for Architectural and Air Conditioning Engineering departments; designed and production started on thirty-six large metal boxes for rat-proof feed storage for the Poultry department; completed drawings for a welded steel portable sectional platform as a boxing ring, bandstand, or elevated stage; designed and completed an arc welding demonstration booth for welding laboratory use.

LIBERAL ARTS DIVISION

Objectives of the Division

The Liberal Arts Division primarily serves students in the other divisions with supplemental and supporting courses. In addition, it provides a program of preparation for teaching credential candidates.

Every student receives his general education courses in this division to meet the general education requirements for the bachelor of science degree.

Although there are relatively few Liberal Arts majors, each of the major departments has students who are seeking teaching credentials or are working toward specialized employment in various areas.

The Liberal Arts Division has a new administrative officer with the departure of its former dean. At present the Dean of Instruction is administering its affairs with direct management delegated to an assistant administrative head of the division.

The Liberal Arts Division has the following major departments: Agricultural Journalism, Biological Science, Health and Physical Education, Mathematics, Physical Science, and Social Science. The Department of Education and Psychology supervises the Teacher Education program. In addition there are the following service departments: English, Music, Education & Psychology, and Military Science & Tactics. The latter department was added in September, 1952.

Teacher Education

The program of teacher education at the California State Polytechnic College is one of the functions of the Liberal Arts Division. In close cooperation with the State Bureau of Agricultural Education and the Agriculture Division of the college, qualified teachers of agriculture are sent out each year to the secondary schools of California. One-third of the state's secondary teachers of vocational agriculture have been developed directly at the California State Polytechnic College since July 1, 1946 when the college was authorized to give a fifth year of instruction and recommend candidates directly for teaching certificates. For fifteen years before that time the college gave skills and methods courses for agriculture teacher candidates in cooperation with the University of California, which accepted this credit toward meeting requirements of special teaching credentials in vocational agriculture. There is increasing interest now in the limited credential in agriculture, although at present most candidates are in vocational agriculture.

The program leading to the general secondary credential is limited only by the fact that too few young men seek secondary teaching as a career. Candidates for the special secondary credential in physical education and the special credential in driver education and training round out the teacher education picture.

The Masters Degree

The Master of Arts Degree in Education has been granted at this college beginning with the 1950-51 academic year. It is expected that at least 12 candidates will complete requirements for the degree by the end of this year, bringing the total to 24.

Future Plans

There is opportunity for far greater service to California's secondary schools through an expansion of the college's teacher education program. The skills-oriented teachers sent out in mathematics, the sciences, and social science have met a need. Public reaction to dynamic rather than static teaching has shown the need for a greater development of the California State Polytechnic College philosophy in Education.

A forward step in the service of the division will take place with the completion of the Science & Classroom Building in 1955, much of the planning for which took place this year. This will provide facilities for far greater experience opportunities in the sciences and will improve the offerings of the division in scope and range.

Agricultural Journalism

The year 1952 was marked by a continued growth in enrollment, a constantly expanding field for service throughout the state, an even wider range of employment for graduates than was at first anticipated.

Enrollment in this still-young department reached 22, an increase of some twenty per cent over the previous year. It is now one of the largest of the 17 agricultural journalism programs in the U.S., and in spite of inroads by the Armed Services' induction schedules, a further increase in enrollment is expected for 1953.

The program's first graduating class will receive its degrees in June, 1953. Seven seniors expect to complete their requirements. Of these, one plans to go into agricultural information investigating for the State, one plans to go into farm management, one into agricultural consumer magazine editorial-advertising work, another into agricultural advertising, and the others into work on newspapers serving rural and suburban areas.

Biological Science

Thirty-nine students were enrolled as majors in Biological Science in the fall, 1952. Of these, ten are graduating seniors. In addition to providing training leading to careers in biological sciences and teaching, the department offers courses which give agriculture and engineering students a better understanding of principles basic to their special fields, as well as courses which meet the general education requirements. A total of 2486 students took biology courses during the school year.

In keeping with the new state requirement, a course in general biology was provided for men in engineering. Six hundred and sixty three students from various engineering departments took this course during the school year.

There has been a steady increase in numbers of students selecting biology as part of a double major. There has also been a definite increase in numbers of students working toward a minor in biology in connection with the general secondary teaching credential.

A botanic garden, sponsored by the biological student fraternity, was started on the campus as an area where native plants can be maintained in a natural habitat. It will be not only a show place but a source of valuable material for the instructional program in horticulture and botany.

An on-the-job training program was provided this year for those biological students interested in positions with the Fish and Game Division.

Education & Psychology

This department primarily is concerned with the direction of the teacher education program. Its personnel include the agricultural teacher-trainers as well as instructors of education and psychology courses. One man joined the department this year to take the place of the staff member who is now in charge of Liberal Arts Division operations.

English Department

The department is a service department for the entire student body. During each quarter of the 1952-53 academic year more than fifty per cent of the students were enrolled in one or more English classes.

The adoption of the new general education requirements has meant that more students were enrolled in literature courses than ever before. Validating studies of the placement examination were completed and the department is now beginning a careful study of the methods and content of the public speaking courses. In the basic Language Communication courses, the student meets the practical uses of language so that he may become an informed citizen, be able to present his own ideas to others either in written or spoken form, and be competent to select intelligently among the ideas presented to him in any field and through any medium.

Health and Physical Education

Physical Education majors graduating last June found positions, most of which were in the teaching field at either the elementary or the secondary level. Reports from school principals have been complimentary concerning the quality of the work which graduates of this department are doing.

The program of physical achievement testing started last year has been extended to include every student in the college. Where needed, special corrective classes were inaugurated to meet the needs of the students.

During the year, plans were developed for the construction of a gymnasium annex that must be built before women students can be enrolled at California State Polytechnic College. These plans include additional locker and shower facilities, a special purpose room, a corrective physical education room, an equipment storage room, an instructors' office, and an enclosed turf patio for recreational games.

Mathematics

The improved mathematics laboratory program has been received enthusiastically by students and by faculty in the other departments. Operating daily from 9 a.m. to 4 p.m. and Saturday mornings, it provides instructional help to all students. Both instructors and advanced mathematics majors work in the laboratory. The teacher candidates gain particularly useful experience.

There are 26 students majoring in a combination of engineering and mathematics, illustrating the increased demand by industry for men qualified in mathematics and an increased interest in this area on the part of engineering students.

Military Science and Tactics

This is a new department of the college this year. A voluntary program in General Military Science has attracted 325 students in its first year of operation. A staff of three officers and four enlisted men has been assigned to the college to operate the ROTC program.

The facilities include a large armory and storeroom, office and classroom space, and drill facilities on the practice athletic field. An ROTC band has been organized to provide music for spring reviews.

If the enrollment in the ROTC courses is maintained at the present level, the cadet corps should expand to as many as 1000 when the full four-year program is in effect in 1955-56.

Music

Although no major is offered in the Music Department, 350 men participated in Glee Club, Orchestra, Band, Quartets, Majors and Minors, music theory, and music appreciation, and as soloists.

There is great demand on the campus for other musical groups as well as individual instrumental instruction. Present staff and space limitations prevent any additional offerings in music, but it is hoped that more students can be served in the near future.

Physical Science

The Physical Science department continued primarily as a service department. It offers courses that provide scientific backgrounds for students in the agricultural and engineering divisions and courses that contribute to the general education of students in all three divisions. In addition, it has continued training students majoring in physical science. Recent graduates are employed at the National Bureau of Standards, the Goodyear Rubber Company, the Atomic Energy Commission, and at the Electronic Research Laboratories of Douglas Aircraft Company.

Course enrollments continue to be large, with registration for each quarter averaging 1300.

Social Science

The Social Science department plays an increasingly important part in the general education of all our students. Education for citizenship is constantly improving and developing, and this department is pioneering in the application of the "learn by doing" philosophy to citizenship education.

The department continued to serve its majors, who are 38 in number, and to offer those courses required by law in the area of general education. In addition, several courses are continued which are of particular value to students in the fields of agriculture and engineering.

During the calendar year of 1952, the social science department offered three new courses at the graduate level. These courses are primarily intended for students who are now teaching, or who intend to teach, in the field of the social studies in California secondary schools.

KELLOGG-VOORHIS CAMPUS

The same educational philosophy, pattern of courses, and requirements of the Agricultural Division of California State Polytechnic College at San Luis Obispo are followed at the Kellogg-Voorhis campus. A special report on the Kellogg-Voorhis campus was prepared for the State Board of Education, January, 1952.

Instruction is offered in Animal Husbandry, Fruit Production, General Crops Production, Horticultural Services and Inspection, Ornamental Horticulture, Soil Science, and related agricultural subjects.

In addition, instruction is offered in the fields of Biological Science, English and Journalism, Health and Physical Education, Mathematics, Music, Physical Science, Psychology, and Social Science, which provide courses to meet State Department of Education requirements for graduation as well as offering opportunities for broadening the student's educational program.

Students seeking the Bachelor of Science degree normally complete the first two or three years at the Kellogg-Voorhis Campus and transfer to the San Luis Obispo Campus to complete their degree requirements.

Instructional Program Improvements

The first year courses in two new agricultural majors, Animal Husbandry and Soil Science, were offered during 1952-53; and plans were laid for the offering of second year courses during 1953-54. Remodeling work was carried out to adapt existing facilities on the Kellogg Unit to handle student projects in livestock.

Special emphasis was placed upon the strengthening of library facilities. The library staff was increased to include a senior librarian, a junior librarian, and a stenographer; and needed volumes in the liberal arts field were purchased.

The instructional staff was increased from 26 to 29 to keep pace with increased enrollment. The three new instructors added to the staff made it possible to enlarge upon the general education offerings.

Under the direction of the Dean of Agriculture, department heads completed the writing of expanded course outlines, achievement lists, and job lists for all courses.

Administrative Developments

A planning program for the ten-year period, 1952-62, was developed for the Kellogg-Voorhis Campus, covering six phases of operations---administration, instruction, student personnel, public relations, business management, and foundation. This study provided long-range guide lines for the development of the Kellogg-Voorhis Campus in accord with the philosophy and objectives of the college.

The conference committee leadership program, instituted a year ago, has been continued and refined. Every member of the staff has a committee assignment along departmental lines, and a semi-monthly staff bulletin reports all committee actions.

At the request of the Legislature, a report on development plans for the Kellogg-Voorhis Campus was prepared for the State Director of Finance. This report included a description of the proposed form of instruction and other activities to be carried on, a master plan of the proposed ultimate physical development, the relationship between the Kellogg Unit and Voorhis Unit, the suitability of the Kellogg Unit for an agricultural college, and a full statement as to the limitations and obligations with respect to the state's title to the Kellogg Unit and Voorhis Unit.

Project Operations

Continued emphasis was given to the development of student projects. Project programs in Ornamental Horticulture and General Crops Production were continued, and projects were instituted in Fruit Production and Animal Husbandry.

Special Services

Carrying out one of the college's objectives of providing service to agriculture, industry, and education, the Kellogg-Voorhis Campus made its facilities available to many organizations in Southern California. The Arabian Horse Association of Southern California, the Soil Conservation Service, the California Farm Bureau, the Pest Control Operators of California, and other groups used the campus for meetings and educational conferences. For the second consecutive year the college sponsored an Agricultural Education Field Day for high school agriculture students in Southern California. The college also cooperated with the Young Farmers Association and the Future Farmers of America in making facilities available for many of their activities.

