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TEXAS TECHNOLOGICAL COLLEGE

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SUMMER SESSION  
1964



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# College Calendar

## Summer Session, 1964

### First Term

- June 2. Tuesday. First term begins.  
2 P.M., residence halls open for occupancy.  
First meal, breakfast, Wednesday, June 3.
- June 3. Wednesday. 8 A.M., entering freshmen assemble.  
8 A.M.-12 Noon; 1:30-5 P.M., registration.
- June 4. Thursday. 8 A.M.-12 Noon; 1:30-5 P.M., registration.
- June 5. Friday. 7:20 A.M., classes begin.
- June 6. Saturday. Day of instruction for all classes.
- June 8. Monday. Only day on which students may change sections or add courses.
- June 18. Thursday. Grade of "W" will be given for all courses dropped on or before this date.
- July 4. Saturday. American Independence Day. College holiday.
- July 6. Monday. Last day to file at Placement Office the Personnel Information Forms and photographs by students planning to graduate in August.  
Last day for first-term students to pay \$5 graduation fee at Comptroller's Office.  
Last day to secure refund of \$5 graduation fee by those who have previously deposited same and who have canceled plans to graduate in August.  
Last day to file with student's dean the statement of intention to graduate in August.  
Last day to drop a course.
- July 9. Thursday. Final examinations.
- July 10. Friday. Final examinations.
- July 11. Saturday. Students without room reservations for second term must vacate residence hall rooms by 10 A.M. First term ends.
- July 13. Monday. 9 A.M., grades and absence reports for first term due in Office of the Registrar.

### Second Term

- July 13. Monday. Second term begins.  
10 A.M., residence halls open to new occupants.  
1:30-5 P.M., registration.

- July 14. Tuesday. 8 A.M.-12 Noon; 1:30-5 P.M., registration.
- July 15. Wednesday. 7:20 A.M., classes begin.  
Last day for persons graduating in August to order academic regalia and invitations at College Bookstore.
- July 17. Friday. Only day on which students may add courses and change sections.
- July 28. Tuesday. The grade of "W" will be given for courses dropped on or before this date.  
Last day to pay \$5 graduation fee for students enrolled in second term only.
- Aug. 6. Thursday. Last day for degree candidates to complete work for removal of grades of "I" and "P".  
Last day to complete correspondence courses.  
Last day to submit requests for graduation **in absentia**.  
Last day for graduating students enrolled in second term only to file in Placement Office the Personnel Information Forms and photographs.  
Last day to drop a course.
- Aug. 12. Wednesday. Last day to submit to Graduate Dean the final draft of theses and dissertations and to pay binding fee.
- Aug. 19. Wednesday. Final examinations.
- Aug. 20. Thursday. Final examinations.  
Residence hall dining rooms close with serving of evening meal.
- Aug. 21. Friday. 10 A.M., residence halls close. Degree candidates may occupy rooms until 10 A.M., Sunday, Aug. 23.  
10 A.M., final grades and absence reports for degree candidates due in Registrar's Office.  
3 P.M., each academic dean will send to the Registrar's Office the final and official list of graduates in his school.
- Aug. 22. Saturday. 8:30 A.M., Commencement rehearsal for all degree candidates.  
By 12 Noon, degree candidates must obtain academic regalia from College Bookstore.  
7:15 P.M., Commencement exercises.  
Summer session ends.
- Aug. 23. Sunday. 10 A.M., residence halls close.
- Aug. 24. Monday. 12 Noon, grades and absence reports for second term due in Registrar's Office.



# General Information

## The College

### Location

Texas Technological College is a state-supported coeducational college. It is located at Lubbock, approximately 200 miles from the northern line of the Panhandle of Texas and 400 miles northwest of the state capital at Austin. Lubbock is in the South Plains area at an elevation of 3,256 feet.

The city has a permanent population of approximately 135,000. Excellent churches, schools, hotels, and shopping centers are available. Two railway systems, an interstate bus line, an excellent highway system, and three airlines operate through the city.

### History

Texas Technological College was established by an act of the Thirty-Eighth Legislature of the State of Texas, passed in 1923. This act authorized establishment of a coeducational college of a senior class west of the ninety-eighth meridian and north of the twenty-ninth parallel.

The first president was Paul Whitfield Horn (1925-1932). He was followed by Bradford Knapp (1932-1938), Clifford B. Jones (1938-1944, President Emeritus, 1944- ), William Marvin Whyburn (1944-1948), Dossie M. Wiggins (1948-1952), and Edward N. Jones (1952-1959). Dr. R. C. Goodwin served as acting president for the 1959-1960 school year and was inaugurated as the seventh president of the College on Dec. 9, 1960.

### Government

The government of the College is vested in a board of nine directors appointed by the Governor and approved by the Senate for terms of six years. The immediate regulation and direction of academic affairs are delegated by the Board of Directors to the President, administrative officers, and faculty.

### Accreditation

Texas Technological College is a member of the Southern Association of Colleges and Schools.

### Academic Divisions

Within the College are five undergraduate schools—Agriculture, Arts and Sciences, Business Administration, Engineering, and Home Economics—and the Graduate School.

### The Library

The collections of the College Library are intended to meet the research needs of faculty and students in support of the academic program and are housed in an air-conditioned building completed in 1962.

Holdings now total more than 600,000 items, including books, periodicals, government documents, and other materials. The Library maintains the open-shelf principle in order that its holdings may be readily available to students and faculty alike; individual study tables are distributed throughout the stacks. To improve its services, the Library maintains readers for microfilm and microprint, provides a rapid copy service, and has individual study rooms for faculty members engaged in research. There is space in the stacks and the reserve and reference rooms for a total of 709 readers. Important additions to our research holdings during the past year include an Atomic Energy Commission depository, designation as a Regional Depository for U.S. Government Documents, and the Mr. and Mrs. J. A. Koger History of Science Collection. Although the Library serves principally the faculty and students of the College, it is often able to supplement the services of other libraries in the area.

The Library is staffed by 17 professional librarians and 20 sub-professionals who provide service during the following hours: 8 A.M. to 12 Midnight, Monday through Friday; 8 A.M. to 5 P.M., Saturday; 2 P.M. to 12 Midnight, Sunday. Closed holidays. Summer terms: 7 A.M. to 10 P.M., Monday through Friday; 7 A.M., to 5 P.M., Saturday. Closed Sunday and holidays.

## **The Graduate School**

Information concerning requirements for admission to the Graduate School and for graduate degrees will be found in the Graduate Bulletin, copies of which may be secured by addressing the Registrar.

Major work leading to the appropriate master's degree is offered in the following subjects: accounting, agricultural economics, agricultural education, agronomy, animal husbandry, botany, business education, chemistry, chemical engineering, civil engineering, clothing and textiles, dairy industry, economics, education, electrical engineering, English, finance, food and nutrition, geoscience, government, health, physical education, and recreation (for men and for women), history, home economics education, horticulture, industrial engineering, management, marketing, mathematics, mechanical engineering, music education, physics, psychology, sociology, Spanish, speech, and zoology. Minor work for a master's degree is available in several additional departments.

Beginning in September, 1964, the following majors will also be available in the School of Agriculture: animal breeding, animal nutrition, crop sciences, entomology, meat science, park administration, range science, and soil science.

Major work leading to the Degree of Doctor of Philosophy is offered in chemistry, English, geology, history, and psychology. Starting in September, 1964, additional majors for the Doctor of Philosophy degree in engineering, government, mathematics, and physics will be available. The Degree of Doctor of Education is also offered.

## **Division of Extension**

Approximately 150 college and 50 high school courses, including both credit and non-credit courses, are offered by correspondence and extension class work for those who are unable to attend classes in resi-

dence. Credit courses may count on degrees and teacher's certificates (or for high school credit and college entrance). A list of available courses may be secured upon request from the Division of Extension, Texas Technological College.

## Health Service

Health service benefits are available to students regularly enrolled in summer school. The College Infirmary, an 18-bed unit, provides an accommodation for those regularly enrolled students ill enough to require constant supervision, and not in such physical condition as to require surgery or the services of specialists. Students judged to be in need of infirmary care by the College Physician may be admitted to the Infirmary where they are under the constant supervision of the physician and a registered nurse. Neither the out-patient clinic nor the Infirmary is financially able to give students unlimited medical service. The cost of special or expensive medication, examinations, treatments, X-ray examinations, and special laboratory tests must be paid by the student. Except for the above services, no charge is made for Infirmary care up to a maximum of three and one-half days each six-week term; a minimum fee to cover the cost of food, drugs, supplies, and any special services is charged the students for each additional day in the Infirmary. In case the College Infirmary is filled to capacity, the College is not under obligation to provide students with hospital service elsewhere.

The Student Health Service will be open to all students for consultation with the staff at regular, announced hours. Emergency cases will be treated at any hour, day or night.

The College requires that students with communicable diseases be isolated until, in the judgment of the College physicians, danger of transmission has passed.

There will be a health service fee of \$1 per student enrolled in any summer workshop or short course.

## Testing and Counseling Center

The Testing and Counseling Center has as its purpose aiding Tech students in deciding on a major and an occupational objective, and in meeting problems of a personal nature. High school graduates who have declared their intention to attend Tech are eligible for counseling. The summer period has been found to be an appropriate time to work out suitable educational and vocational goals.

Students desiring the services of the Center should call PO 2-8811, Extension 4297. All service is on a fee basis, the fee being \$10. Extended counseling requires additional fees.

## West Texas Cooperative Audio-Visual Services

The West Texas Cooperative Audio-Visual Services provide on-campus service for the schools and departments of Texas Technological College. Room 108 of the Social Science Building has been set aside for on-campus viewing of films. These services may be scheduled by calling phone number PO 3-5014 or contacting the audio-visual personnel in the Social Science Building, Room 20.

Film distribution from the College campus is currently reaching 73,000 students in the public schools. Schools of West Texas desiring to participate in the Cooperative Audio-Visual program may obtain further information by writing the Director of WTCAVS, P.O. Box 4380, Texas Technological College.

## **Teacher Certification**

All individuals who enroll for the first time in a program leading to a certificate to teach in any subject in any level in the elementary and secondary schools, should see the Director of Teacher Certification in the Administration Building for official forms and directions for executing a teacher certificate plan.

## **Recreation**

The on-campus recreation program during the summer session is centered primarily in the Union and sponsored by the Tech Union Summer Program Council. This series of programs, made possible through the Union fee, is open to all summer school students.

Each summer the Union offers a well-balanced series of programs of professional entertainment, weekly movies, dances, special events, billiards, ping-pong, bridge and other table games, "splash" parties and swimming. The Union provides food service, leisure-time activities, and meeting facilities for the entire campus. The services and programs of the Union are open to all students, wives, children, and faculty, who are cordially invited to participate.

Other recreation facilities in Lubbock, such as for swimming, golf, tennis, boating, and picnics, are available on the campus or at Mackenzie State Park, Buffalo Lakes, and J. B. Maxey and K. N. Clapp Pools.

## **Men's Intramural Program**

The Department of Health, Physical Education and Recreation for Men offers a varied program of physical activities during each semester of summer school. All students, graduate and undergraduate, are eligible to participate and are urged to do so. The sports offered include scratch bowling, trampoline, swimming, softball, table tennis, horseshoes, volleyball, golf, tennis, badminton, handball, slow-pitch softball, and paddle ball.

No fee is required. Intramural headquarters are located in the Intramural Gym directly south of the football stadium.

## **Placement Service**

The Placement Service is a central agency which brings together employers, students, and faculty. Its facilities are at the disposal of all students regardless of major fields of study or professional interest. The College offers placement service to alumni and ex-students.

To those students who find it necessary to earn a portion of their expenses while attending college, The Placement Service is able to give assistance in finding part-time positions with Lubbock business firms and on the campus.

Employers representing the public schools or business and industry should file requests for personnel with the Placement Office. Correspondence relative to employment of students and graduates should be addressed to that office.

Details concerning the activities of the Placement Office may be received from the Director, The Placement Service, Room 252, West Engineering Building, Texas Technological College.

## **The College Bookstore**

The College Bookstore located on the campus is a modern self-service facility and is a self-supporting enterprise, owned and operated by the College. It is maintained to enable students to purchase textbooks, books for extension courses, supplies, and other equipment needed for laboratory and class work.

When possible to secure, the Bookstore handles second-hand books and purchases textbooks back from students who desire to dispose of them.

All profits derived from the operation of the College Bookstore go to student welfare and recreation.

## **Reserve Officers' Training Corps**

All physically fit male students of the freshman and sophomore years, except veterans, are required to elect either band, physical education, or military or air science (ROTC). The Departments of the Army and the Air Force each maintain a senior division ROTC unit at Texas Technological College. The ROTC has the mission of developing officers for the United States Army and Air Force and of providing a corps of well-educated, well-rounded reserve officers to enable the Army and Air Force to expand with lightning speed in a national emergency. Consequently the ROTC program has been designed to "develop the qualities of leadership" in college-trained men. Outstanding ROTC graduates may be recommended for Regular Army or Air Force commissions. The Army offers a general military science curriculum which qualifies graduates for appointment in any one of 14 branches. The Air Force curriculum is a generalized course qualifying graduates for flying or nonflying appointments in the Air Force. Students enrolled in the ROTC program are not active members of the Armed Forces of the United States.

Requirements for enrollment and details of the Army and Air Force ROTC programs can be obtained from the office of the Professor of Military Science, Room 12, Social Science Building, or the Professor of Air Science, Room 19, Social Science Building.

A complete description of the Army and Air Force ROTC programs is contained in the College General Catalog.

No Army or Air Force ROTC courses will be offered during the summer.

## **Admission to Candidacy for Graduation**

A student who registers for the semester or summer session in which he plans to complete work for a bachelor's degree, but who has

less than the number of grade points required for graduation, will be granted only conditional admission to candidacy. In this status, the student's ordering of a diploma and making other plans for graduation will be entirely on his own responsibility.

Requirements for admission to candidacy for a master's or doctor's degree are explained in the Graduate Bulletin.

## Summer School Commencement

A student who completes all work for any degree at the end of either term will have the degree conferred during the commencement program to be held the last day of the summer session. Summer Commencement is scheduled to be held on Saturday, Aug. 22.

## Other Academic Regulations

For regulations covering suspension, withdrawal from college, dropping courses, grades, and other matters, see the current General Catalog.

## Further Information

For more detailed information regarding the summer session write to the Dean of Admissions and Registrar, Texas Technological College.

For information concerning reservations in the residence halls, write to Supervisor of Residence Hall Room Reservations, Texas Technological College.

## The Summer Session

The summer session is an integral part of the year-round program at Texas Technological College. It is designed for particular groups of students, and the facilities of the entire College are available. The faculty of regular staff members is augmented by visiting lecturers and professors. All classrooms, laboratories, and the College Library are at the disposal of summer school students.

The summer session is planned especially for the following groups:

1. **Entering Freshmen.** High school graduates who wish to accelerate their college programs may do so by entering college at the beginning of the summer session. Beginning courses are offered in most all of the basic freshmen curricula.

2. **Students of the Long Session** will find the summer school profitable for making up courses or speeding up their college training.

3. **Teachers, School Administrators, and Special Certified Personnel.** The summer program, both undergraduate and graduate, is particularly designed to meet the needs of persons seeking certification as teachers and administrators in the elementary and secondary schools. In addition the graduate program provides opportunity for individuals to meet re-

quirements for new certification regulations in teaching, supervision, curriculum, and administration, as well as for conversion of certificates. Special seminars and workshops for teachers are available to meet special needs.

**4. Graduate students.** Full graduate work will be offered in summer school leading to the degrees indicated under "Graduate School."

## Admission

The Dean of Admissions has charge of all matters pertaining to admission to any school of the College. Each new student is required to file an application on a blank which may be secured from the Admissions Office, Administration Building, Room 160. In addition, regular students must submit a complete transcript from the high school and all colleges previously attended. The new student is urged to send in credentials well in advance of registration date.

To enter the College as a freshman, an applicant takes the following steps:

1. Obtains an application for admission from the Dean of Admissions by applying in person, by mail, or by telephone.

2. Provides the Admissions Office with an official transcript of his high school record. The applicant must assume the responsibility for having his record forwarded to the Dean of Admissions. Application forms and transcripts should be sent in immediately following the close of the last semester in high school.

3. Files a health data form. This form is to be completed by a physician and must include a statement of successful smallpox vaccination within five years prior to registration. The requirements for this vaccination may be waived on written recommendation by the family physician.

4. Furnishes scores on the Scholastic Aptitude Test of the College Entrance Examination Board.

5. Decides which school or curriculum he wishes to enter. A student needing advice or counseling may come to the campus before registration day and consult with the dean of his school.

When an applicant's file is complete, that is, after his completed application form and all necessary supporting transcripts and records have been received, the case will be evaluated. Normally, if time permits, the applicant will be notified of his acceptance or rejection before he reaches the campus.

6. Reports to the college campus on the day indicated in the official college calendar and in notices sent in reply to his application. All entering freshmen must report at the beginning of the freshman orientation period.

7. Pays fees on the days indicated for registration.

## Freshman Pre-Registration Guidance Testing and Orientation

All entering freshmen are required to assemble at the College for a period of orientation prior to actual registration (see College Calendar.) This program has been developed to assist the student in selecting a program of study and to aid the faculty and administration in guiding him.



Along with other credentials in support of their applications for admission, beginning students are required to submit their scores earned on the College Entrance Examination Board Scholastic Aptitude Test.

Tests are supplied by the College Entrance Examination Board, Post Office Box 592, Princeton, New Jersey. High school counselors and principals usually secure these tests for those wishing to take them. It is the responsibility of the prospective student at Texas Tech to take these tests during his senior year in high school. They may be taken at the College during the freshman orientation and testing period, but students who wait until then to take them will be delayed in registering.

### **Uniform Minimum Requirements for Admission**

Graduation from an accredited high school is the first entrance requirement for beginning freshmen. The following units are the uniform requirements for admission to the College:

1. English .....	3
2. Mathematics* (algebra, geometry, trigonometry) .....	2
3. Social science .....	2
4. Laboratory science .....	1
5. Electives .....	7

### **Removal of Deficiencies**

The Colleges assumes that the work of the student in high school has prepared him to pursue satisfactorily the courses in the curriculum he has chosen. A student who is admitted with deficiencies must remove them during his first two semesters. In this case he will have to defer some of the usual freshmen courses. He may save time in making up units he lacks by completing appropriate courses by correspondence before registering at the College.

### **Special Admission Requirements**

For admission to the Schools of Agriculture, Business Administration, and Home Economics there are no requirements beyond those listed above. For special programs in the School of Arts and Sciences and for entrance into the School of Engineering, see the annual General Catalog of the College.

### **Admission of Out-of-State Students**

An applicant for admission who is not a legal resident of Texas (for tuition purposes) must meet the following minimum requirements:

1. Have been graduated from an accredited high school with at least the 15 units listed above under Uniform Minimum Requirements for Admission.
2. Have ranked in the top half of his high school graduating class.

### **Admission From Other Colleges and Universities**

Undergraduate students who have attended another accredited college, who are in good standing there, and who are not under disciplinary

\* One unit in general mathematics may be accepted as a substitute for one of the required units in mathematics toward entrance to the Schools of Agriculture, Business Administration, and Home Economics, and for non-science majors in Arts and Sciences. Courses falling under the description of arithmetic are not accepted as one of the uniform required units in mathematics.



or scholastic suspension may be accepted for admission to Texas Technological College if their performance at the other institution meets the standard at Texas Tech.

The student seeking admission from another college must present official transcripts of his entire academic record, both high school and college, except as indicated below under "Transient Student." His record must meet the minimum standards in one of the following categories:

A. If he originally enrolled for 12 or more semester hours during the last semester in attendance, and:

1. Has registered for only one semester in college, he must have earned at least 6 semester hours of academic credit with grades of C or better.

2. Has registered for two, three, or four semesters, he must have earned at least 9 semester hours of academic credit with grades of C or better during his last semester.

3. Has registered for five or more semesters, he must have earned at least 12 semester hours of academic credit with grades of C or better during his last semester.

B. If he originally registered for less than 12 semester hours during his last semester in attendance elsewhere, he must have passed one-half of his hours with a grade of C or above during the semester.

Students whose academic standing is so low during their last semester of attendance at Texas Technological College that they are no longer eligible to continue may not gain re-admission by attending summer session at another institution.

## Transfer of Credits from Other Colleges and Universities

Since the College offers a number of degrees which require the fulfillment of widely differing curricula, the Registrar's acceptance of credits from another college does not guarantee the use of all these credits in a given curriculum. The usefulness of transferred credit is determined by whether or not the work is equivalent to work in the curriculum or to permissible electives. After being admitted to the College and having his credits accepted by the Registrar, the student should consult with the dean of the school in which he plans to enroll to determine which credits will be acceptable in his particular program.

At the option of the academic dean, transferred courses with a grade of D or the equivalent may not be accepted for credit toward meeting requirements for the degree. Transfer credit in physical education activity courses, or substitutes for them, is accepted to the extent that it meets degree requirements, but grade points accumulated in such courses cannot be applied to reduce a deficiency of grade points in other subjects.

Grade points are computed as follows: for each hour of A—4; B—3; C—2; D—1; all other grades—0.

Students transferring credits from a non-accredited institution must prove the value of all such credits by earning a 2.00 grade average on the first 30 hours of residence work at Texas Technological College. Students who did not meet the admission requirements to this college at the time they were admitted to a non-accredited institution must successfully pass required testing before being admitted here. Credit earned at another institution will also be validated as indicated above.

A former student of Texas Tech who has afterward attended another institution will be considered as a transfer student when applying for

re-admission and will be required to meet the standards for such students.

### **Admission of Graduate Students**

Full details of admission requirements for those wishing to enter the graduate program at Texas Technological College appear in the **Graduate School Bulletin**, which is published annually. A copy may be secured from the Office of the Dean of Admissions. It may be noted here, however, that those who wish to enter the graduate program in order to work toward a master's or doctor's degree will be required to take the Aptitude Test of the Graduate Record Examination. This may be done before enrollment or at the first suitable examination date thereafter.

### **Concurrent Registration at Texas Technological College and Other Institutions**

Concurrent registration is not permitted during the summer session.

### **Transient Students**

Students enrolled in other colleges during the spring semester, who plan to attend the summer session only and return to the former college for the fall semester, may be admitted without the necessity of formal transcript of record from the former college. Such students, however, must furnish a letter from the registrar of the previous college indicating classification and present scholastic standing. Admission as a transient student does not guarantee admission as a regular student in the following fall semester. Regular students must present transcripts and meet regular admission requirements. A transcript of work taken at Texas Tech under the classification of "Transient Student" will be sent only to the college furnishing the letter of permission or letter of good standing. Students who have previously attended Texas Tech as a regular student may not attend as a transient student. They must make application for readmission and furnish transcripts.

## **Class Work and Routine**

**Student Load.** The normal load for a six-week summer term is 6 semester hours. A student will not be permitted to register for, or secure credit in, more than 14 semester hours in the two terms, including any correspondence work. Students who have not done work previously in Texas Technological College will regularly enroll for a maximum of 6 semester hours, exclusive of 1-hour physical education courses and 1 hour's credit in orientation. A senior of superior ability and performance may, with the approval of his academic dean, enroll for 15 semester hours in the 12-week session if this arrangement will enable him to be graduated at the close of the current summer session.

Graduate students are limited to 6 hours in either term, or a total of 12 hours for the summer session.

**Auditing Classes.** Permission to audit classes may not be granted in case the class is crowded and is not granted to students enrolled in summer session courses which are scheduled for less than the regular six-week term.

**Class Attendance and Absence.** Regular and punctual attendance in classes, laboratories, and other exercises at which the student is due, is required. Absences are counted from the first meeting of the class regardless of the time when the student enrolls.

## Fees and Deposits

**Payment.\*** All fees and deposits are payable in full at the time of registration. During the summer session, tuition and fees are paid after a student's schedule is approved by his academic dean. No refund will be made for courses dropped. All checks, money orders, and drafts are accepted subject to final collection.

**Registration Fee for Resident Students.\*\*** For legal resident students of the State of Texas, registration fee for a six-week term is \$25. For resident students who enroll for less than 4 semester hours in any six-week term, the registration fee is \$20 per term.

**Registration Fee for Non-Resident Students.\*\*** For non-resident students, the registration fee for six-week term is \$100. For nonresident students who enroll for less than 4 semester hours in any six-week term, the registration fee is \$75 per term.

Any student who wrongfully pays the Texas rather than the non-resident fee may be assessed a penalty not to exceed \$10.

Veterans of the Spanish-American War, World War I, World War II, or Korea, who are residents of Texas, may be eligible for benefits of the Hazlewood Act. See the Veteran Co-ordinator in the Registrar's Office.

**Student Union Fee.** This is a compulsory fee of \$2.50 per six-week term set forth in Senate Bill No. 232, Regular Session, Fifty-Third Legislature.

**Laboratory Fees.** For all courses in which the combined credit of lecture and laboratory is from 1 to 3 semester hours, a laboratory fee of \$2 is charged for each term. For courses in which the semester credit is 4 semester hours or more, the laboratory fee is \$4 per term.

**General Property Deposit.** A breakage deposit of \$7 is required from each student to cover breakage, library fines, or damage to college property or equipment while in the student's possession or use. The deposit, less charges, will be returned to the student at his request upon termination of his tenure here as a student.

**Graduation Fee.** Graduating students will be charged a graduation fee of \$5 for each degree granted. The fee will be refunded provided the student cancels his graduation intentions before the diploma has been printed and before other related steps are taken.

If the student does not cancel his intention to graduate in time, he must pay \$2 for reordering the diploma insert only. If both the insert and the cover have to be reordered, the charge will be \$5 as in the initial order. Students who graduate *in absentia* will pay an additional fee of \$1.50.

**Graduate Fees.** The cost of such research items as questionnaires, charts, maps, slides, microfilm, photostats, postage, and so on, required

\* Texas Technological College reserves the right to change fees in keeping with acts of its Board of Directors or the Texas Legislature.

\*\* For the official interpretation of the terms "resident" and "nonresident," see Pages 45-46 of the 38th General Catalog. Each student is held responsible for a proper classification of his own residency status according to these regulations, throughout the period of his registration at Texas Technological College.

by a graduate student for the completion of a thesis or research problem forming part of a graduate program for an advanced degree, will be borne by the student.

### Special Fees

Geology 363*	
Tuition .....	\$ 25.00(a)
Room and Board .....	125.00
Course Fee .....	40.00
Transportation Fee .....	35.00
Total	\$225.00

Geology 563*	
Tuition .....	\$ 25.00(a)
Course Fee .....	40.00
Transportation .....	35.00
Total	\$100.00

(a) Resident Tuition; Nonresident Tuition is \$100..

Physical Education 4321 ..... \$ 12.50

**Workshop Fees.** Each one-week workshop with 1 semester-hour of credit has a registration fee of \$10, plus a \$1 health fee.

Fees for other workshops will be based upon credit given.

**Duplicate Receipt Fee.** A fee of 50 cents will be charged for each duplicate registration receipt issued.

**Refund of Fees.** Any student withdrawing officially during the first week of either summer term will receive a refund of 60 percent of any registration fees paid, and during the second week, 20 percent. A student who withdraws during the third week and thereafter of either summer term will receive no refund.

Once a student has registered for a laboratory class and attended the class, no refund of the laboratory fee will be made unless the College is at fault.

In no case will fees be refunded to a student expelled from College by College authorities.

Refund of tuition or fees will not be made on courses of less than six-week duration.

The unused balance of the property deposit will be held at least 30 days after the close of a semester and at least 60 days after a student withdraws during a semester, so that all charges and fines may be accumulated from the various departments.

**Visitor's Fee.** A fee of \$10 for each course is required for the privilege of visiting any course. No credit may be obtained for auditing courses in this manner.

**Enrolling for No Grade.** The other method is for students regularly enrolled in the College, either in the summer session or the long session, and entitles them to register for residence courses for no grade and therefore for no credit. Such registrations are to be considered on the same basis as registrations in credit courses in making the student's schedule, both in payment of fees and in consideration of the amount of work to be carried.

\* A deposit of \$25 must be made on or before March 1 for geology field courses. This deposit is refundable up to April 1 and forfeited as of this date if the student decides not to enroll for the field course.

**Student Services Fee.** This is a \$3 fee that each student must pay each term of the summer session. This fee provides for Health Service and The Toreador.

**Change in Class Schedule Fee.** A fee of \$3 will be paid each time a student initiates one or more changes in his previously approved class schedule. There will be no charge when the change is made for the convenience of the College.

### Music Fees for Private Instruction

Individual instruction in voice, piano, organ, strings or wind instruments is offered by the Department of Music. The following costs are not covered by the College registration. They are payable in full at the time of registration.

For each of the following courses in applied music:

#### Private Instruction

115, 116, 215, 216, 315, 316 .....	\$ 6
125, 126, 225, 226, 235, 236, 325, 326, 345, 346, 425, 426, 435, 436, 445, 446 .....	\$12
Practice room and piano rental payable at the Business Office:	
One hour per day per six-week term .....	\$ 4
Each additional hour .....	\$ 2

### Summary of Expenses for Six-Week Term

#### Fees, Books and Supplies

Registration Fee (legal resident of Texas) .....	\$ 25.00
General Property Deposit (refundable) .....	7.00
Student Union Fee (required) .....	2.50
Laboratory Fees (approximate) .....	4.00
Books and Supplies (approximate) .....	20.00
Student Services Fee .....	3.00
Total for six-week term (estimated) .....	<u>\$ 61.50</u>

For estimated costs, including residence hall room and board, add charges for the proper residence hall as shown below in the section entitled "Housing Facilities."

Engineering students are required to purchase their own drawing equipment, slide rule, and other specialized items which cost approximately \$55. These items, which entail extra expense at first, are utilized throughout the students' four years of study. Not all of this equipment need be purchased during the summer session depending on the type of engineering courses taken.

### Housing Facilities

All prices indicated below are subject to change without notice prior to registration date and with 10 days' notice thereafter.

The cost for a six-week term in the College residence halls, two persons per room, is payable in advance as follows:

- (1) Non-airconditioned residence halls for men ..... \$125.50\*
- (2) Air-conditioned residence halls for women ..... \$141.00\*

Single rooms may be assigned at additional cost if facilities are available.

\* Includes \$1.00 State Sales Tax.

**Residence Hall Reservations.** Applications for residence hall reservations will be made to the Office of Room Reservations. A check for \$40 must accompany the request. This will serve as a reservation fee, and will be held as a residence hall property deposit. It will be refunded, less any breakage charges, at the end of the term. If a student moves from the residence hall during the term, the \$40 deposit will not be refunded.

Should a student find it impossible to enroll in the College he may apply for a refund of his reservation fee not later than May 15 for the first term of summer session, and June 30 for the second term of summer session.

Occupants of the residence halls are expected to furnish pillows, towels, bed linens, blankets, spreads, and other personal articles needed. There will be no residence hall linens available for rental.

For information on off-campus living accommodations, inquiries should be directed to the Office of the Dean of Student Life, where arrangements for off-campus housing will be considered.

## **Conference Facilities**

Housing and food services for conference groups may be scheduled in the residence halls during the summer period by contacting the Office of the Director of Residence Halls.

## **Institutes, Workshops, Short Courses**

Students planning to enroll in short courses and workshops for college credit are requested to register in person or by mail prior to June 4, even though the beginning date of the course occurs later in the summer term.

## **School of Arts and Sciences**

### **Biology Teachers Institute**

With the goal of increasing the effectiveness of the teaching of biology in high schools, the National Science Foundation, through a grant to the Department of Biology, is sponsoring an institute for teachers of biology from June 5 to Aug. 6. Lectures, demonstrations, and field trips will provide an outstanding educational experience for participants, who may earn 9 semester hours of credit. The director of the Institute will be Mr. Earl D. Camp, Head of the Biology Department, to whom inquiries concerning this program should be addressed.

### **Advanced Education Workshops in Teaching and Educational Administration**

The Department of Education will offer two advanced education workshops during the first term of the summer session. The workshops will carry from 1 to 3 semester-hours' credit.

**The School Business Services Workshop**, scheduled for the week of June 22-26, will be directed by Mr. Berlie J. Fallon and will carry 1 semester-hour credit. The student will register for Education 5139-1.

The Department of Education will offer a workshop in the teaching of modern mathematics (arithmetic) in the elementary school. The workshop is scheduled for June 5-24. The staff for the workshop will include Mr. Joe Tidrow, Department of Education, as Director; Mrs. Olive Wheeler, Department of Education, as Assistant Director; Mrs. Mary Jane Shipley, part-time instructor in the Department of Mathematics, and a nationally known consultant in mathematics. The major purpose or goal of the workshop is to meet the widespread demand from the school systems in this area for help in the teaching of modern arithmetic in the elementary grades. The student will enroll in Education 5355-Seminar in Elementary Education (Arithmetic) and will receive 3 semester-hours' credit. Applications for enrolling in the seminar will be accepted by the Department of Education during May. All inquiries regarding these workshops should be addressed to the Department of Education, Texas Technological College.

### **Summer Program of German for Children**

For the past several years, the Department of Foreign Languages has sponsored the Kinderschule Program in German for children. This program will not be offered during the 1964 summer session, but will be resumed in 1965.

### **Summer Language Institute**

A second-level Summer Language Institute for graduate students who are secondary school teachers of Spanish, offered in cooperation with the United States Office of Education and supported by the National Defense Education Act of 1958, will be held in Tucuman, Argentina, from June 20 to Aug. 14.

The purpose of the Institute is to give participating teachers advanced training in applied linguistics and recently developed techniques for intensive study of the culture and civilization of the Tucuman area in the field. Participation in the Institute will be limited to 42 secondary school teachers of Spanish who will be selected from applicants who have successfully completed a first-level NDEA summer language institute program for secondary school teachers of Spanish.

Inquiries concerning the Institute program may be addressed to the director, Mr. Alfred B. Strehli, Department of Foreign Languages, Texas Technological College.

### **High School Newspaper - Yearbook - Photography Workshop**

The Department of Journalism and the West Texas High School Press Association will jointly sponsor the seventh annual five-day workshop for high school students and teachers Aug. 9-13.

Specialists will aid students and teachers with a variety of problems met on scholastic publications. Newspaper participants will work on an experimental newspaper under close supervision. Yearbook editors and business managers will be assisted in the actual planning of their books. Photographers will receive intensive training in picture shooting and darkroom procedure.



A registration fee of \$15 is charged. No college credit is offered. For details and reservations, write the Department of Journalism, Texas Technological College.

### **Summer Music School**

#### **Band, Chorus, Orchestra (Pre-College)**

The College maintains a large summer band, orchestra, and choral program, concurrent with the first summer term. A wide range of courses is offered during this period. A large staff of instructors augments the regular College staff in making these offerings possible.

Nationally known conductors and instructors have been invited to conduct each activity.

**Band.** Three or more bands are open to accommodate students at various levels of advancement. Special instructors on all wind instruments offer instruction in technique. Percussion and baton-twirling instruction are available to those interested, and pre-college theory classes are open to all pre-college students.

**Chorus.** A strong program for high school students and church choir directors is offered in the field of choral music, stressing repertoire, tone production, rhythmic precision, small group lessons in voice, and classes in theory. For further information, write to the Music Department, Texas Technological College.

**Orchestra.** College and public school instructors will join forces to conduct the seventh annual summer program in orchestra for string students at elementary, intermediate, and advanced levels.

### **Workshop in Choral Music**

**June 3-24**

Music Education 532 is designed to be of value to the public school choral director or the church choir director. Tone production, rhythmic precision, balance, blend, enunciation will be considered. Active participation and observation in voice classes and choral groups are possible for the director enrolled in this workshop.

### **Workshop in Instrumental Music**

**June 3-24**

Music Education 533 is designed to aid the public school instrumental director in development of new concepts in organization of instrumental groups. Consideration will be given to development of tone, rhythmic precision, balance, and blend in instrumental groups. Active participation and observation in band or orchestral instrumental classes and ensembles are possible for the director enrolled in the workshop.

### **Workshop in Directing School Speech Activities**

**July 15-Aug. 1**

Speech 4325 will be offered as a workshop during the first half of the second summer term. The first week will be primarily lecture and preparation for activities of the High School Dramatics and Forensics Workshop. The combination of these two workshops provides the high school teacher practical experience in problems and opportunities



present in school speech activities. Both active participation in directing and observation of discussion, debate, declamation, dramatics, extemporaneous speaking, and poetry reading are possible.

### **Dramatics and Forensics (High School) Workshop**

A workshop in dramatics and forensics for high school students will be conducted by the Speech Department July 20-31. It is open to any high school sophomore or junior, or outstanding freshman of the 1963-1964 school year. Scholarships will be given to any eligible student who places on the all-star cast of the state or any regional one-act play contest, or who places on the winning debate team in the state or any regional contest, or who places first in any other state or regional speech contest in 1964.

The program will include study and practice in effective speech, voice, diction, personality development, role-playing, bodily action, and the development of good speech habits. Students will have opportunity for participation under skilled supervision in plays, discussions, debates, and radio programs, according to their interests.

Students interested in dramatics will produce as many plays as can be cast from the group. The theory and practice of make-up, costume, and lighting, as well as acting, will be included.

The problem of the 1964-1965 forensics season will be the basis for study and practice of principles involved in effective discussion, public speaking, and debate. Each student will participate in several practice sessions, culminating in a public demonstration at the conclusion of the session.

For further information direct inquiries to the Speech Department, Texas Technological College.

## **School of Engineering**

### **Cotton Classing Short Course**

**June 1-12**

Each year an intensive course in cotton classing and laboratory evaluation of cotton is sponsored by the Department of Textile Engineering with registration details being handled through the Extension Division of the College. The instruction in classing is provided by the United States Department of Agriculture, Agricultural Marketing Service, in their laboratories at 610 23rd Street in Lubbock.

The course is open to ginners, cotton merchants, farmers, students, or anyone interested in learning to class cotton. Classes are provided for both beginners and advanced students. The College reserves the right to withdraw this course if enrollment is insufficient.

This course does not carry college credit. More information may be obtained by writing to the Department of Textile Engineering at Texas Technological College.

## **School of Home Economics**

### **Art Education Workshop**

**June 8-12**

One-week workshop in Applied Arts 511 for teachers, recreation leaders and adults who work with elementary age children. Emphasis will be on developing art and craft experiences for children and youth. Conducted by Mr. Clarence Kincaid and Miss Mickey Fay Story.

**Fee:** Commuters—\$15, includes tuition, laboratory and health fees; Residence Hall Occupants—\$35, includes room, meals, tuition, laboratory and health fees.

Enrollment by preregistration with full payment of fees by May 25.

### **Color and Design Workshop**

**June 29-July 17**

A three-week workshop for county home demonstration agents and others who work with adults: Ap. Arts 531. Emphasis will be on information and experiences planned to help the adult leaders guide others in the use of color and design. Conducted by Mr. Bill Lockhart.

**Fee:** See Section of Summer School Bulletin on fees and housing facilities.

Enrollment by mail prior to May 1 or in person at regular registration, June 3 and 4.

### **School Lunch Workshop**

**July 20-24**

A one-week workshop, Food and Nutrition 111, 411, or 515, for school lunch cooks, managers, supervisors, and others interested in the school lunch program. Directed by Dean Willa Vaughn Tinsley and visiting staff. Enrollment by advance registration before July 13.

**Fee:** \$22 for residence hall residents; \$12 for commuters.

### **FHA Officers Leadership Workshop**

**June 15-19**

**Pre-College:** High school students officers (outgoing and incoming) of Future Homemakers of America will be given special preparation for effective fulfillment of the respective offices in their local, area, and state associations.

The National FHA adviser will be a featured consultant.

**Fee:** \$12, includes room, meals (June 16-18), and banquet ticket.

**College:** FHA faculty advisers may enroll for one hour of graduate credit in H.E. Ed. 514. Further information will be sent to advisers.

**Fee:** For those who enroll for college credit: \$20, includes tuition, room and meals (June 16-18).

For those who do not enroll for college credit: \$8.50, includes room and meals (June 16-18).

Enrollment of high school students and faculty advisers (credit and non-credit) by preregistration with full payment of fees by May 15.

**Workshop in Home Economics Research Methods****July 1-18**

A three-week workshop in research methods for home economists in teaching, in business, and in government service; H.E. Ed. 534. Conducted by Miss Phyllis Drake.

Fee: See Section of Summer School Bulletin on fees and housing facilities.

Enrollment by mail prior to May 1 or in person at regular registration, June 3 and 4.

**Workshop in Home Economics Curriculum****Aug. 3-22**

A three-week workshop in new concepts in home economics curriculum study; H.E. Ed. 532. Arrangements are provided for enrollees to make a field trip to State In-Service Education Conference in Austin, Aug. 3-7. Directed by Miss Ann Buntin.

Fee: See Section of Summer School Bulletin on fees and housing facilities.

Enrollment by mail prior to July 1 or in person at regular registration, July 13 and 14.

**Workshop for Small Hospital Food Service Workers**

First Week, June 8-12

Second Week, June 13-18

This workshop is planned to provide concentrated training for quality food service for workers in small hospitals. Enrollment may be for one week or for two weeks.

Fee: June 8-12, Commuters—\$20, includes tuition and fees; Residence Hall Occupants—\$40, includes tuition, fees, meals, room.

June 8-18, Commuters—\$40, includes tuition and fees; Residence Hall Occupants—\$80, includes tuition, fees, meals, room.

Students will enroll in F. & N. 111.

Enrollment by preregistration with full payment of fees by May 25.

**Workshop for Professional Dietitians****June 15-July 3**

A graduate level workshop for professional dietitians and college or university teachers of food and nutrition, exploring recent developments in concepts of normal and abnormal nutrition treated by dietary modification. Applications of nutrition for specific conditions will be stressed. Enrollment may be for one, two, or three weeks for one, two, or three graduate-level credits as follows:

First week, June 15-19. Fee: \$13.00. Includes tuition and fees.

Second week, June 22-27. Fee \$13.00. (Those enrolling for first and second weeks pay only \$23.00 since the health fee is paid only once.) Guest instructor, Miss Jerry Rivers, Cornell University.

All three weeks, June 15-July 3. Fee: Resident students—\$23, includes tuition and fees.

Non-resident students—\$78, includes tuition and fees.

Enrollment by preregistration with full payment of fees by June 1 or at regular registration, June 3 and 4.

### **Family Life Workshop**

**July 20-Aug. 7**

A graduate-level workshop for county home demonstration agents and others who work with adults. Emphasis will be on understanding of self and others, development of self by problem solving, the democratic family, concerns of the newly established family, child development, adolescence, mental health, and constructive attitude toward change. Guest consultant, Mr. Elmer Knowles.

Workshop may be taken for 1, 2, or 3 weeks as follows:

First week, July 20-24, H.E. Ed. 514A, stressing understanding of self and others, development of self by problem solving, the democratic family, concerns of the newly established family.

Second week, July 27-31, H.E. Ed. 514B, stressing child development, adolescence.

All three weeks, July 20-Aug. 7, Ch.D. & F.R. 534, stressing, in addition to the topics above, mental health and constructive attitude toward change.

Fee: See section of Summer School Bulletin on fees and housing facilities.

Enrollment by mail prior to July 1 or in person at regular registration, July 13-14.

Two workshops for which no college credit is involved, are scheduled as follows:

### **College Workshop for Homemakers**

**July 6-10**

A one-week workshop for young homemakers, not enrolled in school or college, who are interested in homemaking as a personal career. Planned in cooperation with the Home and Family Life Education Division of the Texas Education Agency, the Texas Agricultural Extension Service and Home Economists in Business.

Fee: \$26, includes room, meals, tuition, and health fee.

Enrollment by preregistration with full payment of fees by June 15.

### **Workshop for Cosmetologists**

**July 26-31**

This workshop, planned in cooperation with the Texas and National Hairdressers and Cosmetologists Association, is designed to help raise the standards of the profession by offering cosmetologists continuing education in both hair styling and subjects relative to the profession, including: Elements of Art and Principles of Design, Human Relations, Merchandising, Fundamentals of Advanced Techniques.

Fee: Residence Hall Occupants—\$75, includes room with linens, meals, banquet ticket, tuition, health fee; Commuters—\$52.50, includes tuition, health fee, banquet ticket.

Enrollment by registration with full payment of fees by July 15.

## Field Trips, Tours

### Field Course in Mexico City

A group study course, Spanish 4328-4329, is offered in 1964 and alternate years in Mexico City during the second term of the summer session. It is a study of various phases of pre-Hispanic and Hispanic civilizations: history, arts, language, and literature, and is designed for those who are preparing to teach Spanish or enter government service or who simply wish to acquire fluency in Spanish and an intimate knowledge of Mexican culture. Students stay at a hotel in Mexico City. During the week they attend class, visit places of interest in and near the capital, and have the opportunity to go to operas, concerts, plays, lectures, exhibitions, and bullfights. On weekends they visit other cities or towns of historic and cultural interest, such as Cuernavaca, Taxco, Huejotzingo, Cholula, Puebla, the Convent of Acolman, and the archaeological zone of Teotihuacan, famed for its pyramids and temples. This course may be taken for 6 hours of fourth year or graduate credit.

### European Theater Tour

The Speech Department will offer an extension credit course in European Theater, Speech 3313-3314, which will make possible firsthand observations of respective theaters and productions. The tour of approximately six weeks, beginning June 4, and ending approximately July 14, will include attendance at outstanding theater events, visits to important theaters in England, Scotland, Holland, Denmark, Germany, Austria, Italy, Monaco and France. There will be opportunity to see professional productions at such theaters as Old Vic in London, the Shakespeare Memorial Theatre in Stratford, the Scarborough Showboat, the Teatro Olimpico, the Baths of Caracalla, the Carcassonne Open Air Theatre, and in Paris the Comedie Francaise and the Theatre of Nations. Also included will be two days of the International Theatre Festival in Vienna.

Non-credit attendance will be possible to the extent that credit registrations do not exceed the maximum available places. Travel costs, including in-state transportation, hotel, theater tickets, tips, and meals (except one meal daily in Rome, London, and Paris), but not personal and incidental expenses, will not exceed \$1,350. A deposit of \$100 should be made with application and the final payment made by April 1. For further information, write the Speech Department, Texas Technological College.

## Outline of Courses

**Explanation of Course Numbers.** The numbers used for designating courses are uniform in all schools of the College. From left to right, the first digit indicates the college year in which the course is normally taken; the second digit shows the semester-hour value of the course; the last digit (or digits) is the departmental course number. To illustrate: English 131 is a freshman course with a credit value of 3 semester hours. See the current General Catalog for further explanation.

A course which extends over two semesters carries a course number joined by a hyphen or a comma. Those courses joined by a hyphen must be taken as a unit in order to receive credit. Each department has the responsibility for determining whether, in exceptional cases, a student may receive credit for part of the sequence.

**If the enrollment for a course or section of a course is not large enough, or some unforeseen event makes it not feasible to offer any of the courses listed in this bulletin, the College reserves the right to cancel that course.**

The student should consult the annual College Catalog for course descriptions and prerequisites.

## School of Agriculture

The summer session for the School of Agriculture will include undergraduate courses in agricultural economics, agricultural education, agricultural engineering, agronomy and range management, animal husbandry, dairy industry, entomology, horticulture, and veterinary science.

Complete curricula in all phases of technical agriculture will not be available. The curricula, however, are planned to provide instruction for new students, for those desiring to make up back work, for students wishing to accelerate their course of study or to complete requirements for a degree.

Graduate courses in agricultural economics, agricultural education, agricultural engineering, agronomy and range management, animal husbandry, dairy industry, horticulture and entomology are provided for those students desiring to earn a Master of Science Degree.

### Agricultural Economics

Willard F. Williams, Head

#### *First Term*

##### **For Undergraduates**

236. Principles of Marketing Agricultural Products. Cr. 3. Staff.

##### **For Undergraduates and Graduates**

431. Livestock Marketing. Cr. 3. Mr. Williams.  
438. Range and Ranch Economics. Cr. 3. Mr. Welch.  
430. Special Problems in Agricultural Economics. Cr. 3. Mr. Rogers.

**For Graduates**

533. Marketing Problems. Cr. 3. Mr. Williams.  
 534. Research in Agricultural Economics. Cr. 3. Mr. Welch.  
 631. Master's Thesis. Cr. 3. Mr. Rogers.

*Second Term***For Undergraduates**

235. Fundamentals of Agricultural Economics. Cr. 3. Staff.

**For Undergraduates and Graduates**

430. Special Problems in Agricultural Economics. Cr. 3.  
 Mr. Williams

**For Graduates**

534. Research in Agricultural Economics. Cr. 3. Mr. Grubb.  
 631. Master's Thesis. Cr. 3. Mr. Grubb.

**Agricultural Education**

T. L. Leach, Head

*First Term***For Graduates**

522. Advanced Methods in High School Vocational Agriculture. Cr. 2.  
 Mr. Hargrave.  
 523. Advanced Methods in Adult Agriculture Education. Cr. 2.  
 Mr. Leach.  
 524. Advanced Methods in Future Farmer Work. Cr. 2.  
 Mr. Hargrave.  
 531. Investigation in the Field of Agricultural Education. Cr. 3.  
 Mr. Leach.  
 535. Problems. Cr. 3. Mr. Eggenberger.  
 536. Advanced Methods of Teaching Farm Mechanics. Cr. 3.  
 Mr. Eggenberger.  
 630. Master's Report. Cr. 3. Mr. Leach.  
 631. Master's Thesis. Cr. 3. Mr. Leach.

*Second Term***For Graduates**

531. Investigation in the Field of Agricultural Education. Cr. 3.  
 Mr. Hargrave.  
 535. Problems. Cr. 3. Mr. Eggenberger.  
 630. Master's Report. Cr. 3. Mr. Leach.  
 631. Master's Thesis. Cr. 3. Mr. Leach.

**Agricultural Engineering**

Willie L. Ulich, Head

*First Term***For Undergraduates and Graduates**

430. Agricultural Engineering Problems. Cr. 3. Mr. Ulich.  
 435. Farm Mechanics Problems. Cr. 3. Mr. Ulich.

## **Agronomy and Range Management**

A. W. Young, Head

### *First Term*

#### **AGRONOMY**

##### **For Undergraduates**

131. The Fundamentals of Agronomy. Cr. 3. 6 lec. hrs., 6 lab. hrs.  
Mr. Harvey.  
241. Soils. Cr. 4. 9 lec. hrs., 6 lab. hrs. Mr. Young.  
331. Forage and Pasture Crops. Cr. 3. 6 lec. hrs, 6 lab. hrs.  
Mr. Jaynes.  
341. Fundamental Principles of Genetics. Cr. 4. 9 lec. hrs., 6 lab. hrs.  
Mr. Ayers.

##### **For Undergraduates and Graduates**

430. Agronomy Problems. Cr. 3. Mr. Jaynes.

##### **For Graduates**

511. Seminar. Cr. 1. Mr. Ayers.  
534. Research. Cr. 3. Mr. Harvey.  
631. Master's Thesis. Cr. 3. Staff.

#### **RANGE MANAGEMENT**

##### **For Undergraduates and Graduates**

432. Range Management Problems. Cr. 3. Mr. Schuster.  
437. Range Management. Cr. 3. 6 lec. hrs., 9 lab. hrs. Mr. Schuster.

##### **For Graduates**

534. Range Research. Cr. 3. Mr. Schuster.  
631. Master's Thesis. Cr. 3. Mr. Schuster.

### *Second Term*

#### **AGRONOMY**

##### **For Undergraduates and Graduates**

430. Agronomy Problems. Cr. 3. Staff.

##### **For Graduates**

534. Research. Cr. 3. Staff.  
631. Master's Thesis. Cr. 3. Staff.

#### **RANGE MANAGEMENT**

##### **For Undergraduates and Graduates**

432. Range Management Problems. Cr. 3. Mr. Box.

##### **For Graduates**

534. Range Research. Cr. 3. Mr. Box.  
631. Master's Thesis. Cr. 3. Mr. Box.

## **Animal Husbandry**

Ralph M. Durham, Head

### *First Term*

#### **ANIMAL HUSBANDRY**

##### **For Undergraduates and Graduates**

431. Beef Cattle Production. Cr. 3. Mr. Durham.  
432. Animal Breeding. Cr. 3. Mr. Curl.



**For Graduates**

533. Techniques in Animal Research. Cr. 3. Mr. Curl.  
 534. Research in Animal Science. Cr. 3. Mr. Durham.  
 539. Physiology of Reproduction. Cr. 3. Mr. Curl.  
 631. Master's Thesis. Cr. 3. Mr. Durham.

*Second Term***ANIMAL HUSBANDRY****For Undergraduates**

331. Principles of Feeding. Cr. 3. Mr. Pruett.

**For Graduates**

533. Techniques in Animal Research. Cr. 3. Mr. Hudson.  
 534. Research in Animal Science. Cr. 3. Mr. Hudson.  
 631. Master's Thesis. Cr. 3. Mr. Durham.

**VETERINARY SCIENCE****For Undergraduates**

334. Animal Sanitation and Disease Control. Cr. 3. Mr. Harbaugh.

**Dairy Industry**

J. J. Willingham, Head

*First Term***For Undergraduates**

430. Dairy Industry Problems. Cr. 3. Mr. Willingham.

**For Graduates**

531. Dairy Industry Research. Cr. 3. Mr. Willingham.  
 631. Master's Thesis. Cr. 3. Mr. Willingham.

*Second Term***For Undergraduates**

131. Principles of Dairying. Cr. 3. Mr. Willingham.  
 430. Dairy Industry Problems. Cr. 3. Mr. Willingham.

**For Graduates**

535. Dairy Bacteriology Research. Cr. 3. Mr. Willingham.  
 631. Master's Thesis. Cr. 3. Mr. Willingham.

**Park Administration, Horticulture,  
and Entomology**

E. J. Urbanovsky, Head

*First Term***ENTOMOLOGY****For Undergraduates and Graduates**

431. Agricultural Compounds. Cr. 3. 7½ lec. hrs. Mr. Ashdown.  
 433. Insect Natural History. Cr. 3. 6 lec. hrs., 9 lab. hrs.  
 Mr. Ashdown.

**HORTICULTURE****For Undergraduates and Graduates**

425. Horticulture Problems. Cr. 2. Mr. Johnson.  
 430. Horticulture Problems. Cr. 3. Mr. Johnson.

**For Graduates**

531. Horticulture Research. Cr. 3. Mr. Urbanovsky.

*Second Term*

**HORTICULTURE**

**For Undergraduates and Graduates**

425. Horticulture Problems. Cr. 2. Mr. Huddleston.  
430. Horticulture Problems. Cr. 3. Mr. Huddleston.

**For Graduates**

531. Horticulture Research. Cr. 3. Mr. Urbanovsky.

## School of Arts and Sciences

The course offerings of the departments within the School of Arts and Sciences have been selected with a twofold purpose in mind. Inasmuch as the summer session is an integral part of the college year, courses are offered to enable the regular student to continue his program of studies. The entering student can also begin his college work in an orderly manner; hence, courses of all levels from freshman to graduate are included in the summer offerings.

A continuing function of the summer school is to provide work for those who did not attend the regular session. Such work is particularly appropriate for teachers in service. Course offerings are designed at all levels to prepare teachers for the elementary or the secondary schools. Those interested in administrative, supervisory, or counseling work will find an ample selection of courses.

## Biology

Earl D. Camp, Head

*First Term*

**BACTERIOLOGY**

**For Undergraduates and Graduates**

- 331-332. Principles of Bacteriology. Cr. 3 each. 12 lec. hrs., 18 lab. hrs. Mr. Sealey.

**BIOLOGY**

**For Undergraduates**

141. Botany. Cr. 4 hrs. 9 lec. hrs., 9 lab hrs. Staff.

**For Undergraduates and Graduates**

331. \*Heredity. Cr. 3. 9 lec. hrs. Mr. Allen.

**BOTANY**

**For Graduates and Undergraduates**

331. Plant Physiology. Cr. 3. 6 lec. hrs., 9 lab. hrs. Staff.  
339. Plant Anatomy. Cr. 3. 6 lec. hrs., 9 lab. hrs. Mr. Prior.

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\* A student may register for this course only with the permission of the Director of the Summer Institute for High School Biology Teachers.

435. \*Advanced Taxonomy. Cr.3. 6 lec. hrs., 9 lab. hrs. Mr. Rowell.  
 438. \*Morphology of Fungi. Cr. 3. 6 lec. hrs., 9 lab. hrs. Mr. Elliot.

*For Graduates*

531. \*Problems in Botany. Cr. 3. 18 lab. hrs. Staff.  
 535. \*Field Botany. Cr. 3. 18 lab. hrs. - Staff.

**ZOOLOGY**

*For Undergraduates*

- 231-232. Comparative Vertebrate Anatomy. Cr. 3 each. 12 lec. hrs.,  
 18 lab. hrs. Mr. Landwer, Mr. Cross.

*For Undergraduates and Graduates*

331. Animal Histology. Cr. 3. 6 lec. hrs., 9 lab. hrs. Miss Bodemann.  
 437. Natural History of the Vertebrates. Cr. 3. 6 lec. hrs., 9 lab. hrs.  
 Mr. Packard.  
 438. Cellular Physiology. Cr. 3. 6 lec. hrs., 9 lab. hrs. Miss Lowe.

*For Graduates*

531. \*Problems in Zoology. Cr. 3. 18 lab. hrs. Staff.  
 535. \*Field Zoology. Cr. 3. 18 lab. hrs. Staff.  
 631. Master's Thesis. Cr. 3.

*Second Term*

**BACTERIOLOGY**

*For Undergraduates*

231. Bacteriology. Cr. 3. 6 lec. hrs., 9 lab. hrs. Mr. Kuhnley.  
 431. Problems in Bacteriology. Cr. 3. 12 lec. hrs. Mr. Kuhnley.

**BIOLOGY**

*For Undergraduates*

142. Zoology. Cr. 4. 9 lec. hrs., 9 lab. hrs. Staff.

**BOTANY**

*For Graduates*

531. \*Problems in Botany. Cr. 3. 18 lab. hrs. Mr. Rowell.  
 535. \*Field Botany. Cr. 3. 18 lab. hrs. Mr. Prior.

**ZOOLOGY**

*For Graduates*

531. Problems in Zoology. Cr. 3. 18 lab. hrs. Staff.  
 535. \*Field Zoology. Cr. 3. 18 lab. hrs. Staff.

**Chemistry**

Joe Dennis, Head

*First Term*

*For Undergraduates*

141. General Chemistry. Cr. 4. 9 lec. hrs., 9 lab. hrs. Mr. Stubbs,  
 Mr. Rekers.  
 341. Introductory Organic Chemistry. Cr. 4. 9 lec. hrs., 9 lab. hrs.  
 Staff.

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\* A student may register for this course only with the permission of the Director of the Summer Institute for High School Biology Teachers.

For Undergraduates and Graduates  
(Graduate Minor Only)

353. Organic Chemistry. Cr. 5. 9 lec. hrs., 18 lab. hrs. Mr. Dennis.

For Graduates

531. Individual Research Problems. Cr. 5 Staff.  
631. Master's Thesis. Cr. 3. Staff.  
831. Doctor's Dissertation. Cr. 3. Staff.

*Second Term*

For Undergraduates

142. General Chemistry. Cr. 4. 9 lec. hrs., 9 lab. hrs. Miss Stuart,  
Mr. Wilson.

For Undergraduates and Graduates  
(Graduate Minor Only)

354. Organic Chemistry. Cr. 5. 9 lec. hrs., 18 lab. hrs. Staff

For Graduates

532. Individual Research Problems. Cr. 5. Staff.  
632. Master's Thesis. Cr. 3. Staff.  
831. Doctor's Dissertation. Cr. 3. Staff.

## Education and Philosophy

Morris S. Wallace, Head

*First Term*

### EDUCATION

For Undergraduates

330. Foundations of Secondary Education. Cr. 3. Mr. Gammill, Mr.  
Garlin.  
332. Educational Psychology. Cr. 3 Miss Bettencourt, Mr. Gammill.  
334. Curriculum Development in Secondary Education. Cr. 3. Mr.  
Southall.  
336. Teaching in Secondary Schools. Cr. 3. Mrs. Cowan, Mr. Hafner.  
3345. Social Studies in the Elementary Curriculum. Cr. 3. Mrs.  
Everton.  
3346. Child Development and the Elementary School Curriculum.  
Cr. 3. Mrs. Everton.  
4315. Audio-Visual Education. Cr. 3. Mrs. Cowan, Mr. Davidson.  
4341. Teaching Arithmetic in the Elementary School. Cr. 3. Mr.  
Hollis.

For Undergraduates and Graduates

430. History and Philosophy of Education. Cr. 3. Mr. Hafner.  
4344. Children's Literature. Cr. 3. Mr. Fare.

For Graduates

5139. Advanced Education Workshops in Teaching and Administration.  
Cr. 1-3. Mr. Fallon.  
536. Elementary School Administration. Cr. 3. Mr. Tidrow.  
537. Secondary School Administration. Cr. 3. Mr. Webb.  
539. Administration of School Business Services. Cr. 3. Mr. Fallon.  
5311. Audio-Visual Education. Cr. 3. Staff.  
5319. Audio-Visual Production. Cr. 3. Mr. Davidson.  
5321. Individual Study in Education. Cr. 3. Staff.

- 5326. Reading Development in the Elementary School. Cr. 3. Mr. Livingston.
  - 5331. Human Development in Education. Cr. 3. Mr. Mecham.
  - 5341. Developing Arithmetic Programs in Elementary Education. Cr. 3. Mrs. Wheeler.
  - 5343. Developing Natural and-Physical Environment Concepts in Elementary Education. Cr. 3. Mr. Nagle.
  - 5344. Developing Language Arts Programs in Elementary Education. Cr. 3. Miss Filgo.
  - 5345. Developing Social Studies Programs in Elementary Education. Cr. 3. Miss Filgo.
  - 5346. Fundamentals of Curriculum Development. Cr. 3. Mr. Mecham.
  - 5351. General Education Seminar. Cr. 3. Mr. Garlin.
  - 5355. Seminar in Elementary Education (Arithmetic). Cr. 3. Mr. Tidrow, Mrs. Wheeler.
  - 5369. School Public Relations. Cr. 3. Mr. Wallace.
  - 5372. Developing the School Guidance Program. Cr. 3. Mr. Webb.
  - 630. Master's Report. Cr. 3. Staff.
  - 631. Master's Thesis. Cr. 3. Staff.
  - 661. Internship in Educational Administration. Cr. 6. Staff.
  - 662. Internship in Educational Administration. Cr. 6. Staff.
  - 731-732. Research. Cr. 3 each. Staff.
  - 831. Doctor's Dissertation. Cr. 3. Staff.
- Enrollment required at least four times.

### PHILOSOPHY

#### For Undergraduates

- 230. Introduction to Philosophy. Cr. 3. Mr. Faruki.
- 238. Ethics. Cr. 3. Mr. Faruki.

### *Second Term*

### EDUCATION

#### For Undergraduates

- 330. Foundations of Secondary Education. Cr. 3. Mr. Gammill, Mr. Southall.
- 332. Educational Psychology. Cr. 3. Miss Bettencourt, Mr. Gammill.
- 334. Curriculum Development in Secondary Education. Cr. 3 Miss Bettencourt, Mr. Southall.
- 336. Teaching in Secondary Schools. Cr. 3. Mrs. Cowan, Mr. Hafner.
- 338. Educational Measurement and Evaluation. Cr. 3. Mr. Nagle.
- 3345. Social Studies in the Elementary School Curriculum. Cr. 3. Mrs. Everton.
- 3346. Child Development and the Elementary School Curriculum. Cr. 3. Mrs. Everton.
- 4315. Audio-Visual Education. Cr. 3. Mrs. Cowan, Mr. Davidson.
- 4341. Teaching Arithmetic in Elementary School. Cr. 3. Mr. Hollis.
- 4343. Teaching Science in Elementary School. Cr. 3. Mr. Mecham.

#### For Undergraduates and Graduates

- 430. History and Philosophy of Education. Cr. 3. Mr. Hafner.
- 4344. Children's Literature. Cr. 3. Mr. Fare.

#### For Graduates

- 5312. Supervision in Elementary School. Cr. 3. Mr. Tidrow.
- 5313. Supervision in Secondary School. Cr. 3. Mr. Webb.
- 5318. Selection and Evaluation of Audio-Visual Materials. Cr. 3. Mr. Davidson.

- 5321. Individual Study in Education. Cr. 3. Staff.
  - 5326. Reading Development in the Elementary School. Cr. 3. Mrs. Wheeler.
  - 5334. Teaching Reading in the Secondary School. Cr. 3. Mrs. Wheeler.
  - 5344. Developing Language Arts Programs in Elementary Education.
  - 5346. Fundamentals of Curriculum Development Cr. 3. Mr. Tidrow.
  - 5359. Seminar in Supervision. Cr. 3. Mr. Wallace.
  - 5371. General Supervision. Cr. 3. Mr. Webb.
  - 5373. Education Evaluation. Cr. 3. Mr. Fallon.
  - 630. Master's Report. Cr. 3. Staff.
  - 631. Master's Thesis. Cr. 3. Staff.
  - 661. Internship in Educational Administration. Cr. 6. Staff.
  - 662. Internship in Educational Administration. Cr. 6. Staff.
  - 731-732. Research. Cr. 3 each. Staff.
  - 831. Doctor's Dissertation. Cr. 3. Staff.
- Enrollment required at least four times.

## PHILOSOPHY

For Undergraduates

- 230. Introduction to Philosophy. Cr. 3. Mr. Little.

## English

*First Term*

John C. Guilds, Head

For Undergraduates

- 131. College Rhetoric. Cr. 3. Mrs. Boze, Mrs. Brewer, Mr. Godfrey, Miss Lewis, Mrs. Tunnell.
- 132. College Rhetoric. Cr. 3. Mr. Aker, Mr. Young.
- 231. Masterpieces of Literature. Cr. 3. Mrs. Brewer, Mr. Davis, Mr. Pendexter.
- 232. Masterpieces of Literature. Cr. 3. Mr. Eddleman.
- 330. Early English Literature: "Beowulf" through Malory. Cr. 3. Mr. Gunn.
- 338. English Literature of the Eighteenth Century. Cr. 3. Mr. Camp.
- 3314. Literature of the English Renaissance. Cr. 3. Mr. Davis.
- 3322. British Literature of the Twentieth Century. Cr. 3. Mr. Pendexter.
- 3323. American Literature and its Backgrounds. Cr. 3. Mr. Eddleman.
- 3327. English Novel. Cr. 3. Mr. Brooks.
- 3329. Major American Poets. Cr. 3. Mr. Gillis.

For Undergraduates and Graduates

(Normally for Graduate Minor Credit Only)

- 4333. Philosophical Ideas in Literature. Cr. 3. Mr. McCullen.
- 4355. Modern Continental Literature. Cr. 3. Mr. Roy.

For Graduates

- 530. Studies in Medieval Literature. Cr. 3. Mr. Gunn.
- 531. Studies in Comparative Literature. Cr. 3. Mr. Roy.
- 535. Studies in Early Victorian Literature. Cr. 3. Mr. Brooks.
- 539. Studies in the Neo-Classical Age. Cr. 3. Mr. Camp.
- 5319. Studies in Shakespeare. Cr. 3. Mr. McCullen.
- 5329. Studies in Modern Poetry. Cr. 3. Mr. Gillis.

630. Master's Report. Cr. 3. Staff.  
 631. Master's Thesis. Cr. 3. Staff.  
 636. Seminar in Nineteenth Century American Literature. Cr. 3.  
 Mr. Guilds.  
 731, 732. Research. Cr. 3 each. Staff.  
 831. Doctor's Dissertation. Cr. 3. Staff.

*Second Term*

Alan M. F. Gunn, Acting Head

**For Undergraduates**

131. College Rhetoric. Cr. 3. Mr. Roberts.  
 132. College Rhetoric. Cr. 3. Miss Brian, Mrs. Hilton, Miss Miles,  
 Mrs. Russell, Mrs. Wellborn.  
 231. Masterpieces of Literature. Cr. 3. Staff.  
 232. Masterpieces of Literature. Cr. 3. Miss Brian, Mrs. Wellborn.  
 233. Technical Writing. Cr. 3. Miss Miles.  
 339. English Romanticism. Cr. 3. Mr. Roy.  
 3324. American Literature and its Backgrounds. Cr. 3. Mr. Nall.  
 3337. Advanced Grammar. Cr. 3. Mrs. Russell.

**For Undergraduates and Graduates  
 (Normally for Graduate Minor Credit Only)**

433. Chaucer. Cr. 3. Mr. Gunn.  
 4336. Teaching of English in Secondary Schools. Cr. 3. Miss Green.  
 4343. Modern American and European Drama. Cr. 3. Mr. Pendexter.

**For Graduates**

534. Old English. Cr. 3. Mr. Gunn.  
 5322. Studies in Modern British Literature. Cr. 3. Mr. Pendexter.  
 5324. American Literature since 1865. Cr. 3. Mr. Nall.  
 5325. American Novel to 1900. Cr. 3. Staff.  
 5335. Principles of Language. Cr. 3. Miss Green.  
 5381. Studies in Later English Romantics. Cr. 3. Mr. Roy.  
 630. Master's Report. Cr. 3. Staff.  
 631. Master's Thesis. Cr. 3. Staff.  
 731, 732. Research. Cr. 3 each. Staff.  
 831. Doctor's Dissertation. Cr. 3. Staff.

**Foreign Languages**

Theodor W. Alexander, Acting Head

*First Term***For Undergraduates****FRENCH**

141. A Beginning Course in French. Cr. 4. Mr. Simpson, Mr.  
 Bradford.  
 231. A Second Course in French. Cr. 3. Mr. Simpson.

**GERMAN**

141. A Beginning Course in German. Cr. 4. Mr. Alexander, Mr. Zyla.  
 233. Scientific German. Cr. 3. Mr. Alexander, Mr. Zyla.

**LATIN**

131. A Beginning Course in Latin. Cr. 3. Mr. Christiansen.  
 231. A Second Course in Latin. Cr. 3. Mr. Christiansen.

### SPANISH

- 141. A Beginning Course in Spanish. Cr. 4. Staff, Mr. Buergo.
- 231. A Second Course in Spanish. Cr. 3. Mr. Maxwell.
- 333. Introduction to Spanish American Life and Literature. Cr. 3. Mrs. Tucker.

#### For Undergraduates and Graduates

- 4318. Readings in Contemporary Spanish Literature. Cr. 3. Mrs. Tucker.

#### For Graduates

- 5312. Studies in Spanish and Spanish American Literature. Cr. 3. Mr. Maxwell.
- 541-542. Summer Language Institute. Cr. 8. Mr. Strehli, Mr. Oberhelman, Staff. Open only to participants in the NDEA Summer Language Institute. Conducted in Tucuman, Argentina, June 20 - Aug. 14.
- 630. Master's Report. Cr. 3. Staff.
- 631. Master's Thesis. Cr. 3. Staff.

### Second Term

#### For Undergraduates

### FRENCH

- 142. A Beginning Course in French. Cr. 4. Mr. Hardee, Mr. Bradford.
- 232. A Second Course in French. Cr. 3. Mr. Hardee.

### GERMAN

- 142. A Beginning Course in German. Cr. 4. Mr. Alexander, Mr. Zyla.
- 234. Scientific German. Cr. 3. Mr. Alexander.

### LATIN

- 132. A Beginning Course in Latin. Cr. 3. Mr. Jirgensons.
- 232. A Second Course in Latin. Cr. 3. Mr. Jirgensons.

### SPANISH

- 142. A Beginning Course in Spanish. Cr. 4. Mr. Buergo, Mr. Greene, Staff.
- 232. A Second Course in Spanish. Cr. 3. Staff.
- 334. Introduction to Spanish American Life and Literature. Cr. 3. Mrs. Tucker.

#### For Undergraduates and Graduates

- 4319. Readings in Contemporary Spanish Literature. Cr. 3. Mrs. Tucker.
- 4328-4329. Spanish Civilization. Cr. 6. Mr. Hamilton. Offered in Mexico City.

#### For Graduates

- 630. Master's Report. Cr. 3. Staff.
- 631. Master's Thesis. Cr. 3. Staff.

## Geosciences

F. Alton Wade, Head

### First Term

#### For Undergraduates

- 143. Physical Geology. Cr. 4. 9 lec. hrs., 6 lab. hrs. Mr. Mattox, Mr. Shurbet, Mr. Wade.



**For Undergraduates and Graduates**

363. Field Geology. Cr. 6. Given in the field. (Write to Head of Department for particulars.) Mr. Harris.

**For Graduates**

535. Advanced Work in Specific Fields. Cr. 3. Staff.  
 536. Advanced Work in Specific Fields. Cr. 3. Staff.  
 563. Advanced Field Geology. Cr. 6.  
 631. Master's Thesis. Cr. 3. Staff.

*Second Term***For Undergraduates**

143. Physical Geology. Cr. 4. 9 lec. hrs, 6 lab. hrs. Mr. Mattox.  
 144. Historical Geology. Cr. 4. 9 lec. hrs., 6 lab. hrs. Mr. Jacka, Mr. Arper.

**For Graduates**

535. Advanced Work in Specific Fields. Cr. 3. Staff.  
 536. Advanced Work in Specific Fields. Cr. 3. Staff.  
 631. Master's Thesis. Cr. 3. Staff.

**Government**

J. William Davis, Head

*First Term***For Undergraduates**

233. American Government, Organization. Cr. 3. Staff.  
 234. American Government, Functions. Cr. 3. Staff.

**For Undergraduates and Graduates**

332. European Political Ideas. Cr. 3. Mr. Lawrence.  
 335. International Politics. Cr. 3. Mr. Fuller.  
 438. Local Administration. Cr. 3. Mr. Jackson.  
 3315. Government and Business. Cr. 3. Mr. Welborn.

**For Graduates**

536. Seminar in International Relations. Cr. 3. Mr. Kyre.  
 5335. Political Ideologies and Institutions. Cr. 3. Mr. Davis.  
 531. Reading and Research. Cr. 3. Mr. Davis.  
 631. Master's Thesis. Cr. 3. Staff.

*Second Term***For Undergraduates**

233. American Government, Organization. Cr. 3. Staff.  
 234. American Government, Functions. Cr. 3. Staff.

**For Undergraduates and Graduates**

333. American Political Ideas. Cr. 3. Mr. Davis.  
 338. Personnel and Fiscal Administration. Cr. 3. Mr. Jackson.  
 433. Modern Political Ideas. Cr. 3. Mr. Oden.  
 435. International Organizations. Cr. 3. Mr. Mack.  
 4311. Far Eastern Government. Cr. 3. Mr. Fuller.

**For Graduates**

531. Reading and Research. Cr. 3. Mr. Davis.  
 536. Seminar in International Relations. Cr. 3. Mr. Lawrence.  
 631. Master's Thesis. Cr. 3. Staff.

## Health, Physical Education, and Recreation — Men

Ramon W. Kireilis, Head

### *First Term*

For Undergraduates  
(Men)

1113. Individual Activities.  
     Beginning Bowling. Cr. 1. Mr. Kireilis.  
     Beginning Golf. Cr. 1. Mr. Jennings.  
     Beginning Swimming. Cr. 1. Mr. Philbrick.
1114. Dual Activities.  
     Beginning Tennis. Cr. 1. Mr. Philbrick.

For Undergraduates and Graduates  
(Men)

4321. Methods and Techniques of Driver Education. Cr. 3. Mr. Cobb.  
 4326. Safety Education. Cr. 3. Mr. Cobb.

For Graduates  
(Men)

531. Administration of Physical Education. Cr. 3. Mr. Kireilis.  
 532. Supervision of Physical Education. Cr. 3. Mr. Kireilis.  
 535. Techniques of Research in Health, Physical Education, and  
     Recreation. Cr. 3. Mr. Berger.  
 536. Problems in Health, Physical Education, and Recreation. Cr. 3.  
     Mr. Berger.  
 5324. Organization and Administration of Intramural Sports. Cr. 3.  
     Mr. Philbrick.  
 630. Master's Report. Cr. 3. Mr. Berger.  
 631. Master's Thesis. Cr. 3. Mr. Berger.

### *Second Term*

For Undergraduates  
(Men)

1113. Individual Activities.  
     Beginning Bowling. Cr. 1. Mr. Segrest.  
     Beginning Golf. Cr. 1. Mr. Cobb.  
     Beginning Swimming. Cr. 1. Mr. Cobb.
1114. Dual Activities.  
     Beginning Tennis. Cr. 1. Mr. Segrest.

For Graduates  
(Men)

533. Facilities for Physical Education. Cr. 3. Mr. Kireilis.

## Health, Physical Education, and Recreation — Women

### *First Term*

Sue A. Rainey, Acting Head

For Undergraduates  
(Women)

114. Individual and Dual Activities. Cr. 1. Miss Purdy, Miss Rainey.

## (Men and Women)

230. Methods of Teaching Health in the Elementary and Secondary Schools. Cr. 3. Miss Scahill.  
 233. Methods of Teaching Physical Education in the Elementary Schools. Cr. 3. Miss Rainey.

For Graduates  
(Men and Women)

531. Administration of Physical Education. Cr. 3. Miss Scahill.

*Second Term*

Dorothy B. Hoyle, Acting Head

For Undergraduates  
(Women)

111. Body Conditioning. Cr. 1. Mrs. Aker.  
 114. Individual and Dual Activities. Cr. 1. Mrs. Cobb, Miss Hoyle.

## (Men and Women)

113. Rhythmic Activities. Cr. 1. Mrs. Aker.  
 230. Methods of Teaching Health in the Elementary and Secondary Schools. Cr. 3. Miss Hoyle.  
 233. Methods of Teaching Physical Education in the Elementary Schools. Cr. 3. Mrs. Cobb.

**History and Anthropology**

David M. Vigness, Head

*First Term***HISTORY**

## For Undergraduates

131. Development of Civilizations. Cr. 3. Mr. Robbert.  
 231. History of the United States to 1865. Cr. 3. Mr. Woods, Mr. Brunson, Mr. Holcomb, Mr. Anderson, Mr. Glasrud, Mr. Halseth, Mr. Rogers.  
 232. History of the United States since 1865. Cr. 3. Mr. Rice,  
 330. History of Texas. Cr. 3. Mr. Wallace.

## For Undergraduates and Graduates

436. Social and Cultural History of the United States to 1865. Cr. 3. Mr. Graves.  
 4327. The American Frontier to 1803. Cr. 3. Mr. Wallace.  
 4349. The British Empire. Cr. 3. Mr. Collins.  
 4362. Medieval Civilizations. Cr. 3. Mr. Robbert.  
 5315. Problems in American History. Cr. 3. Mr. Woods.  
 5316. Problems in European History. Cr. 3. Mr. Collins.  
 631. Master's Thesis. Cr. 3. Staff.  
 634. Seminar in American History. Cr. 3. Mr. Graves.  
 731. Doctoral Research. Cr. 3. Staff.  
 831. Doctoral Dissertation. Cr. 3. Staff.

*Second Term*

## For Undergraduates

132. Development of Civilizations. Cr. 3. Staff.  
 231. History of the United States to 1865. Cr. 3. Mr. Holden.  
 232. History of the United States since 1865. Cr. 3. Mr. Donovan, Mr. DeLaRue, Mr. Reese, Mr. Aston, Mr. Heiting, Mr. Whisenhunt.

- 330. History of Texas. Cr. 3. Mr. Reese.
- 4324. Mexico since Independence. Cr. 3. Mr. Vigness.
- 4365. The French Revolution and Napoleon. Cr. 3. Mr. Blaisdell.
- 531. Proseminar in Texas History. Cr. 3. Mr. Holden.
- 5315. Problems in American History. Cr. 3. Mr. Donovan.
- 5335. History Appreciation for Teachers. Cr. 3. Mr. Blaisdell.
- 631. Master's Thesis. Cr. 3. Staff.
- 731. Doctoral Research. Cr. 3. Staff.
- 831. Doctoral Dissertation. Cr. 3. Staff.

## Journalism

W. E. Garets, Head

### *First Term*

For Undergraduates and Graduates

- 411. Special Problems in Journalism. Cr. 1-3. Mr. Garets.
- 432. Journalism for the High School Teacher. Cr. 3. Mr. Garets.

## Mathematics and Astronomy

### *First Term*

Emmett Hazlewood, Head

For Undergraduates

- 130. \*Algebra. Cr. 3. Mr. King, Mr. Lee. (For students planning to take not more than 6 credit hours of mathematics.)
- 131. \*\*Trigonometry. Cr. 3. Mrs. Carpenter, Miss McGlothlin.
- 132. Analytic Geometry. Cr. 3. Mr. Willingham, Mrs. Strandtmann.
- 133. \*\*College Algebra. Cr. 3. Mrs. Strandtmann, Mr. Duke.
- 135. \*Mathematics in General Education. Cr. 3. Mr. Hazlewood.
- 138. Mathematics of Finance. Cr. 3. Mr. Smith, Miss McGlothlin.
- 231. Calculus I. Cr. 3. Mr. Megibben, Mr. Atchison.
- 232. Calculus II. Cr. 3. Mr. Willingham, Mr. Duke.
- 331. Calculus III. Cr. 3. Mr. Hazlewood, Mr. Fuller, Mr. Heineman.
- 332. Differential Equations. Cr. 3. Mr. Hildebrand.
- 335. Higher Mathematics for Engineers and Scientists. Cr. 3. Mr. Kazi, Mr. Woodward.
- 337. College Geometry. Cr. 3. Mrs. Carpenter.

For Undergraduates and Graduates

- 431. Teaching of Mathematics in the Secondary Schools. Cr. 3. Mr. Heineman.
- 434. Advanced Calculus. Cr. 3. Mr. Bassam.
- 437. Theory of Numbers. Cr. 3. Mr. Megibben.
- 4316. Introductory Point-Set Topology. Cr. 3. Mr. Hildebrand.
- 4318. Finite Mathematical Structure. Cr. 3. Mr. Kazi.
- 4324. Matrix Theory. Cr. 3. Mr. Woodward.

For Graduates

- 531. Advanced Problems. Cr. 3. Staff.
- 533. Advanced Topics in Analysis. Cr. 3. Mr. Bassam.

\* Not more than 3 semester hours' credit, applicable to a degree, may be obtained from 130, 133, 135, or any combination thereof.

\*\* Beginning students who plan to major in the science, mathematics, or engineering field, but are unable to obtain advanced standing in college algebra and trigonometry, should take Math. 131 and Math. 133 during the summer terms.

5312. Functions of a Complex Variable. Cr. 3. Mr. Atchison.  
 630. Master's Report. Cr. 3. Staff.  
 631. Master's Thesis. Cr. 3. Staff.

### Second Term

Robert Parker, Acting Head

#### For Undergraduates

130. \*Algebra. Cr. 3. Mrs. Kennedy, Mr. Scott. (For students planning to take not more than 6 credit hours of mathematics.)  
 131. \*\*Trigonometry. Cr. 3. Mrs. Kennedy.  
 132. Analytic Geometry. Cr. 3. Mr. Hilton.  
 133. \*\*College Algebra. Cr. 3. Mr. Lee.  
 136. Elements of Mathematical Systems. Cr. 3. Mr. Hilton.  
 138. Mathematics of Finance. Cr. 3. Mr. Scott.  
 231. Calculus I. Cr. 3. Mrs. Roberts, Mr. Kennedy.  
 232. Calculus II. Cr. 3. Mr. Kennedy, Mrs. Roberts.  
 233. Linear Algebra. Cr. 3. Mr. Gilmore.  
 331. Calculus III. Cr. 3. Mr. Shurbet, Staff.  
 332. Differential Equations. Cr. 3. Mr. Morton.  
 335. Higher Mathematics for Engineers and Scientists. Cr. 3. Staff.  
 336. Higher Mathematics for Engineers and Scientists. Cr. 3. Mr. Shurbet

#### For Undergraduates and Graduates

432. Advanced Differential Equations. Cr. 3. Mr. Morton.  
 435. Advanced Calculus. Cr. 3. Mr. Bassam.  
 438. Solid Analytic Geometry. Cr. 3. Mr. Parker.  
 439. Vector Analysis. Cr. 3. Mr. Gilmore.

#### For Graduates

531. Advanced Problems. Cr. 3. Mr. Parker.  
 538. Foundations of Mathematics. Cr. 3. Mr. Fuller.  
 5313. Functions of a Complex Variable. Cr. 3. Mr. Bassam.  
 630. Master's Report. Cr. 3. Staff.  
 631. Master's Thesis. Cr. 3. Staff.

## Music

### First Term

Gene Hemmle, Head

#### APPLIED MUSIC

(Private Instruction)

#### For Undergraduates

- 115, 116, 125, 126, 215, 216, 225, 226, 235, 236, 315, 316, 325, 326, 345, 346.  
 Cr. 1-4.  $\frac{3}{4}$  to  $1\frac{1}{2}$  lec. hrs.,  $7\frac{1}{2}$  to 21 prac. hrs.  
 Baritone, Clarinet, Cornet, Flute, French Horn, Organ, Piano, Saxophone, Trombone, Tuba, Viola, Voice, Bassoon, Oboe, Violin, Cello, Double Bass. Mr. Brittin, Mr. Humiston, Mr. Maynard, Mr. Mastroianni, Mr. Catuogno, Mr. Ellsworth, Mr. Osborne.

\* Not more than 3 semester hours' credit, applicable to a degree, may be obtained from 130, 133, 135, or any combination thereof.

\*\* Beginning students who plan to major in the science, mathematics, or engineering field, but are unable to obtain advanced standing in college algebra and trigonometry, should take Math. 131 and Math. 133 during the summer terms.

For Undergraduates and Graduates

- 425, 426, 435, 436, 445, 446. Cr. 1-4.  $\frac{3}{4}$  to  $\frac{1}{2}$  lec. hrs.,  $7\frac{1}{2}$  to 21 prac. hrs. Baritone, Clarinet, Cornet, Flute, French Horn, Organ, Piano, Saxophone, Trombone, Tuba, Viola, Voice, Bassoon, Oboe, Violin, Cello, Double Bass. Mr. Brittin, Mr. Humiston, Mr. Maynard, Mr. Mastroianni, Mr. Catuogno, Mr. Ellsworth, Mr. Osborne.

MUSIC LITERATURE

For Undergraduates

131. Introduction to Music Literature. Cr. 3. Mr. Hemmle.

For Graduates

532. Choral Repertoire. Cr. 3. Mr. Kenney.

MUSIC EDUCATION

For Undergraduates

232. Elementary Music Principles, Practices, and Materials. Cr. 3. Mr. Elliott.

For Graduates

531. Seminar in Music Education. Cr. 3. Mr. Hemmle.  
532. Choral Music Workshop. Cr. 3. Mr. Kenney.  
533. Instrumental Music Workshop. Cr. 3. Mr. Killion.  
534. Marching Band Direction. Cr. 3. Mr. Killion.  
630. Master's Report. Cr. 3. Staff.  
631. Master's Thesis. Cr. 3. Staff.

MUSIC THEORY

For Undergraduates

234. Intermediate Theory. Cr. 3. Mr. Humiston.

*Second Term*

Raymond Elliott, Acting Head

APPLIED MUSIC

(Private Instruction)

For Undergraduates

- 115, 116, 125, 126, 215, 216, 225, 226, 235, 236, 315, 316, 325, 326, 345, 346, Cr. 1-4.  $\frac{3}{4}$  to  $1\frac{1}{2}$  lec. hrs.,  $7\frac{1}{2}$  to 21 prac. hrs.  
Baritone, Clarinet, Cornet, Flute, French Horn, Organ, Piano, Saxophone, Trombone, Tuba, Viola, Voice, Bassoon, Oboe, Violin, Cello, Double Bass. Mr. Tolley, Mr. Humiston, Mr. Maynard, Mr. Mastroianni, Mr. Catuogno, Mr. Ellsworth, Mr. Osborne.

For Undergraduates and Graduates

- 425, 426, 435, 436, 445, 446. Cr. 1-4.  $\frac{3}{4}$  to  $1\frac{1}{2}$  lec. hrs.,  $7\frac{1}{2}$  to 21 prac. hrs.  
Baritone, Clarinet, Cornet, Flute, French Horn, Organ, Piano, Saxophone, Trombone, Tuba, Viola, Voice, Bassoon, Oboe, Violin, Cello, Double Bass. Mr. Tolley, Mr. Humiston, Mr. Maynard, Mr. Mastroianni, Mr. Catuogno, Mr. Ellsworth, Mr. Osborne.

MUSIC LITERATURE

For Undergraduates

132. Introduction to Music Literature. Cr. 3. Mr. Ellsworth.

## MUSIC EDUCATION

## For Undergraduates

232. Elementary Music Principles, Practices, and Materials. Cr. 3.  
Mr. Elliott.

## For Graduates

530. Seminar in Music Education. Cr. 3. Mr. Elliott.  
630. Master's Report. Cr. 3. Staff.  
631. Master's Thesis. Cr. 3. Staff.

## MUSIC THEORY

## For Graduates

531. Seminar in Music Theory. Cr. 3. Mr. Humiston.

## Physics

H. C. Thomas, Head

## First Term

## For Undergraduates

141. General Physics. Cr. 4. 9 lec. hrs., 9 lab. hrs. Staff.  
143. Principles of Physics I. Cr. 4. 9 lec. hrs., 9 lab. hrs. Staff.  
241. Principles of Physics II. Cr. 4. 9 lec. hrs., 9 lab. hrs. Staff.  
335. Electricity and Magnetism. Cr. 3. 9 lec. hrs. Staff.  
337. Introduction to Atomic Physics. Cr. 3. 9 lec. hrs. Staff.

## For Graduates

530. Advanced Topics. Cr. 3. 9 lec. hrs. Staff.  
631. Master's Thesis. Cr. 3. Staff.

## Second Term

## For Undergraduates

142. General Physics. Cr. 4. 9 lec. hrs., 9 lab. hrs. Staff.  
241. Principles of Physics II. Cr. 4. 9 lec. hrs., 9 lab. hrs. Staff.  
242. Principles of Physics III. Cr. 4. 9 lec. hrs., 9 lab. hrs. Mr. Mann.  
336. Electricity and Magnetism. Cr. 3. 9 lec. hrs. Staff.  
338. Introduction to Nuclear Physics. Cr. 3. 9 lec. hrs. Staff.

## For Graduates

530. Advanced Topics. Cr. 3. 9 lec. hrs. Staff.  
631. Master's Thesis. Cr. 3. Staff.

## Psychology

Theodore Andreychuk, Head

## First Term

## For Undergraduates

130. Introduction to Psychology. Cr. 3. Mr. Ray.  
230. General Psychology. Cr. 3. Mr. Strong.  
331. Child Psychology. Cr. 3. Miss Boyd.  
333. Statistical Methods. Cr. 3. Mr. White.  
335. Adolescent Psychology. Cr. 3. Mr. Kuntz, Mr. Sweney.  
435. Abnormal Psychology. Cr. 3. Mr. Kovnar.  
436. Personality Development. Cr. 3. Mr. Ray.  
4317. The Psychology of Learning. Cr. 3. Mr. White.  
4326. Individual Problems Course. Cr. 3. Staff.

**For Graduates**

- 532. Problems in Psychology. Cr. 3. Mr. Andreychuk.
- 5314. Tests and Measurements. Cr. 3. Mr. Sweney.
- 5316. Introduction to Adjustment Counseling and Psychotherapy.  
Cr.3. Mr. Andreychuk.
- 5331. Internship in Counseling and Guidance. Cr. 3. Miss Cobb.
- 5332. Internship in Counseling and Guidance. Cr. 3. Mr. Andreychuk.
- 5335. Advanced Projective Techniques. Cr. 3. Mr. Kovnar.
- 631. Master's Thesis. Cr. 3. Staff.
- 731-732. Doctoral Research. Cr. 3 each. Staff.
- 831. Doctoral Dissertation. Cr. 3. Staff.

*Second Term*

**For Undergraduates**

- 130. Introduction to Psychology. Cr. 3. Mr. Strong.
- 230. General Psychology. Cr. 3. Mr. White.
- 331. Child Psychology. Cr. 3. Miss Boyd.
- 332. Mental Health. Cr. 3. Mr. Heaberlin.
- 335. Adolescent Psychology. Cr. 3. Mr. Heaberlin.
- 434. Introduction to Social Psychology. Cr. 3. Mr. Sweney.
- 4326. Individual Problems Course. Cr. 3. Staff.

**For Graduates**

- 532. Problems in Psychology. Cr. 3. Mr. Ray.
- 534. Practicum in Psychological Testing. Cr. 3. Mr. Kovnar.
- 5317. Techniques of Counseling. Cr. 3. Mr. Sweney.
- 5318. Practicum in Techniques of Counseling. Cr. 3. Mr. Ray.
- 5321. Seminar in Learning Theory. Cr. 3. Mr. White.
- 5331. Internship. Cr. 3. Miss Cobb.
- 5332. Internship. Cr. 3. Mr. Ray.
- 631. Master's Thesis. Cr. 3. Staff.
- 731-732. Doctoral Research. Cr. 3 each. Staff.
- 831. Doctoral Dissertation. Cr. 3. Staff.

## Sociology

W. G. Steglich, Head

*First Term*

**For Undergraduates**

- 230. Introduction to Sociology. Cr. 3. Staff.
- 233. Current Social Problems. Cr. 3. Staff.

**For Undergraduates and Graduates**

- 4314. Social Stratification. Cr. 3. Mr. Davies.

*Second Term*

**For Undergraduates**

- 230. Introduction to Sociology. Cr. 3. Staff.
- 235. The Sociology of Marriage. Cr. 3. Staff.

**For Graduates**

- 531. Sociological Theory. Cr. 3. Mr. Steglich.
- 631. Master's Thesis. Cr. 3. Mr. Steglich.



## Speech

### *First Term*

William K. Ickes, Acting Head

#### **For Undergraduates**

- 133. Voice and Diction. Cr. 3. Staff.
- 239. Speech Development for Personal Competence. Cr. 3. Mrs. Maxey.
- 331. Speech Anatomy and Physiology. Cr. 3. Mr. Ickes.
- 338. Business and Professional Speech. Cr. 3. Mrs. Maxey.
- 3313-3314. European Theater Tour. (Offered by extension). Cr. 6. Mr. Larson.

#### **For Undergraduates and Graduates**

- 433. Introduction to Hearing Problems. Cr. 3. Staff.
- 4321, 4322. Supervised Clinical Practice in Speech Correction. Cr. 3. each. Mr. Ickes.

#### **For Graduates**

- 531. Studies and Problems in Speech. Cr. 3. Mr. Ashby.
- 5312. Stuttering—Theories and Therapies. Cr. 3. Staff.
- 631. Master's Thesis. Cr. 3. Mr. Ashby.

### *Second Term*

P. Merville Larson, Head

#### **For Undergraduates**

- 133. Voice and Diction. Cr. 3. Staff.
- 239. Speech Development for Personal Competence. Cr. 3. Mrs. Maxey.
- 338. Business and Professional Speech. Cr. 3. Mrs. Maxey.

#### **For Undergraduates and Graduates**

- 4318. Functional Speech Disorders. Cr. 3. Mr. Ickes.
- 4321, 4322. Supervised Clinical Practice in Speech Correction. Cr. 3. each. Mr. Ickes.
- 4325. Directing School Speech Activities. Cr. 3. Mr. Larson.

#### **For Graduates**

- 531. Studies and Problems in Speech. Cr. 3. Mr. Ashby.
- 5313. Aural Rehabilitation. Cr. 3. Staff.
- 5335. Basic Speech for Elementary Teachers. Cr. 3. Mr. Larson.
- 631. Master's Thesis. Cr. 3. Mr. Ashby.

## Biblical Literature

S. L. Harris, Head

### *First Term*

#### **For Undergraduates**

- 211. The Bible, Its Origin and Growth. Cr. 1. Mr. Cleveland.
- 213. Book of James. Cr. 1. Mr. Harris.
- 221. The Book of John. Cr. 2. Mr. Harris.
- 222. Book of Revelation. Cr. 2. Mr. Cleveland.

### *Second Term*

#### **For Undergraduates**

- 211. The Bible, Its Origin and Growth. Cr. 1. Mr. Crouch.
- 224. Book of Hebrews. Cr. 2. Mr. Crouch.

## School of Business Administration

Course offerings in every department of the School of Business Administration will comprise the curricula for the 1964 summer session. The entering freshman may find it advantageous to begin his degree program at this time, while the advanced student may wish to take the opportunity to accelerate the completion of his degree requirements. For these reasons, programs of study are provided at all levels from freshman through graduate standing.

At the graduate level the School of Business Administration provides courses during the summer in each of its departments. Programs are offered in all departments leading to the Degree of Master of Business Administration, in the Department of Economics leading to the Master of Arts, and in the Department of Business Education and Secretarial Administration leading to the Master of Education.

### Accounting

Reginald Rushing, Head

#### *First Term*

##### **For Undergraduates**

- 234. Elementary Accounting I. Cr. 3. 7½ lec. hrs., 3 lab. hrs. Mr. Green.
- 246. Machine Accounting. Cr. 4. 7½ lec. hrs., 7½ lab. hrs. Mrs. Eaves.
- 334. Intermediate Accounting I. Cr. 3. Mr. Norwood.
- 336. Principles of Cost Accounting. Cr. 3. Mr. Roberts.

##### **For Undergraduates and Graduates**

- 430. Income Tax Accounting. Cr. 3. Mr. Chisholm.
- 434. Advanced Accounting I. Cr. 3. Mr. Roberts.
- 437. Principles of Auditing. Cr. 3. Mr. Taylor.

##### **For Graduates**

- 631. Master's Thesis. Cr. 3. Mr. Norwood.

#### *Second Term*

##### **For Undergraduates**

- 234. Elementary Accounting I. Cr. 3. 7½ lec. hrs., 3 lab. hrs. Mr. Cox.
- 235. Elementary Accounting II. Cr. 3. 7½ lec. hrs., 3 lab. hrs. Mr. Green.
- 246. Machine Accounting. Cr. 4. 7½ lec. hrs., 7½ lab. hrs. Mrs. Eaves.
- 331. Managerial Accounting. Cr. 3. Mr. Roberts.
- 332. Analysis of Financial Statements. Cr. 3. Mr. Chisholm.
- 335. Intermediate Accounting II. Cr. 3. Mr. Cox.

##### **For Undergraduates and Graduates**

- 431. Advanced Income Tax Accounting. Cr. 3. Mr. Chisholm.
- 435. Advanced Accounting II. Cr. 3. Mr. Rushing.

## For Graduates

531. Controllership. Cr. 3. Mr. Roberts.  
 631. Master's Thesis. Cr. 3. Mr. Rushing.

**Business Administration***First Term*

## For Graduates

631. Master's Thesis. Cr. 3. Staff.

*Second Term*

## For Graduates

631. Master's Thesis. Cr. 3. Staff.

**Business Education and  
Secretarial Administration**

William R. Pasewark, Head

*First Term*

## BUSINESS EDUCATION

## For Graduates

535. Seminar in Business Education. Cr. 3. Mr. Gilliam.  
 537. Research and Improvement of Instruction in Office Procedures.  
 Cr. 3. Mr. Pasewark.

## SECRETARIAL ADMINISTRATION

## For Undergraduates

327. Report Writing. Cr. 2. Mr. Pasewark.  
 333. Business Correspondence. Cr. 3. Mr. Gilliam.

*Second Term*

## SECRETARIAL ADMINISTRATION

## For Undergraduates

327. Report Writing. Cr. 2. Mr. Holtmann, Mr. Watt.  
 333. Business Correspondence. Cr. 3. Mr. Holtmann, Mr. Watt.

**Economics and Finance**

Robert L. Rouse, Head

*First Term*

## ECONOMICS

## For Undergraduates

133. The Development of American Business and Economic Institutions  
 I. Cr. 3. Mr. Anderson, Mr. Connell.  
 231. Principles of Economics I. Cr. 3. Mr. Anderson, Mr. Wittman.  
 326. Research in Economics and Business. Cr. 2. Mr. Clover.  
 331. Economics of Business Enterprise. Cr. 3. Mr. Wittman.

**For Graduates**

- 531. Economic Research. Cr. 3. Mr. Clover.
- 5335. Human Geography. Cr. 3. Mr. Clover.
- 631. Master's Thesis. Cr. 3. Staff.

**FINANCE**

**For Undergraduates**

- 231. Personal Finance. Cr. 3. Mr. Abel.
- 331. Corporation Finance. Cr. 3. Mr. Weir.
- 333. Principles of Money, Banking, and Credit. Cr. 3. Mr. Hartley.
- 335. General Insurance. Cr. 3. Mr. Abel.

**For Undergraduates and Graduates**

- 431. The Federal Reserve System. Cr. 3. Mr. Rouse.

**For Graduates**

- 531. Current Financial Problems. Cr. 3. Staff.
- 533. Seminar in Investment Analysis. Cr. 3. Mr. Rouse.
- 534. Seminar. Cr. 3. Mr. Berry, Mr. Weir.
- 631. Master's Thesis. Cr. 3. Staff.

**BUSINESS LAW**

**For Undergraduates**

- 338. Business Law I. Cr. 3. Mr. Reese.
- 339. Business Law II. Cr. 3. Mr. Reese.

*Second Term*

**ECONOMICS**

**For Undergraduates**

- 134. The Development of American Business and Economic Institutions II. Cr. 3. Mr. Stewart, Mr. Witt.
- 232. Principles of Economics II. Cr. 3. Mr. Walker, Mr. Witt.
- 237. Economic Geography. Cr. 3. Mr. Wittman.

**For Undergraduates and Graduates**

- 437. Current Economic Problems. Cr. 3. Mr. Walker.

**For Graduates**

- 533. Advanced Macro-Economic Analysis. Cr. 3. Mr. Levy.
- 631. Master's Thesis. Cr. 3. Mr. Levy.

**FINANCE**

**For Undergraduates**

- 331. Corporation Finance. Cr. 3. Mr. Hartley.
- 334. Credits and Collections. Cr. 3. Mr. Hartley.

**For Undergraduates and Graduates**

- 433. Corporate Financial Problems and Cases. Cr. 3. Mr. Berry.
- 434. Investments. Cr. 3. Mr. Berry.

**For Graduates**

- 531. Current Financial Problems. Cr. 3. Staff.
- 631. Master's Thesis. Cr. 3. Staff.

**BUSINESS LAW**

**For Undergraduates**

- 338. Business Law I. Cr. 3. Mr. Dale.
- 339. Business Law II. Cr. 3. Mr. Dale.

## Management

### *First Term*

Wm. G. Cain, Acting Head

#### For Undergraduates

- 110. Professional Careers in Business. Cr. 1. Mr. Robinson.
- 331. Industrial Management. Cr. 3. Mr. Luchsinger.
- 333. Labor Problems. Cr. 3. Mr. Cain.
- 334. Personnel Administration. Cr. 3. Mr. Luchsinger.
- 335. Purchasing, Stores and Inventory Control. Cr. 3. Mr. Cain.

#### For Graduates

- 631. Master's Thesis. Cr. 3. Staff.

### *Second Term*

F. L. Mize, Head

#### For Undergraduates

- 331. Industrial Management. Cr. 3. Mr. Hubbard.

#### For Undergraduates and Graduates

- 433. Labor Legislation. Cr. 3. Mr. Mize.

#### For Graduates

- 631. Master's Thesis. Cr. 3. Mr. Mize.

## Marketing

John A. Ryan, Head

### *First Term*

#### For Undergraduates

- 332. Principles of Marketing. Cr. 3. Mrs. Luchsinger.
- 334. Principles of Advertising. Cr. 3. Mr. Ryan.
- 335. Principles of Retailing. Cr. 3. Mrs. Luchsinger.
- 346. Introduction to Business Statistics. Cr. 4. 7½ lec. hrs., 7½ lab. hrs. Mr. Hewitt.

#### For Undergraduates and Graduates

- 433. Marketing Problems. Cr. 3. Mr. Amason.

#### For Graduates

- 536, 537. Individual Study in Marketing I, II. Cr. 3 each. Mr. Ryan.
- 631. Master's Thesis. Cr. 3. Mr. Ryan.

### *Second Term*

#### For Undergraduates

- 332. Principles of Marketing. Cr. 3. Mr. Ryan.
- 339. Principles of Salesmanship. Cr. 3. Mr. Golden.
- 346. Introduction to Business Statistics. Cr. 4. 7½ lec. hrs., 7½ lab. hrs. Mr. Golden.

#### For Graduates

- 534. Seminar in Marketing. Cr. 3. Mr. Ryan.
- 536, 537. Individual Study in Marketing I, II. Cr. 3 each. Mr. Ryan.
- 631. Master's Thesis. Cr. 3. Mr. Ryan.

## School of Engineering

The summer program in the School of Engineering makes available to the student course work at all levels from freshman through graduate. Although complete curricula in all phases of engineering will not be available, the offerings are planned to assist students wishing to accelerate their course of study.

Effective in the fall semester of 1962, all freshmen entering the College were required to complete the Scholastic Aptitude Test (SAT) offered by the College Entrance Examination Board. All students planning to major in engineering or architecture, construction option, (not those planning to take advertising art and design or architecture, design option) are advised to take, also, the Advanced Achievement Test in Mathematics (AM) if they wish to qualify for beginning their first year of mathematics with analytics and calculus. This achievement test is used to determine which students are qualified for the freshman programs shown in the various departmental curricula. All summer school students who make low scores or who do not take the tests will be scheduled for variation of the Alternate Freshman Year. As students beginning in the summer normally must meet academic requirements effective for the fall semester, they are encouraged to take these tests prior to enrolling for the summer session. Information concerning these examinations may be obtained from the College Entrance Examination Board, Box 592, Princeton, New Jersey.

All the work of the freshman year will be available if the demand for these courses is sufficient. The entering freshman will devote his time to first-semester courses. Any high school graduate who desires to study engineering, but who does not meet requirements due to a low score on the achievement test, or who is deficient in algebra or trigonometry, could with profit attend the summer session in order to remove these conditions.

Students intending to transfer to this College to study engineering may find the first summer session of value in order to correct irregularities in their schedules or to take prerequisite subjects. Any freshman or transfer student who desires information not contained in this bulletin should consult the current General Catalog, or write to the Dean of Admissions for information on entrance or to the Dean of Engineering in regard to his course of study.

## Architecture and Allied Arts

Nolan E. Barrick, Head

### *First Term*

### ALLIED ARTS

For Undergraduates and Graduates

3314. Commercial Illustration I. Cr. 3. 27 lab. hrs. Mr. Howze.  
421. Art Workshop. Cr. 2. 18 lab. hrs. Mr. Howze.

### ARCHITECTURE

For Undergraduates

151. Principles of Design, Grade I. Cr. 5. 5 lec. hrs. 27 lab. hrs. Staff.

*Second Term*

## ALLIED ARTS

## For Undergraduates and Graduates

421. Art Workshop. Cr. 2. 18 lab. hrs. Mr. Gibbons.  
 5335. Art in the Modern World. Cr. 3. 7½ lec. hrs. Mrs. Sasser.

## ARCHITECTURE

## For Undergraduates

152. Principles of Design, Grade I. Cr. 5. 5 lec. hrs., 27 lab. hrs. Staff.

**Chemical Engineering**

A. J. Gully, Head

*First Term*

## For Undergraduates

330. Engineering Material Science. Cr. 3. Mr. Gully.  
 3311. Chemical Engineering I. Cr. 3. Mr. Gully.

## For Graduates

5343. Reaction Kinetics. Cr. 3. Mr. Oberg.  
 631. Master's Thesis. Cr. 3. Staff.

*Second Term*

## For Undergraduates

330. Engineering Materials Science. Cr. 3. Mr. Gully.  
 3312. Chemical Engineering II. Cr. 3. Mr. Gully.

## For Graduates

5313. Transport Phenomena — Diffusion Processes. Cr. 3. Mr. Oberg.  
 631. Master's Thesis. Cr. 3. Staff.

**Civil Engineering**

Keith R. Marmion, Head

*First Term*

## For Undergraduates

233. Statics. Cr. 3. Mr. Decker, Mr. Parrish, Mr. Sanger.  
 332. Dynamics. Cr. 3. Mr. Marmion, Mr. Parrish.  
 3311. Mechanics of Solids. Cr. 3. Mr. Keho.  
 (Formerly 333)  
 3351. Mechanics of Fluids. Cr. 3. Mr. Whetstone.  
 (Formerly 339)  
 4341. Structural Design I. Cr. 3. Mr. Sanger.  
 (Formerly 433)

## For Graduates

5331. Advanced Work in Specific Fields. Cr. 3. Staff.  
 630. Master's Report. Cr. 3. Staff.  
 631. Master's Thesis. Cr. 3. Staff.

*Second Term***For Undergraduates**

- 231. Plane Surveying. Cr. 3. Mr. Parrish.
- 233. Statics. Cr. 3. Mr. Decker, Mr. Sanger.
- 332. Dynamics. Cr. 3. Mr. Marmion, Mr. Parrish.
- 3311. Mechanics of Solids. Cr. 3. Mr. Sanger, Mr. Whetstone.  
(Formerly 333)
- 4343. Reinforced Concrete Structures I. Cr. 3. Mr. Keho.  
(Formerly 431)
- 5331. Advanced Work in Specific Fields. Cr. 3. Staff.
- 630. Master's Report. Cr. 3. Staff.
- 631. Master's Thesis. Cr. 3. Staff.

**Electrical Engineering**

H. A. Spuhler, Head

*First Term***For Undergraduates**

- 231. Principles of Electrical Engineering I. Cr. 3. Mr. Seacat.
- 231. \*Principles of Electrical Engineering I. Cr. 3. Staff.
- 3311. Electronics I. Cr. 3. Mr. Houston.
- 3321. Circuit Theory I. Cr. 3. Mr. Houston.
- 3323. Methods of Circuit Analysis. Cr. 3. Mr. Seacat.
- 4121. Electrical Engineering Seminar. Cr. 1. Staff.
- 4332. Special Experimental Problems in Electrical Engineering. Cr. 3.  
Mr. Adkins.
- 4351. Energy Conversion I. Cr. 3. Mr. Spuhler.

**For Graduates**

- 5311. Automatic Control Systems. Cr. 3. Staff.
- 5313. Two-Port Network Theory and Solid-State Electronics. Cr. 3.  
Mr. Spuhler.
- 5325. Information Theory. Cr. 3. Mr. Griffith.
- 630. Master's Report. Cr. 3. Staff.

*Second Term***For Undergraduates**

- 232. Principles of Electrical Engineering II. Cr. 3. Mr. Stenis.
- 232. \*Principles of Electrical Engineering II. Cr. 3. Staff
- 3312. Electronics II. Cr. 3. Mr. Easter.
- 3322. Circuit Theory II. Cr. 3. Mr. Stenis.
- 4121. Electrical Engineering Seminar. Cr. 1. Staff.
- 4332. Special Experimental Problems in Electrical Engineering. Cr. 3.  
Mr. Adkins.
- 4352. Energy Conversion II. Cr. 3. Mr. Spuhler.

**For Graduates**

- 5312. Automatic Control Systems. Cr. 3. Staff.
- 5314. Two-Port Network Theory and Solid-State Electronics. Cr. 3.  
Mr. Griffith.
- 630. Master's Report. Cr. 3. Staff.

\* Non-major course.



## Industrial Engineering and Engineering Drawing

R. A. Dudek, Head

### *First Term*

#### INDUSTRIAL ENGINEERING

##### For Undergraduates

- 311. Computer Programming Techniques. Cr. 1. Staff.
- 3315. Industrial Statistics I. Cr. 3. Staff.
- 3311. Principles of Industrial Engineering I. Cr. 3. Mr. Ayoub.
- 3341. Work Control I. Cr. 3. Mr. Jenkins.
- 417. Industrial Statistics Problem Laboratory. Cr. 1. Staff.

##### For Graduates

- 5311. Analysis Techniques for Management. Cr. 3. Staff.
- 631. Master's Thesis. Cr. 3. Mr. Dudek.

#### ENGINEERING GRAPHICS

##### For Undergraduates

- 131. Engineering Graphics I. Cr. 3. Mr. Graham.

### *Second Term*

#### INDUSTRIAL ENGINEERING

##### For Undergraduates

- 311. Computer Programming Techniques. Cr. 1. Staff.
- 3321. Principles of Industrial Engineering II. Cr. 3. Staff.
- 3325. Industrial Statistics II. Cr. 3. Staff.
- 3334. Work Analysis and Design II. Cr. 3. Mr. Jenkins.
- 4121. Industrial Engineering Seminar. Cr. 1. Mr. Dudek.
- 417. Industrial Statistics Problem Laboratory. Cr. 1. Staff.

##### For Graduates

- 5111. Industrial Engineering Case Analysis. Cr. 1. Mr. Ayoub.
- 5212. Industrial Engineering Case Analysis. Cr. 2. Mr. Ayoub.
- 631. Master's Thesis. Cr. 3. Mr. Dudek.

#### ENGINEERING GRAPHICS

##### For Undergraduates

- 132. Engineering Graphics II. Cr. 3. Mr. Lindenmeier.

## Mechanical Engineering

L. J. Powers, Head

### *First Term*

##### For Undergraduates

- 237. Metals Engineering. Cr. 3. Mr. Martin.
- 3212. Heat Power I. Cr. 2. Mr. Reis.
- 3313. Dynamics. Cr. 3. Mr. Powers.
- 3315. Machine Elements II. Cr. 3. Mr. Martin.
- 3321. Engineering Thermodynamics. Cr. 3. Mr. Coon, Mr. Reis.

##### For Undergraduates and Graduates

- 4212. Thermodynamics. Cr. 2. Mr. Davenport.
- 4314. Fluid Dynamics. Cr. 3. Mr. Coon, Mr. Helmers.

**For Graduates**

5312. Mechanical Vibrations. Cr. 3. Mr. Davenport.  
630. Master's Report. Cr. 3. Mr. Helmers.  
631. Master's Thesis. Cr. 3. Mr. Davenport.

*Second Term*

**For Undergraduates**

3213. Heat Power II. Cr. 2. Mr. Reis.  
3315. Machine Elements II. Cr. 3. Mr. Martin.  
3317. Physical Metallurgy. Cr. 3. Mr. Martin.  
3321. Engineering Thermodynamics. Cr. 3. Mr. Reis, Mr. Helmers.

**For Undergraduates and Graduates**

4213. Thermodynamics. Cr. 2. Mr. Helmers.  
4315. Heat and Mass Transfer. Cr. 3. Mr. Coon.  
4331. (Engineering 4331). Special Problems in Engineering. Cr. 3.  
Mr. Powers.

**For Graduates**

533. Heat Transmission. Cr. 3. Mr. Davenport.  
5331. Theoretical Studies in Advanced Topics. Cr. 3. Mr. Davenport.  
630. Master's Report. Cr. 3. Staff.  
631. Master's Thesis. Cr. 3. Staff.

## **Petroleum Engineering**

Philip Johnson, Acting Head

*First Term*

**For Undergraduates and Graduates**

4121. Engineering Seminar. Cr. 1. Staff.

*Second Term*

**For Undergraduates and Graduates**

4121. Engineering Seminar. Cr. 1. Staff.

## **School of Home Economics**

Course work in home economics is available to the beginner, to the undergraduate, and to the graduate, although greater emphasis is given in the summer to meeting the needs of graduate students.

In recognition of the increasing need on the part of graduate students for short courses, the School of Home Economics has provided a number of such courses and workshops. The courses carry varying semester-hour credit, depending upon length.

Detailed information is given in departmental listings in applied arts, clothing and textiles, food and nutrition, home economics education, and home and family life. Special short courses and workshops are described more fully in the Workshop and Short Course section of this bulletin.

## Applied Arts

Bill Lockhart, Head

### *First Term*

#### For Undergraduates

232. Crafts Survey. Cr. 3. Mr. Queen.  
337. Art in Elementary Education. Cr. 3. Mr. Kriwanek.

#### For Graduates

511. Advanced Applied Arts Unit. Cr. 1. (June 8-12) Mr. Kincaid, Miss Story.  
531. Special Problems. Cr. 3. (June 29-July 17) Mr. Lockhart.  
5335. Theory and Practice of Art for Elementary Teachers. Cr. 3. Mr. Lockhart.

### *Second Term*

#### For Undergraduates

131. Art Applied to Daily Living. Cr. 3. Mr. Hellberg.  
338. Art in Elementary Education. Cr. 3. Mr. Hellberg.

## Clothing and Textiles

Gene Shelden, Head

### *First Term*

#### For Undergraduates

131. Wardrobe Analysis and Construction. Cr. 3. Miss Gerlach.  
232. Dressmaker Tailoring and Design. Cr. 3. Mrs. Kinchen.

#### For Undergraduates and Graduates

411. Special Problems. Cr. 1. Miss Shelden.

#### For Graduates

531. Special Problems in Clothing and Textiles. Cr. 3. Miss Shelden.  
631. Master's Thesis. Cr. 3. Miss Shelden.

### *Second Term*

#### For Undergraduates and Graduates

411. Special Problems. Cr. 1. Miss Shelden.

#### For Graduates

531. Special Problems in Clothing and Textiles. Cr. 3. Miss Shelden.  
631. Master's Thesis. Cr. 3. Miss Shelden.

## Food and Nutrition

Mina Lamb, Head

### *First Term*

#### For Undergraduates

111. School Lunch Workshop. Cr. 1. (June 8-12; June 13-18) Mrs. Holden.

#### For Graduates

515. Special Aspects of Foods. Cr. 1. (June 15-19) Mrs. Lamb; (June 22-27) Miss Rivers.

534. Advanced Problems in Human Nutrition. Cr. 3. (June 15-July 3) Mrs. Lamb.  
631. Master's Thesis. Cr. 3. Mrs. Lamb.

*Second Term*

**For Undergraduates**

111. School Lunch Workshop. Cr. 1. (July 20-24) Miss Tinsley.

**For Undergraduates and Graduates**

411. Problems in Human Nutrition. (July 20-24) Miss Tinsley.  
421. Advanced Food Production Management. Cr. 2. (July 13-24) Mrs. McPherson.

**For Graduates**

515. Special Aspects of Foods. Cr. 1. (July 20-25) Miss Tinsley.  
5335. Principles and Applications of Nutrition for Elementary Teachers. Cr. 3. Mrs. Boren.

## **Home Economics Education**

L. Ann Buntin, Head

*First Term*

**For Undergraduates**

331. Philosophy and Principles of Vocational Home Economics. Cr. 3. Miss Buntin.

**For Graduates**

514. Specific Problems in Teaching Home Economics. Cr. 1. (June 15-19) Miss Buntin.  
534. Techniques of Research in Home Economics. Cr. 3. (July 1-18) Miss Drake.

*Second Term*

**For Undergraduates and Graduates**

432. Methods of Teaching Home Economics. Cr. 3. Miss Williamson.

**For Graduates**

514. Specific Problems in Teaching Home Economics. Cr. 1. (July 20-24; July 27-31) Miss Williamson.  
532. Curriculum Development in Home Economics. Cr. 3. (Aug. 3-22) Miss Buntin.

## **Home and Family Life**

Estelle Wallace, Acting Head

*First Term*

**CHILD DEVELOPMENT AND FAMILY RELATIONS**

**For Undergraduates**

233. Child Growth and Development. Cr. 3. Mrs. Wallace.  
235. Marriage. Cr. 3. Mr. King.

**HOME MANAGEMENT**

333. Household Equipment. Cr. 3. Miss Drew.

**For Undergraduates and Graduates**

432. Home Management Residence. Cr. 3. (Residence) Miss Wood.  
 432. Home Management Residence. Cr. 3. (Non-Residence)  
 Miss Drew.

*Second Term*

**CHILD DEVELOPMENT AND FAMILY RELATIONS**

**For Undergraduates**

231. The Infant. Cr. 3. Mrs. Wallace.

**For Undergraduates and Graduates**

433. Family Relations. Cr. 3. Mrs. Edwards.

**For Graduates**

534. Problems in Child Development. Cr. 3 (July 20-Aug. 7). Mrs.  
 Wallace.

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\* On academic leave Feb. 10, 1964, through Aug. 31, 1964.

\*\* Appointment effective Feb. 10, 1964.

\*\*\* Appointment effective Feb. 10, 1964, through Aug. 31, 1964.

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 FRED DURNFORD RIGBY, Ph.D., Professor of Mathematics, and Dean of the Graduate School

## 66 TEXAS TECHNOLOGICAL COLLEGE

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 B. W. ASTON, B.S., History  
 JOSE ELOY BUERGO, B.A., Foreign Languages  
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 JEFFRY LANE GREENE, B.A., Foreign Languages  
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 THOMAS JAMES HEITING, M.A., History  
 BOB CHARLES HOLCOMB, M.A., History  
 LOYE YVORNE HOLLIS, M.Ed., Education  
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LEON CROUCH, M.A., Biblical Literature, Under Auspices of the Churches of Christ

SIDNEY LEWIS HARRIS, M.A., Biblical Literature, Under Auspices of the Baptist  
General Convention of Texas

## **Special Consultant**

ELMER KNOWLES, Consultant in Home and Family Life

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## INSTRUCTIONAL SCHOOLS AND DEPARTMENTS

### Agriculture

Agricultural Economics  
Agricultural Education  
Agricultural Engineering  
Agronomy and Range Management  
Animal Husbandry  
Dairy Industry  
Park Administration, Horticulture  
and Entomology

### Arts and Sciences

Biblical Literature  
Biology  
Chemistry  
Education and Philosophy  
English  
Foreign Languages  
Geosciences  
Government  
Health, Physical Education,  
and Recreation for Men  
Health, Physical Education,  
and Recreation for Women  
History and Anthropology  
Journalism  
Mathematics  
Music  
Physics  
Psychology  
Sociology  
Speech

### Business Administration

Accounting  
Business Education and  
Secretarial Administration  
Economics and Finance  
Management  
Marketing

### Engineering

Architecture and Allied Arts  
Chemical Engineering  
Civil Engineering  
Electrical Engineering

Industrial Engineering and  
Engineering Drawing  
Mechanical Engineering  
Petroleum Engineering  
Textile Engineering

### Home Economics

Applied Arts  
Clothing and Textiles  
Food and Nutrition  
Home Economics Education  
Home and Family Life  
Child Development and  
Family Relations  
Home Management

### Graduate School

Degrees offered:

Master of Arts  
Master of Business  
Administration  
Master of Education  
Master of Science  
Master of Science in Agriculture  
Master of Science in Chemical  
Engineering  
Master of Science in Civil  
Engineering  
Master of Science in Electrical  
Engineering  
Master of Science in Industrial  
Engineering  
Master of Science in Mechanical  
Engineering  
Master of Science in  
Home Economics  
Doctor of Education  
Doctor of Philosophy

### Reserve Officers Training Corps

Air Force  
Army

### Extension

Correspondence Courses  
Extension Classes

## MAJOR AREAS OF STUDY

### Agriculture

Agricultural Economics  
Agricultural Education  
Agricultural Engineering  
Agricultural Science  
Animal Industry  
Crops  
Dairy Husbandry  
Dairy Industry  
Entomology  
Horticulture  
Park Administration  
Poultry Husbandry  
Range Management  
Soils

### Arts and Sciences

Anthropology  
Art  
Bacteriology  
Biology  
Botany  
Chemistry  
Elementary Education  
English  
Entomology  
French  
Geochemistry  
Geology  
Geophysics  
German  
Government  
Health and Physical Education  
History  
Journalism  
Mathematics  
Music  
Music Education  
Philosophy  
Physics  
Piano  
Pre-Law  
Pre-Medical  
Psychology  
Recreation  
Sociology  
Spanish  
Speech

Speech Correction  
Voice  
Zoology

### Business Administration

Accounting  
Advertising  
Business Education  
Economics  
Finance  
Industrial Management  
International Trade  
Marketing  
Office Management  
Personnel Management  
Pre-Law  
Public Administration  
Retailing  
Secretarial Administration  
Traffic Management

### Engineering

Advertising Art and Design  
Architecture, Construction or Design  
Chemical Engineering  
Civil Engineering  
Electrical Engineering  
Engineering Physics  
Industrial Engineering  
Mechanical Engineering  
Petroleum Engineering  
Textile Engineering

### Home Economics

Applied Arts  
Clothing and Textiles  
Food and Nutrition  
General Home Economics  
Home Economics Education  
Home and Family Life  
Child Development and  
Family Relations  
Home Management

### Interdepartmental

Bilingual-Secretarial  
Latin American Area Studies