

BULLETIN
of
TEXAS TECHNOLOGICAL COLLEGE

VOL. XXXIII

JUNE, 1957

NO. 6

THE
GRADUATE SCHOOL

1957-1958 and 1958-1959



Issued in January, February, March, April, May, June, August, October, and December of each year by the College.

Entered as second-class matter, December 24, 1924, at the Post Office, at Lubbock, Texas, under the Act of August 24, 1912.

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COLLEGE CALENDARS

These calendars are subject to change without notice, as circumstances may require.

Fall Semesters

	1957	1958
Registration begins	Sept. 18*	Sept. 17*
Instruction begins	Sept. 23	Sept. 22
Last day to apply at the Graduate Office for the Aptitude Test (GRE) in the Institutional Testing Program	Sept. 28**	Sept. 24**
Administration of the Aptitude Test in the Institutional Testing Program, (1 P.M.)	Oct. 26	Oct. 25
Instruction suspends for Thanksgiving (10 P.M.)	Nov. 27	Nov. 26
Instruction resumes (8 A.M.)	Dec. 2	Dec. 1
Instruction suspends for Christmas (noon)	Dec. 21	Dec. 20
	1958	1959
Instruction resumes (8 A.M.)	Jan. 3	Jan. 5
Final Examinations begin	Jan. 18	Jan. 17
Final Examinations end	Jan. 25	Jan. 24

Spring Semesters

Registration begins	Jan. 30*	Jan. 29*
Instruction begins	Feb. 3	Feb. 2
Last day to apply at the Graduate Office for the Aptitude Test (GRE) in the Institutional Testing Program	Feb. 8**	Feb. 7**
Administration of the Aptitude Test in the Institutional Testing Program (1 P.M.)	March 8	March 7
Last day for degree candidates to file at the Dean's Office the "Statement of Intention to Graduate"	March 13	March 12
Last day for degree candidates to order academic regalia at the College Bookstore	April 1	March 31

* In the fall of 1957 and the spring of 1958, students enrolling only for evening and Saturday classes may register during the regular registration period, starting on Sept. 18 and Jan. 30, respectively, or on certain other periods specified in the General Catalog. However, beginning with the fall of 1958, all registration for evening and Saturday classes must be completed prior to the first meeting of such classes.

** The Aptitude Test of the Graduate Record Examination is administered at other times (and at many centers) in the National Program for Graduate School Selection. Applicants should write the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey, for information about the National Program.

Last day to pay the \$5 graduation fee at the Business Office	April 1	March 31
Instruction suspends for Easter (10 P.M.)	April 3	March 26
Instruction resumes (8 A.M.)	April 8	March 31
Last day to submit theses and dissertations to the Dean	May 21	May 20
Final examinations begin	May 21	May 20
Final examinations end	May 28	May 27
President's Reception (3:30 to 5 P.M.)	June 1	May 31
	1958	1959
Baccalaureate Sermon (8 P.M.)	June 1	May 31
Commencement Exercises (8 P.M.)	June 2	June 1

Summer Sessions

Detailed calendars are shown in the Summer Session Bulletins.

First Terms

Registration	June 6	June 5
Instruction begins	June 7	June 6

Second Terms

Registration	July 18	July 17
Instruction begins	July 19	July 18

OFFICE OF THE DEAN OF THE GRADUATE SCHOOL

Room 251, Administration Building

WILLIAM BRYAN GATES, Ph.D., Dean

MISS MARIE MILES, M.A., Administrative Assistant

MRS. IRENE F. TEMPLE, Secretary

MISS MARY RANDAL, Student Assistant

MISS DOROTHY BRINKERHOFF, Student Assistant

GENERAL REGULATIONS APPLICABLE TO ALL STUDENTS

RESPONSIBILITY OF THE STUDENT

Every graduate student and every prospective graduate student is expected to make himself thoroughly familiar with the regulations of the Graduate School and the requirements for degrees. Failure to follow the regulations and requirements almost inevitably results in complications for which the Graduate School cannot assume responsibility.

To facilitate communication, graduate students are expected to notify the Graduate Office of their changes of address. They should remember that all details connected with their work center in the Graduate Office, not in the office of a department head or dean of an undergraduate school.

Texas Technological College reserves the right to decline to accept any one whose admission would not be to the best interest of the applicant or the College, and to drop from its rolls any graduate student who fails to conform to the regulations of the college or the conventions of good citizenship.

As has been indicated in the General Catalog for a number of years, Texas Technological College also reserves the right to institute and make effective, after due notice and during the course of the student's work toward a degree, any new ruling which may be necessary for the good of the College and therefore, ultimately, of recipients of degrees from this institution.

By information set forth from time to time in bulletins, printed supplements, and individual letters, some changes in requirements have been announced as effective after certain specified dates, regardless of when an individual began graduate work here. All who have been previously enrolled in the Graduate School and who contemplate finishing their work should ascertain their present status by a careful study of the latest issue of the Graduate Bulletin or by addressing an inquiry to the Dean of the Graduate School.

ADMISSION REQUIREMENTS

Graduate study involves more than a continuation of undergraduate work and the satisfaction of mere routine requirements. Admission is therefore restricted to students who by their previous work and their accomplishment on an entrance examination demonstrate unusual intellectual ability and the power of independent thought and investigation.

Such selection is for the maintenance of high standards of graduate work and also for the benefit of students in helping them decide early whether a graduate degree should be their goal.

STEPS TO BE TAKEN IN SEEKING ADMISSION

Every one contemplating graduate study at Texas Technological College is expected to submit certain credentials at least two months prior to his proposed enrollment.

First, he must submit to the Registrar and Director of Admissions complete transcripts of all previous college work and file a formal application for general admission to the Graduate School.

Second, he must submit to the Dean of the Graduate School a record of his standing on the Aptitude Test of the Graduate Record Examinations. For this record to reach the Dean at least two months prior to his proposed enrollment, the applicant will have to take the Aptitude Test well in advance. Details about this test are given on Page 9 below.

REQUIREMENTS FOR UNCONDITIONAL ADMISSION
TO THE GRADUATE SCHOOL

Unconditional admission is prerequisite for assistantships, fellowships, and scholarships.

A. On the Master's Degree Level:

- (1) A Bachelor's Degree from an accredited college or university.
- (2) A grade-point average of at least 1.50* on all undergraduate work exclusive of required courses in physical education or military science and elementary work in band, chorus, and so on.
- (3) An Aptitude Test score in the upper three quartiles.

B. On the Doctor's Degree Level:

- (1) A Bachelor's Degree from an accredited college or university. The possession of a Master's Degree is desirable but not required.
- (2) A grade-point average of at least 1.75* on all undergraduate work exclusive of required courses in physical education or military science and elementary work in band, chorus, and so on.
- (3) An Aptitude Test score in the upper two quartiles.

ADMISSION AS UNCLASSIFIED STUDENTS

These regulations apply particularly to students entering after Sept. 1, 1957, but those who have already enrolled as unclassified students are urged to satisfy all entrance requirements as soon as possible if they contemplate working toward a degree.

GROUP I. *Students Wishing to Work Toward a Degree:* Applicants who have satisfied requirements (1) and (2) under either A or B above but who have not taken the Aptitude Test may be provisionally admitted at their own risk. Such students will take the Aptitude Test at the first administration of it after their enrollment. Applicants thus provisionally admitted to courses will be allowed one semester (or

* The grade-point average will be computed by the following formula: For each semester hour, 3 points will be allowed for a grade of A, 2 points for a grade of B, and 1 point for a grade of C.

approximately five months) to satisfy all requirements for unconditional admission. Those failing to do so in the allotted time will continue to be listed as unclassified students, and none of their work will be credited toward a degree in the Graduate School.

GROUP II. *Students NOT Wishing To Work Toward a Degree:* Applicants who have satisfied requirements (1) and (2) under either A or B above and who do NOT wish to work toward a degree in the Graduate School may take any courses for which they are qualified, and they are not required to take the Aptitude Test. However, if a student admitted under these provisions should later decide to work toward a graduate degree, he must satisfy all of the requirements for unconditional admission, and none of his work completed prior to the satisfaction of these requirements will be credited toward a degree in the Graduate School.

ARRANGEMENTS FOR TAKING THE APTITUDE TEST OF THE GRADUATE RECORD EXAMINATIONS

NATIONAL PROGRAM FOR GRADUATE SCHOOL SELECTION

All of the Graduate Record Examinations, of which the Aptitude Test is one, are prepared and scored by the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey. In the "National Program for Graduate School Selection," ETS administers its tests at many centers throughout the United States and several foreign countries four times a year (usually in January, April, July, and November).

Prospective examinees should request of ETS a booklet of information and an application blank. Applications for a particular test should reach ETS about three weeks in advance of the test date.

Applicants for admission to the Graduate School of Texas Technological College should take the Aptitude Test in time for their scores to be sent to the Dean of the Graduate School at least two months prior to their proposed enrollment. ETS sends such reports only at the request of the examinee.

No special preparation in advance is necessary for the Aptitude Test. The administration of it requires approximately three hours. The fee set by ETS is currently \$8, payable directly to the Educational Testing Service.

INSTITUTIONAL TESTING PROGRAM AT TEXAS TECHNOLOGICAL COLLEGE

At present, Texas Technological College is administering the Aptitude Test three times a year (usually in March, July, and October) to its own students in large groups. Under this "Institutional Testing Program," all arrangements for the Aptitude Test must be made at the Office of the Dean of the Graduate School at least a month before a particular test date. The fee in the "Institutional Testing Program" is \$4. These arrangements are restricted to students actually enrolled. All prospective students are required to take the Aptitude Test in the "National Program for Graduate School Selection" as outlined above.

THE GRADUATE SCHOOL AND THE PREPARATION OF TEACHERS

Recognizing its obligation to assist in meeting the unprecedented demand for well-prepared teachers, the Graduate School of Texas Technological College has recently reconsidered some of its programs with a view to broadening the content and providing more systematic preparation for teachers. This emphasis is an extension of the services of the Graduate School, not a substitute for any of its customary functions.

All of the various degrees available in this Graduate School are indicated in other portions of this Bulletin, but of particular interest to prospective high school and junior college teachers is the non-thesis program leading to the degree of Master of Arts in Teaching. For persons looking toward college professorships or high-level public school positions, the Graduate School offers the degree of Doctor of Philosophy with a major in Chemistry, English, History, or Psychology, and the degree of Doctor of Education with a major in Education.

Graduate assistantships, available in several departments, give students an opportunity to work with a senior professor, whom they assist with his grading and research and under whose supervision they occasionally conduct a class. A teaching fellowship enables the graduate student to do actual teaching under the guidance of the head of his major department or other senior professors. Dormitory counselors gain experience under the direction of the professional staff of the Dean of Student Life.

GRADUATE DEGREES AND TEACHERS' CERTIFICATES

As indicated above, the Graduate School is much concerned about the preparation of teachers, but prospective students should understand that the material in this Bulletin applies only to requirements for graduate degrees, not to requirements for teachers' certificates. If a student wishes to work toward a graduate degree and a certificate at the same time, his advisers will, so far as practicable, plan a program to serve this dual purpose, but the Graduate School can give no assurance that an acceptable program for a graduate degree will also satisfy the requirements for a certificate.

GRADUATE ADVISERS

The Dean of the Graduate School is the general adviser for all graduate students, but so far as particular courses are concerned, a student is counseled by the head of his major and minor departments or by other professors designated for such counseling.

Advisement in the Professional Education Curriculum leading to teacher certification is the responsibility of the Department of Education. Advisement in the various teaching majors and minors is the responsibility of the appropriate subject matter departments.

ELIGIBILITY FOR ENROLLMENT

MEMBERS OF THE FACULTY AND STAFF

Full-time members of the faculty and staff of Texas Technological College may not enroll for courses without special permission from the President of the College. In registering for graduate work they become subject to the usual regulations of the Graduate School.

However, no member of the faculty with a rank above instructor is eligible to receive a graduate degree from Texas Technological College.

UNDERGRADUATE STUDENTS TAKING WORK FOR GRADUATE CREDIT

An undergraduate student who is within 9 semester hours of graduation and who has at least a B average in his major and minor subjects may enroll for courses carrying graduate credit, subject to the approval of the dean of the undergraduate school in which he is enrolled and of the Dean of the Graduate School. This approval must be obtained on special forms at the time of registration. No course taken without this approval may ever be counted for graduate credit.

An undergraduate who is permitted to enroll for graduate work as indicated above is required to take the Aptitude Test of the Graduate Record Examinations at the first administration of it after his enrollment for graduate credit—if he has not taken it before.

An undergraduate taking courses for graduate credit is not allowed* to register for more than 15 hours in a semester or 6 hours in a summer term, including graduate and undergraduate work, and he is expected to complete his undergraduate requirements within the academic year in which he first enrolls for graduate work. An undergraduate may not receive credit for more than 12 semester hours of work completed prior to his actual admission to the Graduate School.

UNDERGRADUATE STUDENTS TAKING GRADUATE COURSES
FOR UNDERGRADUATE CREDIT

In exceptional circumstances, a senior with a high record may, upon the written recommendation of the department concerned, enroll for some of the courses listed "For Graduates," but each case will be considered individually.

PREREQUISITES IN THE MAJOR AND MINOR SUBJECTS

For a graduate *major*, an applicant must have completed, or must take as undergraduate leveling work, a minimum of 18 semester hours (including at least 12 hours on the junior or senior level) in his proposed major subject, and he must be accepted by the department concerned.

For a graduate *minor*, an applicant must have completed, or must take as undergraduate leveling work, a minimum of 9 semester hours (including at least 6 hours on the junior or senior level) in his proposed minor subject or partly in this subject and partly in a closely allied field, and he must be accepted by the department concerned.

Any department may specify additional prerequisites for either a major or a minor if they are deemed necessary and may require an applicant to undergo an examination before his acceptance.

Departmental acceptance of an applicant for the Master's Degree under the provisions outlined above is indicated by the signature of the department head or his representative on the student's "Preliminary Outline of Work for the Master's Degree," with a list of courses to be taken as leveling work if such work is to be required.

For applicants for the doctorate, a letter from the department head to the Dean of the Graduate School is necessary to indicate the department's acceptance of the applicant.

In the early stages of work, either for the Master's Degree or for the Doctor's Degree, such acceptance as that indicated above is purely provisional and in no sense constitutes admission to candidacy for a graduate degree.

In exceptional circumstances, a student lacking the formal prerequisites for a graduate *minor*, as explained above, may be provisionally accepted without leveling work provided that he demonstrates, at the beginning of his work, adequate preparation for it by means of an examination in the particular field in which he proposes to have a graduate minor. This examination may be oral or written or both at the discretion of the department administering it.

A student attempting to qualify for a graduate minor under the provisions of the preceding paragraph must be recommended in writing by the department(s) concerned and must be approved by the Dean of the Graduate School for the work proposed.

A student having a "split minor" must satisfy the requirements in each of the fields involved.

So far as possible, all undergraduate leveling work should be completed and other deficiencies removed before enrollment for graduate work.

RANK OF COURSES

Any course listed in this Bulletin may be taken for graduate credit, but in those numbered in the 300 and 400 series, the graduate student must do additional work beyond that required of undergraduates. Courses numbered in the 500 series are for graduate students.

Approximately half of the work credited toward the Master's Degree should be in courses designated for graduate students. Most of the work credited toward the Doctor's Degree should be in courses of this type.

DEAN'S APPROVAL OF COURSES

No course of any type may count toward a graduate degree unless it forms part of a logical plan acceptable to the major and minor departments and unless registration for it was approved by the Dean of the Graduate School.

DISTINCTION BETWEEN COURSE CREDIT AND RESIDENCE CREDIT

Requirements for graduate degrees involve two types of credit:

- (1) Course Credit, which is expressed in terms of semester hours, and

(2) Residence Credit, which is expressed in terms of weeks, months, or years of residence.

In this Bulletin, the semester-hour value of each course is indicated just after the title of the course.

Residence Credit is allowed for work done on the campus of Texas Technological College or for certain types of courses (theses, field courses, problems, practicums, internships, individual study, or any other special type of course) when offered at a place and under circumstances specifically established by the department and approved by the Graduate Council in advance of the offering of the course.

As much as 12 weeks of residence credit toward the Master's Degree may be earned in evening and Saturday classes that meet on the campus, but work completed in these classes does not reduce the minimum residence requirements for the doctorate.

Residence Credit is not allowed for extension work.

Work completed at another graduate school will not reduce the minimum residence requirements for a Master's Degree at Texas Technological College.

Minimum residence requirements for the Master's Degree and the Doctor's Degree will be found in the appropriate sections of this Bulletin.

AMOUNT OF WORK PERMITTED

A full graduate load is 12 hours in a semester or 6 hours in a summer term. The maximum enrollment in the Graduate School is 15 hours in a semester or 6 hours in a summer term.

For teaching fellows, assistants, or others employed in part-time positions on or off the campus, the permissible load will be determined by the Dean and the head of the student's major department.

For teachers and others employed in full-time duties on or off the campus, the maximum enrollment is for 3 hours in any term or semester if the work is for graduate credit.

Any correspondence courses which the student may be carrying to remove undergraduate deficiencies and any extension work for which he may be enrolled, whether for graduate credit or not, will be counted as a part of the total load in the particular term or semester.

The only exception to these regulations pertaining to persons in full-time positions is that they may sometimes be permitted to enroll also for a course in Government to satisfy the state law or for a course in a foreign language to satisfy the requirements for a degree. Such courses, naturally, do not carry graduate credit.

REGISTRATION PROCEDURE

At the time of enrollment, the student should follow carefully the instructions furnished him by the Registrar. He should have his complete schedule of courses made out and approved by an official representative of his major department and then have each individual course approved by the department which offers it.

When all of these approvals have been secured and the complete registration card has been made out and checked, the student will take

his registration cards to the Graduate Office for the approval of the Dean of the Graduate School.

The registration cards of all graduate students and of all students enrolling for any graduate credit must be approved by the Dean of the Graduate School before the payment of fees.

The college regulations provide that any student who has a Bachelor's Degree and is not working toward a second Bachelor's Degree must register in the Graduate School.

ADDING OR DROPPING COURSES OR CHANGING SECTIONS

A graduate student may not drop or add a course or change a section without the approval of the Dean of the Graduate School. Requests for such changes must be made at the Graduate Office.

WITHDRAWING FROM COLLEGE

Graduate students who find it necessary to withdraw from college must apply at the Graduate Office for official withdrawal blanks. Students should keep in mind that notifying the instructor of their intention to withdraw is not sufficient. They should remember also that if they are enrolled for only one course and wish to drop it, the ordinary drop slip is not sufficient; they will have to go through the process of withdrawing from college. Students who quit a course without the proper formalities will receive F in it.

THE REQUIRED GRADE AVERAGE

The grade average required for graduation is at least a B in the major and the minor considered separately. In degree programs not including a regular graduate minor, all work taken outside of the major subject is treated as a minor in the determination of the grade average. No grade less than C will count for degree credit, but in the computation of the grade average, the grades on all courses which the candidate has taken for graduate credit will be included.

Work completed at another graduate school with a grade less than B will not be accepted, but grades on transferred work may not raise the grade average on courses completed at this college.

THE SYMBOLS I AND PR

The symbol Pr (in progress) may be given by a professor when a student's work in a thesis or other research course is satisfactorily in progress at the end of a term or semester. This symbol must be replaced by a regular letter grade before credit can be awarded for the work.

Pr is the symbol to be given for the first half of a thesis or dissertation (631 or 831), and no final grade is to be assigned for a thesis or dissertation (631-632 or 831-832) until the completed work has been approved by the advisory committee and accepted by the Dean of the Graduate School.

The symbol I (incomplete) may be given by the professor only when a student's work in a regular course has not been fully completed

by the end of a term or semester and only when the failure to complete the work has been due to causes beyond the student's control. This symbol must never be given in lieu of F. The responsibility of seeing that his record is cleared rests upon the student. When I stands for a year without action, it may become F.

PROFICIENCY IN ENGLISH

Early in his program for a degree, every graduate student is required to demonstrate proficiency in English composition. The responsibility for the test of this proficiency rests on the applicant's major department. Applicants for the Master's Degree must satisfy the requirement not later than the time of application for admission to candidacy. Applicants for the Doctor's Degree must satisfy the requirement not later than the time of the preliminary (departmental) examination.

A student found deficient in English may be required to complete satisfactorily certain specified courses in English usage (without credit) before he is considered for admission to candidacy for a graduate degree.

STATE OF TEXAS REQUIREMENT IN GOVERNMENT

By an act of the Texas Legislature, no student in a state-supported college or university may be certified for graduation without the completion of "at least six (6) hours for credit in the governments of the State of Texas or of the United States of America, or the equivalent in both." All graduate students are required to satisfy this regulation.

STATEMENT OF INTENTION TO GRADUATE

Not earlier than twelve weeks and not later than nine weeks prior to the proposed date of graduation, every candidate for a graduate degree must file at the Graduate Office a form known as the "Statement of Intention to Graduate."

No candidate's name will be placed on the "Tentative List of Graduates" for any commencement unless this statement has been received at the Graduate Office within the time limits specified.

This list is made up solely on the basis of the receipt of the "Statement of Intention to Graduate." Names are not automatically carried forward from one graduation to the next. Candidates who fail to graduate at the time designated in the "Statement of Intention" are required to file a supplementary notice for any subsequent graduation.

THE 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 of the College, regardless of major field of study or professional interest. It offers placement service to alumni and ex-students.

Employers, representing schools or business and industry, should file requests with the Placement Office for needed personnel. All details and coverage offered may be received from the Director, The Placement Service, Room 150, Administration Building.

RESTRICTION ON USE OF THESES AND DISSERTATIONS

Unpublished theses and dissertations submitted to the Graduate Faculty of Texas Technological College in partial fulfillment of the requirements for graduate degrees and deposited in the College Library are, as a rule, open to the public for reference purposes. However, extended quotations or summaries may be published only with the permission of the author and the Dean of the Graduate School.

DEPARTMENTAL REQUIREMENTS

Subject to the approval of the Dean of the Graduate School, a department may impose any additional requirements deemed necessary for its students.

REGULATIONS PERTAINING TO ALL MASTERS' DEGREES

These requirements are in addition to those listed under "General Regulations Applicable to All Students" and to those listed under "Special Requirements for Each of the Masters' Degrees."

PRELIMINARY OUTLINE OF WORK FOR THE MASTER'S DEGREE

Every applicant for any Master's Degree is required to file at the Graduate Office a "Preliminary Outline of Work." This form should be filed before registering for any graduate work; it *must* be filed within the first term or semester in which the student is enrolled in the Graduate School. Blanks for this purpose are to be obtained at the Graduate Office.

The "Preliminary Outline of Work" is to be filled out by official representatives of the major and minor departments, and all copies are to be left at the Graduate Office to be checked. An approved copy of the "Preliminary Outline of Work" will be mailed to the student. He is expected to keep it and to use it as the basis of future registrations until he has filed the "Application for Admission to Candidacy for the Master's Degree." Changes in the program as outlined may be made only with the approval of the department concerned and the Dean of the Graduate School.

Students should understand that enrolling for courses, either in residence or by extension, without having filed the "Preliminary Outline of Work" or enrolling for courses not listed in their program may result in loss of credit. The mere fact that a course carries graduate credit is no guarantee that it may be applied on a particular degree program.

MINIMUM RESIDENCE REQUIREMENTS FOR THE MASTER'S DEGREE

As indicated on Page 12, not every graduate courses carries residence credit. A graduate student may accumulate enough credit hours for a Master's Degree and still not be eligible for it because of his failure to satisfy the residence requirements. Students should, therefore, note carefully the following regulations pertaining to residence requirements.

The minimum residence requirement for any Master's Degree is a full academic year of graduate work or the equivalent in summer sessions. A student who wishes to complete the work for a Master's Degree in summer sessions alone must be in residence for at least 30 weeks, that is, for five 6-week summer terms.

As much as 12 weeks of residence credit toward the Master's Degree may be earned in evening and Saturday classes that meet on the campus.

Part-time enrollment, either in a long session or in a summer term, is evaluated on a fractional basis.

CREDIT FOR WORK COMPLETED ELSEWHERE AND BY EXTENSION

There is no automatic transfer of credit toward a graduate degree, but, in general, residence work completed at another accredited graduate school may be accepted for not more than 6 semester hours of course credit toward a Master's Degree. However, such work will not reduce the minimum residence requirement for the Master's Degree at Texas Technological College.

A maximum of 6 semester hours of approved extension work may be credited toward the course requirements for the Master's Degree, provided that the student has been admitted to this Graduate School prior to his enrollment for the extension work. Residence credit is not allowed for extension work.

Not more than 9 semester hours of any combination of extension work and work completed elsewhere may be credited toward the course requirements for the Master's Degree.

Graduate credit is never granted for courses taken by correspondence.

ADMISSION TO CANDIDACY FOR THE MASTER'S DEGREE

Admission to the Graduate School and registration for courses listed in the "Preliminary Outline" do not automatically admit a student to candidacy for a graduate degree. The term *candidacy* represents a definite stage in a graduate program.

An applicant for the Master's Degree must file a formal "Application for Admission to Candidacy" when he has completed 12 hours of graduate work. Blanks for this purpose are obtainable at the Graduate Office. This "Application" (sometimes called the final degree plan)

must be filed at the Graduate Office at least twelve weeks before a spring commencement at which the applicant proposes to graduate or at least nine weeks before a summer commencement.

Before the "Application for Admission to Candidacy" can be approved by the Dean and the applicant can be officially admitted to candidacy for the Master's Degree, the student must have satisfied the following requirements:

(1) He must have completed 12 hours of graduate work in residence;

(2) He must have demonstrated an adequate command of the English language as attested by his major department;

(3) He must have at least a B average on all graduate work which he has completed up to the date of the "Application";

(4) He must have satisfied the foreign language requirement if his program includes the requirement of a foreign language;

(5) The general field of his thesis must have been approved if his program includes the requirement of a thesis;

(6) His graduate work up to this point must be acceptable to his major and minor departments as attested by their approval of his program;

(7) His entire program must conform to the general regulations of the Graduate School and the requirements for his particular degree;

(8) If he was not admitted to candidacy for the Master's Degree before Sept. 1, 1955, he must have taken the Aptitude Test of the Graduate Record Examinations and must have made a score which is satisfactory to the Dean of the Graduate School.

Every student who files an "Application for Admission to Candidacy for the Master's Degree" will receive from the Graduate Office an approved copy of the application or a letter explaining why approval has been withheld.

The student is expected to preserve his copy of the "Application" and to use it (not the "Preliminary Outline") as his guide in all future registrations. He should have it with him at the time of conferences with the Dean or his professors. As he completes a course, he should check it off his program, and thus he can know exactly his standing at any time.

After an "Application for Admission to Candidacy" has been approved by the major and minor departments and by the Dean of the Graduate School, no changes may be made in the program without the approval of the department concerned and the Dean of the Graduate School.

TIME LIMIT ON WORK FOR THE MASTER'S DEGREE

At Texas Technological College all work for the Master's Degree must be completed within six years. However, for veterans, the period is extended by the length of time they spent in military service after having begun graduate study, but not to exceed five years.

THESIS REQUIREMENTS FOR THE MASTER'S DEGREE

A thesis is required for all Masters' Degrees except the Master of Arts in Teaching, which comprises 36 semester hours of graduate course work, and the Master of Education, for which two plans are available: 30 semester hours including a thesis and 36 hours without a thesis.

Research for the thesis is supervised by a committee appointed by the Dean on the recommendation of the heads of the major and minor departments. Primary responsibility for the direction of the thesis rests upon the chairman of the committee, but he and the student should consult frequently with the other members of the committee. All members share equally in the acceptance or rejection of the finished thesis. This committee is charged also with the responsibility of conducting the applicant's final examination for the Master's Degree.

There is now available at the College Bookstore *A Manual for Thesis Writing at Texas Technological College*, which has been adopted by the Graduate Council as the official guide for the preparation of all theses and dissertations at this institution. Every student planning to write a thesis is expected to secure a copy of the *Manual* and to follow it exactly at all stages of his work.

Three copies of the final version of every thesis or dissertation, prepared as indicated in the *Manual*, are required by the College. The ribbon copy and the first carbon copy are for the Library; the second carbon copy is for the student's major department.

When the final version of a thesis or dissertation has been accepted by the Dean of the Graduate School, the candidate will pay the fee for binding the various copies of his work. At present (1957), this fee is \$2 per copy.

FINAL EXAMINATION FOR THE MASTER'S DEGREE

Before being recommended for graduation, every candidate for the Master's Degree is required to pass a final comprehensive examination in his major subject and in his minor subject(s) unless he has a "Composite Minor" for the Master of Education, in which case the final comprehensive examination in his major subject and the regular class examinations in the courses comprising the "Composite Minor" will be considered adequate.

The final examination for the Master's Degree is normally given once each long session and once each summer; it may be oral or written or both, at the discretion of the departments concerned. A student who fails to pass this examination may repeat it but not until after an interval of at least four months.

It is the student's responsibility to confer with the chairman of his advisory committee or with the head of his major and minor departments regarding the time and place of the examination. No reminders will be sent him by the departments or by the Graduate Office.

SPECIAL REQUIREMENTS FOR EACH OF THE MASTERS' DEGREES

These requirements are in addition to those listed under "General Regulations Applicable to All Students" and to those listed under "Regulations Pertaining to all Masters' Degrees."

Students whose undergraduate preparation is not adequate for their particular graduate program will be required to complete the necessary undergraduate leveling work without graduate credit. In general, a student should remove all deficiencies before enrolling for graduate courses.

MASTER OF ARTS AND MASTER OF SCIENCE

PREREQUISITE: A Bachelor's Degree with sufficient undergraduate preparation in the major and minor subjects. (For the general statement about prerequisites for graduate majors and minors, see Page 11 of this Bulletin.)

REQUIRED: A minimum of 30 semester hours of work, from 18 to 24 of which, including the thesis (631 and 632), will be in the major subject.

The student may have one minor or two minors, but he must complete at least 6 semester hours in some subject which lies outside the major department and for which he has the prerequisites.

A reading knowledge of a foreign language is required. Satisfactory completion of at least 12 semester hours of undergraduate work in a single foreign language acceptable to the major department may be considered as satisfying this requirement unless a particular department requires that the applicant pass a reading examination in the language chosen. All reading examinations in foreign languages are given by the Department of Foreign Languages.

As a general policy, the Master of Arts Degree will be conferred on candidates who successfully complete majors in Education, English, Government, History, Psychology, Sociology, Spanish, or Speech; and the Master of Science Degree will be conferred on those who successfully complete majors in Biology, Chemistry, Geology, Mathematics, or Physics.

MASTER OF ARTS IN TEACHING

PREREQUISITES: A Bachelor's Degree with at least 45 semester hours of work in general education and adequate preparation in the major and minor subjects. (For the general statement about prerequisites for graduate majors and minors, see Page 11 of this Bulletin.)

REQUIRED: A minimum of 36 semester hours of graduate work, 18 of which will be in a single subject (ordinarily one of those to be taught in high school or junior college) and 18 of which will be in a minor program that may be divided 12-6 or 9-9 or 6-6-6. The amount of

work in Education varies from 6 hours to 12 hours, depending on the needs and background of the student.

Some departments participating in this program require their majors to have a background in foreign languages; others do not. Each student interested in the program should confer with the head of his proposed major department about this requirement.

Major work for the Master of Arts in Teaching is offered by the following departments: Biology, Chemistry, English, Foreign Languages, Government, History, Mathematics, Physics, Psychology, Sociology, and Speech.

MASTER OF BUSINESS ADMINISTRATION

MASTER OF SCIENCE IN AGRICULTURE

MASTER OF SCIENCE IN CHEMICAL ENGINEERING

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

MASTER SCIENCE IN HOME ECONOMICS

PREREQUISITE: A Bachelor's Degree with a major (or its equivalent) in the appropriate field.

REQUIRED: A minimum of 30 semester hours of work, including the thesis (631 and 632).

The requirements for these professional degrees differ slightly from those for the Master of Arts and the Master of Science. The requirement with respect to the major and minor is not quite so rigid; yet, in general, not all of the work for the Master's Degree may be in a single department. Not all of these programs require a reading knowledge of a foreign language; an applicant for one of these degrees should consult the head of his major department about this requirement.

Since the programs for these degrees may embody courses from several separate departments, the "Preliminary Outlines" and the "Applications for Admission to Candidacy" must bear the approval of the "Graduate Adviser" for the school in which the major work lies.

MASTER OF EDUCATION

PREREQUISITE: A Bachelor's Degree with adequate preparation in the major and minor subjects. (For the general statement about prerequisites for graduate majors and minors, see Page 11 of this Bulletin.)

For the Degree of Master of Education, a student may, with the approval of his advisers, choose either of the two plans outlined below, with a major in Education, Agricultural Education, Business Education, Health and Physical Education, Home Economics Education or Music Education.

Work in more than one of these fields of education is permitted, but the total amount of degree credit in any combination of them may not exceed 24 semester hours.

PLAN I. WITH THESIS. *REQUIRED:* A minimum of 30 semester hours of graduate work, 18 of which, including the thesis (631-632), will be in the major and 12 of which will be in a minor program outside the major. The minor program may consist of 12 semester hours in one subject or of 6 semester hours in each of two subjects.

PLAN II. WITHOUT THESIS. *REQUIRED:* A minimum of 36 semester hours of graduate work, 18 of which will be in the major and 18 of which will be in a minor program outside the major. The minor program may consist of 12 hours in one subject or of 6 hours in each of two subjects, plus 6 hours which may embody additional work in the other minor subject(s) or which may be in the form of approved electives.

MINOR PROGRAMS FOR THE MASTER OF EDUCATION

An applicant for the Degree of Master of Education with a major in *Education* may have either a Conventional Minor or a Composite Minor if his major emphasis is on elementary education. Other applicants will have a Conventional Minor.

An applicant for the Degree of Master of Education with a major in *Health and Physical Education* or *Music Education* will have a Conventional Minor.

An applicant for the Degree of Master of Education with a major in *Agricultural Education*, *Business Education*, or *Home Economics Education* may have a Conventional Minor, either within or without the particular school, or a General Minor made up of courses from the various departments of the school in which the major lies.

COURSES COMPRISING THE COMPOSITE MINOR

The courses numbered 5335 (formerly 4335) are restricted to graduate students whose major emphasis is elementary education. With the exception of Spanish 5335, they may not be applied toward a major or minor in the particular subject. Spanish 5335 may count toward a major or minor in Spanish provided that the applicant has completed Spanish 331 and 332 or their equivalent.

As a rule, a student will take only a single course in any of the fields represented in the Composite Minor, but, with the permission of the advisers, one may take for degree credit as many as two courses in a particular field.

Allied Arts 4351	English 4351	Music 5335
Allied Arts 5335	English 5335	Philosophy 5335
Applied Arts 5335	Food and	Spanish 5335
Anthropology 5335	Nutrition 5335	Speech 4351
Clothing and	Government 5335	Speech 5335
Textiles 5335	History 5335	
Economics 5335	Music 4351	

REGULATIONS PERTAINING TO THE DOCTORS' DEGREES

DOCTOR OF PHILOSOPHY AND DOCTOR OF EDUCATION

These requirements are in addition to those listed under "General Regulations Applicable to All Students."

Major work leading to the Degree of Doctor of Philosophy is offered in Chemistry, English, History, and Psychology. The Degree of Doctor of Education provides a major in Education with supplementary work in other subjects.

ADMISSION TO DOCTORAL STUDY

The requirements for admission to doctoral study are given on Page 8 of this Bulletin. It should be understood, however, that those statements represent *minimum* requirements. Only those students with outstanding records in the entrance examination and in their previous work (undergraduate and graduate) should undertake doctoral work. The Doctor's Degree is never awarded for mere routine fulfillment of requirements. It is reserved only for applicants of superior attainments in scholarship and research.

FIELDS OF STUDY

An applicant for the Degree of Doctor of Philosophy will devote most of his time to his major subject, but he must have a minor of at least 18 semester hours of course work (beyond the Bachelor's Degree) in a department other than his major.

An applicant for the Degree of Doctor of Education will likewise devote most of his time to his major subject, but he must complete at least 24 semester hours of course work (beyond the Bachelor's Degree) outside any field of education.

PROGRAM OF WORK

Although the applicant for the Doctor's Degree is not required to complete his work in a series of successive years, the general program should conform somewhat to the following plan:

First Year Beyond the Bachelor's Degree: This is normally the year devoted to the attainment of the Master's Degree. The applicant should complete from 24 to 30 hours of course work in his major and minor subjects.

Second Year: During this year, the applicant should satisfy the requirements in foreign languages and/or other tools of research; he should take the preliminary examination in his major and minor, and he should complete from 24 to 30 hours of course work. Near the end of this year, the applicant should ordinarily take the qualifying examination for

admission to candidacy for the Doctor's Degree, and he should begin work on his dissertation.

Third Year and Beyond: In the third year the applicant should finish whatever course work has been recommended by his advisory committee. The dissertation and the final examinations may sometimes also be completed in the third year, but often more time is necessary.

Doctoral study cannot be stated merely in terms of semester hours, but as a rule it demands the completion of 72 to 90 or more hours beyond the Bachelor's Degree.

RESIDENCE REQUIREMENTS

These residence requirements apply to every one beginning doctoral study at Texas Technological College after June 1, 1955, and to others, regardless of when they started, if they failed to satisfy all requirements with respect to the Graduate Record Examinations by June 1, 1955.

A minimum of three years of graduate study beyond the Bachelor's Degree is required for the Degree of Doctor of Education or Doctor of Philosophy. Work completed for the Master's Degree is considered one of these years provided it forms part of a logical sequence in the entire program.

Work completed at another accredited graduate school will be considered for residence credit and course credit on the recommendation of the departments concerned and the advisory committee, and credit will be allowed in accordance with their recommendations and the judgment of the Graduate Council. However, if the work was completed after the attainment of the Master's Degree, credit toward the Doctor's Degree will be allowed only if the work was done at a college or university having a doctoral program in the particular field.

In all cases, regardless of the amount of work completed elsewhere, an applicant for the doctorate is required to complete as a residence student at Texas Technological College a minimum of one year of residence course work beyond the Master's Degree, or beyond the course work equivalent to this degree if he chooses to proceed to the doctorate without stopping for the Master's Degree.

This requirement can be satisfied only by the completion of 12 to 15 hours of residence graduate work in each of the two consecutive semesters of a long session. No part of this requirement can be satisfied by any type of off-campus work.

Holders of fellowships and other students carrying reduced loads or lacking some of the prerequisites will usually have to spend two years in satisfying this requirement.

The minimum residence requirement for the doctorate cannot be satisfied by evening and Saturday classes.

In satisfying the remaining requirements for the doctorate, over and above the minimum residence, an applicant may not receive credit for more than 12 hours of dissertation courses (731-732 and 831-832) or for more than 9 hours of any combination of special types of courses (individual study, field courses, practicum courses, and so on).

TOOLS OF RESEARCH

Every applicant for the doctorate is required to demonstrate, early in his program, an adequate command of the basic tools of research, including the English language.

Applicants for the Degree of Doctor of Philosophy are required to pass reading examinations in two foreign languages acceptable to the major and minor departments. These examinations (usually in French and German) are given by the Department of Foreign Languages and ordinarily cover critical or historical material in the student's major field. The student is to satisfy this requirement before taking the qualifying examination for admission to candidacy.

Applicants for the Degree of Doctor of Education are required to show competency in educational evaluation and educational statistics and also a foreign language if the research requires such competency. The examination in educational statistics is given by a committee representing the Departments of Education, Psychology, and Mathematics. The student is to satisfy this requirement in statistics before taking the qualifying examination for admission to candidacy.

PRELIMINARY EXAMINATIONS

After an applicant for the Doctor's Degree has completed enough work at Texas Technological College to become somewhat known to his professors, he will be given a preliminary examination by his major and minor departments. This examination, which may be oral or written or both, will serve somewhat as the basis of further counseling of the applicant. A report on this examination is to be filed at the Dean's office within one week after its completion.

This report will include a statement concerning the applicant's proficiency in English composition as determined by the major department.

ADVISORY COMMITTEE

In the early stages of his work, the applicant for the doctorate is ordinarily counseled by the head of his major and minor departments or by professors designated for this work. However, as soon as the applicant has been accepted by his major and minor departments, an advisory committee will be appointed to guide him through the remainder of his work for the doctorate. This committee, appointed by the Dean on the recommendation of the departments concerned, will include representatives from the major and minor departments. It will hold meetings with the applicant as often as may be desirable and will, from time to time, report to the Dean and the head of the departments concerned on the applicant's progress.

Some details concerning the student's relation to his advisory committee are set forth in *A Manual for Thesis Writing at Texas Technological College*.

QUALIFYING EXAMINATION FOR ADMISSION TO CANDIDACY

When the applicant has satisfied all of the foregoing requirements and has completed most of the course work prescribed as a result of the preliminary examination, he will undergo the qualifying examination, which helps to determine whether he is to be admitted to candidacy for the Doctor's Degree. The time of this examination will be determined by the advisory committee.

This examination is prepared and administered by the student's advisory committee and any other professors the committee or the Dean may consider necessary. The major portion of it will be a written test of at least six hours' duration on the major and minor subjects, the distribution of this time being determined by the extent of the two fields. Approximately one-half of the written portion of the examination in both the major and the minor will be of the essay or discussion type, and the applicant is expected to demonstrate a high degree of skill in composition. The written examination will ordinarily be supplemented by an oral examination, also under the supervision of the advisory committee.

If the qualifying examination is considered unsatisfactory by the advisory committee, the applicant may be permitted to undertake the examination once more but not until the lapse of one full semester or at least 15 weeks.

If the qualifying examination is considered satisfactory by the advisory committee, the chairman will send to the Graduate Dean (for consideration by the Graduate Council) a formal recommendation of the applicant. This recommendation will include a statement about the applicant's course work, the quality of the preliminary examination and the qualifying examination, his status with respect to the residence requirements, the status of the research on his dissertation, and a general estimate of the applicant's fitness for further graduate study.

ADMISSION TO CANDIDACY FOR THE DOCTOR'S DEGREE

Authority for admitting an applicant to candidacy for the doctorate is vested in the Graduate Council. Upon receipt of a recommendation from an advisory committee, the Graduate Dean will submit it, together with any other information that may be needed, to the Council for action. The Council may approve the committee's recommendation or it may, after consultation with the advisory committee, suggest additional requirements which the applicant must satisfy.

As soon as the Council has reached a decision, the Dean will notify the student, his adviser, and the department heads concerned.

LIMITATION ON THE NUMBER OF DOCTORAL CANDIDATES

To insure proper individual attention to each applicant for the doctorate, the Graduate Council has set a maximum limit on the number of applicants that will be admitted to candidacy from any department

in any one year (Sept. 1 to Aug. 31). This quota is determined by the number of departmental staff members who hold earned doctorates and who have full membership on the Graduate Faculty. For each staff member so qualified, one applicant may be admitted to candidacy.

TIME LIMIT ON WORK FOR THE DOCTOR'S DEGREE

Work for the Doctor's Degree may not be extended over a long period of years. All this work must be completed within four years after the applicant has been admitted to candidacy for the doctorate.

INTERVALS BETWEEN EXAMINATIONS

There must be an interval of at least three months between the preliminary examination for the doctorate and the qualifying examination and at least six months between the qualifying examination and the final examination.

THE DISSERTATION

The subject of the Doctor's dissertation must be approved by the advisory committee and the Dean at least eight months before the candidate expects to receive his degree.

The dissertation must demonstrate a mastery of the techniques of research, a thorough understanding of the subject matter, skill in organizing and presenting the material, and an adequate command of the English language. It must also reveal the candidate's ability to attack a problem with independence and sound judgment, and it must be a contribution to learning in the field within which it falls, including a significant re-evaluation of existing data. The work on the dissertation will be constantly under the supervision of the advisory committee and any other professors the committee or the Dean may consider necessary.

Available at the College Bookstore is *A Manual for Thesis Writing at Texas Technological College*, which has been adopted by the Graduate Council as the official guide for the preparation of all theses and dissertations. Every student planning to write a dissertation is expected to secure a copy of the *Manual* and to follow it exactly at all stages of his work.

Three copies of the final version of every dissertation, prepared as indicated in the *Manual*, are required by the College. The ribbon copy and the first carbon copy are for the Library; the second carbon copy is for the student's major department.

When the final version of a dissertation has been accepted by the Dean of the Graduate School, the candidate will pay the fee for binding the various copies of his work. At present (1957), this fee is \$2 per copy. The cost of preparing any reproductions of the dissertation that may be necessary must also be paid before the candidate can be certified for graduation.

ABSTRACT OF THE DISSERTATION

Accompanying the final version of every doctoral dissertation must be two double-spaced typewritten copies of an abstract of the dissertation, not more than two thousand words in length. The abstract must be prepared in accordance with the instructions given in *A Manual for Thesis Writing at Texas Technological College*. At intervals, the College publishes a bulletin including the abstracts of dissertations.

THE FINAL EXAMINATION

A final oral examination is required of all candidates for the Doctor's Degree. It will ordinarily be over the field of the dissertation, and it will be conducted by the advisory committee under the supervision of the Dean. Professors other than those on the advisory committee may be invited to participate in the examination and discussion, but they will have no vote in determining the outcome.

SPECIAL DEPARTMENTAL REQUIREMENTS

Subject to the approval of the Dean, a department may impose any additional requirements deemed necessary for a doctoral program. In all instances, however, the general regulations of the Graduate School and the general requirements for the doctorate will prevail. Departmental requirements (if any) will be in addition to, not a substitute for, the regulations of the Graduate School.

GENERAL INFORMATION

GEOGRAPHICAL AND HISTORICAL STATEMENT

Lubbock, the seat of Texas Technological College, is a city of about 135,000 inhabitants. It is situated in the Plains area of West Texas at an altitude of more than three thousand feet. Dry, crisp air and sunny days throughout practically the entire year provide a healthful and invigorating climate.

Two airlines, two railways, splendid highways, and a network of bus routes make the city easily accessible from all directions.

The college campus lies at the western edge of the business section of the city. South and north are residential areas. The more than fifty permanent college buildings are of modified Spanish Renaissance style of architecture.

The first president of Texas Technological College was Paul Whitfield Horn (1925-32). He was followed by Bradford Knapp (1932-38), Clifford Bartlett Jones (1938-44, President Emeritus, 1944—), William Marvin Whyburn (1944-48), Dossie Marion Wiggins (1948-52), and Edward Newlon Jones (1952--).

Although graduate work has been offered at Texas Technological College since 1927, not until 1937 did the graduate program become a separate unit under its own dean and council.

FEES AND DEPOSITS

Texas Technological College reserves the right to change fees in accordance with the acts of the Texas State Legislature or the Board of Directors of the College.

All fees and deposits are payable in full at the time of registration, and a student is not considered enrolled in the College until he has paid them. All checks, drafts, and money orders are accepted subject to final payment. The student is referred to the General Catalog for further details about fees.

REGISTRATION FEE FOR RESIDENTS OF TEXAS*

For students enrolled for 12 or more semester hours, the registration fee is \$25 each semester. For those enrolled for fewer than 12 hours, the fee is charged as follows:

For 11 semester hours \$23.50	For 7 semester hours \$15.50
10 semester hours \$21.50	6 semester hours \$13.50
9 semester hours \$19.50	5 semester hours \$11.50
8 semester hours \$17.50	4 semester hours \$ 9.50
3 semester hours \$7.50	

REGISTRATION FEE FOR NON-RESIDENTS OF TEXAS*

Non-resident students are required to pay a registration fee of \$150 per semester of the long session. Non-resident students enrolled for fewer than 12 semester hours will be charged at the rate of \$12.50 per semester hour for which they enroll.

REGISTRATION FEE FOR EVENING AND SATURDAY COURSES

Resident students enrolling only for evening and Saturday classes are charged at the rate of \$10 per semester for each course carrying 3 semester hours' credit or less; for each course carrying 4 hours' credit, or more, the fee is \$12. All such students are required to make the general property deposit of \$7. If they register for a laboratory course, they are required to pay the customary laboratory fee.

Non-resident students will pay the non-resident tuition shown above.

REGISTRATION FEE FOR FIELD COURSES AND INDIVIDUAL STUDY COURSES

Students enrolling only for Field Courses and/or Individual Study Courses are charged at the rate indicated in the table shown above in the second paragraph if they are residents of Texas. The fee for non-residents is shown in paragraph three above. All students enrolled for Field

* A "resident of the State" may be defined as a person who has maintained his legal residence in Texas for at least twelve months prior to his enrollment in Texas Technological College, or, if a minor, one whose family has maintained legal residence in the State for at least this length of time. Prospective graduate students whose status is not clearly defined by this statement should consult the General Catalog or write to the Director of Admissions for a clarification of their legal residence.

Courses or Individual Study Courses are required to make the general property deposit of \$7.

The Master's thesis and the Doctor's dissertation are considered Individual Study Courses when the student enrolls for no work other than the thesis or dissertation.

Summer School Fees. See the special Summer Session Bulletin.

EXAMINATION FEE INSTITUTIONAL TESTING PROGRAM

A regularly enrolled student who takes the Aptitude Test of the Graduate Record Examinations in the Institutional Testing Program of Texas Technological College will pay a \$4 examination fee. This arrangement is not to be confused with the National Program for Graduate School Selection as explained on Page 9 of this Bulletin.

VISITOR'S FEE

A fee of \$5 for each course is required for the privilege of attending courses as a visitor. No credit may be obtained from courses audited in this manner. A regularly enrolled student who wishes to audit a course will register for it for non-credit and will pay the customary registration fee.

GENERAL PROPERTY DEPOSIT

Each student enrolled in the college must make a general property deposit of \$7. This deposit is subject to charges for property loss or damages or breakage or violations of rules in the library or laboratories. If the charges incurred for any semester reduce the deposit by 50 per cent, the student, upon notice from the Auditor, will be required to restore the deposit to its original amount by paying the charges at once; pending payment, no credit will be allowed on the work of that semester or term, and the student will be ineligible to re-enter college. This deposit, less any charges against it, will be returned to the student at the end of his career as a student in Texas Technological College.

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 semester. For courses in which the semester credit is 4 hours or more, the laboratory fee is \$4 per semester.

GRADUATION FEE

The graduation fee is \$5. After a student's diploma has been ordered, there can be no refund of this fee even if the candidate does not graduate. For a subsequent graduation, a reduced supplementary fee will have to be paid.

STUDENT ACTIVITY FEE

This is an optional fee of \$21 for the session (Fall and Spring Semesters). It covers recreational activities, student publications (except *La Ventana*), and admission to intercollegiate athletic contests and the Artists Course numbers. Students who enroll only in the Spring Semester will pay \$8. Students who pay the full \$21 fee in the Fall Semester but do not enroll in the Spring Semester will be entitled to a refund of \$6.

SPECIAL FEES FOR CERTAIN COURSES

For materials, equipment, or services, a special fee is charged for the following courses as indicated:

Allied Arts 4311, 4312, 421, 426, 427—\$5 each semester.

Applied Music (private lessons)—\$30 each semester for each course.

Architecture 423, 424, 4316, 4317—\$5 each semester.

Education 4315—\$3.

Secretarial Administration 421—\$4.

IDENTIFICATION CARD FEE

A fee of 35 cents is charged for the identification card and photograph required of all students except those enrolling in the Evening Program only.

DUPLICATE RECEIPT FEE

If a student loses his receipt for registration fees, he is required to pay a charge of 50 cents for a duplicate receipt.

COST OF RESEARCH MATERIALS

The individual student will bear the cost of all research materials required in the preparation of his thesis or dissertation or research project. This applies to questionnaires, charts, maps, slides, photostats, microfilms, postage, paper, and any other item necessary for the completion of any research study forming part of a graduate program for an advanced degree.

STUDENT UNION FEE*

This is a \$5 fee that each student must pay each semester of the long session. The fee is \$2.50 for each summer term.

REFUND OF FEES

Any student withdrawing officially during either semester will receive a refund on registration and activity fees according to the following schedule:

During the first two weeks of the semester—80%.

During the third week of the semester—60%.

During the fourth week of the semester—40%.

During the fifth week of the semester—20%.

After the fifth week of the semester—no refund.

In the Summer Session, any student withdrawing officially during the first week of either term will receive a refund of 60 per cent of his registration and activity fees, and during the second week, 20 per cent. A student who withdraws during the third week of the term and thereafter will receive no refund.

EXEMPTION FROM FEES BECAUSE OF HONORABLE DISCHARGE FROM THE ARMED FORCES

Men and women who have been legal residents of Texas for a period of not less than 12 months immediately preceding their registration in Texas Technological College and who hold an honorable discharge from the Armed Forces of the United States during the Spanish-American War, World War I, World War II, or the Korean War are by State law exempt from the payment of all fees except library and laboratory fees or similar deposits and fees or charges for room and board. The provisions of this act shall apply to the benefit of all nurses, members of the Women's Army Auxiliary Corps, and Women's Auxiliary Volunteer Emergency Service. The benefits and provisions of this act shall also apply to the benefit of the children of members of the United States Armed Forces where such members of the Armed Forces were killed in action or died while in the service during World War II or the Korean War. The provisions of this act shall not apply to or include any member of such United States Armed Forces, or other persons herein above named, who were discharged from the service because of being over the age of 38 or because of a personal request on the part of such person to be discharged from such service.

Discharge papers must be presented by the student to the Coordinator of Veterans' Affairs, who will in turn certify the student's eligibility to the Business Office.

Veterans are not eligible to the above outlined benefits under State law until their eligibility to educational benefits from Federal funds through the Veterans' Administration has expired.

STUDENT HEALTH SERVICE

For details about the Health Service, see the General Catalog.

HOUSING ACCOMMODATIONS

The College owns and operates nine dormitories with a normal capacity of almost thirty-one hundred students. Additional dormitories under construction and contemplated will considerably increase these facilities. Charges for room and board vary with the cost of living and are subject to change without notice. Inquiries regarding dormitory

accommodations should be addressed to Mr. H. L. Burgess, Office of Dormitory Reservations.

Information regarding living accommodations off the campus may be obtained from the Office of the Dean of Women and the Office of the Dean of Men.

ASSISTANTSHIPS, FELLOWSHIPS, AND SCHOLARSHIPS

Texas Technological College provides a number of awards for outstanding young men and women who wish to pursue graduate work. To be eligible for any of them, whether those from college funds or those from gifts, an applicant must have satisfied all requirements for admission to a degree program in the Graduate School (see Page 8 of this Bulletin). Unless otherwise indicated, inquiries are to be addressed to the head of the department concerned. In general, awards are for the nine-month session.

General Awards

Teaching Fellowships—Available in all departments offering work for the Doctor's Degree and in many of those offering major work for the Master's Degree. The stipend is from \$1,200 to \$2,000, depending on the qualifications of the applicant and the amount of service he renders.

Graduate Assistantships—Restricted at present to graduate students in Chemistry, Education, Psychology, and, particularly, English and History. The stipend is \$1,000. Nominal duties are required, but the holder of a graduate assistantship may carry a full load of graduate work.

The Paul W. Horn Fellowship—Restricted to women graduate students. Established by the Quarterly Club, an organization of women of the faculty and staff, and financed by private donations as a memorial to the late Dr. Paul Whitfield Horn, the first president of Texas Technological College. The stipend is determined by the earnings of the investment. Preference will be given to applicants who are graduates of this College. Inquiries should be addressed to the Dean of the Graduate School, and applications should be filed before March 1 of any year for the following session.

The Lubbock Auto Company Fellowship—Restricted to students who have already completed a considerable amount of their doctoral study. The entire sum of \$1,000 may be awarded to one individual, or it may be divided into two \$500 grants, depending on the circumstances. Applications are to be addressed to the Dean of the Graduate School by March 1 for the following session.

Research Fellowships—Chiefly in Chemistry and Psychology. The stipend varies.

Dormitory Counselorships—The award includes room and board and tuition and from \$20 to \$60 a month, depending on the qualifications of the applicant and the amount of service he renders. Applications are to be addressed to the Dean of Student Life.

Departmental Awards

The following scholarships and fellowships are restricted by the donors to the departments indicated.

The William L. Ellwood Fellowship in Animal Husbandry.

The James Newton Michie Fellowship in Mathematics.

The Jonnie McCreary Michie Fellowship in Food and Nutrition.

The Texas Cottonseed Crushers Association Fellowship in Animal Husbandry.

Other scholarships and fellowships are sometimes available to graduate students, and a number of departments have assistantships of various kinds which are open to graduates.

THE LIBRARY

The Library of Texas Technological College, erected in 1937, provides two large reading rooms and two special reading rooms for students. Graduate students may secure individual study carrels in the stacks, and a few small private study rooms are available for students who are writing doctoral dissertations.

At the end of the session of 1956-57, the Library holdings consisted of approximately 155,000 catalogued volumes, 40,000 periodicals, and 140,000 documents. The emphasis in new acquisitions, about fifteen thousand items each year, is upon materials needed in research for graduate degrees. Among these items are microfilm and microcard reproductions of rare books and periodicals.

The Library is open from 8 A.M. to 10 P.M., Monday through Friday, from 8 A.M. to 5 P.M. on Saturday, and from 2 P.M. to 5 P.M. on Sunday. Summer session hours are from 7:30 A.M. to 9:30 P.M., Monday through Friday, and from 7:30 A.M. to 5:30 P.M. on Saturday. The Library is closed on holidays and on Sunday during the summer session.

THE SOUTHWEST COLLECTION

The Southwest Collection, housed in The Museum and sponsored by the West Texas Museum Association, was established as a separate department in 1955 for the acquisition and preservation of books and archival material of significance to the history of the Southwest. The project is supported by the College and by private donations of money and materials. The long-range purpose of the Collection is the development of a great research center in Southwestern history.

The Collection now includes an excellent library of books dealing with the history of this area, newspapers, microfilms, early colonization papers, and a fine group of manuscript records of such important ranches as the Matador and the Spur, as well as other archival material.

As one of the chief purposes of the Southwest Collection is the preservation of material for the research of students, faculty members, visiting scholars, and other interested persons, the various items may be used only in the rooms of the Collection.

DEPARTMENTS AND SCHOOLS OF INSTRUCTION

Not all of the courses shown in this Bulletin are offered every year; some are given every other year, and some every three or four years. The class schedule, published just before the opening of each term or semester, indicates the particular courses to be offered and the hours at which they meet.

The College reserves the right, however, to cancel any scheduled course or to withdraw any course or program from the list of graduate offerings if the best interests of the institution require such action.

The number of semester hours' credit for each course is indicated immediately following the title of the course. Numbers in parentheses following the credit-hour value show the number of lecture hours and the number of laboratory hours required each week.

In all departments offering major work for the Master's Degree, the Master's Thesis is listed as Course No. 631-632; it carries 6 semester hours' credit.

While working on the doctoral dissertation, a candidate for the Doctor's Degree may enroll for Course No. 731, 732 (Research) as his major department may direct.

For bookkeeping purposes, the final registration for the doctoral dissertation is under Course No. 831-832, which is required.

AGRICULTURE

Dean W. L. Stangel, Graduate Chairman

Assistant Dean G. O. Elle, Vice Chairman

A student may have a major for the Master's Degree in Agricultural Economics, Agricultural Education, Agronomy, Animal Husbandry, Dairy Industry, or Horticulture and Park Management. He may have a minor in any of these fields (other than the one he chooses as his major) or in Agricultural Engineering or in any two fields of Agriculture, or in a subject outside of Agriculture.

All programs for the Master's Degree in any field of Agriculture must be approved by the Graduate Chairman or Vice Chairman before they are submitted to the Dean of the Graduate School.

AGRICULTURAL ECONOMICS

Professor J. Wayland Bennett

Acting Head of the Department

For Undergraduates and Graduates

411, 412. Agricultural Economics Seminar. Cr. 1 each. Mr. Bennett, Mr. Leonard.

421. Land Economics. Cr. 2. Mr. Leonard.

431. Livestock Marketing. Cr. 3. Mr. Bennett.

- 432. Statistical Methods in Agricultural Research. Cr. 3. Mr. Billingsley.
- 433. Farm Management and Records. Cr. 3. (2-3). Mr. Leonard.
- 434. Advanced Farm Management. Cr. 3. Mr. Leonard.
- 435. Agricultural Policies and Organizations. Cr. 3.
- 436. World Trade in Agricultural Products. Cr. 3. Mr. Billingsley.
- 437. Farm Appraisal and Finance. Cr. 3. (2-3). Mr. Leonard.

For Graduates

- 511. Seminar. Cr. 1. Mr. Bennett, Mr. Leonard.
May be repeated for credit.
- 533. Marketing Problems. Cr. 3. Mr. Bennett.
- 534. Research in Agricultural Economics. Cr. 3. Mr. Billingsley, Mr. Leonard.
May be repeated for credit.
- 631-632. Master's Thesis. Cr. 6.

AGRICULTURAL EDUCATION

Professor R. L. Chappelle

Head of the Department

For Undergraduates and Graduates

- 423. Problems. Cr. 2.
May be repeated for credit.
- 426. Advanced Methods in Future Farmer Work. Cr. 2.

For Graduates

- 511. Problems. Cr. 1. Mr. Chappelle.
May be repeated for credit.
- 522. Advanced Methods in High School Vocational Agriculture. Cr. 2.
Mr. Chappelle.
- 523. Advanced Methods in Adult Agricultural Education. Cr. 2.
Mr. Leach.
- 531. Investigation in the Field of Agricultural Education. Cr. 3. Mr. Leach.
May be repeated for credit.
- 631-632. Master's Thesis. Cr. 6.
Required for Master of Science in Agriculture; optional for Master of Education.

AGRICULTURAL ENGINEERING

Professor I. L. Williams

Head of the Department

For Undergraduates and Graduates

- 411. Seminar. Cr. 1.
- 430. Agricultural Engineering Problems. Cr. 3.
May be repeated for credit.
- 431. Functional Design of Farm Buildings. Cr. 3. (2-3).
- 432. Engineering for Soil and Water Conservation and Drainage. Cr. 3.
(2-3).
- 433. Elements of Tractor Design. Cr. 3. (2-3). Mr. Williams.

434. Rural Electrification. Cr. 3. (2-3). Mr. Williams.
 435. Farm Mechanics Problems. Cr. 3. Mr. Williams.
 May be repeated for credit.
 437. Design of Farm Irrigation Systems. Cr. 3. (2-3).
 438. Structural Design of Farm Buildings. Cr. 3.

AGRONOMY

Professor A. W. Young
 Head of the Department

For Undergraduates and Graduates

422. Dry Farm Soil Management. Cr. 2. Mr. Young.
 423. Soil Fertility. Cr. 2. Mr. Young, Mr. Harvey.
 425. Seed Technology. Cr. 2. (1-2). Mr. Ayers.
 430. Agronomy Problems. Cr. 3. Staff.
 May be repeated for credit.
 431. Plant Breeding and Improvement. Cr. 3. Mr. Ayers.
 433. Cotton Production. Cr. 3. Mr. Harvey.
 434. Soil Conservation and Land Use Planning. Cr. 3. (2-3). Mr. Young.
 435. Soil Morphology and Genesis. Cr. 3. (2-3). Staff.
 436. Soil Chemistry. Cr. 3. Mr. Young.
 437. Range Plant Management. Cr. 3. (2-3). Staff.
 438. Advanced Range Management. Cr. 3. (2-3). Staff.
 439. Soil Microbiology. Cr. 3. Mr. Young.

For Graduates

511. Agronomy Seminar. Cr. 1. Staff.
 May be repeated for credit.
 534. Agronomy Research. Cr. 3. Staff.
 May be repeated for credit.
 535. Research Methods. Cr. 3. Mr. Young.
 631-632. Master's Thesis. Cr. 6. Staff.

ANIMAL HUSBANDRY

Professor N. C. Fine
 Acting Head of the Department

For Undergraduates and Graduates

411. Animal Husbandry Seminar. Cr. 1. Mr. Fine.
 May be repeated for credit.
 425. Horse Production. Cr. 2. Mr. Harbaugh.
 427. Swine Production. Cr. 2. Mr. Baumgardner.
 431. Beef Cattle Production. Cr. 3. Staff.
 432. Animal Breeding. Cr. 3. Mr. Fine.
 433. Sheep Production. Cr. 3. Mr. Mowery.
 435. Dairy Cattle Production. Cr. 3. Mr. Neeley.
 436. Advanced Animal Nutrition. Cr. 3. Mr. Baumgardner.

438. Range Livestock Production. Cr. 3. Staff.
 439. Hormones in Animal Production. Cr. 3. Mr. Neeley.

For Graduates

533. Current Investigations in Animal Husbandry. Cr. 3.
 May be repeated for credit.
 631-632. Master's Thesis. Cr. 6.

Poultry Husbandry

For Undergraduates and Graduates

431. Poultry Production. Cr. 3. Mr. Turner.
 432. Turkey Production. Cr. 3. Mr. Turner.
 433. Caged Egg Production. Cr. 3. Mr. Turner.

DAIRY INDUSTRY

Professor J. J. Willingham

Head of the Department

For Undergraduates and Graduates

411. Dairy Seminar. Cr. 1.
 May be repeated for credit.
 412. Starters and Cultured Milk. Cr. 1. (0-3).
 422. Condensed and Powdered Milk. Cr. 2.
 431. Cheese Making. Cr. 3. (2-3).
 432. Dairy Industry Problems. Cr. 3.
 433. Ice Cream Making. Cr. 3. (2-3). Mr. Willingham.
 434. Buttermaking. Cr. 3. (2-3).
 435. Dairy and Food Inspection. Cr. 3. (2-3).
 437. Creamery Management and Merchandising. Cr. 3. Mr. Willingham.

For Graduates

531. Dairy Industry Research. Cr. 3. (0-9).
 May be repeated for credit.
 535. Dairy Bacteriology Research. Cr. 3. (0-9).
 May be repeated for credit.
 631-632. Master's Thesis. Cr. 6.

HORTICULTURE AND PARK MANAGEMENT

Professor E. J. Urbanovsky

Head of the Department

For Undergraduates and Graduates

- 422, 423. Design and Operation of Parks and Recreation Systems. Cr. 2 each. Mr. Urbanovsky.
 425. Horticulture Problems. Cr. 2. Mr. Yocum.
 430. Horticulture Problems. Cr. 3. Mr. Ashdown, Mr. Rucker.
 May be repeated for credit.

431. Pomology. Cr. 3. Mr. Yocum.
 435. Vegetable Production. Cr. 3. (2-3). Mr. Elle.
 436. Advanced Floriculture. Cr. 3. Staff.
 446, 447. Landscape Design. Cr. 4 each. Mr. Urbanovsky.

For Graduates

511. Horticulture Seminar. Cr. 1. Mr. Urbanovsky.
 May be repeated for credit.
 531. Horticultural Research. Cr. 3. Mr. Elle.
 May be repeated for credit.
 631-632. Master's Thesis. Cr. 6. Staff.

ENTOMOLOGY

For Undergraduates and Graduates

431. Agricultural Compounds. Cr. 3. Mr. Ashdown.

BIOLOGY

Professor J. C. Cross
 Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

Before being recommended for admission to candidacy for the Master's Degree with a major in this department, the student must take a preliminary examination to determine whether he is prepared to do graduate work in the subject chosen. The scope of this examination will be determined by the major professor, but it will ordinarily include all work usually required of undergraduates who major in this department. If the graduate major is Botany, the emphasis will be upon Botany; if the graduate major is Zoology, the emphasis will be upon Zoology. If the examination reveals serious weaknesses in any necessary subject matter, the student may be required to register for or to repeat such courses as may be designated by the major professor.

Likewise before being recommended for admission to candidacy for the Master's Degree, the student must pass a reading examination in French or German or some other language acceptable to this department. The examination will be given under the direction of the Department of Foreign Languages and will deal with critical material in the area of the student's major subject.

If the student's major is Botany, his minor may be Bacteriology, Chemistry, Geology, Mathematics, Physics, or Zoology; if his major is Zoology, his minor may be Bacteriology, Botany, Chemistry, Mathematics, or Physics.

BACTERIOLOGY

For Undergraduates and Graduates

- 331-332. Principles of Bacteriology. Cr. 3 each. (2-3). Mr. Sealey.
 333. Communicable Diseases. Cr. 3, Mr. Sealey.

334. Bacteriology of Foods and Food Sanitation. Cr. 3. (2-3). Mr. Sealey.
 431. Problems in Bacteriology. Cr. 3. (0-9). Mr. Sealey.
May be repeated for full credit in another field or with new materials in the same field.
 432. Immunology and Serology. Cr. 3. (2-3). Mr. Sealey.
 433. Physiology of Bacteria. Cr. 3. (2-3). Mr. Sealey.

BIOLOGY

For Undergraduates and Graduates

331. Heredity. Cr. 3. Mr. Cross.
 332. The Teaching of Biology. Cr. 3. Mr. Cross.
 333. Bio-ecology. Cr. 3. (2-3). Mr. Studhalter.
 411. Biology Seminar. Cr. 1. Mr. Studhalter, Staff.
May be repeated for credit.

BOTANY

For Undergraduates and Graduates

331. Plant Physiology. Cr. 3. (2-3). Mr. Camp.
 332. Plant Pathology. Cr. 3. (2-3). Mr. Camp.
 339. Plant Anatomy. Cr. 3. (2-3). Mr. Studhalter.
 431. Botanical Microtechnique. Cr. 3. (0-9). Mr. Studhalter.
 435. Advanced Taxonomy. Cr. 3. (0-9). Mr. Studhalter.
 436. Plant Geography. Cr. 3. Mr. Studhalter.
 437. Problems in Plant Geography. Cr. 3. Mr. Studhalter.
 438. Morphology of Fungi. Cr. 3. (2-3). Mr. Studhalter.

For Graduates

531. Problems in Botany. Cr. 3. (0-9). Mr. Studhalter.
May be repeated for credit in another field or with new materials in the same field.
 534. Advanced Plant Anatomy. Cr. 3. (0-9). Mr. Studhalter.
 535. Field Botany. Cr. 3. Mr. Studhalter.
May be repeated for credit with new materials.
 631-632. Master's Thesis. Cr. 6. Staff.

ENTOMOLOGY

For Undergraduates and Graduates

334. Insect Morphology. Cr. 3. (2-3). Mr. Strandtmann.
 335. Insect Taxonomy. Cr. 3. (1-6). Mr. Strandtmann.
 4311. Medical Entomology. Cr. 3. (2-3). Mr. Strandtmann.
 4312. Acarology. Cr. 3. (2-3). Mr. Strandtmann.

ZOOLOGY

For Undergraduates and Graduates

331. Animal Histology. Cr. 3. (2-4). Mr. Landwer.
 332. Comparative Vertebrate Embryology. Cr. 3. (2-4). Mr. Landwer.
 333. Parasitology. Cr. 3. (2-3). Mr. Strandtmann

336. Comparative Invertebrate Morphology. Cr. 3. (2-3). Mr. Strandtmann.
 435. Cytology. Cr. 3. (2-3). Mr. Cross.
 436. Zoological Technique. Cr. 3. (0-9). Mr. Cross.
 4312. Advanced Parasitology. Cr. 3. (2-3). Mr. Strandtmann.

For Graduates

531. Problems in Zoology. Cr. 3. (0-9). Mr. Cross, Mr. Strandtmann.
 May be repeated for credit in another field or with new materials in the same field.
 535. Field Zoology. Cr. 3. (0-9). Mr. Strandtmann.
 May be repeated for credit with new materials.
 631-632. Master's Thesis. Cr. 6. Staff.

BUSINESS ADMINISTRATION

Dean George G. Heather, Graduate Chairman

Professor Vernon T. Clover, Vice Chairman

For the Degree of Master of Business Administration, a student may have a major in Accounting, Business Education, Economics, Finance, Management, Marketing, or General Business. He may have a minor in any of these subjects (other than the one he chooses as his major), in a combination of several business subjects, or in a field outside of Business Administration. A student majoring in Business Education may choose to meet the requirements for the Degree of Master of Education.

In five of the areas of Business Administration, special seminars (numbered 534) are offered. Every graduate student is required to complete at least two of these seminars as part of his program for the Master's Degree.

Each program for the Degree of Master of Business Administration is to be prepared by the Business Administration Committee on Graduate Study in conference with the student and is to be approved by the Graduate Chairman before it is submitted to the Dean of the Graduate School.

ACCOUNTING AND FINANCE

Professor Reginald Rushing

Head of the Department
Accounting

For Undergraduates and Graduates

430. Income Tax Accounting. Cr. 3. Mr. Rushing.
 431. Advanced Income Tax Accounting. Cr. 3. Mr. Rushing.
 432. Governmental Accounting. Cr. 3. Mr. Taylor.
 433. Petroleum Accounting. Cr. 3. Mr. Rushing.
 434. Advanced Accounting I. Cr. 3. Mr. Rushing.

- 435. Advanced Accounting II. Cr. 3. Mr. Rushing.
- 436. Accounting Systems. Cr. 3. Mr. Taylor.
- 437. Principles of Auditing. Cr. 3. Mr. Rushing.
- 438. Advanced Auditing. Cr. 3. Mr. Rushing.
- 439. Budgeting. Cr. 3.
- 4311. CPA Review I. Cr. 3. Mr. Taylor.
- 4312. CPA Review II. Cr. 3. Mr. Roberts.

For Graduates

- 531. Controllership. Cr. 3.
- 532. Internship. Cr. 3. Mr. Rushing.
- 533. Current Accounting Theory. Cr. 3. Mr. Rushing.
- 534. Seminar. Cr. 3.
Enrollment limited to non-accounting majors.
- 535. Seminar in Accounting. Cr. 3. Mr. Rushing.
- 631-632. Master's Thesis. Cr. 6.

Finance

For Undergraduates and Graduates

- 431. The Federal Reserve System. Cr. 3. Mr. Rouse.
- 432. Real Estate. Cr. 3. Mr. Abel.
- 433. Corporate Financial Problems and Cases. Cr. 3. Mr. Abel.
- 434. Investments. Cr. 3. Mr. Rouse.
- 435. Property Insurance. Cr. 3. Mr. Abel.
- 437. Casualty Insurance. Cr. 3. Mr. Abel.
- 438. Bank Administration. Cr. 3. Mr. Rouse.
- 439. Real Estate Appraisal. Cr. 3. Mr. Abel.
- 4311. C.P.A. Law Review. Cr. 3.

For Graduates

- 531. Current Financial Problems. Cr. 3. Mr. Rouse.
- 534. Seminar. Cr. 3. Mr. Rouse.
Enrollment limited to non-finance majors.
- 631-632. Master's Thesis. Cr. 6.

BUSINESS EDUCATION AND SECRETARIAL ADMINISTRATION

*Professor Donald J. Tate

Head of the Department
Business Education

For Undergraduates and Graduates

- 422. Improvement of Instruction in Bookkeeping and the Social-Business Subjects. Cr. 2. Mr. Tate.
- 423. Improvement of Instruction in Typewriting and Shorthand. Cr. 2. Mr. Tate.
- 424. Improvement of Instruction in Basic Business. Cr. 2. Mr. Tate.

*On Leave of Absence 1956-57.

For Graduates

511. Individual Directed Study. Cr. 1. Mr. Tate.
May be repeated for credit.
522. Foundations of Business Education. Cr. 2. Mr. Tate.
523. Evaluation of Current Literature in Business Education. Cr. 2.
Mr. Tate.
531. Improvement of Instruction in Business Subjects. Cr. 3. Mr. Tate.
May be repeated for credit.
532. Tests and Measurements in Business Education. Cr. 3. Mr. Tate.
533. Guidance in Business Education. Cr. 3. Mr. Tate.
535. Seminar in Business Education. Cr. 3. Mr. Tate.
May be repeated for credit.
- 631-632. Master's Thesis. Cr. 6. Mr. Tate.
Required for the Master of Business Administration.
Optional for the Master of Education.

Secretarial Administration

For Undergraduates and Graduates

421. Voice-writing and Duplicating Machines. Cr. 2. (2-4).
Machine service, \$4.
431. Internship. Cr. 3. (1-5). Mr. Tate.

ECONOMICS

Professor Thomas F. Wiesen

Head of the Department

For Undergraduates and Graduates

432. Foreign Market Surveys. Cr. 3. Mr. Wiesen.
433. International Economic Relations. Cr. 3. Mr. Wiesen.
435. Transportation Economics. Cr. 3. Mr. Wiesen.
436. Development of Economic Doctrines. Cr. 3. Mr. Rouse.
4311. Advanced Economic Theory. Cr. 3. Mr. Anderson.
4312. Theories of Depressions. Cr. 3. Mr. Anderson.
4313. Distribution Theory. Cr. 3. Mr. Anderson.
4314. Consumer Economics. Cr. 3. Mr. Clover.
437. Current Economic Problems. Cr. 3. Mr. Clover.

For Graduates

531. Economic Research. Cr. 3. Mr. Wiesen, Mr. Clover, Mr. Rouse.
532. Advanced Micro-Economic Analysis. Cr. 3. Mr. Rouse, Mr.
Walker.
533. Advanced Macro-Economic Analysis. Cr. 3. Mr. Rouse, Mr.
Walker.
534. Seminar in Contemporary Economic Problems. Cr. 3. Mr. Walker.
Enrollment limited to non-economics majors.
5335. Human Geography. Cr. 3. Mr. Clover.
Enrollment limited to graduate students in elementary education.
- 631-632. Master's Thesis. Cr. 6.

MANAGEMENT

Professor F. L. Mize

Head of the Department

For Undergraduates and Graduates

- 421. Job Evaluation. Cr. 2.
- 422. Administrative Policies and Procedures. Cr. 2. Mr. Mize.
- 433. Labor Legislation. Cr. 3.
- 435. Employee Supervision. Cr. 3. Mr. Mize.
- 436. Problems in Office Management. Cr. 3.
- 437. Industrial Traffic Management. Cr. 3.
- 441. Management of Small Business Enterprise. Cr. 4.
- 451. Advanced Personnel Management. Cr. 5. Mr. Mize.
- 452. Industrial Management Problems. Cr. 5. Mr. Mize.

For Graduates

- 511. Individual Problems. Cr. 1. Mr. Mize, Mr. Cain.
May be repeated for credit.
- 524. Seminar in Management. Cr. 2. Mr. Mize.
- 531. Current Problems in Management. Cr. 3. Mr. Mize.
- 532. Research in Management. Cr. 3. Mr. Mize, Mr. Cain.
- 534. Seminar in Management. Cr. 3. Mr. Mize, Mr. Cain.
Enrollment limited to non-management majors.
- 631-632. Master's Thesis. Cr. 6.

MARKETING

*Professor Roy T. Shaw

Head of the Department

For Undergraduates and Graduates

- 426. Index Numbers. Cr. 2. Mr. Golden.
- 431. Industrial Marketing. Cr. 3. Mr. Golden.
- 433. Marketing Problems. Cr. 3. Mr. Golden, Mr. Shaw.
- 434. Wholesaling. Cr. 3. Mr. Shaw.
- 435. Business Cycles and Forecasts. Cr. 3. Mr. Golden.
- 437. Advanced Business Statistics. Cr. 3. Mr. Golden.
- 438. Display. Cr. 3.
- 439. Sales Management. Cr. 3. Mr. Shaw.
- 4314. Advertising Copy. Cr. 3.
- 4315. Retail Buying. Cr. 3. Mr. Shaw.
- 4317. Advertising Layout. Cr. 3.
- 4318. Mechanical Production of Advertising. Cr. 3.
- 4319. Advertising Internship. Cr. 3.

*On leave of absence for 1956-57.

For Graduates

531. Advanced Marketing Problems. Cr. 3.
532. Advanced Marketing Research. Cr. 3.
534. Seminar in Marketing. Cr. 3.
Enrollment limited to non-marketing majors.
631-632. Master's Thesis. Cr. 6.

CHEMISTRY AND CHEMICAL ENGINEERING

Professor Joe Dennis
Head of the Department

CHEMISTRY: MAJORS AND MINORS FOR THE MASTER'S DEGREE
AND THE DOCTOR'S DEGREE

CHEMICAL ENGINEERING: MAJORS AND MINORS
FOR THE MASTER'S DEGREE

Special Regulations Concerning The Master's Degree

Before being recommended for admission to candidacy for the Master's Degree with a major in this department, the student must take written preliminary examinations on his undergraduate work. The scope of these examinations is as follows: For applicants for the Master's Degree in Chemistry: inorganic, organic, and analytical chemistry and either physical or biological chemistry. For applicants for the Master's Degree in Chemical Engineering: inorganic, organic, analytical, and physical chemistry and chemical engineering.

The examinations are given during the first week of each semester, according to schedules posted on the departmental bulletin board. The student will have an opportunity to register for such remedial courses as the examinations may show to be necessary.

At least one semester before graduation, every applicant for the Master's Degree in this department must pass a reading examination in a foreign language acceptable to this department. The examination will be given under the direction of the Department of Foreign Languages and will deal with critical material in the field of chemistry or chemical engineering.

No student may receive a Master's Degree in Chemistry or Chemical Engineering without having done satisfactory work in physical chemistry (Chemistry 441-2 or its equivalent).

The Master's thesis must be based on experimental work except in extraordinary cases; it shall be the duty of each thesis committee in this department to see that the spirit of this regulation is carried out.

Special Regulations Concerning the Doctor's Degree

Credit for the research presented in the doctoral dissertation in this department shall constitute not less than one-sixth nor more than one-third of the total work presented for the degree.

At least 18 semester hours of work must be done outside this department.

CHEMISTRY

For Undergraduates and Graduates

- 331-332. Quantitative Analysis. Cr. 3 each. (3-6).
For minors only.
341. Introductory Organic Chemistry. Cr. 4. (3-3).
For minors only.
342. Physiological Chemistry. Cr. 4. (3-3).
For minors only.
- 353-354. Organic Chemistry. Cr. 5 each. (3-6).
For minors only.
- 411-412. Chemical Literature and Seminar. Cr. 1 each.
431. Qualitative Organic Analysis. Cr. 3. (1-6). Mr. Dennis.
433. Inorganic Preparations. Cr. 3. (0-9). Mr. Wendlandt.
434. Organic Preparations. Cr. 3. (0-9). Mr. Dennis.
436. Biological Chemistry I. Cr. 3. (2-3). Mr. Dennis.
437. Biological Chemistry II. Cr. 3. (2-3). Mr. Dennis.
438. Physical Chemistry III. Cr. 3. Mr. Oberg, Mr. Wilhoit.
439. Instrumental Methods of Analysis. Cr. 3. (1-6). Mr. Rekers.
- 441-442. Physical Chemistry I-II. Cr. 4 each. (3-3). Mr. Craig.

For Graduates

- 511, 512. Graduate Seminar. Cr. 1 each.
Required of all graduate students majoring in this department. May be repeated for credit.
5301. Advanced Inorganic Chemistry I. Cr. 3. Mr. Wendlandt.
5302. Advanced Inorganic Chemistry II. Cr. 3. Mr. Wendlandt.
5303. Nuclear Chemistry. Cr. 3. Mr. Bradford.
5304. Selected Topics in Inorganic Chemistry. Cr. 3. Mr. Wendlandt.
5314. Advanced Analytical Chemistry. Cr. 3. Mr. Rekers.
5315. Spectrographic Analysis I, Emission Spectra. Cr. 3. (2-3).
Mr. Craig.
5316. Spectrographic Analysis II, Absorption Spectra. Cr. 3. (2-3).
Mr. Craig.
5318. Chemical Microscopy. Cr. 3. (1-6).
5321. Advanced Organic Chemistry I. Cr. 3. Mr. Lee, Mr. Estok, Mr. Shine.
5322. Advanced Organic Chemistry II. Cr. 3. Mr. Lee, Mr. Estok, Mr. Shine.
5324. Quantitative Organic Analysis. Cr. 3. (0-9).
5325. Selected Topics in Organic Chemistry. Cr. 3.
May be repeated for credit.
5327. Physical Organic Chemistry. Cr. 3. Mr. Lee, Mr. Estok, Mr. Shine.
5328. Mechanisms of Organic Chemistry. Cr. 3. Mr. Lee, Mr. Estok, Mr. Shine.
5334. Selected Topics in Biological Chemistry. Cr. 3. Mr. Dennis, Miss Fain.
May be repeated for credit.
5335. Physical Biochemistry. Cr. 3.
5342. Advanced Physical Chemistry. Cr. 3. Mr. Wilhoit.
5343. Colloidal Chemistry. Cr. 3. (2-3).
5344. Kinetics of Chemical Reactions. Cr. 3. Mr. Lee, Mr. Oberg.

5346. Electrochemistry. Cr. 3.
 5347. Chemical Thermodynamics. Cr. 3. Mr. Oberg.
 5348. Selected Topics in Physical Chemistry. Cr. 3.
 May be repeated for credit.
 537, 538. Advanced Work in Specific Fields. Cr. 3 to 6.
 May be taken for chemistry credit by chemistry students, or for chemical engineering credit by chemical engineering students. See same course under Chemical Engineering.
 631-632. Master's Thesis. Cr. 6.
 731, 732. Research. Cr. 3 each.
 At the discretion of the Department, may be required of students working on the Doctor's dissertation.
 831-832. Doctor's Dissertation. Cr. 6.
 Required as the final registration for the dissertation.

CHEMICAL ENGINEERING

For Undergraduates and Graduates

- 425-426. Unit Operations Laboratory. Cr. 2 each. (0-6). Mr. Renard.
 430. Chemical Engineering Plant Design. Cr. 3. (1-6). Mr. Renard.
 431. Unit Processes. Cr. 3. (3-0). Mr. Renard.
 432. Process Development. Cr. 3. (3-0). Mr. Renard.
 433-434. Chemical Engineering Thermodynamics. Cr. 3 each. Mr. Oberg.
 435. Instrumentation. Cr. 3. (2-3). Mr. Renard.
 437. Principles of Chemical Engineering III. Cr. 3. Mr. Bradford.
 439. Nuclear Engineering. Cr. 3. Mr. Bradford.

For Graduates

531. Advanced Chemical Engineering Thermodynamics. Cr. 3.
 Mr. Oberg.
 532. Chemical Engineering Design. Cr. 3. (1-6). Mr. Renard.
 533. Organic Unit Processes. Cr. 3. Mr. Renard.
 534. Absorption and Extraction. Cr. 3.
 535. Heat Transfer. Cr. 3.
 536. Distillation. Cr. 3. Mr. Bradford.
 537, 538. Advanced Work in Specific Fields. Cr. 3 each.
 Course and credit depend on interests of students. All registration must be approved by the head of the department. Offered on demand. See Chem. 537, 538.
 631-632. Master's Thesis. Cr. 6.

EDUCATION AND PHILOSOPHY

Professor Morris S. Wallace
 Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE AND THE DEGREE OF DOCTOR OF EDUCATION

The program leading to certification as a counselor in the public schools is a joint enterprise of the Departments of Education and Psychology. Students interested in this program are invited to write to the head of either of these departments for details.

EDUCATION

For Undergraduates and Graduates

- 330. Principles of Modern Education. Cr. 3. Mr. Garlin.
- 333. Curriculum Development in Elementary Education. Cr. 3. Mr. Livingston, Mrs. Wheeler.
- 334. Curriculum Development in Secondary Education. Cr. 3. Mr. Jackson, Mrs. Wheeler.
- 335. Elementary Education Methods. Cr. 3. Mr. Browning, Mr. Mecham.
- 336. Secondary Education Methods. Cr. 3. Mr. Garlin, Mrs. Wheeler.
- 338. Elements of Educational Statistics. Cr. 3. Mr. Cooper, Mr. Browning.
- 430. History and Philosophy of Education. Cr. 3. Mr. Jackson.
- 435. Educational Evaluation. Cr. 3. Mr. Fallon.
- 436. Public School Administration. Cr. 3. Mr. Fallon, Mr. Wallace.
- 438. Supervision. Cr. 3. Mr. Wallace, Mr. Mecham.
- 4315. Audio-Visual Education. Cr. 3. Mr. Davidson.
- 4318. Developing the School Guidance Program. Cr. 3.
- 4325. Children's Literature. Cr. 3. Mr. Browning, Mrs. Wheeler.
- 4326. A Developmental Reading Program in the Elementary School. Cr. 3. Mr. Livingston.
- 4331. Principles of Educational Sociology. Cr. 3. Mr. Cooper, Mr. Stensland.
- 4338. Survey of Special Education. Cr. 3. Mrs. Wheeler.

For Graduates

- 5139. Advanced Education Workshops in Teaching and Administration. Cr. 1-6. Mr. Wallace.
May be taken for a minimum of 1 and a maximum of 6 semester hours' credit.
- 530. Advanced Educational Psychology. Cr. 3. Mr. Mecham.
- 534. Advanced Educational Sociology. Cr. 3. Mr. Jackson, Mr. Stensland.
- 535. Federal, State, County, and Local School Administration. Cr. 3. Mr. Wallace.
- 536. Elementary School Organization and Administration. Cr. 3. Mr. Browning.
- 537. Secondary School Organization and Administration. Cr. 3. Mr. Fallon.
- 538. The Administration of Audio-Visual Services. Cr. 3. Mr. Davidson.
- 539. School Business Management. Cr. 3. Mr. Cooper.
- 5312. Elementary Supervision and Curriculum Development. Cr. 3. Mr. Browning.
- 5313. Secondary Supervision and Curriculum Development. Cr. 3. Mr. Mecham.
- 5316. The Junior College. Cr. 3. Mr. Fallon.
- 5318. Selection and Evaluation of Audio-Visual Materials. Cr. 3. Mr. Davidson.
- 5319. Audio-Visual Production. Cr. 3. Mr. Davidson.

5321. Individual Study in Education. Cr. 3-6. Mr. Wallace.
Enrollment limited to students who have passed the qualifying examination. May be repeated one time for credit.
5322. Foundations of Educational Research. Cr. 3. Mr. Cooper, Mr. Fallon.
5323. Advanced Educational Statistics. Cr. 3. Mr. Cooper.
5325. Legal Bases of Education. Cr. 3. Mr. Cooper.
5331. Human Development in Education. Cr. 3. Mr. Mechem.
5341. Developing Arithmetic Programs in Elementary Education. Cr. 3. Mr. Livingston, Mr. Browning.
5342. Developing Reading Programs in Elementary Education. Cr. 3. Mr. Livingston.
5343. Developing Natural and Physical Environment Concepts in Elementary Education. Cr. 3. Mr. Livingston.
5344. Developing Language Arts Programs in Elementary Education. Cr. 3. Mr. Livingston, Mr. Mechem.
5345. Developing Social Studies Programs in Elementary Education. Cr. 3. Mrs. Wheeler, Mr. Browning.
5346. Fundamentals of Curriculum Development. Cr. 3. Mr. Mechem.
5347. Developing Curriculum and Instructional Materials in the Elementary School. Cr. 3. Mr. Browning.
5348. Developing Curriculum and Instructional Materials in the Secondary School. Cr. 3. Mrs. Wheeler.
5349. Organizing and Administering the Instructional Improvement Program. Cr. 3. Mr. Mechem, Mr. Wallace.
5351. General Education Seminar. Cr. 3. Mr. Garlin.
5352. Seminar in History and Philosophy of Education. Cr. 3. Mr. Jackson.
5353. Comparative Education. Cr. 3. Mr. Jackson.
5354. Seminar in Educational Sociology. Cr. 3. Mr. Jackson, Mr. Stensland.
5355. Seminar in Elementary Education. Cr. 3. Mr. Browning.
5356. Seminar in Secondary Education. Cr. 3. Mr. Garlin.
5357. The Administration of the Junior College. Cr. 3. Mr. Fallon.
5359. Seminar in Supervision and Curriculum Development. Cr. 3. Mr. Wallace, Mr. Mechem.
5363. Problems in Audio-Visual Education. Cr. 3. Mr. Davidson.
5364. Seminar in Educational Psychology. Cr. 3. Mr. Mechem.
5366. The Administration of School Staff Personnel. Cr. 3. Mr. Wallace, Mr. Cooper.
5367. School Finance. Cr. 3.
5369. School Public Relations. Cr. 3. Mr. Wallace.
- 631-632. Master's Thesis. Cr. 6. Staff.
- 731, 732. Research. Cr. 3. each. Staff
Required of students working on the Doctor's dissertation.
- 831-832. Doctor's Dissertation. Cr. 6. Staff.
Required as the final registration for the dissertation.

ADULT EDUCATION

For Graduates

5315. Adult Education. Cr. 3. Mr. Stensland.
 5328. Adult Education Administration. Cr. 3. Mr. Stensland.
 5329. Program Planning in Adult Education. Cr. 3. Mr. Stensland.
 5332. Democratic Group Processes. Cr. 3. Mr. Stensland.
 5362. Seminar in Adult Education. Cr. 3. Mr. Stensland.
 May be repeated for credit.

PHILOSOPHY

For Undergraduates and Graduates

332. History of Philosophy. Cr. 3. Mr. Little.
 333. Development of American Philosophy. Cr. 3. Mr. Little.
 335. Oriental Philosophies. Cr. 3. Mr. Little.
 337. Logic. Cr. 3. Mr. Little.
 431. Aesthetics. Cr. 3. Mr. Little.
 432. Philosophy of Value. Cr. 3. Mr. Little.
 436. Philosophy of Religion. Cr. 3. Mr. Little.
 438. Seminar in Philosophical Problems. Cr. 3. Mr. Little.

For Graduates

5335. Structure and Dynamics of Philosophical Thought. Cr. 3. Mr. Little.
 Enrollment limited to graduate students in elementary education.

ENGINEERING

Dean John R. Bradford, Graduate Chairman

Assistant Dean Robert L. Newell, Vice Chairman

A student may have a major for the Master's Degree in Chemical Engineering or Electrical Engineering. The minor may be in other areas of engineering or in any approved subject outside of engineering.

Courses in Chemical Engineering are listed under the Department of Chemistry and Chemical Engineering.

ARCHITECTURE AND ALLIED ARTS

Professor N. E. Barrick

Head of the Department

Many courses in Architecture and Allied Arts, especially those in City Planning, History of Architecture, and History of Painting and Sculpture, are available for electives to students majoring in Education, History, Music, Government, Landscape Architecture, etc. Consent of the instructor may be secured in lieu of the professional prerequisites listed.

Architecture

For Undergraduates and Graduates

320. History of Furniture and Costume. Cr. 2. (2-9). Mrs. Sasser.
 321. History of Early American Architecture. Cr. 2. Mr. Barrick, Mr. Kleinschmidt, Mrs. Sasser.
 322. History of Renaissance Architecture. Cr. 2. Mrs. Sasser.
 323. History of Modern Architecture. Cr. 2. Mr. Barrick, Mr. Kleinschmidt, Mrs. Sasser.
 333-334. Architectural Working Drawing. Cr. 3 each. (1-6). Mr. Bradshaw.
 420. Professional Practice. Cr. 2. Mr. Barrick, Mr. Bradshaw.
 423-424. Life Drawing II, III. Cr. 2 each. (0-6). Mr. Parkinson.
 \$5 model fee each.
 4316-4317. Architectural Sculpture. Cr. 3 each. (1-6). Mr. Tracey.
 Fee for ceramics materials \$5 each.
 435. Advanced Architectural Working Drawings. Cr. 3. (1-6). Mr. Bradshaw.
 436. City Planning. Cr. 3. (1-6). Mr. Bradshaw.

Allied Arts

For Undergraduates and Graduates

421. Art Workshop. Cr. 2. (0-6).
 \$5 materials fee for ceramics part of the course.
 433-434. Commercial Design II. Cr. 3 each. (0-9). Mr. Parkinson.
 4311-4312. Ceramics. Cr. 3 each. (0-9). Mr. Tracey.
 Materials fee, \$5 each.
 4318-4319. History of Painting and Sculpture. Cr. 3 each.
 Mr. Kleinschmidt, Mrs. Sasser.
 4351. Art in the Modern World. Cr. 3. Mrs. Sasser.

For Graduates

5335. Art in Elementary Education. Cr. 3. (1-6). Mrs. Sasser.
 Enrollment limited to graduate students in elementary education.

CHEMICAL ENGINEERING

See Department of Chemistry and Chemical Engineering, Page 45.

CIVIL ENGINEERING

Professor J. H. Murdough
 Head of the Department

For Undergraduates and Graduates

321. Municipal Sanitation. Cr. 2. Mr. Decker.
 3311. Hydraulic Machinery. Cr. 3. Mr. Whetstone.
 3312. Hydrology of Ground Water. Cr. 3. Mr. Whetstone.
 423. Economics of Highway Design. Cr. 3. (0-6).
 424. Materials. Cr. 2. (1-3) Mr. Overby.

- 425. Materials. Cr. 2. (1-3). Mr. Decker.
- 431. Reinforced Concrete. Cr. 3. Mr. Murdough.
- 432. Reinforced Concrete. Cr. 3. Mr. Murdough.
- 433. Structures. Cr. 3. (2-6). Mr. Murdough.
- 434. Structures. Cr. 3. Mr. Murdough.
- 437. Water Supply and Treatment. Cr. 3. (2-3). Mr. Decker.
- 438. Sewerage and Sewage Treatment. Cr. 3. (2-3). Mr. Decker.
- 439. Law and Ethics in Engineering. Cr. 3.
- 4312. Soil Mechanics and Foundations. Cr. 3. Mr. Overby.
- 4313. Sanitary Engineering Design—Water. Cr. 3. (1-6).
Mr. Decker.
- 4314. Sanitary Engineering Design—Sewage. Cr. 3. (1-6).
Mr. Decker.

ELECTRICAL ENGINEERING

Professor C. V. Bullen
Head of the Department

For Undergraduates and Graduates

- 312-313. Alternating Current Circuits Laboratory. Cr. 1 each. (0-3).
- 317. Electronics Laboratory. Cr. 1. (0-3).
- 321. Static Electric and Magnetic Fields. Cr. 2. Mr. Bullen, Mr. Houston.
- 332-333. Alternating Current Circuits. Cr. 3 each. Staff.
- 337. Electronics. Cr. 3. Mr. Houston.
- 436-437. Principles of Electromagnetic Fields. Cr. 3 each. Mr. Houston.
- 4112-4113. Alternating Current Machinery Laboratory. Cr. 1 each.
(0-3). Mr. Bullen, Staff.
- 4115-4116. Vacuum Tube Circuits Laboratory. Cr. 1 each. (0-3)
Mr. Houston
- 4121-4122. Control System Instrumentation Laboratory. Cr. 1 each.
(0-3). Staff.
- 4124. Electrical Transmission Lines Laboratory. Cr. 1. (0-3).
Mr. Houston.
- 4221-4222. Control System Instrumentation. Cr. 2 each. Staff.
- 4312-4313. Alternating Current Machines. Cr. 3 each. Staff.
- 4315-4316. Vacuum Tube Circuits and Systems. Cr. 3 each. Mr.
Houston.
- 4323-4224. Electrical Transmission Lines. Cr. 3, 2. Mr. Houston.

For Graduates

- 531-532. Vacuum Tubes and Associated Circuits. Cr. 3 each.
Mr. Houston.
- 533. Symmetrical Components. Cr. 3. Staff.
- 535. Electric Power Systems. Cr. 3.
- 536-537. Advanced Network Theory. Cr. 3 each. Mr. Houston.
- 538-539. Advanced Electrical Machine Theory. Cr. 3 each.
- 5211-5212. Special Problems in Electrical Engineering. Cr. 2 each.
Staff.

- 5311-5312. Automatic Control Systems. Cr. 3 each. Staff.
631-632. Master's Thesis. Cr. 6. Staff.

INDUSTRIAL ENGINEERING

Dean J. R. Bradford

Acting Head of the Department

For Undergraduates and Graduates

411. Industrial Engineering Problems. Cr. 1. (0-3).
423. Industrial Procurement. Cr. 2. Mr. St. Clair.
432-433. Industrial Plant Design. Cr. 3 each. (1-6).
435. Safety Engineering. Cr. 3
436. Engineering Economy. Cr. 3.
437. Quality Control. Cr. 3. Mr. Flege.

MECHANICAL ENGINEERING

Professor L. J. Powers

Head of the Department

For Undergraduates and Graduates

420. Special Problems in Mechanical Engineering. Cr. 2. Mr. Powers.
421. Heat Power Laboratory. Cr. 2. (0-6). Mr. Helmers.
425. Heat Transfer. Cr. 2. Mr. Helmers, Mr. Newell.
426. Dynamics. Cr. 2. Mr. Powers.
427. Dynamics. Cr. 2. Mr. Powers.
428. Air Conditioning. Cr. 2. Mr. Newell.
429. Air Conditioning. Cr. 2. Mr. Newell.
431. Heat Power Laboratory. Cr. 3. (1-6). Mr. Helmers.
432. Heat Power Design. Cr. 3. Mr. Helmers.
433. Combustion Engines. Cr. 3. Mr. Helmers, Mr. Newell.
435. Fluid Dynamics. Cr. 3. Mr. Helmers, Mr. Powers.
436. Mechanical Design. Cr. 3. (2-3). Mr. Powers.
437. Mechanical Design. Cr. 3. (1-6). Mr. Powers.

PETROLEUM ENGINEERING

Professor W. L. Ducker

Head of the Department

For Undergraduates and Graduates

413. Natural Gas Laboratory. Cr. 1. (0-3). Mr. Ducker.
414. Production Laboratory. Cr. 1. (0-3). Mr. Blum.
416. Reservoir Engineering Laboratory. Cr. 1. (0-3). Mr. Blum.
420. Special Petroleum Engineering Problems. Cr. 2. Mr. Ducker.
430. Special Natural Gas Problems. Cr. 3. Mr. Ducker.

- 433. Advanced Production Engineering. Cr. 3. Mr. Blum.
- 434. Natural Gas Engineering. Cr. 3. Mr. Ducker.
- 435. Advanced Natural Gas Engineering. Cr. 3. Mr. Ducker.
- 436. Reservoir Engineering. Cr. 3. Mr. Blum.

ENGLISH

Professor Truman W. Camp
Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE AND THE DOCTOR'S DEGREE

Students seeking the Master's Degree in English should consult the Head of the Department about their program before enrolling for any courses.

Upon completing his work for the Master's Degree or at the beginning of his second full year of graduate work, the student who plans to work toward the doctorate in English will be given a preliminary comprehensive examination in English literature and American literature, to determine his degree of proficiency in these subjects.

An applicant for the doctorate in English must complete at least one graduate course in each of these nine fields: Old English, Middle English, the Renaissance, Shakespeare, the Seventeenth Century, the Eighteenth Century, Romanticism, the Nineteenth Century, and American Literature. He will select one field (or two or more closely related fields) as his area of concentration in which he will take additional courses and write his dissertation. For a minor subject (at least 18 semester hours of graduate work), the department recommends work in history, foreign languages, or speech. All applicants for the doctorate in English should take English 521, preferably near the beginning of their graduate program.

For Undergraduates and Graduates

- 430. Myth and Romance. Cr. 3. Mr. Gunn.
- 432. Shakespeare. Cr. 3. Mr. Camp, Mr. Gates, Mr. McCullen.
(This course will not duplicate any material in English 335.)
- 434. Milton and His Age. Cr. 3. Mr. Allen, Mr. McCullen.
- 435. English Romanticism. Cr. 3. Mr. Strout.
- 436. The Later Romantic Poets. Cr. 3. Mr. Strout.
- 438. History of the English Language. Cr. 3. Mr. Gunn.
- 439. American English. Cr. 3. Mr. Gunn.
- 4311. The Neo-Classical Age. Cr. 3. Mr. Camp.
- 4312. Age of Johnson. Cr. 3. Mr. Camp.
- 4314. Literature of the English Renaissance. Cr. 3. Mr. Strout, Mr. McCullen.
- 4319. Victorian Literature. Cr. 3. Miss Teague, Mr. Litzinger.
(Not to be taken by those who have credit in English 337.)
- 4322. Literature of the Southwest. Cr. 3. Mr. Gillis.
- 4323. American Literature and Its Backgrounds. Cr. 3.
Mr. Gates, Mr. Gillis, Mr. Guilds, Mr. Nall.

4324. American Literature and Its Backgrounds. Cr. 3. Mr. Gates, Mr. Gillis, Mr. Guilds, Mr. Nall.
4325. The American Novel to 1870. Cr. 3. Mr. Guilds.
4326. The American Novel after 1870. Cr. 3. Mr. Guilds, Mr. Bowling.
4327. The English Novel from Lyly to Scott. Cr. 3. Mr. Allen.
4328. English and Foreign Fiction from 1825 to 1910. Cr. 3. Mr. Murphy.
4329. Modern British and American Poetry. Cr. 3. Mr. Gillis, Mr. Bowling.
4331. Pre-Shakespearean Drama. Cr. 3. Mr. McCullen.
4332. Elizabethan Drama through 1642. Cr. 3. Mr. McCullen.
4333. Philosophical Ideas in Literature. Cr. 3. Mr. McCullen, Mr. Gunn.
May be repeated for credit.
4334. Literary Interpretation and Criticism. Cr. 3. Mr. Gillis, Mr. Bowling.
4351. Appreciation of the Literature of Western Civilization. Cr. 3. Mr. Murphy, Mr. Gunn.

For Graduates

511. Graduate Seminar in English. Cr. 1.
Required of all graduate students majoring in English. May be repeated for credit.
521. Bibliography and Methods of Literary Research. Cr. 2. Mr. Gunn, Mr. McCullen, Mr. Gillis.
Should be taken by all graduate students in English at the earliest possible time.
530. The Age of Chaucer. Cr. 3. Mr. Gunn.
533. Studies in Renaissance Literature. Cr. 3. Mr. Strout, Mr. McCullen.
May be repeated for credit.
534. Old English. Cr. 3. Mr. Gunn.
535. Studies in Nineteenth Century English Literature. Cr. 3.
Mr. Strout, Mr. Litzinger.
May be repeated for credit.
536. Studies in American Literature. Cr. 3. Mr. Gates, Mr. Gillis, Mr. Guilds.
May be repeated for credit.
538. Studies in the English Romantic Poets. Cr. 3. Mr. Strout.
May be repeated for credit.
539. Studies in Eighteenth Century Literature. Cr. 3. Mr. Camp.
May be repeated for credit.
5319. Studies in Shakespeare. Cr. 3. Mr. Camp, Mr. Gates, Mr. McCullen.
May be repeated for credit.
5335. Principles of Language. Cr. 3. Mr. Gunn.
Enrollment limited to graduate students in elementary education.
- 631-632. Master's Thesis. Cr. 6.
- 731, 732. Research. Cr. 3 each.
At the discretion of the Department, may be required of students working on the Doctor's dissertation.
- 831-832. Doctor's Dissertation. Cr. 6.
Required as the final registration for the dissertation.

FOREIGN LANGUAGES

Professor John C. Dowling

Head of the Department

MINORS ONLY FOR THE DOCTOR'S DEGREE

FRENCH

MINORS ONLY FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

- 431. The Modern Drama. Cr. 3. Mr. Qualia.
- 432. The Modern Drama. Cr. 3. Mr. Qualia.
- 433. The Literature of the Nineteenth Century. Cr. 3. Mr. Qualia.
- 434. The Literature of the Nineteenth Century. Cr. 3. Mr. Qualia.
- 435. Studies in French Language and Literature. Cr. 3. Mr. Qualia.
- 436. Studies in French Language and Literature. Cr. 3. Mr. Qualia.

GERMAN

For Undergraduates and Graduates

- 435. Studies in German Language and Literature. Cr. 3.
- 436. Studies in German Language and Literature. Cr. 3.

SPANISH

MAJORS AND MINORS FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

- 431. Nineteenth-Century Prose. Cr. 3. Mr. Qualia.
- 432. Nineteenth-Century Prose. Cr. 3. Mr. Qualia.
- 433. Modern Drama and Poetry. Cr. 3. Mr. Qualia.
- 434. Modern Drama and Poetry. Cr. 3. Mr. Qualia.
- 436. Advanced Composition and Conversation. Cr. 3.
- 437. Advanced Composition and Conversation. Cr. 3.
- 4312. The Prose of the Golden Age. Cr. 3. Mr. Hamilton.
- 4313. The Prose of the Golden Age. Cr. 3. Mr. Hamilton.
- 4314. The Drama of the Golden Age. Cr. 3. Mr. Hamilton.
- 4315. The Drama of the Golden Age. Cr. 3. Mr. Hamilton.
- 4316. A Survey of Spanish Literature. Cr. 3. Mr. Strehli.
Recommended for graduate majors.
- 4317. A Survey of Spanish Literature. Cr. 3. Mr. Strehli.
- 4318. Readings in Contemporary Spanish Literature. Cr. 3.
Mr. Qualia.
- 4319. Readings in Contemporary Spanish Literature. Cr. 3.
Mr. Dowling, Mr. Qualia.
- 4324. Readings in Spanish American Literature and Civilization. Cr. 3.
Mrs. Gates.
- 4325. Readings in Spanish American Literature and Civilization. Cr. 3.
Mrs. Gates.

4326. Survey of Spanish American Literature. Cr. 3. Mr. Dowling, Mrs. Gates.
 4327. Survey of Spanish American Literature. Cr. 3. Mr. Dowling, Mrs. Gates.
 4328-4329. Spanish Civilization. Cr. 3 each. Mr. Hamilton.
 Offered in alternate summers in Mexico City.

For Graduates

5312. Studies in Spanish and Spanish American Literature. Cr. 3.
 May be repeated for credit.
 5313. Studies in Spanish and Spanish American Literature. Cr. 3.
 May be repeated for credit.
 5335. Spanish in the Elementary School. Cr. 3.
 631-632. Master's Thesis. Cr. 6.

METHODS

- Foreign Language 4311. Teachers' Course in Methods of Teaching Foreign Languages. Cr. 3.

Prerequisite: French, German, Latin, or Spanish 331-332 or 333-334 and 6 semester hours of education. Instruction in scientific methods of teaching foreign languages with as much practice work as possible. May be counted as education or as foreign language. Required of those preparing to teach a foreign language.

GEOLOGY

Professor F. A. Wade

Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

Before being recommended for admission to candidacy for the Master's Degree with a major in this department, the student must take a qualifying examination covering the usual undergraduate program for a Bachelor's Degree in Geology. If this examination reveals serious weaknesses in necessary areas, the student may be required to register for or to repeat such courses as may be designated by the major professor.

For Undergraduates and Graduates

- 431-432. Optical Mineralogy and Petrography. Cr. 3 each. (1-6).
 433-434. Petroleum Geology. Cr. 3 each. (2-3).
 436. Micropaleontology. Cr. 3. (1-6).
 437. Sedimentation, Environments. Cr. 3. (2-3).
 438. Sedimentation, Products. Cr. 3. (2-3).
 4311. Economic Geology, Non-metallics. Cr. 3. (2-3)
 4312. Economic Geology, Metallics. Cr. 3. (2-3).
 4314. Principles of Stratigraphy. Cr. 3.
 4315. Paleozoic, Mesozoic, and Cenozoic Stratigraphy. Cr. 3.
 4316. Aerial Photo Interpretation. Cr. 3. (2-3).
 4317. Geophysical Methods, Gravity and Magnetic. Cr. 3.
 4318. Geophysical Methods, Seismic and Electrical. Cr. 3.

For Graduates

511. Graduate Seminar. Cr. 1.
 531-532. Advanced Physical and Historical Geology. Cr. 3. each.
 533. Petrology of Igneous Rocks. Cr. 3.
 534. Petrology of Metamorphic Rocks. Cr. 3.
 535. Advanced Work in Specific Fields. Cr. 3.
 536. Advanced Work in Specific Fields. Cr. 3.
 537. Problems in Mineralogy. Cr. 3.
 538. Geology of the Southwest. Cr. 3.
 539. Problems in Petrology. Cr. 3.
 5311. Stratigraphic Micropaleontology. Cr. 3.
 5312. Problems in Economic Geology. Cr. 3.
 5313. Problems in Geomorphology. Cr. 3.
 5324. Problems in Sedimentation. Cr. 3.
 5326. Problems in Stratigraphy. Cr. 3.
 5327. Problems in Paleontology. Cr. 3.
 5328. Problems in Structural Geology. Cr. 3.
 563. Advanced Field Geology. Cr. 6.
 631-632. Master's Thesis. Cr. 6.

GEOGRAPHY

For Undergraduates and Graduates

331. General Meteorology. Cr. 3. (2-3).
 332. Practical Meteorology. Cr. 3. (2-3).

GOVERNMENT

Professor J. William Davis

Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

AND MINORS FOR THE DOCTOR'S DEGREE

For Undergraduates and Graduates

331. Local Government. Cr. 3. Mr. Jackson.
 332. European Political Ideas. Cr. 3. Mr. Davis.
 333. American Political Ideas. Cr. 3. Mr. Davis.
 334. Political Parties. Cr. 3. Mr. Oden.
 335. International Politics. Cr. 3. Mr. Fuller.
 336. United States Foreign Policy. Cr. 3. Mr. Fuller.
 337. Public Administration, Organization. Cr. 3. Mr. Jackson.
 338. Public Administration, Procedure. Cr. 3. Mr. Jackson.
 339. Legislation. Cr. 3. Mr. Oden.
 3312. British Government. Cr. 3. Mr. Kennedy.
 3313. Russian Government. Cr. 3. Mr. Kennedy.
 3314. Latin-American Governments. Cr. 3. Mr. Mack.

- 3315. Government and Business. Cr. 3. Mr. Abernethy.
- 3316. Government and Labor. Cr. 3. Mr. Abernethy.
- 431*. American Constitutional Law, Powers. Cr. 3. Mr. Davis.
- 432. American Constitutional Law, Limitations. Cr. 3. Mr. Davis.
- 433. Modern Political Ideas. Cr. 3. Mr. Abernethy.
- 435. International Organizations. Cr. 3. Mr. Fuller.
- 436. International Law. Cr. 3. Mr. Mack.
- 437. Political Geography. Cr. 3. Mr. Kennedy.
- 438. Local Administration. Cr. 3. Mr. Jackson.
- 439. Administrative Law. Cr. 3. Mr. Davis.

For Graduates

- 531. Reading and Research. Cr. 3. Staff.
May be repeated in different fields of emphasis.
- 5335. Political Ideologies and Institutions. Cr. 3. Staff.
Enrollment limited to graduate students in elementary education.
- 631-632. Master's Thesis. Cr. 6. Staff.

HEALTH AND PHYSICAL EDUCATION AND RECREATION

Professor R. W. Kireilis
Head of the Department

Professor Mary B. Dabney, Associate Head
(for Women)

MAJORS AND MINORS FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

- 431. Kinesiology. Cr. 3. (1-2). Mr. Kireilis.
- 432. Physiology of Exercise. Cr. 3. Mr. Kireilis.
- 436. Physical Examinations and Corrective Physical Education. Cr. 3.
Mr. Kireilis.
- 437. Measurements in Physical Education. Cr. 3. Mr. Kireilis.
- 438. Curriculum Development in Physical Education. Cr. 3. Miss
Dabney, Mr. Kireilis.
- 439. Organization and Administration of Recreation Programs. Cr. 3.
Miss Dabney.
- 4311. Physical Education for the Junior and Senior High School.
(Women). Cr. 3. Miss Rainey.
- 4321. Methods and Techniques of Driver Instruction. Cr. 3. (3-2).
Mr. Jennings.
- 4322. Organization and Administration of Interscholastic and Intercol-
legiate Athletic Programs. (Men). Cr. 3. Mr. Jennings.
- 4323. Organization and Administration of Camps. Cr. 3. Mr. Kireilis.
- 4324. Organization and Administration of Intramural Sports. (Men).
Cr. 3. Mr. Philbrick.
- 4326. Safety Education. Cr. 3. (3-2). Mr. Kireilis.

For Graduates

531. Administration of Physical Education. Cr. 3. Mr. Kireilis.
 532. Supervision of Physical Education. Cr. 3. Miss Dabney, Mr. Kireilis.
 533. Facilities for Physical Education. Cr. 3. Mr. Kireilis.
 534. Administration of the School Health Program. Cr. 3.
 Mr. Kireilis.
 631-632. Master's Thesis. Cr. 6.

HISTORY, ANTHROPOLOGY, AND SOCIOLOGY

Professor William M. Pearce

Head of the Department

HISTORY

MAJORS AND MINORS FOR THE MASTER'S DEGREE
AND THE DOCTOR'S DEGREE*For Undergraduates and Graduates*

430. English Colonial America. Cr. 3.
 431. History of Science and Technology. Cr. 3. Mr. Manning.
 432. Constitutional History of the United States to 1865.
 Cr. 3. Mr. McKay.
 433. Constitutional History of the United States Since 1865. Cr. 3.
 Mr. McKay.
 434. Diplomatic History of the United States to 1865. Cr. 3. Mr.
 McKay.
 435. Diplomatic History of the United States Since 1865. Cr. 3.
 Mr. McKay.
 436. Social and Cultural History of the United States to 1865. Cr. 3.
 Mr. Graves.
 437. Social and Cultural History of the United States Since 1865. Cr. 3.
 Mr. Graves.
 4311. The Old South. Cr. 3. Mr. McKay.
 4312. The Civil War and Reconstruction. Cr. 3. Mr. Wallace.
 4323. Spanish Colonial North America. Cr. 3. Mr. Vigness.
 4324. Mexico Since Independence. Cr. 3. Mr. Vigness.
 4326. Social and Cultural History of Texas. Cr. 3. Mr. Holden.
 4327. The American Frontier, 1763-1803. Cr. 3. Mr. Wallace.
 4328. The Trans-Mississippi West, 1803 to the Present. Cr. 3.
 Mr. Wallace.
 4331. History of Russia. Cr. 3. Mr. Eaves.
 4334. The French Revolution and Napoleon. Cr. 3. Mr. Pearce.
 4336. Europe Since 1918. Cr. 3. Mr. Eaves.
 4337. Twentieth Century Britain. Cr. 3. Mr. Kinchen.
 4339. Constitutional History of England. Cr. 3. Mr. Kinchen.
 4341. Early Texas History. Cr. 3. Mr. Wallace.
 4342. Texas History: the Republic and Early Statehood. Cr. 3.
 Mr. Connor.

4343. Recent Texas History. Cr. 3. Mr. McKay.
 4352. The Canadian Dominion. Cr. 3. Mr. Kinchen.
 4353. The British Empire. Cr. 3. Mr. Kinchen.
 4354. The Far East. Cr. 3. Mr. Eaves.
 4362. Medieval Civilization. Cr. 3.
 4371. Teaching History in the High School. Cr. 3.

For Graduates

530. Seminar in Southwestern History. Cr. 3. Mr. Connor,
 Mr. Wallace.
 May be repeated for credit.
 531. Seminar in Texas History. Cr. 3. Mr. Holden, Mr. McKay.
 May be repeated for credit.
 532. Seminar in American History. Cr. 3. Staff.
 May be repeated for credit.
 533. Seminar in European History. Cr. 3. Staff.
 May be repeated for credit.
 534. Historical Methods and Historiography. Cr. 3. Mr. Wallace.
 535. The American Heritage. Cr. 3. Staff.
 5355. History Appreciation for Elementary Teachers. Cr. 3.
 Enrollment limited to graduate students in elementary education.
 631-632. Master's Thesis. Cr. 6.
 731, 732. Research. Cr. 3 each.
 At the discretion of the Department, may be required of students working on the
 Doctor's dissertation.
 831-832. Doctor's Dissertation. Cr. 6.
 Required as the final registration for the dissertation.

ANTHROPOLOGY

MINORS ONLY FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

330. Cultures and Peoples of the Southwest. Cr. 3. Mr. Wendorf.
 333. Social Customs of the Plains Indians. Cr. 3.
 334. Races, Peoples, and Languages of North America. Cr. 3.
 Mr. Holden.
 335. Archaeology of America North of Mexico. Cr. 3. Mr. Wendorf.
 336-337. Archaeology of Mexico. Cr. 6.
 Conducted biennially in the summer.
 431. Field Archaeology. Cr. 3. Mr. Wendorf.
 433-434. Southwestern Archaeology. Cr. 6. Mr. Wendorf.
 A field course. Lectures, research, and excavation. Summer only.

For Graduates

531. Seminar in Anthropology. Cr. 3.
 May be repeated for credit.
 5355. Origins of Social Customs and Institutions. Cr. 3. Mr. Holden.
 Enrollment limited to graduate students in elementary education.

SOCIOLOGY

MAJORS AND MINORS FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

333. American Minority Problems. Cr. 3.

- 336. Social Life and Culture of Mexico. Cr. 3. Miss Smith.
- 337. Social Organization and Movement. Cr. 3. Mr. Crawford.
- 338. The Sociology of the Person. Cr. 3. Mr. Crawford.
- 3311. Population Problems. Cr. 3. Mr. Crawford.
- 3312. Community Organization. Cr. 3. Mr. Crawford.
- 431. Regional Patterns in American Life. Cr. 3.
- 432. Problems in Social Work. Cr. 3. Miss Smith.
- 433. Criminology. Cr. 3. Miss Smith.
- 434. Sociology of Knowledge. Cr. 3. Mr. Little.
- 436. The Development of Sociological Thought and Theory.
Cr. 3. Mr. Little.
- 437. Social Change. Cr. 3. Mr. Crawford.

For Graduates

- 531. Seminar in Social Problems. Cr. 3.
May be repeated for credit.
- 532. Research Methods in Sociology. Cr. 3.
- 631-632. Master's Thesis. Cr. 6.

HOME ECONOMICS

Dean Willa Vaughn Tinsley, Graduate Chairman

Majors for the Master's Degree in Home Economics are available in Clothing and Textiles, Food and Nutrition, Home Economics Education, and General Home Economics.

All programs for the Master's Degree in any area of Home Economics must be approved by the Graduate Chairman before they are submitted to the Dean of the Graduate School.

APPLIED ARTS

Professor A. W. Randall

Head of the Department

For Undergraduates and Graduates

- 425. Silk Screen Printing. Cr. 2. (0-6). Mrs. Beitler.
- 427. Sculpture in Wood. Cr. 2. (0-6). Mr. Randall.
- 433. Advanced Interior Design. Cr. 3. (1-6). Miss Beitler.
- 434. Metal and Plastic. Cr. 3. (1-6). Mrs. Lockard.
- 435. Jewelry and Lapidary. Cr. 3. (1-6). Mr. Randall.
- 437. Arts for Exceptional Children. Cr. 3. (2-3). Mr. Randall,
Mr. Lockhart.
- 439. Experience Training in Applied Arts. Cr. 3. (0-9). Mr. Randall,
Mr. Lockhart.
May be repeated once for credit.
- 4129. Laboratory for Psychology of Exceptional Children. Cr. 1. (0-3).
Mr. Randall.

For Graduates

531. Special Problems. Cr. 3. (1-6). Staff.
 A. Costume Design C. Textile Design E. Metal and Plastic
 B. Interior Design D. Leather F. Woodworking
 May be repeated for credit.
5335. Theory and Practice of Art for Elementary Teachers. Cr. 3.
 Mr. Randall, Mr. Lockhart.
 Enrollment limited to graduate students in elementary education.

CHILD DEVELOPMENT AND FAMILY RELATIONS

*Professor Sannie Callan
 Head of the Department

For Undergraduates and Graduates

431. Later Childhood. Cr. 3. (2-3). Miss Callan.
 432. Skills and Techniques in Work with Pre-School Child. Cr. 3.
 (2-3). Miss Callan.
 433. Family Relations. Cr. 3. Miss Callan.
 434. Adjustments of the Handicapped in the Family. Cr. 3.
 Miss Callan.
 435. Student Teaching in Pre-School. Cr. 3. (1-6). Miss Callan.
 436. Parent Education. Cr. 3. (2-3). Miss Callan.
 438. Exceptional Children in the Family. Cr. 3. (2-3). Miss Callan.

For Graduates

5336. Family Life Conference. Cr. 3. Miss Callan.
 Offered in summer only.

CLOTHING AND TEXTILES

Professor Gene Shelden
 Head of the Department

For Undergraduates and Graduates

411. Special Problems. Cr. 1. Miss Shelden.
 431. Advanced Textiles. Cr. 3. Miss Shelden.
 433. History and Philosophy of Dress. Cr. 3. Miss Shelden.
 434. Custom Tailoring. Cr. 3. (2-3). Mrs. Kinchen.
 435. Home Furnishings. Cr. 3. (2-3). Mrs. Kinchen.
 436. Advanced Pattern Design. Cr. 3. (2-3). Miss Shelden.
 437. Demonstration Clothing. Cr. 3. Mrs. Kinchen.

For Graduates

511. Advanced Clothing Units. Cr. 1. Miss Shelden.
 May be repeated for 2 or 3 hours of credit.
531. Special Problems in Clothing and Textiles. Cr. 3. Miss Shelden.
 May be repeated for 6 or 9 hours of credit.
5335. Textile Trends and Resources for Elementary Teachers. Cr. 3.
 Miss Shelden.
 Enrollment limited to graduate students in elementary education.
- 631-632. Master's Thesis. Cr. 6. Staff.

FOOD AND NUTRITION

Professor Mina W. Lamb

Head of the Department

For Undergraduates and Graduates

411. Nutrition and the School Lunch. Cr. 1. Mrs. Lamb.
 415. Food Preservation. Cr. 1. (0-3). Mrs. Holden.
 May be repeated for credit.
 431. Nutrition in Disease. Cr. 3. (2-3). Mrs. Lamb.
 432. Advanced Human Nutrition. Cr. 3. Mrs. Lamb.
 434. Food Service for Special Occasions. Cr. 3. (1-6). Mrs. Holden.
 435. Food Demonstration. Cr. 3. (2-3). Mrs. Holden.
 436. Experimental Cookery. Cr. 3. (1-6). Mrs. Lamb.

For Graduates

531. Problems in Foods and Nutrition. Cr. 3. (1-6). Mrs. Lamb.
 May be repeated for credit.
 533. Readings in Nutrition. Cr. 3. Mrs. Lamb.
 May be repeated for credit.
 5335. Principles and Applications of Nutrition for Elementary School
 Teachers. Cr. 3. Mrs. Lamb, Miss Tinsley.
 Enrollment limited to graduate students in elementary education.
 631-632. Master's Thesis. Cr. 6. Mrs. Lamb.

HOME ECONOMICS EDUCATION

Professor Vivian J. Adams

Head of the Department

For Undergraduates and Graduates

413. Instructor Training in Home Care of the Sick. Cr. 1. Staff.
 414. Specific Problems in Planning and Preparing Teaching Materials in
 Home Economics. Cr. 1. Staff.
 May be repeated for credit.
 426. Problems in Student Teaching. Cr. 2. Staff.
 433. Civil Defense in Home and Community. Cr. 3. Miss Williamson.
 435. Adult Leadership in Home Economics. Cr. 3. Miss Williamson.
 461. Student Teaching in Home Economics. Cr. 6. (3-15). Staff.

For Graduates

531. Organization and Administration of Homemaking
 Education. Cr. 3. Staff.
 532. Curriculum Development in Home Economics. Cr. 3. Staff.
 533. Evaluation in Home Economics. Cr. 3. Miss Tinsley.
 534. Techniques of Research in Home Economics. Cr. 3. Mrs. Adams.
 536. Problems. Cr. 3. Staff.
 May be repeated for credit.
 537. Techniques of Supervision in Home Economics. Cr. 3.
 Mrs. Adams.
 631-632. Master's Thesis. Cr. 6. Staff.
 Required for the Master of Science in Home Economics; optional for the Master
 of Education.

HOME MANAGEMENT

Professor Willa Vaughn Tinsley
Head of the Department

For Undergraduates and Graduates

411. Household Equipment Workshop. Cr. 1. Miss Drew.
Same as Home Management 433, but organized into independent units of one credit each, which may be repeated for credit. Offered in summer sessions only.
431. Housing the Family. Cr. 3. (2-3).
432. Home Management Residence. Cr. 3. Miss Drew.
At least six weeks of residence in supervised application of skills in all phases of home living, including the care of an infant. Students pay a fixed fee for room and board. In lieu of residence in the Home Management House, married students maintaining a home in the community and mature experienced homemakers may, with the permission of the Dean, work on personal managerial problems under supervision.
433. Household Equipment. Cr. 3. (2-3). Miss Drew.

JOURNALISM

Professor Wallace E. Garets
Head of the Department

MINORS ONLY FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

332. Magazine Article Writing. Cr. 3. Mrs. Allen.
333. Problems of the Community Newspaper. Cr. 3. Mrs. Allen.
430. Law of the Press. Cr. 3. Mr. Garets.
432. High School Publications. Cr. 3. Mr. Garets.
433. Public Opinion and Propaganda. Cr. 3. Mr. Garets.
434. Editorial Writing. Cr. 3. Mrs. Allen.
435. Newspaper Advertising Problems and Methods. Cr. 3.

MATHEMATICS

Professor Emmett A. Hazlewood
Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

AND MINORS ONLY FOR THE DOCTOR'S DEGREE

For Undergraduates and Graduates

331. Applications of Calculus. Cr. 3. Staff.
332. Differential Equations. Cr. 3. Staff.
333. Advanced Algebra. Cr. 3. Mr. Perel.
334. History of Mathematics. Cr. 3. Staff.
337. College Geometry. Cr. 3. Mr. Parker.
339. Statistical Methods. Cr. 3. Mr. Riggs.
430. Synthetic Projective Geometry. Cr. 3. Mr. Underwood.

431. Teaching of Secondary Mathematics. Cr. 3. Staff.
 432. Advanced Differential Equations. Cr. 3. Mr. Fuller.
 433. Theory of Equations. Cr. 3. Mr. Heineman.
 434, 435. Advanced Calculus. Cr. 3 each. Staff.
 436. Introduction to Finite Groups. Cr. 3. Mr. Heineman.
 437. Theory of Numbers. Cr. 3. Mr. Underwood.
 438. Solid Analytic Geometry. Cr. 3. Mr. Heineman, Mr. Parker.
 439. Vector Analysis. Cr. 3. Mr. Fuller, Mr. Hazlewood.
 4311. Extended Analytic Geometry. Cr. 3. Mr. Underwood.
 4312. Numerical Mathematical Analysis. Cr. 3. Mr. Parker, Mr. Woodward.
 4313. Probability. Cr. 3. Mr. Riggs.

For Graduates

531. Advanced Problems. Cr. 3. Staff.
May be repeated for credit.
 533. Advanced Topics in Analysis. Cr. 3. Mr. Fuller, Mr. Hazlewood.
 535. Analytic Projective Geometry. Cr. 3. Mr. Underwood.
 536, 537. Modern Algebra. Cr. 3 each. Mr. Perel.
 5312, 5313. Functions of a Complex Variable. Cr. 3 each. Mr. Sparks.
 5314, 5315. Functions of a Real Variable. Cr. 3 each. Mr. Sparks, Mr. Wenjen.
 5321. Methods of Applied Mathematics. Cr. 3. Mr. Fuller.
 631-632. Master's Thesis. Cr. 6. Staff.

MUSIC

Professor Gene L. Hemmle
 Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

APPLIED MUSIC

For Undergraduates and Graduates

- 425, 426. Voice or Instrument. Cr. 2 each.
 435, 436. Voice or Piano. Cr. 3 each.
 445, 446. Voice or Piano. Cr. 4 each.

MUSIC EDUCATION

For Undergraduates and Graduates

433. Piano Pedagogy. Cr. 3.
 437. Voice Pedagogy. Cr. 3.
 4317. Choral Conducting. Cr. 3.
 4318. Instrumental Conducting. Cr. 3.

For Graduates

- 530, 531. Seminar in Music Education. Cr. 3 each.
 532. Choral Music Workshop. Cr. 3.

533. Instrumental Music Workshop. Cr. 3.
 5335. Music for Children. Cr. 3. Mr. Elliott.
Enrollment limited to graduate students in elementary education.
 631-632. Master's Thesis. Cr. 6.

MUSIC LITERATURE

For Undergraduates and Graduates

330. Voice Repertoire. Cr. 3.
 332. Piano Repertoire. Cr. 3.
 431, 432. History of Music. Cr. 3 each.
 4351. Music in General Culture. Cr. 3.

THEORY

For Undergraduates and Graduates

- 427, 428. Instrumentation. Cr. 2 each. Mr. McCarty.
 4312. Pedagogy of Theory. Cr. 3. Miss van Appledorn.

PHYSICS

Professor C. C. Schmidt
 Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

- 312, 313. Modern Physics Laboratory. Cr. 1 each. (0-3). Mr. Gott.
 331. Light. Cr. 3. (2-3). Mr. Merrymon.
 332. Heat and Thermodynamics. Cr. 3.
 336. Electricity and Magnetism. Cr. 3.
 337. Introduction to Modern Physics. Cr. 3. Mr. Gott.
 338. Introduction to Modern Physics. Cr. 3. Mr. Gott.
 341. Electron Tubes and Applications to Physical Science. Cr. 4.
 (3-3).
 411-412. Physical Seminar. Cr. 1 each.
 415-416. Special Projects. Cr. 1 each. (0-3).
 423-424. Electrical Measurements. Cr. 2 each. (0-6) Mr. Schmidt.
 431. High School Physics Teaching. Cr. 3.
 435. Mechanics. Cr. 3. Mr. Merrymon.
 436-437. Individual Study in Specified Fields. Cr. 3 each. (3-0 or 0-9).

For Graduates

- 531-532. Theoretical Physics. Cr. 3 each.
 533-534. Quantum Mechanics. Cr. 3 each.
 535. Nuclear Physics. Cr. 3.
 536. Advanced Dynamics. Cr. 3.
 537. Electromagnetic Theory. Cr. 3.
 538-539. Geometrical and Physical Optics. Cr. 3 each.
 631-632. Master's Thesis. Cr. 6.

PSYCHOLOGY

Professor Sylvan J. Kaplan

Head of the Department

Professor William H. Melching

Assistant Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE AND THE DOCTOR'S DEGREE

Students seeking the Master's Degree with a major in Psychology must consult the Head of the Department before enrolling for any courses.

Applicants for the Doctor's Degree with a major in Psychology must possess or achieve the Master's Degree before proceeding to doctoral study. During their first semester of residence they are required to take a preliminary examination, the results of which will enable the staff to counsel them concerning the course work prior to the taking of the qualifying examination for admission to candidacy.

Applicants for either the Master's Degree or the Doctor's Degree may pursue one of two courses of study: (1) Counseling Psychology or (2) General Experimental Psychology.

On the Master's level, the student may work toward a certificate as a Public School Counselor in the usual 30-semester-hour program* or a certificate as a Vocational Rehabilitation Counselor in a program involving 45 semesters of work and, in addition, a full semester of internship in one or more of several centers established for this purpose.**

On the doctoral level, the student specializing in Counseling Psychology will be expected to complete a year of internship over and above the customary course work, that is, approximately 90 semester hours beyond the Bachelor's Degree, exclusive of the internship.

The program in general experimental psychology is designed to permit a student to have a major emphasis in any one or two of the following areas: (1) Learning, (2) Developmental, (3) Social and Personal, (4) Clinical, (5) Counseling, (6) Industrial, (7) Physiological and Comparative. This program, embodying a minimum of 90 semester hours beyond the Bachelor's Degree, places considerable emphasis on experimental design and laboratory training.

For Undergraduates and Graduates

- 431. Tests and Measurements. Cr. 3. (2-3). Mr. Barnett.
- 432. Personnel Testing. Cr. 3. (2-3). Mr. Kuntz.
- 434. Introduction to Social Psychology. Cr. 3.
- 435. Abnormal Psychology. Cr. 3. Dr. O'Loughlin.

*The program leading to certification as a counselor in the public schools is a joint enterprise of the Department of Education and the Department of Psychology. Students interested in this program are invited to write to the head of either of these departments.

**For specific information related to the curriculum in this program the student is invited to write to the Head of the Department of Psychology.

- 436. Personality Development. Cr. 3.
- 437. Experimental Psychology. Cr. 3. (2-3). Mr. McCutchan.
- 438. Experimental Psychology. Cr. 3. (2-3). Mr. McCutchan.
- 4311. Psychology of Social Change. Cr. 3.
- 4312. Methods in Clinical Psychology. Cr. 3. Mr. Kaplan.
- 4313. Counseling and Guidance. Cr. 3. Mr. Barnett.
- 4314. The Human Element in Engineering. Cr. 3. Mr. Kuntz.
- 4315. Advanced Statistical Methods. Cr. 3. Mr. Melching.
- 4316. History of Psychology. Cr. 3. Mr. Melching.
- 4317. The Psychology of Learning. Cr. 3. Mr. McCutchan.
- 4318. Industrial Training. Cr. 3. Mr. Kuntz.
- 4321. Interviewing: Principles and Practice. Cr. 3. Mr. Anderson.
- 4324. Pathology of the Eye. Cr. 3. Staff member, University of Texas, School of Medicine.
- 4325. Survey of Services and Facilities for the Blind. Cr. 3.
- 4326. Psychological Aspects of Blindness. Cr. 3.
- 4329. Psychology of Exceptional Children. Cr. 3. Mr. Kaplan.

For Graduates

- 531. Introduction to Projective Techniques. Cr. 3. Mr. Kaplan.
- 532. Problems in Psychology. Cr. 3. Staff.
- 533. Advanced Developmental Psychology. Cr. 3. Mr. Kaplan.
- 534. Practicum in Intelligence Testing. Cr. 3. Mr. Barnett.
- 536. Advanced Experimental Psychology. Cr. 3. (1-6)
Mr. Hayes, Mr. McCutchan.
- 537. Advanced General Psychology. Cr. 3. Mr. Hayes.
- 538. Experimental Design and Advanced Statistical Analysis. Cr. 3.
Mr. Melching.
- 539. Occupational Information. Cr. 3. Mr. Kuntz.
- 5312. Practicum in Occupational Information. Cr. 3. Mr. Kuntz.
- 5316. Introduction to Adjustment Counseling. Cr. 3.
Mr. Anderson.
- 5317. Techniques of Counseling and Guidance. Cr. 3. Mr. Barnett.
- 5318. Practicum in Techniques of Counseling and Guidance. Cr. 3.
Mr. Anderson.
- 5319. Advanced Industrial Psychology. Cr. 3. Mr. Kuntz.
- 5321. Learning Theory. Cr. 3. Mr. Kaplan, Mr. McCutchan.
- 5322. Advanced Physiological Psychology. Cr. 3. Mr. Kaplan, Mr. Hayes.
- 5324. Personality Theory. Cr. 3.
- 5325. Case Studies in Vocational Rehabilitation. Cr. 3. Mr. Barnett.
- 5326. Medical Aspects of Rehabilitation. Cr. 3. Staff, University of Texas, Graduate School of Medicine.
- 5331, 5332. Internship in Counseling and Guidance. Cr. 3 each.
Staff.
- 631-632. Master's Thesis. Cr. 6. Staff.
- 731, 732. Research. Cr. 3 each. Staff.
At the discretion of the Department, may be required of students working on the Doctor's dissertation.
- 831-832. Doctor's Dissertation. Cr. 6. Staff.
Required as the final registration for the dissertation.

SPEECH

Professor P. Merville Larson

Head of the Department

MAJORS AND MINORS FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

- 430. Advanced Public Speaking. Cr. 3. Mr. Larson.
 - 431. Creative Dramatics. Cr. 3. Mr. Schulz.
(May be taken for Education credit.)
 - 433. Introduction to Hearing Problems. Cr. 3. Staff.
 - 434. Principles of Audiometry. Cr. 3. Staff.
 - 435. Interpretative Reading. Cr. 3. Miss Pendleton.
 - 436. Radio and Television Program Planning and Management. Cr. 3.
 - 437. Persuasion. Cr. 3. Mr. Larson.
 - 438. Advanced Discussion, Debate, and Conference Methods. Cr. 3.
Mr. Larson.
 - 439. Methods in Teaching Speech. Cr. 3. Mr. Larson.
(May be taken for Education credit.)
 - 4311. Stage Directing Methods. Cr. 3. Mr. Schulz.
(May be taken for Education credit.)
 - 4318. Introduction to Speech Correction. Cr. 3. Miss Lindell.
(May be taken for Education credit.)
 - 4319. Speech Correction Methods. Cr. 3. Miss Lindell.
(May be taken for Education credit.)
 - 4321-4322. Supervised Clinical Practice in Speech Correction. Cr. 3 each.
Miss Lindell.
- Required of teachers desiring Certificate of Approval for Speech Therapy. (May be taken as 4221, 4222, 4223 for 2 credit hours each.) (May be taken for Education credit.)
- 4325. Directing School Speech Activities. Cr. 3. Mr. Larson,
Mr. Schulz.
(May be taken for Education credit.)
 - 4351. History of Speech and Theater. Cr. 3. Mr. Larson, Mr. Schulz.

For Graduates

- 531. Studies and Problems in Speech. Cr. 3. Staff.
May be repeated for credit.
 - 535. Pathology of the Hard-of-Hearing. Cr. 3.
 - 536. Speech Pathology. Cr. 3.
(May be taken for Education credit.)
 - 5335. Basic Speech for Elementary Teachers. Cr. 3. Mr. Larson,
Miss Pendleton.
- Enrollment limited to graduate students in elementary education.
- 631-632. Master's Thesis. Cr. 6. Staff.

ADMINISTRATIVE OFFICIALS AND GRADUATE FACULTY

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JAMES L. LINDSEY, Vice Chairman

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 ROBERT CABANISS GOODWIN, B.A., M.A., Ph.D., Dean of Arts and Sciences.
 GEORGE GAIL HEATHER, B. S., M.A., Ph.D., Dean of Business Administration.
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 JACOB HOMER MILLIKIN, B.A., M.A., Director of Extension.
 FLORENCE LOUISE PHILLIPS, A.B., M.A., Dean of Women.
 SHIRLEY FRANCES SCHULZ, B.S., Director of Food Service.
 WENZEL LOUIS STANGEL, B.S., M.S., LL.D., Dean of Agriculture.
 JOHN GATES TAYLOR, Auditor.
 WILLA VAUGHN TINSLEY, B.S., M.S., Ph.D., Dean of Home Economics.
 CLAUDE ADRIAN VAUGHAN, B.A., M.J., Acting Director of Public Information.
 NEWTON B. WILKERSON, B.A., Lieutenant Colonel, U. S. Air Force, Professor of Air Science.

* * * * *

- MARGARET R. BIRKMAN, B.S., Assistant Director of Food Service.
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 DOROTHY TAFT GARNER, B.A., M.A., M.E., Assistant Dean of Women in Charge of Dormitory Supervision for Women.
 WILLIAM RAY GEISERT, A.B., M.S., in Ed., Assistant Dean of Men and Head Supervisor of Dormitories for Men.
 SABE McCLAIN KENNEDY, Jr., B.A., M.A., Ph.D., Assistant Dean of Arts and Sciences.
 ROBERT LEE NEWELL, B.S., M.S., Assistant Dean of Engineering.
 JAMES EDWARD PLATZ, B.A., B.S. in L.S., Associate Librarian.

ROBERT BYRON PRICE, B.B.A., C.P.A., Internal Auditor.
 JAMES ARTHUR RUSHING, B.S., M.A., Acting Supervisor of Registration.
 JOE WALKER SEAY, B.B.A., Assistant Purchasing Agent.
 VIRGINIA LEE SNELLING, B.A., Assistant Auditor and Payroll Supervisor.
 LUTHER LEONARD STEGER, B.B.A., Assistant Auditor.
 JACQUELINE ANN STERNER, A.B., M.S., Assistant Dean of Women.
 VERNON EARL THOMPSON, B.B.A., Assistant Comptroller.
 JAMES BERLYN WHITEHEAD, A.B., Assistant Dean of Student Life.
 BILLY JOE WHITTED, B.J., M.J., Assistant Director of Public Information.

THE GRADUATE COUNCIL

1956-1957

The Graduate Council is composed of twelve members, nine of whom are elected by the Graduate Faculty, and three of whom are appointed by the Dean, who is *ex officio* chairman of the Council. Members serve for a period of three years and are not eligible for immediate re-election. By a system of rotation, some new members join the Council each year, replacing those whose term of office has expired. The Graduate Council is charged with the responsibility of formulating the policies of the Graduate School and the requirements for graduate degrees. These policies are administered by the Dean. The date in parentheses after a name indicates the year of expiration of term of office.

WILLIAM BRYAN GATES, Ph.D., Professor of English and Dean of the Graduate School, Chairman.
 BYRON ROBERT ABERNETHY, Ph.D., Professor of Government. (1959)
 VERNON THOMAS CLOVER, Ph.D., Professor of Economics. (1958)
 SEYMOUR VAUGHAN CONNOR, Ph.D., Professor of History and Director of the Southwest Collection. (1959)
 JOHN CLARKSON DOWLING, Ph.D., Professor and Head of the Department of Foreign Languages. (1959)
 RAYMOND K. FLEGE, M.S., Professor and Head of the Department of Textile Engineering. (1958)
 *ROBERT CABANISS GOODWIN, Ph.D., Professor of Chemistry and Dean of Arts and Sciences. (1957)
 CLARK HARVEY, Ph.D., Assistant Professor of Agronomy. (1959)
 SYLVAN JULIAN KAPLAN, Ph.D., Professor and Head of the Department of Psychology and Coordinator of Research. (1958)
 **GEORGE PEYTON MECHAM, Ph.D., Associate Professor of Education. (1957)
 ***RUSSELL WILLIAM STRANDTMANN, Ph.D., Professor of Biology. (1957)
 WILLA VAUGHN TINSLEY, Ph.D., Professor and Head of the Department of Home Management and Dean of Home Economics. (1958)
 MORRIS SHEPPARD WALLACE, Ed.D., Professor and Head of the Department of Education. (1959)

Effective Sept. 1, 1957:

*HENRY JOSEPH SHINE, Ph.D., Assistant Professor of Chemistry. (1960)
 **THOMAS BROOKS LIVINGSTON, Ed.D., Associate Professor of Education. (1960)
 ***JAMES CECIL CROSS, Ph.D., Professor and Head of the Department of Biology. (1960)

GRADUATE FACULTY

1956-1957

Membership on the Graduate Faculty is determined by the Graduate Council, chiefly on the basis of an individual's scholarly activities. The Graduate Faculty comprises two groups: MEMBERS, who participate in all phases of the graduate program, including the direction of research for the Doctor's Degree, and ASSOCIATE MEMBERS, who teach graduate courses and direct research for the Master's Degree. The following roster includes both Members and Associate Members of the Graduate Faculty for 1956-57.

EDWARD NEWLON JONES, Ph.D., President.

BURL MONROE ABEL, M.B.A., Associate Professor of Accounting and Finance.

BYRON ROBERT ABERNETHY, Ph.D., Professor of Government.

VIVIAN JOHNSON ADAMS, M.A., Professor and Head of the Department of Home Economics Education.

JAMES GEORGE ALLEN, M.A., Professor of English and Dean of Student Life.

LOUISE CRAWFORD ALLEN, M.A., Assistant Professor of Journalism.

THEODOR WALTER ALEXANDER, M.S., Assistant Professor of Foreign Languages.

HUGH ALLEN ANDERSON, M.A., Associate Professor of Economics.

ROBERT PAUL ANDERSON, Ph.D., Assistant Professor of Psychology and Director of the Rehabilitation Counseling Program.

WILLIAM BURNSIDE ARPER, Jr., Ph.D., Associate Professor of Geology.

DONALD ASHDOWN, Ph.D., Professor of Horticulture and Park Management.

CECIL IRVY AYERS, M.S., Associate Professor of Agronomy.

ALBERT BARNETT, Ph.D., Professor of Education, Professor of Psychology, and Director of the Testing and Counseling Center.

NOLAN ELLMORE BARRICK, M.A., Professor and Head of the Department of Architecture and Allied Arts and Supervising Architect.

JOHN HENRY BAUMGARDNER, M.S., Associate Professor of Animal Husbandry.

ETHEL JANE BEITLER, M.Ed., Assistant Professor of Applied Arts.

JAMES WAYLAND BENNETT, Ph.D., Associate Professor and Acting Head of the Department of Agricultural Economics.

*DAVID JACOB BESDIN, Ph.D., Associate Professor of Physics.

RAY VERNE BILLINGSLEY, M.S., Assistant Professor of Agricultural Economics.

LAWRENCE EDWARD BOWLING, Ph.D., Assistant Professor of English.

HAROLD ARTHUR BLUM, Ph.D., Associate Professor of Petroleum Engineering.

JOHN ROSS BRADFORD, Ph.D., Professor of Chemical Engineering and Dean of Engineering.

WELDON LEROY BRADSHAW, B.S. in Arch., Professor of Architecture.

JOHN PAUL BRAND, Ph.D., Associate Professor of Geology.

BRUCE CORNELIUS BROWNING, Ed.D., Assistant Professor of Education.

CHARLES VICTOR BULLEN, M.S. in E.E., Professor and Head of the Department of Electrical Engineering.

FAYE LAVERNE BUMPASS, D. Litt., Assistant Professor of English.

WILLIAM GASTON CAIN, Jr., Ph.D., Associate Professor of Management.

SANNIE CALLAN, M.A., Professor and Head of the Department of Child Development and Family Relations.

EARL D. CAMP, Ph.D., Associate Professor of Biology.

TRUMAN WILDES CAMP, Ph.D., Professor and Head of the Department of English.

RAY LEON CHAPPELLE, M.S., Professor and Head of the Department of Agricultural Education.

*Deceased May 6, 1957.

- VERNON THOMAS CLOVER, Ph.D., Professor of Economics.
- SEYMOUR VAUGHAN CONNOR, Ph.D., Professor of History and Director of the Southwest Collection.
- LEWIS BRISCOE COOPER, Ph.D., Professor of Education.
- WILLIAM MOORE CRAIG, Ph.D., Professor of Chemistry.
- FRED ROBERTS CRAWFORD, Ph.D., Assistant Professor of Sociology.
- *HERMAN ROBERT CROOKSHANK, Ph.D., Associate Professor of Animal Husbandry and Animal Nutritionist, Pan-Tech Field Laboratory.
- JAMES CECIL CROSS, Ph.D., Professor and Head of the Department of Biology.
- MARY BURWELL DABNEY, Ed.D., Professor and Associate Head of the Department of Health and Physical Education and Recreation.
- RAYMOND LEON DAVIDSON, Ed.D., Associate Professor of Education.
- JAMES WILLIAM DAVIS, Ph.D., Professor and Head of the Department of Government.
- CHARLES GARFIELD DECKER, M.S. in E., Professor of Civil Engineering.
- HARRY DE LA RUE, M.A., Assistant Professor of History.
- JOE DENNIS, Ph.D., Professor and Head of the Department of Chemistry and Chemical Engineering.
- JOHN GORDON DENNIS, Ph.D., Assistant Professor of Geology.
- MERTON LYNN DILLON, Ph.D., Assistant Professor of History.
- JOHN CLARKSON DOWLING, Ph.D., Professor and Head of the Department of Foreign Languages.
- LOLA MARIE DREW, M.A., Associate Professor of Home Management.
- WILLIAM LYON DUCKER, B.S., Professor and Head of the Department of Petroleum Engineering.
- CHARLES DUDLEY EAVES, Ph.D., Professor of History.
- GEORGE OLIVER ELLE, Ph.D., Professor of Horticulture and Park Management and Assistant Dean of Agriculture.
- RAYMOND PRUITT ELLIOTT, M.S., Associate Professor of Music.
- WOLFGANG EUGENE ELSTON, Ph.D., Assistant Professor of Geology.
- GEORGE K. ESTOK, Ph.D., Associate Professor of Chemistry.
- PATRICIA FAIN, Ph.D., Assistant Professor of Chemistry.
- BERLIE JOSEPH FALLON, Ed.D., Assistant Professor of Education.
- NEIL CASEY FINE, Ph.D., Professor and Acting Head of the Department of Animal Husbandry.
- RAYMOND KENNETT FLEGE, M.S., Professor and Head of the Department of Textile Engineering.
- ELFRIEDA FRANK, Ph.D., Assistant Professor of Foreign Languages.
- GORDON FULLER, Ph.D., Professor of Mathematics.
- STERLING HALE FULLER, Ph.D., Associate Professor of Government.
- WALLACE EARL GARETS, M.S., Associate Professor and Head of the Department of Journalism.
- RAYMOND ERNEST GARLIN, Ph.D., Professor of Education.
- EUNICE JOINER GATES, Ph.D., Professor of Foreign Languages.
- WILLIAM BRYAN GATES, Ph.D., Professor of English and Dean of the Graduate School.
- CLEVE KLEIN GENZLINGER, M.M., Instructor in Music.
- GUSTAV ERNST GIESECKE, Ph.D., Professor of Foreign Languages and Vice President.
- EVERETT ALDEN GILLIS, Ph.D., Professor of English.

*Employed by the Texas Agricultural Experiment Station and the United States Department of Agriculture.

- HOWARD ELDON GOLDEN, Ph.D., Associate Professor of Marketing.
- ROBERT CABANISS GOODWIN, Ph.D., Professor of Chemistry and Dean of Arts and Sciences.
- PRESTON FRAZIER GOTT, M.A., Assistant Professor of Physics.
- LAWRENCE LESTER GRAVES, Ph.D., Assistant Professor of History.
- HERBERT MARVIN GREENBERG, Ph.D., Assistant Professor of Psychology and Associate Director of the Vocational Rehabilitation Counseling Program.
- JOHN CALDWELL GUILDS, Jr., Ph.D., Associate Professor of English.
- ALAN MURRAY FINLAY GUNN, Ph.D., Professor of English.
- THOMAS EARLE HAMILTON, Ph.D., Professor of Foreign Languages.
- FRED GEORGE HARBAUGH, D.V.M., Professor of Animal Husbandry and Veterinary Science and Veterinarian.
- JOHN ELZIE HARDING, M.A., Assistant Professor of Management.
- CLARK HARVEY, Ph.D., Associate Professor of Agronomy.
- KEITH JAMES HAYES, Ph.D., Associate Professor of Psychology.
- EMMETT ALLEN HAZLEWOOD, Ph.D., Professor and Head of the Department of Mathematics.
- GEORGE GAIL HEATHER, Ph.D., Professor of Economics and Dean of Business Administration.
- ELLIS RICHARD HEINEMAN, M.A., Professor of Mathematics.
- DONALD JACOB HELMERS, M.S., Assistant Professor of Mechanical Engineering.
- GENE LeCLAIR HEMMLE, Ed.D., Professor and Head of the Department of Music.
- GLADYS KEEN HOLDEN, M.S., Assistant Professor of Food and Nutrition.
- WILLIAM CURRY HOLDEN, Ph.D., Professor of History and Anthropology and Director of the Museum.
- CHARLES ERNEST HOUSTON, M.A., Associate Professor of Electrical Engineering.
- DOYLE DAVID JACKSON, Ph.D., Professor of Education.
- J. W. JACKSON, M.A., Professor of Government.
- WILLIAM MORLEY JENNINGS, B.S., Professor of Health and Physical Education and Recreation.
- CECIL EARL JOHNSON, Ph.D., Instructor in Government.
- SYLVAN JULIAN KAPLAN, Ph.D., Professor and Head of the Department of Psychology and Coordinator of Research.
- SABE McCLAIN KENNEDY, Ph.D., Associate Professor of Government and Assistant Dean of Arts and Sciences.
- LILA ALLRED KINCHEN, M.S., Associate Professor of Clothing and Textiles.
- OSCAR ARVLE KINCHEN, Ph.D., Professor of History.
- RAMON WALTER KIREILIS, P.Ed.D., Professor and Head of the Department of Health and Physical Education and Recreation.
- FLORIAN ARTHUR KLEINSCHMIDT, M.Arch., Professor of Architecture and Allied Arts.
- JAMES EDWARD KUNTZ, Ph.D., Associate Professor of Psychology.
- MINA WOLF LAMB, Ph.D., Professor and Head of the Department of Food and Nutrition.
- MILTON FREDERIC LANDWER, Ph.D., Professor of Zoology.
- PAUL MERVILLE LARSON, Ph.D., Professor and Head of the Department of Speech.
- THOMAS LUTHER LEACH, M.S., Professor of Agricultural Education.
- SAMUEL HUNT LEE, Jr., Ph.D., Associate Professor of Chemistry.
- ARCHIE LEROY LEONARD, M.S., Associate Professor of Agricultural Economics.
- LESTER SAMUEL LEVY, Ph.D., Assistant Professor of Economics.
- HELEN ALMA LINDELL, M.A., Assistant Professor of Speech.
- IVAN LEE LITTLE, Ph.D., Associate Professor of Education and Philosophy.
- BOYD ANTHONY LITZINGER, Ph.D., Instructor in English.
- THOMAS BROOKS LIVINGSTON, Ed.D., Associate Professor of Education.

- ROBERT IVAN LOCKARD, M.S., Professor of Architecture.
- TROY ALLEN LOCKARD, M.A., Assistant Professor of Applied Arts.
- BILLY CLARENCE LOCKHART, Ed.D., Associate Professor of Applied Arts.
- RAYMOND DeELMONT MACK, M.A., Instructor in Government.
- THOMAS GREEN MANNING, Ph.D., Associate Professor of History.
- RICHARD BENJAMIN MATTOX, Ph.D., Associate Professor of Geology.
- ELMER LEON McBRIDE, M.S., Professor of Agricultural Economics.
- DARRELL KEITH McCARTY, M.Mus., Instructor in Music.
- JOSEPH THOMAS McCULLEN, Jr., Ph.D., Professor of English.
- KENNETH S. McCUTCHAN, Ph.D., Associate Professor of Psychology.
- SETH SHEPARD McKAY, Ph.D., Professor of History.
- GEORGE PEYTON MECHAM, Ph.D., Associate Professor of Education.
- WILLIAM HOWARD MELCHING, Ph.D., Assistant Professor and Assistant Head of the Department of Psychology.
- WILLIAM WALTER MERRYMON, Ph.D., Associate Professor of Physics.
- FREDIS LLOYD MIZE, Ed.D., Professor and Head of the Department of Management.
- ALFRED OTTO MONASCH, Diplom-Ingenieur, Technical University of Berlin-Charlottenburg, Assistant Professor of Mechanical Engineering.
- RAY CLIFFORD MOWERY, M.S., Professor of Animal Husbandry.
- JAMES HAROLD MURDOUGH, M.S.E., Professor and Head of the Department of Civil Engineering.
- DONALD VAN DALE MURPHY, M.A., Associate Professor of English.
- KLINE ALLEN NALL, Ph.D., Associate Professor of English.
- KOY L. NEELEY, M.S., Associate Professor of Animal Husbandry.
- DORIS NESBITT, M.S., Assistant Professor of Home Economics Education.
- ROBERT LEE NEWELL, M.S., in M.E., Professor of Mechanical Engineering and Assistant Dean of Engineering.
- AARON GUSTAF OBERG, Ph.D., Professor of Chemistry and Chemical Engineering.
- WILLIAM EUGENE ODEN, M.A., Instructor in Government.
- CECIL THOMAS OVERBY, M.S., in C.E., Associate Professor of Civil Engineering.
- ROBERT MARSHALL PARKER, M.A., Assistant Professor of Mathematics.
- RODERICK PARKINSON, M.Ed., Assistant Professor of Architecture.
- L. E. PARSONS, B.S., Professor of Textile Engineering.
- WILLIAM ROBERT PASEWARK, Ph.D., Associate Professor and Acting Head of the Department of Business Education.
- WILLIAM MARTIN PEARCE, Ph.D., Professor and Head of the Department of History, Anthropology, and Sociology.
- ANNAH JOE PENDLETON, M.A., Professor of Speech.
- ANDREW CLINTON PEREBOOM, Ph.D., Assistant Professor of Psychology.
- WILLIAM MORRIS PEREL, Ph.D., Assistant Professor of Mathematics.
- GEORGE REX PHILBRICK, M.Ed., Associate Professor of Health and Physical Education and Recreation.
- LOUIS JOHN POWERS, M.S., in M.E., Professor and Head of the Department of Mechanical Engineering.
- PAUL VERDAYNE PRIOR, Ph.D., Assistant Professor of Biology.
- VERNON WILLARD PROCTOR, Ph.D., Assistant Professor of Biology.
- CHARLES BLAISE QUALIA, Ph.D., Professor of Foreign Languages.
- SUE AVA RAINEY, M.A., Associate Professor of Health and Physical Education and Recreation.
- ARNE WILLIAM RANDALL, M.A., Professor and Head of the Department of Applied Arts.
- ROBERT GEORGE REKERS, Ph.D., Assistant Professor of Chemistry.

JULES ALEXANDER RENARD, Licencie en Sciences Chimiques, Univ. Paul Pastur, Belgium; Ingenieur-Chimiste, Univ. de Nancy, France, Associate Professor of Chemical Engineering.

CARL BUCKNER REXROAD, Ph.D., Assistant Professor of Geology.

CHARLES LATHAN RIGGS, Ph.D., Associate Professor of Mathematics.

ARTHUR THEOPHILE ROBERTS, Ph.D., Assistant Professor of Accounting and Finance.

*WILLIAM ROBERTS, Ph.D., Assistant Professor of Foreign Languages.

ROBERT LYLE ROUSE, Ph.D., Associate Professor of Economics and Finance.

ROBERT HENRY RUCKER, M.S., Associate Professor of Horticulture and Park Management.

REGINALD RUSHING, Ph.D., Professor and Head of the Department of Accounting and Finance.

OSCAR ALLEN ST. CLAIR, B.S., in E.E., Professor of Industrial Engineering and Assistant to the Dean of Engineering.

ROY JOHNSON SAMPSON, Ph.D., Assistant Professor of Economics.

ELIZABETH SKIDMORE SASSER, Ph.D., Associate Professor of Architecture and Allied Arts.

CLARENCE CARL SCHMIDT, Ph.D., Professor and Head of the Department of Physics.

RONALD EDWARD SCHULZ, M.A., Assistant Professor of Speech.

JESSE Q. SEALEY, Ph.D., Professor of Biology.

*ROY THOMAS SHAW, Ph.D., Professor and Head of the Department of Marketing.

MARTHA GENE SHELDEN, Ph.D., Professor and Head of the Department of Clothing and Textiles.

HENRY JOSEPH SHINE, Ph.D., Assistant Professor of Chemistry.

DESKIN HUNT SHURBET, Jr., M.A., Assistant Professor of Geology and Director of the Seismological Observatory.

WILLIAM MACKEY SLAGLE, M.A., Professor of Chemistry.

MABEL BROOKS SMITH, M.A., Assistant Professor of Sociology.

FRED WINCHELL SPARKS, Ph.D., Professor of Mathematics.

WENZEL LOUIS STANGEL, M.S., LL.D., Professor of Animal Husbandry and Dean of Agriculture.

PER GUSTAF STENSLAND, Ph.D., Professor of Education and Head of the Adult Education Program.

RUSSELL WILLIAM STRANDTMANN, Ph.D., Professor of Biology.

ALFRED BELL STREHLI, M.A., Associate Professor of Foreign Languages.

ALAN LANG STROUT, Ph.D., Professor of English.

RICHARD ARTHUR STUDHALTER, Ph.D., Professor of Botany.

*DONALD JOSEPH TATE, Ed.D., Professor and Head of the Department of Business Education.

HASKELL GRANT TAYLOR, M.A., Professor of Accounting and Finance.

GUSSIE LEE TEAGUE, M.A., Associate Professor of English.

WILLA VAUGHN TINSLEY, Ph.D., Professor of Home Economics, Head of the Department of Home Management, and Dean of Home Economics.

JAMES EMERSON TITUS, M.A., Instructor in Government.

RICHARD KRAUSE TRACY, B.F.A., Assistant Professor of Architecture.

**AGNES ANN TRUE, Ph.D., Professor of Psychology.

SCOTTI MAE TUCKER, Ph.D., Assistant Professor of Foreign Languages.

KIRK B. TURNER, M.S., Associate Professor of Animal Husbandry.

RALPH SYLVESTER UNDERWOOD, Ph.D., Professor of Mathematics.

*On leave of absence.

**Deceased Dec. 25, 1956.

- ELO JOE URBANOVSKY, B.S., Professor and Head of the Department of Horticulture and Park Management and College Landscape Architect.
- MARY JEANNE van APPLIEDORN, M.Mus., Assistant Professor of Music.
- DAVID MARTELL VIGNESS, Ph.D., Assistant Professor of History.
- FRANKLIN ALTON WADE, Ph.D., Professor and Head of the Department of Geology.
- HARRY STUART WALKER, M.B.A., Assistant Professor of Economics.
- ERNEST WALLACE, Ph.D., Professor of History.
- MORRIS SHEPPARD WALLACE, Ed.D., Professor and Head of the Department of Education and Philosophy.
- WESLEY WILLIAM WENDLANDT, Ph.D., Assistant Professor of Chemistry.
- FRED DENVER WENDORF, Ph.D., Associate Professor of Anthropology and Assistant Director of the Museum.
- CHIEN WENJEN, Ph.D., Assistant Professor of Mathematics.
- OLIVE BOONE WHEELER, Ed.D., Assistant Professor of Education.
- GEORGE ARTHUR WHETSTONE, Ph.D., Professor of Civil Engineering.
- THOMAS FERDINAND WIESEN, M.B.A., Professor and Head of the Department of Economics.
- DEWEY O. WILEY, D.Mus., Professor of Music and Director of Bands.
- RANDOLPH CARROLL WILHOIT, Ph.D., Assistant Professor of Chemistry and Chemical Engineering.
- IRA LAWSON WILLIAMS, M.S., Professor and Head of the Department of Agricultural Engineering.
- WENDELL WILFRED WILLIAMS, Ph.D., Assistant Professor of Education and Executive Associate in the Adult Education Program.
- BILLIE FRANCES WILLIAMSON, M.A. Associate Professor of Home Economics Education.
- JUDDIE JOHNSON WILLINGHAM, Ph.D., Professor and Head of the Department of Dairy Industry.
- HORACE EUGENE WOODWARD, M.A., Associate Professor of Mathematics.
- WARREN WATSON YOCUM, Ph.D., Professor of Horticulture and Park Management.
- ARTHUR WESLEY YOUNG, Ph.D., Professor and Head of the Department of Agronomy.