

Bulletin
OF THE
Texas Technological
College

Published Monthly

VOL. XIV

SEPTEMBER 1, 1938

No. 8



Division Of Graduate Studies

Announcements

for

1938-39

and

Summer 1939

TEXAS TECHNOLOGICAL COLLEGE

LUBBOCK, TEXAS

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

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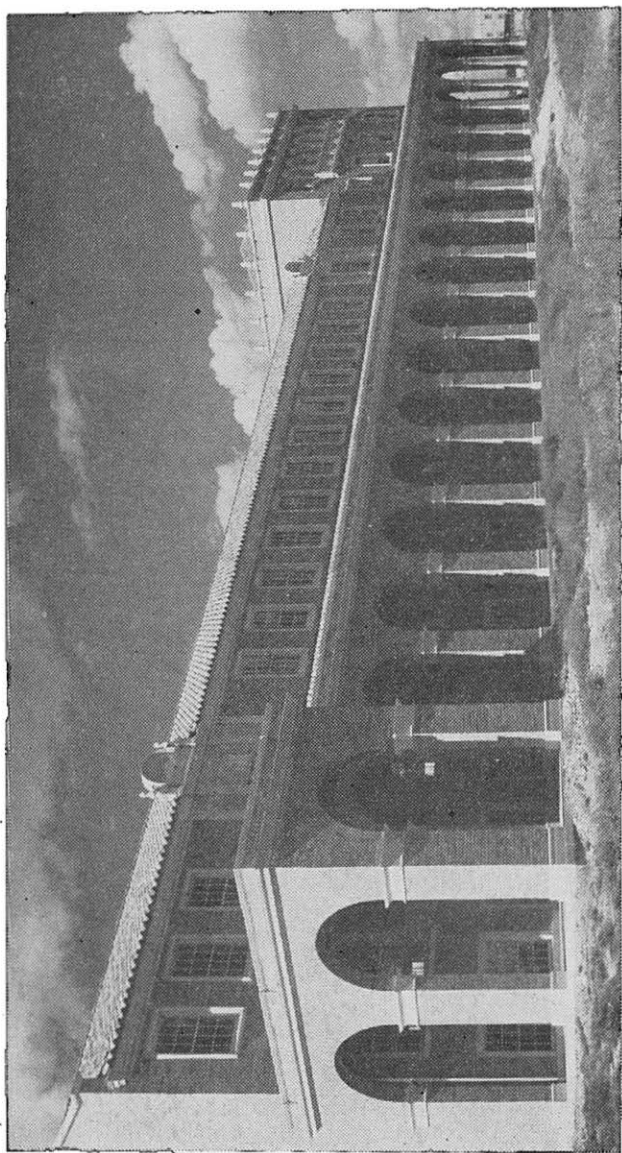
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Library Building

GRADUATE DIVISION CALENDAR

FIRST SEMESTER

1938

- September 15, Thursday. Meeting of the faculty interested in graduate work.
- September 16-17, Friday-Saturday. Advance registration conferences for graduate students. All transcripts should be in by this date.
- September 19-20, Monday-Tuesday. Registration of graduate students.
- December 17, Saturday. Christmas Holidays begin 6:00 P. M.

1939

- January 23-28, Monday-Saturday. Final examinations for the First Semester.

SECOND SEMESTER

- January 30-31, Monday-Tuesday. Registration.
- April 29, Saturday. Last day for approval of thesis outline for June candidates.
- May 15, Monday. Final copy of thesis for June candidates due.
- May 25, Thursday. Last day for submission of copies of thesis for binding.
- May 26, Friday. Annual reception to graduating class by the President, President's home.
- May 27, Saturday. Alumni Banquet.
- May 28, Sunday. Baccalaureate Sermon.
- May 29, Monday. Commencement Day.

SUMMER SCHOOL

- June 2-3, Friday-Saturday. Advance registration conferences for graduate students.
- June 5-6, Monday-Tuesday. Registration.
- July 25, Tuesday. Last day for approval of thesis outline for August graduates.
- August 11, Friday. Final copy of thesis for August graduates due.
- August 21, Monday. Last day for submission of copies of thesis for binding.
- August 25, Friday. Summer school closes.

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THE DIVISION OF GRADUATE STUDIES

GENERAL INFORMATION

General information covering the relation of the student to the institution is the same as given in the Thirteenth Annual Catalogue on Pages 22 to 65. This reference is made to the general catalogue for information concerning the physical plant of the College, its general organization, its general policies as well as necessary expenses, and general regulations for students so that the graduate student may familiarize himself with the College and its regulations.

GRADUATE FELLOWSHIPS

Graduate teaching fellowships are annually available in the Departments of Foods and Nutrition; Child Development and Family Relations; Biology; Chemistry and Chemical Engineering; Economics and Business Administration; Education; English; Geology and Petroleum Engineering; Government; Physics; Plant Industry; Agricultural Education; and from time to time in other departments. In addition to these teaching fellowships, research fellowships are at times available in the various departments. At present the following research fellowships exist: Texas Cottonseed Crushers Association in the Department of Animal Husbandry, the Sears Roebuck Fellowship in the Department of Agricultural Education, Small Grains Investigations in the Department of Plant Industry and the Cotton Research Foundation Fellowship in the Department of Chemistry and Chemical Engineering.

Application for fellowships should be addressed to the Dean of the Graduate Division who will make all appointments upon recommendation of the departments and divisions concerned.

HISTORY OF THE GRADUATE DIVISION

During the school year 1927-28, plans were perfected to promote advanced study and research in those departments of Texas Technological College that were qualified to give graduate work. The Graduate Committee, appointed from the faculty of the School of Liberal Arts, supervised the work of students meeting the requirements for the Master of Arts degree. Beginning in 1932, candidates were accepted for the Master of Science degree. In 1935, the Division of Graduate Studies was created and September, 1937, a Dean of the Graduate Division was named.

The Dean of the Graduate Division, working with the Graduate Committee, co-ordinates the graduate activities throughout the College, provides regulations for admission to the Graduate Division, determines the requirements for degrees, and recommends for degrees the candidates who have completed their work.

ADMINISTRATION

The Division of Graduate Studies is administered by a dean and a graduate committee, functioning under the supervision of the

President and the Administrative Council. All matters of policy must be approved by the above named groups and individuals. The Dean of the Graduate Division is responsible for the execution of all regulations pertaining to the graduate student and all matters relating to graduate work should be addressed to him.

DEGREES

Texas Technological College offers the degrees: Master of Arts, Master of Science, Master of Education, and Master of Business Administration.

It is to be distinctly understood that these degrees are not awarded on the basis of the completion of a certain period of residence and the passing of a certain number of courses. The divisions of study in the Graduate Division are subjects or fields of study, not courses. While it is true that for purposes of administration the work required for the Master's degrees is specified in terms of semester hours, courses are merely introductions to a subject. The student can not expect to secure from formal courses the knowledge, training and understanding necessary for an advanced degree. Wide and critical reading in the major, minor and related fields which may raise unanswered questions is the basis for research. The finding of answers to these questions constitutes research. The two are necessary components of graduate work. It is, then, obvious that the graduate student should be a superior student. Students with mediocre or inferior undergraduate records are not encouraged to pursue graduate work and may be allowed to do so only after satisfactorily demonstrating that they can do so by the completion of work prescribed by the major department and for which they will receive no graduate credit.

ADMISSION TO THE GRADUATE DIVISION

Admission to the Graduate Division is under the supervision of the Registrar of the College. All correspondence on this subject should be addressed to him. The primary prerequisite for admission is the Bachelor's degree from Texas Technological College or the equivalent from a recognized college or university which was so recognized by an acceptable crediting agency at the time the degree was conferred.

Admission of students from other colleges is based upon the official transcript of their work at such institutions which must be filed with the Registrar. Upon request, and receipt of the transcript, the Registrar will furnish the applicant and the Dean of the Graduate Division a statement concerning his eligibility to pursue graduate work in certain fields together with any deficiencies which must be removed prior to full acceptance as a graduate student. Upon admittance to the Graduate Division, the student will be furnished a permit to register as a graduate student by the Registrar. Having this permit, the student should consult with the Dean of the Graduate Division.

THE GRADUATE STUDENT

The following students come under the supervision of the Dean of the Graduate Division and should report to him for registration:

1. Candidates for Master's degrees.
2. Students who have received a Bachelor's degree from a recognized institution but who are not candidates for any higher degree provided:
 - A. They are not candidates for a second bachelor's degree.
 - B. The majority of the work for which they have enrolled is of graduate caliber. In case the majority of the work carried be of undergraduate character the student will report to the dean of the division in which this work is given. In such event any and all courses which may be used for graduate credit must have the approval of the Graduate Dean.

Another class of students who are not to be considered graduate students may pursue graduate work. Students, in residence, who lack six semester hours or less of having completed the requirements for the bachelor's degree may, with prior approval of the dean of the divisions concerned, enroll for courses carrying graduate credit while completing their undergraduate requirements. Though such students are not under his supervision, the Dean of the Graduate Division must approve all courses which the student may use for graduate credit. Furthermore, in such cases, if graduate credit is desired for any part of the work carried, the combined load of graduate and undergraduate courses must not exceed fifteen semester hours.

CANDIDACY FOR THE MASTER'S DEGREE

A graduate student enrolled in the Graduate Division does not automatically become a candidate for a Master's degree. To become a candidate the student must complete the following requirements:

1. Acceptance as a candidate by the departments in which the major and minor work is to be performed.

To be accepted as a candidate by the department, the student shall present undergraduate work equivalent to a major in that department or shall have completed a minimum of twelve semester hours of advanced undergraduate work in the major department together with advanced undergraduate courses in closely allied fields.

In the minor field the student must have completed the equivalent of the minor required for the undergraduate degree in the department in which the minor is taken. Normally this requirement is fulfilled by the completion of eighteen semester hours of work in that department of which at least

six semester hours shall be of advanced undergraduate rank. Upon special recommendation of a department and with the approval of the dean of that division, courses in allied fields may be considered as partially fulfilling the minor prerequisite, provided that at least six semester hours of advanced undergraduate work in the minor be included.

In the event that a student can not meet the requirements for either the major or minor department, the student should remove such deficiencies at the earliest possible date and graduate credit on all courses will be held in abeyance until the removal of such deficiencies. Furthermore, if a period of five years has elapsed since the student has received his bachelor's degree, and, if he has not been regularly enrolled as a student since that date, suitable levelling courses may be prescribed which the student must complete without graduate credit before the student will be accepted as a candidate for a Master's degree.

In some departments such acceptance is predicated upon the satisfactory completion of an examination over the general field of undergraduate work. It is the policy of the Graduate Division to encourage the requirement of such a preliminary examination.

2. Completion of an application for the Master's degree.

This application will contain a detailed outline of the proposed course of study, including not only the probable courses but also the nature of the investigation which may be summarized in a thesis. The names of the examining and advisory or thesis committee will also appear on this application. It is recommended that this application be completed at the time of the first registration as a graduate student. Nine semester hours of graduate work may be completed, however, before the submission of the application is required. Not more than nine semester hours completed before the approval of the application may count toward the Master's degree.

Final approval of the application by the Dean of the Graduate Division will be withheld until the student has demonstrated not only his ability to pass graduate courses in a creditable manner but that he is of graduate attainment. This involves not only the passing of courses creditably but also an attitude of mind.

As these proceedings require some time for consummation, the prospective graduate student is advised to make preliminary arrangements by mail or in person prior to the registration date.

REQUIREMENTS FOR THE MASTER'S DEGREE

GENERAL REGULATIONS

1. *Amount of Work:* The minimum amount of work beyond the Bachelor's degree required for the Master's degree is thirty semester hours, though it is within the province of any department to increase the number of semester hours required of any particular candidate. Of this amount of work, at least eighteen semester hours, including the thesis, must be completed in the major field. Normally all of the work in the major field will be completed within a single department. In certain specified instances closely related work in other departments may be used in completing the major requirement. Not more than twenty-four semester hours may be completed in the major field. All work over and above the major requirement must be completed in a department or departments other than that of the major. This work constitutes the minor.

The work in the minor field or fields should be scheduled to fit the best interest of the student. A principal minor of not less than six semester hours must be chosen in a department other than the major department. Additional work may be taken in the department of the principal minor provided the total taken for graduate credit in that department does not exceed twelve semester hours or a second minor may be taken in still another department provided that not less than six semester hours be completed.

Should a minor be contemplated in a division in which the major department is not located, the approval of the dean of that division is required in addition to the approval of the head of the minor department. In all cases the student must secure the approval of the heads of all departments in which his work may lie before commencement of work in those departments. Courses open to graduate students for graduate credit are of two kinds:

A. *Graduate Courses:* These courses are open only to graduate students and cannot be used in the fulfillment of a bachelor's degree.

B. *Advanced Undergraduate Courses:* These courses are regular junior and senior courses. If such courses, or their equivalents, have not been taken for undergraduate courses, they may be taken for graduate credit provided such courses have been approved by the Graduate Committee and with the understanding that additional work over and above that completed by the undergraduate student must be completed by the student seeking graduate credit in these courses.

For the completion of the requirements for the major at least six semester hours, exclusive of the thesis, must be completed by the candidate in courses of Class A above, i. e., courses which are open to graduate students only.

Graduate students are limited to a load of not exceeding fifteen semester hours for each semester and a load not exceeding six semester hours for each full summer term of six weeks if any portion of such

work is to be counted toward graduate credit. All correspondence work in progress will be included in these totals. Those who may be employed or otherwise partially engaged are subject to further restrictions as set forth under "Residence Requirements" below.

2. *Residence Requirements:* A minimum of thirty weeks in residence at this institution is required, and, in addition, another six weeks of work must be accounted for in one of the following ways:

- A. As a resident student at Texas Technological College.
- B. As a resident student in some other college of equal rank.
- C. As a student in extension courses offered by Texas Technological College in which a maximum of six semester hours may be accepted.

An applicant for the Master's degree may secure such degree by the completion of the requirements set forth either in the catalogue of the year in which he entered or in the catalogue of the year in which he receives his degree provided that not more than three years shall have been required for the completion of those requirements, except that a student in summer school only may have the time extended to five years. Should a greater length of time have elapsed than set forth above, the candidate must fulfill all requirements of the catalogue under which he finishes.

In case a student is employed by the College, or is employed otherwise, the length of residence for the completion of the work will be increased proportionately. In case a student is enrolled for the completion of a thesis only, the number of weeks allowed toward the fulfillment of the residence requirement will in no case exceed the number of semester hours credit that the thesis will carry regardless of the number of semesters or terms required for the completion of the thesis.

Members of the faculty or staff of this institution with a rank higher than that of instructor are not eligible to receive a graduate degree from this College. Instructors on full time duty may not receive such a degree in less than three years of nine months, or the equivalent, and then only in case special arrangements are made. No person holding a teaching fellowship or assistantship requiring as much as eighteen hours of service per week or who may otherwise expend similar time in work not in line with his field of investigation will be permitted to complete the work for a graduate degree in less than two long sessions of nine months each, or the equivalent. Holders of research fellowships, provided they are not otherwise engaged, may complete the requirements for the Master's degree in one calendar year, i. e., one long session plus one complete summer session.

A maximum of six semester hours of graduate work may be accepted from another institution of equal rank if the student was enrolled as a resident student of that institution. Fifteen semester hours may be accepted, however, when a department recommends

that a student be sent to a particular college for the consummation of particular work. Such work is to be outlined and approved by the head of the department, the dean of the division concerned, and the Graduate Committee before such work is undertaken.

Work of graduate nature taken through the Extension Division of Texas Technological College may be used in fulfilling residence and work requirements for the Master's degree but not to exceed six weeks and six semester hours. With this exception, work done on any campus and reported through the Extension Department is not considered as work done in residence.

Graduate students expecting to receive graduate credit on work done in extension classes must secure admittance to the Graduate Division from the Registrar in the manner set forth above. While this admittance should be received prior to enrolling in the course, students enrolling in such extension courses may have two weeks from the date of the first meeting of the class in which to satisfy this requirement.

Correspondence Courses: Courses done by correspondence are not accepted for the Master's degree. Such courses may be used in removing deficiencies.

Work done in extension classes or transferred work may be used to account for six semester hours, or a combination of these methods may be used to account for six semester hours; but in no case will more than six semester hours be allowed. Furthermore, before final approval is given such work, it must be substantiated by further work in that department in residence at Texas Technological College. This latter provision, however, does not apply to work done by the student when he is sent to some institution for the consummation of particular work.

3. *Foreign Language:* A reading knowledge of a foreign language is required by all candidates for the Master of Arts degree. In certain departments no candidate may receive a Master of Science degree without meeting the requirements in foreign languages.

4. *Thesis:* The completion of an acceptable thesis constitutes one of the requirements for the Master's degree. Credit for the thesis will regularly carry a minimum of three and a maximum of six semester hours. By vote of the Graduate Committee upon recommendation by the candidate's advisory committee, this amount may be raised to nine semester hours depending upon the extent and quality of the work done, final approval being granted only after completion of the thesis.

All research leading to the thesis and the writing of the thesis shall be under the supervision of an advisory committee which shall be appointed at the time the student completes his application for the Master's degree. This committee, which will be appointed by the Dean of the Graduate Division after consultation with the major

department, will be composed of representatives of the major department, a representative of each minor department, and a member of the faculty who will represent the Graduate Committee. The candidate should consult freely with the members of his advisory committee from the initiation of his research until the acceptance of his thesis. Each member of the committee may, at his discretion, call in the candidate at any time during the preparation of the thesis for consultation. The thesis must be acceptable to all members of the advisory committee and failure of acceptance by any one of them rejects the thesis.

At the beginning of the research work, a general outline of the research program must be approved by the advisory committee. Not later than thirty days prior to the date of graduation a complete outline of the thesis must be approved by the advisory committee and not later than fifteen days prior to graduation a final copy of the thesis, unbound, with the signed approval of the advisory committee, the head of the major department, and the dean of the division concerned must be submitted to the Dean of the Graduate Division for examination by the Graduate Committee. Three copies of the thesis with the cost of binding must be deposited with the Librarian who will issue a receipt for the same. This receipt must be in the hands of the Dean of the Graduate Division not later than five days prior to graduation. Suggestions for the completion of the thesis may be found in the appendix.

5. *Oral Examination:* In addition to the regular written examinations, of which the department in which the subject is taken is in charge, all candidates for the Master's degree are subject to a general oral examination by the Graduate Committee and such members of the staff as may be appointed for that purpose by this Committee. Such oral examination will be given at or near the close of all course work and may cover all or any part of the work of the graduate student including all work done in extension courses or transferred from another institution. The time and place of the oral examination is fixed by the Dean of the Graduate Division.

6. *Grades and Credit:* No course will be accepted for graduate credit unless registration for such course has been approved by the Dean of the Graduate Division. The above regulation also applies to students in extension courses. However, extension students will be allowed a period not exceeding two weeks from the first meeting of the class to satisfy these requirements.

No courses will be credited toward the Master's degree if the grade is lower than B. If a grade lower than B is made, the student may secure graduate credit for such a course only by repeating the course and making a grade of B. Any grade indicating "condition" is not permitted in the Graduate Division. The grade "Inc." is to be given until the thesis is completed at which time the final grade is reported.

7. *Government Requirement:* The Forty-fifth Legislature passed

the following law: ". . . . Provided further, that after September 1, 1937, no student shall be certified for graduation from any tax-supported State educational institution with the award of a college degree unless such student shall have completed theretofore in a standard college or university 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 said proviso shall be so construed and applied to effect only those students who enroll in such institutions after September 1, 1937, and shall not apply to students who enrolled in the tax-supported colleges or universities before said date."

8. A student who is noticeably deficient in the use of the English language, including spelling, should not apply for a Master's degree at Texas Technological College. The satisfaction of this requirement depends not so much on the ability to pass formal tests, though such may be required, as it does upon the habitual use of good English in all oral and written work. This is the least that is expected.

THE DEGREES

Master of Arts, Master of Science, Master of Education
and Master of Business Administration

STUDENT RESPONSIBILITY

Students must make themselves familiar with the requirements for the degrees which they seek. They are held personally responsible for compliance with the regulations of the Graduate Division. Detailed supervision of their work is not to be expected, although their supervisory committees and the Dean are always available for guidance.

THE DEGREE, MASTER OF ARTS

This degree is offered by the following departments of the Division of Arts and Sciences: Chemistry, Economics and Business Administration, Education and Psychology, English, Foreign Languages (Spanish), Geology, Government, History and Anthropology, Mathematics, and Physics. Minor requirements may be fulfilled in the above as well as other departments of the Division of Arts and Sciences and in other departments of other divisions.

The general regulations concerning admission and requirements for the Master's degree apply to this degree. Work for the Master of Arts degree is predicated upon the Bachelor of Arts degree. And, in general, all requirements for the Bachelor's degree from Texas Technological College are prerequisite to admission to candidacy for the Master's degree. These requirements are listed on Page 146 of the Thirteenth Catalogue. Graduates from other colleges may be allowed suitable substitutions provided that (1) a deficiency in foreign language can be removed by passing the required courses or the passing of an examination in a foreign language; (2) that a deficiency in English can be removed only by further work in English, and (3) that legal requirements in government shall be fulfilled.

THE DEGREE, MASTER OF SCIENCE

In general the requirements for admission and for the degree follow the general regulations given above. The degree is based upon a prior Bachelor of Science degree and the general requirements for that degree with its various majors are prerequisite to candidacy for the Master of Science degree with the same major. As the degree is offered by several divisions with slight differences, the discussion will follow such a classification:

Master of Science: Division of Agriculture. The degree, Master of Science, is offered in the Division of Agriculture with majors in the departments of Agricultural Economics, Agricultural Education, Animal Husbandry, Dairy Manufactures, and Plant Industry. Prerequisite to graduate work in these departments is the completion of undergraduate work substantially equivalent to that required of undergraduate students majoring in the various departments. Where any deficiencies exists the individual will be required to take such additional courses as are necessary to complete the prerequisite requirements. These requirements may be found on Pages 60 to 76 of the Thirteenth Annual Catalogue.

The various departments of the Division of Agriculture have developed certain fields of study which may be utilized by the student for his major. If such a program is adopted, a minimum of fifteen semester hours must be completed in the major department. Additional work in the major or closely allied departments must be completed to make a total of twenty-four semester hours. A minor of six semester hours in a separate department must be attained.

Master of Science: Division of Arts and Sciences. This degree is offered by departments of Chemistry, Geology, Mathematics, and Physics. The degree, Bachelor of Science, as offered by Texas Technological College, or its equivalent, is the normal prerequisite to the degree, Master of Science. The requirements for the Bachelor of Science degree may be found on Pages 153-159 of the Thirteenth Annual Catalogue. In addition to the above named departments, the Department of Biology also offers courses which may be used for fulfilling the minor requirements. A minor may also be received in other departments if approved by the major department and if suitable prerequisite courses have been completed.

Master of Science: Division of Engineering. At present this degree is offered only by the Department of Chemical Engineering though graduate work in minor fields may be taken in the Departments of Architecture and Allied Arts, Civil Engineering, Electrical Engineering, Industrial Engineering, Mechanical Engineering, and Petroleum Engineering. The degree, Bachelor of Science, with a major in Chemical Engineering from Texas Technological College or from another college requiring equivalent training is prerequisite to candidacy for the Master of Science in Chemical Engineering.

The general requirements for the Master's degree apply to this

degree. However, the major work may be completed in a particular field rather than in a single department. If such be the case, the major shall consist of twenty-four semester hours of which at least fifteen must be completed in the major department while the remaining nine semester hours may be taken in closely allied departments.

Master of Science: Division of Home Economics. In order to meet the widely differing needs of graduate students in home economics two types of graduate programs are offered at Texas Technological College. In submitting transcripts for admission to graduate study in home economics, students are requested to indicate which program is desired.

Graduate Study Program I leading to Master of Science with a major in Home Economics Education: This major is planned for home economics teachers in secondary schools and for supervisory teachers in student teaching centers.

The graduate program for this degree is a well-rounded program including graduate work in the various phases of home economics and is planned with the demands of the high school program in mind. This program should be scheduled by those graduate students who wish to secure a Master's degree and at the same time fulfill the requirements of the Smith-Hughes Certificate of Approval which permits one to teach home economics under the Federal Vocational Education acts (Smith-Hughes and George Dean).

Graduate Study Program II leading to Master of Science with a major in Foods and Nutrition: This program should be selected by students preparing to teach Foods and Nutrition in a college or preparing to engage in other professional work along the lines of Foods and Nutrition.

In addition to the programs outlined above, minor work is provided in the departments of Applied Arts, Child Development, Clothing and Textiles, Foods and Nutrition, and Home Economics Education.

THE DEGREE, MASTER OF EDUCATION

A degree of Bachelor of Science in Education or Bachelor of Arts from Texas Technological College, or an equivalent degree from a recognized college or university fulfills the prerequisites to this degree, Master of Education, provided the following requirements have been met:

1. The undergraduate curriculum must have included at least twenty-four semester hours of education of which twelve semester hours were of advanced undergraduate character.
2. An additional twenty-four semester hours of advanced undergraduate work must have been completed in departments other than the Department of Education and Psychology. This work must be so distributed that the student is prepared to carry a minor or minors according to the general regulation for the Master's degree.

In the event any deficiencies occur, such must be removed by the completion of additional work for which graduate credit will not be received.

THE DEGREE, MASTER OF BUSINESS ADMINISTRATION

The prerequisites to candidacy for the degree, Master of Business Administration, are based upon a prior degree, Bachelor of Business Administration, or an equivalent degree, provided the following twenty-four semester hours of work were included in the curriculum:

- Principles of Economics, six hours;
- Introduction to Accounting, six hours;
- Principles of Marketing, three hours;
- Principles of Finance, three hours;
- Economic History, three hours;
- Other acceptable course in business or economics, three hours;
- A working knowledge of business statistics and practical experience of at least three months in some field of business is desirable.

The applicant will select a major field from the following: Accounting, Finance, Marketing, Industrial Management, or Public Administration, and with the major professor select from the program of work offered by the institution, such courses as will best fit a major and one or two minors. To fit the needs of certain students, certain courses in other departments may be incorporated in the major field. In such event the major shall consist of twenty-four semester hours of which at least fifteen shall be in the Department of Economics and Business Administration. The following courses may be utilized in the development of such a major:

- History 535: The Technique of Research
- Government 332: Local Administration
- Government 337: Public Administration Organization
- Government 338: Public Administration Functions
- Government 438: World Politics
- Agricultural Economics 421: Land Economics
- Civil Engineering 422: Highway Administration and Finance
- Mechanical Engineering 434: Industrial Engineering
- Clothing and Textiles 431: Textile Economics

PROFESSIONAL DEGREES

An Engineering graduate of Texas Technological College may become a candidate for a professional degree of which the following are available: Chemical Engineer, Civil Engineer, Electrical Engineer, Geological Engineer, Mechanical Engineer, Textile Engineer.

The requirements for any of these degrees include acceptable professional experience, a thesis, and an examination. Professional

degrees in Engineering will be conferred only on the recommendation of the Graduate Committee and the faculty of the College.

A written application stating the degree desired must be submitted to the Graduate Committee not later than January 1, next preceding the date when the degree is to be conferred. This application shall include (a) a report or outline of the professional work upon which the application is based together with whatever documentary evidence may be considered pertinent, and (b) an outline of the thesis.

The professional work must comprise at least four full years subsequent to graduation, two years of which have been in positions of responsible charge. In order to be accepted by the Graduate Committee the professional work must have been approved by the head of that department concerned and by the Dean of the Engineering Division.

Before submission to the Graduate Committee, the outline of the thesis must have been approved by the head of the department directly concerned. This thesis must constitute a distinct contribution to engineering, must be of an analytical character, and may not be merely a descriptive discussion of an engineering project nor a digest of engineering literature.

Master's degrees in Engineering will be accepted in lieu of two years of professional experience, but will not be considered as of responsible charge.

DEPARTMENTS AND COURSES OF INSTRUCTION

The courses of instruction for which graduate credit may be received are listed under the various departments. Specific departmental requirements and programs of work are also included, when necessary, for the guidance of the student.

The courses listed may be taken for graduate credit under the following conditions:

1. Such courses must not duplicate courses taken earlier in the student's work.
2. In order to secure graduate credit on an undergraduate course additional work as prescribed by the instructor must be completed by the graduate student.
3. Graduate prerequisites must have been fulfilled. These prerequisites are not always identical with course prerequisites.

Courses with numbers above 300 and below 500 are advanced undergraduate courses. Those above 500 are strictly graduate courses and are open to graduate students only. The credit hour value of the course is shown after the name of the course and the semester in which a course is taught is indicated by the Roman numerals "I" or "II". For further information concerning these courses, reference is made to the Thirteenth Annual Catalogue.

AGRICULTURAL ECONOMICS, FARM MANAGEMENT AND RURAL SOCIOLOGY

This department offers major work for the degree, Master of Science in Agricultural Economics.

COURSES AVAILABLE FOR GRADUATE CREDIT

Agricultural Economics

- 322. Marketing Agricultural Products. Cr. 2. II
- 323. Advanced Agricultural Economics. Cr. 2. I
- 325. Farm Records and Accounts. Cr. 2. I, II
- 331. Statistical Problems. Cr. 3. I, II
- 333. Cooperation in Agriculture. Cr. 2. I
- 411-2. Agricultural Economics Seminar. Cr. 1. I and II
- 511. Problems. Cr. 1. S.
- 421. Land Economics. Cr. 2. I
- 422. Agricultural Prices and Forecasting. Cr. 2. II
- 423. Farm Management. Cr. 2. I, II

- 511. Problems. Cr. 1. S
- 531. Problems in Land Use. Cr. 3
- 533. Marketing Problems. Cr. 3
- 534-5. Thesis. Cr. 6

Rural Sociology

- 431. Agricultural Research and Extension Organization and Methods. Cr. 3.
- 432. Rural Sociology. Cr. 3. II.
- 532. Current Problems in Rural Sociology. Cr. 3.

AGRICULTURAL EDUCATION

The department offers major work for the degree, Master of Science in Agricultural Education, and minor work to students taking major work in other departments.

All courses taken to apply for credit on the major requirements must be taken from courses offered within the major field, with the possible exception of nine hours which may be taken from a closely related field when such courses definitely supplement those pursued for the major work. When such courses outside of the major field are to be taken, they must be included in the regular outlined course of study and approved by the head of the department, the Dean of the Division of Agriculture, and the Dean of the Graduate Division. They may be chosen from the following courses:

- Ag. Eco. 422. Agricultural Prices and Forecasting.
- Ag. Eco. 511. Problems.
- Ag. Eco. 533. Marketing Problems.
- A. H. 436. Comparative Meats.
- A. H. 438. Range Management.
- D. M. 511. Advanced Dairy Products Quality Control.
- Agron. 434. Soil Erosion and Conservation.
- Agron. 437. Range Management.
- Agron. 511. Grain Judging.
- P. I. 535. Research Methods.
- Hort. 431-2. Advanced Pomology.
- Hort. 433. Systematic Pomology.

Students taking major work in Agricultural Education will usually minor in Animal Husbandry, Agricultural Economics, Horticulture, Agronomy, Farm Shop, or Dairy Manufactures.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 321. Organization and Administration of Vocational Education in Agriculture. Cr. 2. II.
- 423. Problems. Cr. 2. I.
- 441-2. Agricultural Education. Cr. 4, I and II.

- 511. Problems. Cr. 1. S.
- 522. Advanced Methods in Teaching Vocational Agriculture in All-Day Classes in the High School. Cr. 2. I.
- 523. Advanced Methods in Teaching Vocational Agriculture in Part-Time and Evening Schools. Cr. 2. II.
- 524. Advanced Methods of Conducting and Promoting Group Activities of Immediate Importance to Future Farmers. Cr. 2. II.
- 531. Research in Vocational Agriculture. Cr. 3. I.
- 535-6. Thesis. Cr. 6. I, II.

ANIMAL HUSBANDRY

The Department of Animal Husbandry offers major work for the degree, Master of Science in Animal Husbandry, and minor work to students taking major work in other departments.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 322. Farm Meats. Cr. 2. I, II.
- 331. Animal Nutrition and Principles of Feeding. Cr. 3. II.
- 411. Animal Husbandry Seminar. Cr. 1. II.
- 423* Showyard Judging and Practices. Cr. 2. II, S.
- 424. Beef Production. Cr. 2. I.
- 425. Horse Production. Cr. 2. II.
- 426. Sheep and Wool Production. Cr. 2. II.
- 427. Swine Production. Cr. 2. II.
- 428. Dairy Cattle Production. Cr. 2. I.
- 436.** Comparative Meats. Cr. 3.
- 438. Range Management. Cr. 3. II.
- 441. Livestock Production. Cr. 4. II.
- 531-2. Research in Animal Husbandry. Cr. 3. I and II.
- 533-4. Thesis. Cr. 6. I, II.

APPLIED ARTS

At this time the Department of Applied Arts does not offer a major leading to a Master's degree. This department, however, does

*Offered in summer school to graduate students only as A. H. 412 and A. H. 413. Both courses must be taken and completed before credit will be given.

**Offered in summer school to graduate students only, as A. H. 414, A. H. 415, A. H. 416. All three courses must be taken and completed before credit will be given on any one of the three.

offer courses which may be submitted as partial fulfillment of the requirements for the Master of Science degree in Home Economics Education or as a minor in other departments when the prerequisites can be satisfactorily met.

Prerequisites to a minor in Applied Arts requires that the applicant's transcript must show she has passed creditably at least eighteen hours of work in the field of art or those courses in subject matter fields requiring the application of design principles, such as Clothing 132, 232, 333, 433, 434, and 435.

COURSES AVAILABLE FOR GRADUATE CREDIT

332-333. Metal and Jewelry. Cr. 3. I and II.

334-335. Craft Design. Cr. 3. I and II.

ARCHITECTURE AND ALLIED ARTS

COURSES AVAILABLE FOR GRADUATE CREDIT

Architecture

324. History of Sculpture. Cr. 2. II.

420. Professional Practice. Cr. 2. I.

421. Estimating and Specification Writing. Cr. 2. II.

423-4. Life Drawing II. Cr. 2. I and II.

426-7. Oil Painting or Advanced Water Color. Cr. 2. I and II.

433-4. Commercial Design II. Cr. 3. I and II.

439. Methods of Teaching Art in the Elementary Schools. Cr. 3. S.

4310. Methods of Teaching Art in the High School. Cr. 3. S.

BIOLOGY

For the present graduate work in the Department of Biology is limited to minors.

COURSES AVAILABLE FOR GRADUATE CREDIT

Bacteriology

331-2. General Bacteriology. Cr. 3. I and II.

Biology

331. Heredity and Evolution. Cr. 3. II.

411-2. Biology Seminar. Cr. 1. I and II.

Botany

331. Plant Physiology. Cr. 3. I.

332. Morphology of Lower Plants. Cr. 3. II.

431. Botanical Technique. Cr. 3. I.

432. Advanced Plant Anatomy. Cr. 3. II.

531-2. Problems in Morphology of Bryophytes, Cr. 3. I and II.

Zoology

331-2. Animal Histology and Embryology. Cr. 3. I and II.

431-2. Animal Cytology. Cr. 3. I and II.

CHEMISTRY AND CHEMICAL ENGINEERING

Three graduate degrees, Master of Arts, Master of Science, and Master of Science in Chemical Engineering, are offered by this department. The general requirements for the various degrees, as specified elsewhere, must be fulfilled. In fulfilling the major requirement Chemistry 441-2, Physical Chemistry, may be counted on the Master of Arts degree only. In fulfilling the minor requirement or in certain combination majors, either Chemistry 331-2, Analytical Chemistry, or Chemistry 343-4, Organic Chemistry, may be counted, but not both.

A course in calculus and two years of physics are prerequisite to any of these degrees. A reading knowledge of German is also required.

COURSES AVAILABLE FOR GRADUATE CREDIT

411-2. Chemistry Seminar. Cr. 1. I and II.

421. Organic Combustion Analysis. Cr. 2. I.

430. Technical Analysis. Cr. 3. I, II.

434. Organic Preparations. Cr. 3. II.

441-2. Physical Chemistry. Cr. 4. I and II.

443. Industrial Chemistry. Cr. 4. II.

537-8A. Thesis. Cr. 6.

537-8B. Advanced Chemical Engineering. Cr. 3. I and II.

537-8C. Advanced Organic Chemistry. Cr. 3. I and II.

537D. Spectographic Analysis. Cr. 3. I.

538E. Colloid Chemistry. Cr. 3. II.

CHILD DEVELOPMENT AND FAMILY RELATIONS

The Department of Child Development and Family Relations does not offer a major leading to a Master's degree at the present time. The department does offer courses which may be submitted as partial fulfillment of the requirements for the Master of Science Degree in Home Economics or as a minor in other departments where prerequisites have been met.

Prerequisites to a minor in Child Development and Family Relations require that the student has passed creditably at least eighteen hours work in the following fields or the equivalent: Nutrition

432-433, Clothing 321, Home Management 331, Child Development 431, Family Relations 433, Psychology 331.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 433. Family Relations. Cr. 3. II. Formerly H. Mgt. 422.
- 432. Child Development. Procedures of Nursery School Education. Cr. 3. II. Formerly H. Mgt. 431.
- 531-532. Child Development. Experimental Techniques in Child Study. Cr. 3. S.

CIVIL ENGINEERING

COURSES AVAILABLE FOR GRADUATE CREDIT

- 331. Applied Mechanics-Statics. Cr. 3. I, II.
- 332. Applied Mechanics-Kinematics and Kinetics. Cr. 3. I.
- 333. Applied Mechanics-Strength of Materials. Cr. 3. II.
- 410. Hydraulics Laboratory. Cr. 1. II.
- 420. Hydraulics. Cr. 2. I.
- 421. Engineering Administration. Cr. 2. II.
- 422. Highway Administration and Finance. Cr. 2. I.
- 423. Economics of Highway Design. Cr. 2. II.
- 424-5. Materials. Cr. 2. I and II.
- 426. Water Supply and Sewerage. Cr. 2. I.
- 431. Reinforced Concrete. Cr. 3. I.
- 432. Reinforced Concrete. Cr. 3. II.
- 433. Structures. Cr. 3. I.
- 434. Structures. Cr. 3. II.
- 435. Traffic Safety Education. Cr. 3. S. May be counted as Ed. 4310.
- 436. Traffic Safety Education. Cr. 3. S. May be counted as Ed. 4311.

CLOTHING AND TEXTILES

The Department of Clothing and Textiles does not at this time offer a major leading to a Master's degree. The department, however, offers a minor and also offers courses which may be submitted as partial fulfillment of the requirements for the Master of Science degree in Home Economics Education.

Application for work on a minor presupposes that such applicant is the holder of a degree of Bachelor of Science in Home Economics

from a curriculum equivalent to the current one at this college. Prerequisites to a minor in clothing and textiles require that the graduate student must have passed creditably the equivalent of Clothing 131, 132, 231, 333, and 321 or 334, and Applied Arts, 131, 231, as offered in this institution.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 331. Tailoring. Cr. 3. I.
- 431. Textile Economics. Cr. 3. I.
- 432. Advanced Textiles. Cr. 3. II.
- 433. History of Costume and Advanced Dress Design. Cr. 3. II.
- 434. Historic and Contemporary Fabrics. Cr. 3. II.
- 531. Advanced Garment Fitting. Cr. 3. II, S.

DAIRY MANUFACTURES

The department offers major work for the degree, Master of Science in Dairy Manufactures, and minor work to students taking major work in other departments.

Students taking major work in dairy manufactures will usually minor in one of the following: Agricultural Economics, Agricultural Education, Animal Husbandry, Chemistry, and Economics and Business Administration.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 323. Market Grades and Classification of Dairy Products. Cr. 2. I, II.
- 331-2. Market Milk and Inspection. Cr. 3. I and II.
- 333. Domestic Dairying. Cr. 3. S. For Home Economics Students and Home Demonstration Agents, if an additional problem is carried.
- 335. Dairy Bacteriology. Cr. 3. II.
- 411. Dairy Seminar. Cr. 1. II.
- 420. Dairy Products Merchandising. Cr. 2. I.
- 421. Creamery Organization and Control. Cr. 2. II.
- 431. Cheese Making. Cr. 3. I.
- 433. Ice Cream Making. Cr. 3. II.
- 441. Butter Making. Cr. 4. I.
- 511. Advanced Dairy Products Quality Control. Cr. 1.
- 531-2. Thesis. I, II.
- 533-4. Advanced Dairy Problems. I and II.

ECONOMICS AND BUSINESS ADMINISTRATION

Two graduate degrees, Master of Arts and Master of Business Administration, are offered by this department. The requirements for the Master of Arts degree coincide with the general requirements for that degree. The requirements for the degree, Master of Business Administration, will be found on Page 18.

COURSES AVAILABLE FOR GRADUATE CREDIT**Economics**

- 331. Money and Banking. Cr. 3. I.
- 332. Public Utility Economics. Cr. 3. I.
- 333. Public Finance. Cr. 3. I.
- 334. Taxation. Cr. 3. II.
- 411. Seminar in Economics and Business. Cr. 1. II.
- 430. Research in Economics and Business. Cr. 3. I.
- 431. Transportation. Cr. 3. II.
- 432. Labor. Cr. 3. I.
- 433. International Economic Problems and Foreign Trade. Cr. 3. II.
- 434. Economic Systems. Cr. 3. I.
- 435. Economic Cycles and Forecasts. Cr. 3. II.
- 436. Economic Theory: Development and Present Status. Cr. 3. I.
- 437. Current Economic Problems. Cr. 3. I.
- 438. Public Utility Problems. Cr. 3. II.
- 531. Research in Economics and Business. Cr. 3. I, II.

Business Administration

- 330. Principles of Finance. Cr. 3. I.
- 331. Corporation Finance. Cr. 3. II.
- 332. Principles of Marketing. Cr. 3. I.
- 333. Marketing Problems. Cr. 3. I.
- 334-5. Business Law Cr. 3. I and II.
- 336. Industrial Management. Cr. 3. I.
- 337-8. Advanced Accounting. Cr. 3. I and II.
- 361. Field Problems in Business. Cr. 6. S.

- 423. Methods of Teaching Commercial Subjects in the High School. Cr. 2. II.
- 432. Advertising. Cr. 3. I.
- 433. Personnel Administration. Cr. 3. II.
- 434. Investments. Cr. 3. II.
- 435. Problems in Finance. Cr. 3. I.
- 436. Cost Accounting. Cr. 3. I.
- 437. Auditing. Cr. 3. II.
- 438. Retail Store Management. Cr. 3. II.
- 439. Credits and Collections. Cr. 3. II.
- 4310. Income Tax Accounting. Cr. 3. I.
- 4311. Accounting Systems. Cr. 3. II.
- 4312. Salesmanship. Cr. 3. I.
- 4313. Commodity Marketing. Cr. 3. II.
- 531-2. Thesis. Cr. 3-6, depending upon the character of the work done.

EDUCATION AND PSYCHOLOGY

The degree, Master of Arts and Master of Education, may be completed with majors in this department. The prerequisite and requirements for these degrees are outlined under the general requirements for the Master's degree and under the requirements for the degree, Master of Education, respectively. During the summer session some of the courses listed below are offered as two semester hour courses. Details will be found in the Thirteenth Annual Catalogue.

COURSES AVAILABLE FOR GRADUATE CREDIT

Education

- 311-2. Seminar. Cr. 1. I and II
- 3213. Problems in the Application of the New Elementary Curriculum. Cr. 2. S
- 331. Principles of Education. Cr. 3. I
- 332. High School Problems. Cr. 3. II
- 334. Basic Principles of Method. Cr. 3. II
- 335. The Junior High School. Cr. 3. I
- 336. Educational and Vocational Guidance. Cr. 3. S
- 337. Methods in Classroom Tests. Cr. 3. I

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338. Every Teacher's Problems. Cr. 3. I
339. Character Education. Cr. 3. II
3310. Children's Literature. Cr. 3. I
331. Technique of Integration. Cr. 3. I
3314. The Principal and His School. Cr. 3. I
3315. Visual Aids in Education. Cr. 3. S
411. Ethics of the Teaching Profession. Cr. 1. II
429. Technique of Curricular Construction. Cr. 2. S.
430. Sociological Principles of Education. Cr. 3. II
431. Education in the United States. Cr. 3. I
432. Public School Administration. Cr. 3. II
433. School Publicity. Cr. 3. II
434. The Supervision of Instruction. Cr. 3. I
435. Extra-Curriculum Activities. Cr. 3.
436. The Curriculum. Cr. 3. I
437. Organization and Installation of the New Public School Curriculum. Cr. 3. S
439. Unit Teaching. Cr. 3. II
4310. Traffic Safety Education. Cr. 3. S. May be counted as Civil Engineering 435.
4312. The Primary Curriculum. Cr. 3. I
527. Advanced Methods in Classroom Testing. Cr. 2. S
530. Thesis. Cr. 3
531. Educational Research. Cr. 3
532. Foundation of Education. Cr. 3
533. Activities Program for Teachers in Elementary Schools. Cr. 3
534. Modern Tendencies in Education. Cr. 3
535. Business Administration of Schools. Cr. 3
536. Educational Statistics. Cr. 3
538. Adult Education. Cr. 3

Psychology

322. Advanced Educational Psychology. Cr. 2. S

- 331. Child Psychology. Cr. 3. II
- 333. Measurements in Education. Cr. 3 I
- 335. The Psychology of Adolescence. Cr. 3. II
- 337. General Psychology. Cr. 3. II
- 339. Fundamentals of Educational Statistics. Cr. 3
- 423. Mental Hygiene. Cr. 2. S
- 431. Mental Tests. Cr. 3. II
- 432. Contemporary Psychologies. Cr. 3. II
- 433. Mental Hygiene. Cr. 3. I
- 434. Social Psychology. Cr. 3. II

ELECTRICAL ENGINEERING

COURSES AVAILABLE FOR GRADUATE CREDIT

- 321-2. Electrical Engineering Laboratory. Cr. 2. I and II.
- 330. Principles of Electrical Engineering. Cr. 3. II.
- 331-2. Principles of Electrical Engineering. Cr. 3. I and II.
- 410. Current Electrical Engineering. Cr. 1. I.
- 421-2. Electrical Engineering Laboratory. Cr. 2. I and II.
- 423-4. Electrical Applications. Cr. 2. I and II.
- 431-2. Alternating Current Machinery. Cr. 3. I and II.
- 433. Transmission. Cr. 3. I.
- 434. Communication. Cr. 3. II.
- 435. Illumination. Cr. 3. I.
- 436. Electron Tubes. Cr. 3. I.
- 437. Radio Engineering. Cr. 3. II.

ENGLISH

COURSES AVAILABLE FOR GRADUATE CREDIT

- 330. Chaucer. Cr. 3. I.
- 331. Chaucer: The Longer Poems. Cr. 3. II.
- 332. History of the English Language. Cr. 3. II.
- 334. American Drama: From the Beginning to 1865. Cr. 3. I.
- 335. American Drama: 1865 to the Present. Cr. 3. II.
- 336. The Augustan Age. Cr. 3. II.

337. Grammar for Speech. Cr. 3. I.
338. American Poetry: Bradstreet to Whitman. Cr. 3. I.
3315. The Contemporary Short Story. Cr. 3. II.
3316. The Contemporary American Novel. Cr. 3. I.
3317. The English Novel: Lyly to Scott. Cr. 3. II.
3318. Types of English and Foreign Fiction: 1825 to 1910. Cr. 3. II.
430. Elizabethan Drama. Cr. 3. II.
431. Restoration and Eighteenth Century Drama. Cr. 3. II.
432. Shakespeare. Cr. 3. I.
433. Shakespeare. Cr. 3. II.
434. Milton. Cr. 3. I.
435. English Romanticism. Cr. 3. I.
436. English Romanticism. Cr. 3. II.
437. Pre-Shakespearean Drama. Cr. 3. I.
438. Nineteenth Century English Prose. Cr. 3. I.
439. Contemporary Drama: Ibsen to Shaw. Cr. 3. I.
4310. English Poets of the Nineteenth Century. Cr. 3. I.
4311. English Poets of the Nineteenth Century. Cr. 3. II.
4313. Literary Biography. Cr. 3. II.
534. Old English. Cr. 3. I.
535. Beowulf. Cr. 3. II.
536. Outline of American Literary History: 1608 to the Present. Cr. 3. II.
537. Spenser. Cr. 3. II.
5310. The Structure of the Novel. Cr. 3. II.
5311. Seminar in Literary Criticism. Cr. 3.
- 5312-13. Thesis. Credit varies with character of work performed.

FOODS AND NUTRITION

The Department of Foods and Nutrition offers major work for the degree, Master of Science in Foods and Nutrition, and minor work to students taking major work in other departments. Application for work on a major or minor presupposes that such applicant is the holder of a degree of Bachelor of Science with a major in Foods and

Nutrition from a curriculum equivalent to the current one at this College.

Students who major in foods and nutrition may minor in Home Economics Education or in one of the subject matter fields of home economics or they may minor in chemistry or economics, provided the prerequisites have been met. The choice of a minor must be made in conference with the head of the department or with the Dean of Home Economics.

COURSES AVAILABLE FOR GRADUATE CREDIT

Foods

333. Introduction to Research in Cookery. Cr. 3. II.

Nutrition

421. Nutrition in Diseases. Cr. 2. II.
432. Nutrition. Cr. 3. I.
433. Nutrition Work with Children. Cr. 3. I.
531-2. Investigations in Foods and Nutrition. Cr. 3. I and II.
533. Readings in Nutrition. Cr. 3. II.
534-5. Thesis. I, II.

FOREIGN LANGUAGES

This department offers graduate work in Spanish only.

COURSES AVAILABLE FOR GRADUATE CREDIT

Spanish

- 431-2. The Modern Novel. Cr. 3. I and II.
433-4. The Modern Drama. Cr. 3. I and II.
435. Teacher's Course in Methods of Teaching Spanish. Cr. 3. S.
436-7. Advanced Grammar, Composition, and Style. Cr. 3. S.
438. The Drama before Lope de Vega. Cr. 3.
4310-11. Spanish Civilization. Cr. 3.
531-2. The Prose of the Golden Age. Cr. 3. I and II.
533-4. The Drama of the Golden Age. Cr. 3. I and II.
535-6. A Survey of Spanish Literature. Cr. 3. I and II.
537. Contemporary Drama. Cr. 3. S.
538. Introduction to the Study of the Epic Literature of Spain. Cr. 3.
539. Contemporary Spanish Novel. Cr. 3. S.

5310. The Poetry of the Golden Age. Cr. 3.
5311. The Poetry of the Eighteenth and Nineteenth Centuries.
Cr. 3.
5312-13. Studies in Spanish Literature. Cr. 3. I and II.
5314-15. Thesis. Cr. 3-6, depending upon the character of the
work done.
5318. Cervantes. Cr. 3.

GEOLOGY AND PETROLEUM ENGINEERING

COURSES AVAILABLE FOR GRADUATE CREDIT

Note: Only those courses which are offered regularly each year are listed by title. Other courses in the specialized fields of geology will be organized to fit the needs of the students. These courses will be given under the general number Geology 535-6.

333. Petrology: Optical Mineralogy. Cr. 3. I.
334. Petrology: Descriptive. Cr. 3. II.
335-6. General Paleontology. Cr. 3. I and II.
363. Field Geology. Cr. 6. S.
411-2. Geology of Texas. Cr. 1. I and II.
413-4. Seminar. Cr. 1. I and II.
427-8. Geophysics. Cr. 2. I and II.
431-2. Advanced General Geology. Cr. 3. I and II.
433. Structural Geology. Cr. 3. I.
434. Petroleum Geology. Cr. 3. II.
435. Index Fossils. Cr. 3. I.
436. Micropaleontology. Cr. 3. II.
439-10. Petroleum Production. Cr. 3. I and II.
511-2. Sedimentary Petrology. Cr. 1. I and II.
523-4. Sedimentation. Cr. 2. I and II.
535-6. Advanced Work in Specific Fields. Credit varies.
537-8. Vertebrate Paleontology. Cr. 3. I and II.

GOVERNMENT

Either the major or minor requirement for the Master of Arts degree may be completed in this department. The general requirements for that degree cover the prerequisites for this department

save that all undergraduate courses accepted in satisfaction of such prerequisites must be approved by the department. Certain courses offered in other social science departments may be used in fulfilling the major requirements provided they are approved in advance by the department and the Dean of the Graduate Division.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 321. Jurisprudence. Cr. 2. II.
- 325-6. Contemporary Problems. Cr. 2. I and II.
- 331. Local Government. Cr. 3. I.
- 332. Local Administration. Cr. 3. II.
- 333. American Political Parties, Party Development. Cr. 3. I.
- 334. American Political Parties, Party Analysis. Cr. 3. II.
- 335. American Foreign Relations. Cr. 3. I.
- 336. American Diplomacy. Cr. 3. II.
- 337. Public Administration, Organization and Problems. Cr. 3. I.
- 338. Public Administration, Functions. Cr. 3. I.
- 431-2. American Constitutional Law. Cr. 3. I and II.
- 433-4. American Political Ideas. Cr. 3. I and II.
- 435-6. International Law. Cr. 3. I and II.
- 437. Political Geography. Cr. 3. I.
- 438. World Politics. Cr. 3. II.
- 531-2. Reading and Research. Cr. 3. I and II.
- 533-4. Thesis. Credit varies with character of work.

HISTORY AND ANTHROPOLOGY

COURSES AVAILABLE FOR GRADUATE CREDIT

History

- 331-2. History of Europe Through the Renaissance. Cr. 3. I and II.
- 333-4. Modern Europe, 1492-1870. Cr. 3. I and II.
- 336-7. Tudor and Stuart England. Cr. 3. I and II.
- 338-9. Eighteenth and Nineteenth Century England. Cr. 3. I and II.
- 3311. The Canadian Dominion. Cr. 3. S.
- 3313-4. Contemporary Europe, 1870-1936. Cr. 3. I and II.

3315. Japan and China. Cr. 3. II, S.
3316. British Empire. Cr. 3. II.
430. English Colonial America. Cr. 3. S.
431-2. History of Latin America. Cr. 3. I and II.
433-4. The American Revolution and Early Constitutional Development. Cr. 3. I and II.
435. History of American Diplomacy. Cr. 3. S.
436-7. History of the United States, 1789-1841. Cr. 3. I and II.
438-9. History of Texas. Cr. 3. I and II.
4310. Expansion of the United States. Cr. 3. S.
4311-12. The Civil War and Reconstruction. Cr. 3. I and II.
4313-14. The United States Since the Civil War. Cr. 3. I and II.
4315. Constitutional Developments in Texas. Cr. 3. S.
4316-17. The United States Since the World War. Cr. 3. I and II.
530. Seminar in History. Cr. 3. I, II, S.
535. The Technique of Research. Cr. 3. I, S.
536, 537. Thesis. I, II, S.

Anthropology

- 331-2. Anthropology. Cr. 3. I and II.
334-5. The American Indian. Cr. 3. I and II.
431-2. Field and Museum Technique. Cr. 3. I and II.
433-4. Southwestern Archaeology. Cr. 3. S.
438-9. North American Archaeology. Cr. 3. S.
531-2. Seminar in Anthropology. Cr. 3. I and II.

HOME ECONOMICS EDUCATION

The Department of Home Economics Education offers a major leading to a Master's degree and also offers a minor. A standard bachelor's degree from an accredited institution including the following courses: English, 12 hours; chemistry, 10 hours; physiology, 6 hours; bacteriology, 3 hours; clothing and textiles, 15 hours (3 hours textiles, 12 hours construction and selection); foods and nutrition, 15 hours (3 hours nutrition, 12 hours foods); home management, 3 hours; child development, (with nursery school observation) 3 hours; art, related to the home, 9 hours; economics and sociology, 6 hours; psychology, 6 hours; secondary education, 6 hours; government, 6 hours is required.

All courses taken to apply for credit on the major requirement must be taken from courses offered within the major department with the possible exception of nine hours which may be taken from closely related subject matter fields of home economics and from general education courses.

The choice of six semester hours credit for a minor must be made in conference with the head of the department or with the Dean of Home Economics.

Before electing any courses in home economics education for graduate credit students who have not been in college recently should plan to strengthen themselves by selecting courses which reflect the newer phases of the field of Home Economics.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 412. Supervised Practice in Home Projects. Cr. 1. I, II.
- 431. Methods of Teaching Home Economics. Cr. 3. I, II.
- 432. Problems in Teaching Clothing. Cr. 2. II.
- 433. Methods in Parent Education and Child Development. Cr. 3. S.
- 434. Methods of Teaching Art in the Homemaking Curriculum. Cr. 3. S.
- 435. Methods for Adult Homemaking Courses. Cr. 3. II.
- 436. Methods of Teaching Consumer Buying. Cr. 3. S.
- 441. Student Teaching in Home Economics. Cr. 4 (1-9). I, II.
- 531. Improvement of Technique in Home Economics Teaching. Cr. 3. S.
- 532. The Development of the Homemaking Program. Cr. 3. S, II.
- 534-5. Thesis. I, II.

INDUSTRIAL ENGINEERING, ENGINEERING DRAWING AND INDUSTRIAL EDUCATION

For the present graduate work in this department is limited to the fulfillment of the minor requirements.

COURSES AVAILABLE FOR GRADUATE CREDIT

Industrial Engineering

- 421-2. Chemical Plant Design. Cr. 2. I and II.
- 432-3. Industrial Plant Design. Cr. 3. I and II.

Engineering Drawing

- 321. Mechanical Drawing for Teachers. Cr. 2. I.

Industrial Education

311. History and Principles of Industrial and Vocational Education. Cr. 1. I
- 423-4. Industrial Arts Course-Making and Planning. Cr. 2. I and II.

JOURNALISM**COURSES AVAILABLE FOR GRADUATE CREDIT**

432. High School Publications. Cr. 3. S

MATHEMATICS**COURSES AVAILABLE FOR GRADUATE CREDIT**

321. Differential Equations. Cr. 2. I
430. Finite Differences. Cr. 3. I
431. Advanced Calculus. Cr. 3. I
432. Differential Equations. Cr. 3. I
433. Theory of Equations. Cr. 3. I
437. Higher Geometry. Cr. 3. S
438. Solid Analytical Geometry. Cr. 3. II
530. Vector Analysis. Cr. 3. I
531. Mathematical Statistics. Cr. 3. I
533. Lie Theory of Differential Equations. Cr. 3. S
534. Synthetic Projective Geometry. Cr. 3. S.
535. Analytic Projective Geometry. Cr. 3. S
536. Modern Algebra. Cr. 3. S
537. Functions of a Complex Variable. Cr. 3. S
538. Theory of Numbers. Cr. 3. S
539. Introduction to the Theory of Finite Groups. Cr. 3. S
5310. Advanced Differential Equations. Cr. 3. II
5311. Thesis.

MECHANICAL ENGINEERING

Graduate work in this department is restricted to the fulfillment of the minor requirement.

COURSES AVAILABLE FOR GRADUATE CREDIT

322. Dynamics of Machinery. Cr. 2. II

- 331. Thermodynamics. Cr. 3. II
- 423-4. Internal Combustion Engines. Cr. 2. I and II.
- 411-2. Engineering Seminar. Cr. 1. I and II.
- 432. Power Plant Design. Cr. 3. II
- 433. Heating and Ventilation. Cr. 3. I
- 439. Air Conditioning. Cr. 3. II

MUSIC

COURSES AVAILABLE FOR GRADUATE CREDIT

Band

- 521. Band Conducting for Graduate Students. Cr. 2. S
- 531. Band. Cr. 3. S
- 532. Band. Cr. 3. S

PHILOSOPHY AND SOCIOLOGY

Graduate work in philosophy and sociology is limited to a minor in philosophy or to a minor in sociology. Certain approved courses in other departments may be utilized in building up a twelve semester hour minor in sociology.

COURSES AVAILABLE FOR GRADUATE CREDIT

Philosophy

- 431. Aesthetics. Cr. 3. I
- 432. Philosophy of Value. Cr. 3. II
- 436. Philosophy of Religion. Cr. 3. II
- 438. Seminar in Philosophical Problems. Cr. 3. I, II

Sociology

- 438. Seminar in Social Problems. Cr. 3. I
- 439. Seminar in Social Problems. Cr. 3. II

PHYSICS

Before undertaking graduate work with physics as the major subject, the student must fulfill the following minimum requirements: He must have completed at least six semester hours of general chemistry; he must have the ability to use the calculus with a fair degree of facility in the solution of problems in physics; he must have completed at least thirty semester hours in physics courses, the sequence of which should have been properly graded with regard to increasing advancement in the subject. In fulfilling this last requirement, no credit will be allowed on courses in which a grade lower than C was obtained.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 331. Light. Cr. 3. I
- 332. Heat. Cr. 3. II
- 333-4. Electricity and Magnetism. Cr. 3. I and II.
- 423-4. Electrical Measurements. Cr. 2. I and II.
- 435-6. Introduction to Modern Physics. Cr. 3. I and II.
- 511-2. Physics Seminar. Cr. 1. I and II.
- 513-4. Physics Seminar. Cr. 1. I and II.
- 531-2. Theoretical Physics. Cr. 3. I and II.
- 533-4. Mathematical Theory of Light. Cr. 3. I and II.
- 535-6. Theoretical Mechanics. Cr. 3. I and II.
- 537-8. Line Spectra and Atomic Structure. Cr. I and II.
- 539-10. Thesis. Maximum credit 6.

PLANT INDUSTRY

The department offers major work for the degree, Master of Science in Agronomy and in Horticulture, and minor work to students taking major work in other departments.

The major work in agronomy may trend toward specialization in either crops or soils while the major work in horticulture may trend towards either pomology or floriculture.

Students taking major work in agronomy will usually minor in botany, chemistry, animal husbandry, agricultural education, agricultural economics, or horticulture. Students majoring in horticulture will usually minor in botany, chemistry, agricultural education, agricultural economics, or agronomy.

COURSES AVAILABLE FOR GRADUATE CREDIT

Agronomy

- 331. Forage and Pasture Crops. Cr. 3. I, II.
- 421. Cotton and Other Fiber Crops. Cr. 2. II
- 422. Soil Management. Cr. 2. I
- 423. Soil Management. Cr. 2. II
- 434. Soil Erosion and Conservation. Cr. 3. S
- 435. Soil Morphology and Genesis. Cr. 3. I, II, S
- 436. Soil Chemistry. Cr. 3. I, II, S
- 437. Range Management. Cr. 3

- 439. Soil Microbiology. Cr. 3. I, II, S
- 511. Grain Judging. Cr. 1. I, II, S
- 531. Research in Agronomy. Cr. 3. I, II, S
- 532. Research in Agronomy. Cr. 3. I, II, S
- 533. Research in Agronomy. Cr. 3. I, II, S

Horticulture

- 431-2. Advanced Pomology. Cr. 3. I, II
- 433. Systematic Pomology. Cr. 3. I
- 434. Horticultural Problems. Cr. 3. I, II

Plant Industry

- 411. Plant Industry Seminar. Cr. 1. II
- 431. Advanced Plant Breeding and Improvement. Cr. 3. II
- 432. Plant Industry Problems. Cr. 3. I, II
- 512-3-4. Graduate Seminar. Cr. 1 (each semester) I, II, S
- 535. Research Methods. Cr. 3. II

Agricultural Engineering

- 411. Soil Management Laboratory. Cr. 1. I, II
- 412. Soil Management Laboratory. Cr. 1. I, II

The following courses may be used in fulfilling a minor requirement:

- 321-2. Farm Shop. Cr. 2. I and II.
- 323. Farm Machinery. Cr. 2. I
- 331-2. Farm Power. Cr. 3. I and II.

SPEECH

Only the minor requirement may be completed in the Department of Speech at the present time.

COURSES AVAILABLE FOR GRADUATE CREDIT

- 421. Problems in Speech Training. Cr. 2. II
- 422. Technique of Interpretation. Cr. 2. II
- 423. Advanced Stage Directing. Cr. 2. I
- 431. Advanced Public Speaking. Cr. 3. I
- 432-3. Phonetics and Speech Correction. Cr. 3. I and II.

APPENDIX

SUGGESTIONS FOR THESIS WRITING

PAPER

Quality: White Bond paper of at least fifty per cent rag content.

Weight: Sixteen-pound weight is suggested if only three copies are made, thirteen-pound for four copies or more.

CARBON PAPER

A good grade of medium weight, hard finish, black carbon paper. Three to five times is the maximum each sheet should be used.

HELPS

A margin guide of tough, light weight paper, with margins suitably indicated may be placed immediately under the top sheet of bond paper. A backing sheet will help keep sheets steady and make clearer carbon copies. A number ten envelope, placed under the last sheet, with its flap turned over the first, will help keep the sheets in place.

ILLUSTRATIONS

If photographs, photostats, maps, or drawings are to be included, the Librarian should be consulted with reference to the suitable mounting of such materials. The Librarian should be consulted prior to the compilation of the thesis for more complete and further suggestions concerning the form and final arrangements of the thesis.

FORM SHEETS

Two typical form sheets required for the thesis are illustrated on the following pages. In the form shown the approval of the Head of the Department of English is required because English was the major department of this particular student. In general, signatures of the advisory committee, the head of the major department, the dean of the division concerned, and the Dean of the Division of Graduate Studies are required.

THE STYLE OF JOHN WYCLIFFE, AS EXEMPLIFIED
IN HIS TRANSLATION OF THE NEW TESTMENT

THESIS

Approved:

Advisory Committee

Approved:

Head of the Department of English

Approved:

Dean of the Division of
Arts and Sciences

Approved:

Dean of the Division of
Graduate Studies

(NOTE: This form to be used for the Master's thesis)

THE STLYE OF JOHN WYCLIFFE, AS EXEMPLIFIED
IN HIS TRANSLATION OF THE NEW TESTAMENT

THESIS

Presented to the Faculty of the Graduate
Division of the Texas Technological
College in Partial Fulfillment
of the Requirements
For the Degree of

MASTER OF ARTS

By

Emma May Gill, B. A.

(Home Address)

June, 1934

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