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THE
GRADUATE SCHOOL

Announcements for 1956-1957

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INTRODUCTORY MATERIAL

CALENDAR FOR THE THIRTY-SECOND ANNUAL SESSION

LONG SESSION 1956-1957

Fall Semester

1956

Sept. 14.	Friday, 10 A.M. General faculty meeting, Recreation Hall. 2 P.M. Meetings of faculties by schools.
Sept. 20-22.	Thursday-Saturday. Registration for the fall semester. No registration between 3 P.M. Sept. 22 and 8 A.M. Sept. 26.
Sept. 24.	Monday, 8 A.M. Classes begin.
Sept. 26.	Wednesday. Late Registration Day. Last day to complete registration and pay fees for the fall semester. Last day to add courses.

> Students enrolling only for classes meeting in the late afternoon or evening or on Saturday may register at the times indicated above or between 5 P.M. and 7 P.M. on Sept. 24, 25, 26, and 27 or between 8 A.M. and noon on Sept. 29, which is the last day to register for evening or Saturday classes.

Sept. 29.	Saturday. Last day to apply for the Aptitude Test of the Graduate Record Examinations to be given on Oct. 27 (Institutional Testing Program).
Oct. 22-25.	Monday-Thursday. The Willson Lectures.
Oct. 27.	Saturday. The Aptitude Test of the Graduate Examinations (Institutional Testing Program).
Nov. 1.	Thursday. Last day a student may drop without a grade penalty any course in which he is not passing.
Nov. 3.	Saturday. Homecoming Day. Classes dismissed at 10 A.M.
Nov. 17.	Saturday, 5 P.M. Midsemester reports due at the Registrar's Office.
Nov. 21.	Wednesday, 10 P.M. Classes dismissed for Thanksgiving vacation.
Nov. 26.	Monday, 8 A.M. Classes resumed.
Nov. 27.	Tuesday. Last day to drop a course without a grade of WF unless the drop is initiated by the Dean.
Dec. 21.	Friday, 10 P.M. Classes dismissed for the Christmas vacation.

1957

Jan. 3.	Thursday, 8 A.M. Classes resumed.
Jan. 21-26.	Monday-Saturday. Final examinations for the fall semester.
Jan. 27.	Fall Semester ends.

Spring Semester

Jan. 30-31.	Wednesday-Thursday. Registration for the spring semester.
Feb. 1.	Friday, 8 A.M. Classes begin.
Feb. 6.	Wednesday. Last day to complete registration and pay fees for the spring semester. Last day to add courses.
Feb. 9.	Saturday. Last day to register for Saturday and evening classes. Last day to apply for the Aptitude Test of the Graduate Record Examinations to be given on March 9 (Institutional Testing Program).
March 9.	Saturday. The Aptitude Test of the Graduate Record Examinations (Institutional Testing Program).

March 14. Thursday. Last day a student may drop without a grade penalty any course in which he is not passing.
Last day to file with the Dean the statement of intention to graduate on June 3, 1957.

March 30. Saturday, 5 P.M. Midsemester reports due at the Registrar's Office.

April 2. Tuesday. Last day to order academic regalia at the College Bookstore. Last day to pay the $5.00 graduation fee. Last day to secure a refund of this fee by students who find that they cannot graduate on June 3.

April 15. Monday. Last day to drop a course without a grade of WF unless the drop is initiated by the Dean.

April 18. Thursday, 10 P.M. Classes dismissed for Easter vacation.

April 23. Tuesday, 8 A.M. Classes resumed.

April 24. Wednesday. Last day to submit to the Dean a request to graduate *in absentia.*
Last day for degree candidates to remove grades of "Pr" and "I." Instructors are to send change-of-grade cards to the Dean's Office as soon as the work has been made up.

May 18. Saturday. Last day to submit to the Dean the final draft of theses and dissertations and to pay the fee for binding the manuscripts.

May 23-29. Thursday-Wednesday. Final examinations for the spring semester begin at 2 P.M. on May 23 and continue to 2 P.M. on May 29.

May 30. Thursday, 2 P.M. Grades and absence reports through May 29 for all degree candidates are due in the Registrar's Office.

May 31. Friday, 3 P.M. Final official graduation lists are due in the Registrar's Office.

June 2. Sunday, 8:30 A.M. Graduation rehearsal. Attendance is required of all degree candidates who expect to participate in the Commencement Exercises.
3:30-5 P.M. President's Reception for the graduating class.
8 P.M. Baccalaureate Sermon.

June 3. Monday, 8 P.M. Commencement Exercises. Spring semester ends.

Summer Session 1957

First Term

June 6. Thursday. Registration for the first term.

July 17. Wednesday. First term ends.

Second Term

July 18. Thursday. Registration for the second term.

BOARD OF DIRECTORS

Officers

CHARLES C. THOMPSON, Chairman
WINFIELD D. WATKINS, Vice Chairman
J. ROY WELLS, Secretary

Members

Term Expires February 19, 1957

THOMAS F. ABBOTT, Jr. ..... Fort Worth
GEORGE E. BENSON ..... Lubbock
CHARLES C. THOMPSON ..... Colorado City

Term Expires February 19, 1959

P. C. CALLAWAY ..... Corpus Christi
WILLIAM H. FRANCIS, Jr. ..... Houston
WINFIELD D. WATKINS ..... Abilene

Term Expires February 19, 1961

J. EVETTS HALEY ..... Canyon
TOM LINEBERY ..... Kermit
DOUGLAS ORME ..... Big Spring

OFFICERS OF ADMINISTRATION

1956-1957

EDWARD NEWLON JONES, B.S., Ph.D., LL.D., President.
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MARSHALL LEE PENNINGTON, B.B.A., Vice President and Comptroller.
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JOHN ROSS BRADFORD, Ph.D., Dean of Engineering.
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WILLIAM HODGE CRENSHAW, LL.B., Director of Development.
SETH THOMAS CUMMINGS, Purchasing Agent and General Services Supervisor.
HENRY G. DOUGLAS, B.S., Colonel, Corps of Engineers, U. S. Army, Professor of Military Science and Tactics.
WILLIAM BRYAN GATES, B.S., M.A., Ph.D., Dean of the Graduate School.
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.
RAY CURTIS JANEWAY, B.A., B.S. in L.S., M.S., Librarian.
LEWIS NORTEN JONES, B.S., M.A., Dean of Men.
JACOB HOMER MILLIKIN, B.A., M.A., Director of Extension.
FLORENCE LOUISE PHILLIPS, A.B., M.A., Dean of Women.
WILLIAM A. SCHULGEN, B.A., Colonel, U. S. Air Force, Professor of Air Science.
SHIRLEY FRANCES SCHULZ, B.S., Director of Food Service.
WENZEL LOUIS STANGEL, B.S., M.S., Dean of Agriculture.
JOHN GATES TAYLOR, Acting Auditor.
WILLA VAUGHN TINSLEY, B.S., M.S., Ph.D., Dean of Home Economics.

* * * *

FLORENCE EVELYN CLEWELL, B.A., Assistant Registrar and Statistician.
NEIL CASEY FINE, B.S., M.S., Ph.D., Assistant Dean of Agriculture.
WILLIAM RAY GEISERT, A.B., M.S. in Ed., Head Supervisor of Men's Dormitories and Assistant Dean of Men.
MARTHA HIGH HALL., B.S., M.A., Assistant Dean of Women.
WARREN GAMALIEL HARDING, B.A., M.Ed., Assistant Registrar and Coordinator of Veterans Affairs.
SABE McCLAIN KENNEDY, Jr., B.A., M.A., Ph.D., Assistant Dean of Arts and Sciences.
ROBERT LEE NEWELL, B.S. in M.E., M.S. in M.E., Asistant Dean of Engineering.
JAMES EDWARD PLATZ, B.S. in L.S., Associate Librarian.
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 A. STERNER, A.B., M.S., Assistant Dean of Women.
VERNON EARL THOMPSON, B.B.A., Assistant Comptroller.
CLAUDE ADRIAN VAUGHAN, Jr., M.J., Assistant Director of Public Information.
JAMES BERLYN WHITEHEAD, A.B., Assistant Dean of Student Life.

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, four new members join the Council each year, replacing four 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.

WILLIAM BRYAN GATES, PhD., Professor of English and Dean of the Graduate School, Chairman.

BYRON ROBERT ABERNETHY, Ph.D., Professor of Government. (1959)

SEYMOUR VAUGHAN CONNER, Ph.D., Associate Professor of History and Archivist 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 the Division 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. (1958)

GEORGE PEYTON MECHAM, Ph.D., Associate Professor of Education. (1957)

FRED WAYLAND NORWOOD, Ph.D., Associate Professor of Accounting and Finance. (1958)

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, Ph.D., Professor and Head of the Department of Education. (1959)

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, Assistant

*Date in parentheses after the name indicates the year of expiration of term of office.

GRADUATE FACULTY

1955-1956

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 1955-1956 and new members for 1956-1957 if they were approved in time to be included in the list.

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.
WILLIAM BURNSIDE ARPER, Jr., Ph.D., Assistant Professor of Geology.
DONALD ASHDOWN, Ph.D., Professor of Horticulture and Park Management and Director of Greenbug Control Research, Pan-Tech Field Laboratory.
CECIL IRVY AYERS, M.S., Associate Professor of Agronomy.
ALBERT BARNETT, Ph.D., Professor of Education, Professor of Psychology, and Director of Testing and Counseling Center.
NOLAN ELLMORE BARRICK, M. in Arch., Professor and Head of the Department of Architecture and Allied Arts and Supervising Architect.
ETHEL JANE BEITLER, M.Ed., Assistant Professor of Applied Arts.
JAMES WAYLAND BENNETT, Ph.D., Associate Professor of Agricultural Economics.
DAVID JACOB BESDIN, Ph.D., Associate Professor of Physics.
ROBERT HOWELL BLACK, Ph.D., Professor and Head of the Department of Animal Husbandry.
*WILLIAM ALLEN BLACKWELL, M.S., in E.E., Assistant Professor of Electrical Engineering.
LAWRENCE EDWARD BOWLING, Ph.D., Assistant Professor of English.
HAROLD A. 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.
WILLIAM GASTON CAIN, 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.
GERALDINE CLEWELL, Ph.D., Professor of Home Economics Education.
VERNON THOMAS CLOVER, Ph.D., Professor of Economics.
SEYMOUR VAUGHAN CONNER, Ph.D., Associate Professor of History and Archivist of the Southwest Collection.
LEWIS BRISCOE COOPER, Ph.D., Professor of Education.
WILLIAM MOORE CRAIG, Ph.D., Professor of Chemistry.
FRED ROBERTS CRAWFORD, M.S., Assistant Professor of Sociology.

*On leave of absence.

*HERMAN ROBERT CROOKSHANK, Ph.D., Associate Professor of Animal Husbandry and Animal Nutritionalist, 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., Associate Professor of Civil Engineering.
JOE DENNIS, Ph.D., Professor and Head of the Department of Chemistry and Chemical Engineering.
[1]MORTON L. 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 Acting 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 of Animal Husbandry and Assistant Dean of Agriculture.
RAYMOND KENNETH FLEGE, M.S., Professor and Head of the Department of Textile Engineering.
GORDON FULLER, Ph.D., Professor of Mathematics.
STERLING HALE FULLER, Ph.D., Associate Professor of Government.
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.
EVERETT ALDEN GILLIS, Ph.D., Associate Professor of English.
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.
PATTI MURRAY GRUBB, M.A., Part-time Assistant Professor of Speech.
[1] JOHN C. GUILDS, Ph.D., Associate Professor of English.
ALAN MURRAY FINLAY GUNN, Ph.D., Professor of English.
[2] WILLIAM EDWARD HALL, Jr., Ph.D. Associate Professor and Head of the Department of Journalism and Director of Public Information.
THOMAS EARLE HAMILTON, Ph.D., Professor of Foreign Languages.
FRED GEORGE HARBAUGH, D.V.M., Professor of Animal Husbandry.
JOHN ELZIE HARDING, M.A., Assistant Professor of Management.
CLARK HARVEY, Ph.D., Assistant Professor of Agronomy.
[2] HORACE C. HARTSELL, Ed.D., Associate Professor of Education.
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.

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*Employed by the Texas Agricultural Experiment Station and the United States Department of Agriculture.
[1] Appointment effective September, 1956.
[2] Resigned, effective June 1, 1956.

GLADYS KEEN HOLDEN, M.S., Assistant Professor of Food and Nutrition.
WILLIAM CURRY HOLDEN, Ph.D., Professor of History, Anthropology, and Sociology, 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.
SYLVAN JULIAN KAPLAN, Ph.D., Professor and Head of the Department of Psychology.
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.
HELEN ALMA LINDELL, M.A., Assistant Professor of Speech.
IVAN LEE LITTLE, Ph.D., Associate Professor of Education and Philosophy.
SAMUEL NOYES LITTLE, Ph.D., Assistant Professor of Agronomy.
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.
[1]THOMAS GREEN MANNING, Ph.D., Associate Profesor of History.
RICHARD BENJAMIN MATTOX, Ph.D., Associate Professor of Geology.
ELMER LEON McBRIDE, M.S., Professor and Head of the Department 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.
FITZHUGH LEE McREE, M.S. in C.E., Professor of Civil Engineering.
GEORGE PEYTON MECHAM, Ph.D., Associate Professor of Education.
WILLIAM HOWARD MELCHING, Ph.D., Assistant Professor of Psychology.
WILLIAM WALTER MERRYMON, Ph.D., Associate Professor of Physics.
FREEDIS LLOYD MIZE, Ph.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., Assistant 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., Associate Professor of Mechanical Engineering.
FRED WAYLAND NORWOOD, Ph.D., Professor of Accounting and Finance.
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.
LEON VINCENT PADGETT, Ph.D., Instructor in Government.

[1] Appointment effective September, 1956.

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 MARTIN PEARCE, Jr., Ph.D., Professor and Head of the Department of History, Anthropology, and Sociology.
ANNAH JOE PENDLETON, M.A., Professor of Speech.
JOHN MOORE PENICK, Jr., Ph.D., Professor of Industrial Engineering.
[1]WILLIAM M. 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.
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 RENARD, Licencie en Sciences Chimiques, Univ. Paul Pastur, Belgium; Ingenieur-Chimiste, Univ. de Nancy, France, Associate Professor of Chemical Engineering.
CHARLES LATHAN RIGGS, Ph.D., Associate Professor of Mathematics.
ARTHUR THEOPHILE ROBERTS, Ph.D., Assistant Professor of Accounting and Finance.
WILLIAM ROBERTS, Ph.D., Instructor in Foreign Languages.
ROBERT LYLE ROUSE, Ph.D., Associate Professor of Economics.
[2] JOSEPH HAROLD RUSH, Ph.D., Professor of Physics.
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 SAMSON, Ph.D., Assistant Professor of Economics.
ELIZABETH SKIDMORE SASSER, Ph.D., Associate Professor of Architecture.
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.
RAYMOND GILBERT SIDWELL, Ph.D., Professor of Geology.
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.
HAROLD AYLESWORTH SPUHLER, S.M., Associate Professor of Electrical Engineering.
WENZEL LOUIS STANGEL, M.S., 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 J. 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.
ISABEL CECILIA THOMPSON, Ph.D., Associate Professor of Speech.

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[1]Appointment effective September, 1956.
[2] Resigned, effective June 1, 1956.

WILLA VAUGHN TINSLEY, Ph.D., Professor of Home Economics, Head of the Department of Home Management, and Dean of Home Economics.
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.
ELO JOE URBANOVSKY, B.S., Professor and Head of the Department of Horticulture and Park Management.
MARY JEANNE van APPLEDORN, 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., Instructor in Economics.
ERNEST WALLACE, Ph.D., Professor of History.
MORRIS SHEPPARD WALLACE, Ph.D., Professor and Head of the Department of Education and Philosophy.
GEORGE FREDERICK WARN, M.S., Associate Professor of Geology.
WESLEY WILLIAM WENDLANDT, Ph.D., Assistant Professor of Chemistry.
[1]DENVER FRED WENDORF, Ph.D., Associate Professor of Anthropology and Assistant Director of the Museum.
GEORGE ARTHUR WHETSTONE, Ph.D., Professor of Civil Engineering.
[2]HAROLD NORTEN WHITE, Ph.D., Associate Professor of English.
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.
JUDDIE JOHNSON WILLINGHAM, Ph.D., Professor and Head of the Department of Dairy Industry.
HORACE EUGENE WOODWARD, M.A., Assistant 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.

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[1]Appointment effective September, 1956.
[2]Resigned, effective June 1, 1956.

GEOGRAPHICAL AND HISTORICAL STATEMENT

Lubbock, the seat of Texas Technological College, is a city of about 128,000 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 air lines, 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 (1925-1932). He was followed by Bradford Knapp (1932-1938), Clifford Bartlett Jones (1938-1944, President Emeritus, 1944--), William Marvin Whyburn (1944-1948), Dossie Marion Wiggins (1948-1952), 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.

THE NATURE OF GRADUATE STUDY

Graduate study is more than a continuation of undergraduate work. The true spirit of graduate study is one of inquiry and the desire to master a segment of knowledge, not merely to satisfy certain minimum requirements. Graduate study is therefore only for students who have already demonstrated unusual intellectual ability and the power of independent thought and investigation.

For this reason, practically all graduate schools exercise some type of selectivity in their admission of students. Selective entrance requirements are for the maintenance of high standards of graduate work and also for the benefit of students in helping them decide whether a graduate degree should be their goal.

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 program leading to the degree of Master of Arts in Teaching, a non-thesis program providing for a major in the subject to be taught and a minor in Education. 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 Schoool 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.

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 reserves the right to institute and make effective, after due notice and during the course of a 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

General Admission as Unclassified Graduate Students

Applicants with a Bachelor's degree from a college or university approved by its regional accrediting agency or otherwise recognized for the excellence of its work may be admitted as unclassified graduate students on the basis of a complete transcript of their previous work. Several months in advance of their proposed registration, prospective graduate students should apply through the Registrar and Director of Admissions for admission to the Graduate School.

Graduates of Texas Technological College should understand that the Graduate School is a separate entity in the organization and that

previous enrollment as an undergraduate does not automatically admit them to the Graduate School. They are subject to the same regulations that graduates of other institutions are.

Mere permission to enroll for courses, either in residence or by extension, does not carry with it official admission to the Graduate School, even as an unclassified student.

Every one entering this Graduate School is considered an unclassified graduate student until he satisfies all requirements for full admission as an applicant for a graduate degree.

The Graduate School gives no assurance that work completed prior to the satisfaction of these requirements may be counted toward a degree.

Admission as Applicants for Graduate Degrees

The Aptitude Test

Every one (including graduates of Texas Technological College) who seeks admission to the Graduate School with the intention of working toward a Master's or Doctor's degree is required to take the Aptitude Test of the Graduate Record Examinations either prior to registration or at the first examination date thereafter.

The Aptitude Test consists of a Verbal Factor and a Quantitative Factor; no special review is necessary for it. Postponing this test will result in complications for which the Graduate School assumes no responsibility.

Prospective students, especially those living at a distance from Lubbock, should write to the Educational Testing Service, which prepares and scores the Graduate Record Examinations, and inquire about the location of the nearest testing center, dates, and fees. In their letters they should indicate that they are seeking admission to the Graduate School of Texas Technological College.

The Offices of the Educational Testing Service are as follows:

20 Nassau Street		4641 Hollywood Boulevard
Princeton, New Jersey	and	Los Angeles 27, California

Applicants should not confuse these arrangements with those of the "Institutional Testing Program" at Texas Technological College. In the "Institutional Testing Program," the Aptitude Test of the Graduate Record Examinations is administered on this campus three times each year —in the spring, in the summer, and in the autumn. Exact dates are indicated in the Calendar at the front of this Bulletin.

Applicants who have not taken the Aptitude Test prior to their enrollment will take it as a part of the "Institutional Testing Program" here. They must make written application to the Dean of the Graduate School at *least five weeks in advance* of the proposed test. The application must be accompanied by the fee required by the college, namely, $4.00. About a week in advance of an administration of the Aptitude Test at Texas Technological College, the Graduate Office mails to each official applicant for the test a ticket of admission showing the room number and the hour of the examination.

Formal Admission

Admission to this Graduate School as an applicant for a graduate degree involves two factors: (1) An undergraduate record which is above average and (2) A satisfactory score on the Aptitude Test of the Graduate Record Examinations.

Applicants failing to meet the required standards may remain as unclassified graduate students and may take courses without a degree objective. However, if they wish to be considered further for admission to degree programs, they will have to undergo additional tests or take certain specified preliminary work without graduate credit. Full details about these requirements may be obtained at the Office of the Dean of the Graduate School.

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 nine 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 may not register for more than fifteen hours in a semester or six 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 graduate credit for more than twelve semester hours' work completed before he has been admitted 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.

GRADUATE ADVISERS

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

PREREQUISITES IN THE MAJOR AND MINOR SUBJECTS

For full acceptance by the major department, the student is expected to have completed an undergraduate major in that department—thirty to thirty-six hours of work.

A student who has not had a formal major in his proposed graduate field may still be accepted provided his undergraduate preparation includes the following work: (1) At least twelve semester hours of junior and senior courses in his proposed major, together with the prerequisites for them, and (2) Sufficient junior and senior work in closely allied subjects to make the total approximately equivalent to an undergraduate major at Texas Technological College.

Full acceptance by the minor department requires an undergraduate minor in that department or at least twelve semester hours of work in it, at least six of which must be in junior and senior courses.

Students who cannot satisfy these requirements upon entrance must take sufficient undergraduate leveling work (without graduate credit) to remove their deficiencies.

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 and some of those numbered in the "400" 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.

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

Graduate students devoting their full time to their studies may enroll for a maximum of fifteen hours of work in a semester or six hours in a six-weeks 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 three hours in any term or semester if they wish 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 requirement for a degree. Such courses, naturally, do not carry graduate credit.

REGISTRATION PROCEDURE

A few days before registration (see the Calendar at the front of this Bulletin), the student should apply at the Office of the Registrar for instructions for registration.

At the time of enrollment, the student should follow carefully the instructions which have been furnished him. 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.

GRADES

The grade average of all work credited toward a graduate degree must be at least "B" in the major and minor considered separately. In degree programs not having a regular graduate minor, all work taken outside the major subject is treated as a minor in determining the grade average. No grade less than "C" will be counted in a graduate program.

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 grade of "Pr" 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 grade must be replaced by a regular letter grade before credit can be awarded for the work.

"Pr" is the grade 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 (631-2 or 831-2) until the completed work has been approved by the advisory committee and accepted by the Dean of the Graduate School.

The grade of "I" or "Inc" (*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 grade must never be given in lieu of "F." The responsibility of seeing that his record is cleared of the grade of "I" or "Inc" rests upon the student. When "I" or "Inc" 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.

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. A transcript of previous work is necessary for the completion of the "Preliminary Outline"; consequently, the student should bring a transcript with him or, preferably, apply for admission to the Graduate School a month or two in advance so that official copies of the transcript will be on file.

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 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 20, not every graduate course 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 thirty weeks, that is, for five six-weeks summer terms.

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 six 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 six 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 nine 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 twelve 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 twelve hours of graduate work in residence;

(2) He must have demonstrated an adequate command of the English language;

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

(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 in quality and quantity 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 September 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 approved 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. The taking of a miscellaneous assortment of courses will inevitably result in a loss of credit.

TIME LIMIT ON WORK FOR THE MASTER'S DEGREE

In order to secure the proper continuity in their work and to maintain the momentum necessary for successful graduate study, applicants for the Master's degree should strive to complete their work without undue interruption.

For this reason, this Graduate School, like nearly all other graduate schools, requires that work for the Master's degree be completed within a certain specified time.

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 thirty-six semester hours of graduate course work, and the Master of Education, for which two plans are available: Thirty semester hours including a thesis and thirty-six semester 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 available at small cost a brief mimeographed pamphlet giving complete instructions for preparing and submitting a thesis. Each student who plans to write a thesis is expected to secure a copy of these instructions and to follow them carefully at all stages of his work.

Three copies of the final version, prepared as indicated in the mimeographed instructions, 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.

At the time the copies of the final version are submitted to the Dean, the candidate will pay the fee ($2.00 per copy) for the binding of the manuscripts.

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 in 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. See page 19 of this Bulletin for statement of prerequisites for a graduate major and minor.

REQUIRED: A minimum of thirty semester hours of work, from eighteen to twenty-four 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 six 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 twelve 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 a minimum of twenty-four semester hours (including at least twelve hours of advanced work) in the major subject; a minimum of twelve semester hours (including at least six hours of advanced work) in Education; and at least forty-five semester hours of work in general education.

REQUIRED: A minimum of thirty-six semester hours of graduate work. At least twenty-four hours will be in the major subject, and at least twelve will be in Education.

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, and Speech.

MASTER OF BUSINESS ADMINISTRATION

MASTER OF SCIENCE IN AGRICULTURE

MASTER OF SCIENCE IN CHEMICAL ENGINEERING

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

MASTER OF SCIENCE IN HOME ECONOMICS

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

REQUIRED: A minimum of thirty 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 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 division.

MASTER OF EDUCATION

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

For the degree of Master of Education, a student may, with the consent of his adviser, choose either of the two plans outlined below, with a major in Education, Agricultural Education, Business Education, Home Economics Education, Music Education, or Health and Physical Education. A combination of a major in one field of education and a minor in another is not permitted.

The requirements set forth in the succeeding paragraphs are effective after June 1, 1956, but any student whose "Preliminary Outline of Work for the Master's Degree" or "Application for Admission to Candidacy for the Master's Degree" has been approved by the Graduate Dean prior to June 1, 1956, may continue his program as originally planned if he cares to do so.

PLAN I—WITH THESIS. REQUIRED: A minimum of thirty semester hours of graduate work, eighteen of which, including the thesis (631-2) will be in the major subject, and twelve of which will be outside any field of education. Methods of satisfying the requirement in the minor are set forth below.

PLAN II—WITHOUT THESIS. REQUIRED: A minimum of thirty-six semester hours of graduate work, twenty-one of which will be in the major subject, and fifteen of which will be outside any field of education. Methods of satisfying the requirement in the minor are set forth below.

Minor Programs for the Degree of Master of Education

(1) Applicants for the M.Ed. degree with major emphasis on Elementary Education, Music Education, or Health and Physical Education may have a "Conventional Minor" or a "Composite Minor" made up of courses from the list shown below.

(2) Applicants for the M.Ed. in Agricultural Education, Business

Education, or Home Economics Education may have a "Conventional Minor" or a "General Minor" made up of courses from the various departments of the particular division.

(3) All other applicants for the M.Ed. degree must have a "Conventional Minor."

Regulations Pertaining to the "Conventional Minor"

(1) Prerequisite for a "Conventional Minor" is an undergraduate minor (or its equivalent) in the subject selected for the graduate minor. If the student has a "split minor" he must have the prerequisites in each subject.

(2) A combination of a "Conventional Minor" and a "Composite Minor" is not permitted.

(3) The requirement of a "Conventional Minor" may be satisfied in the following ways:

In the Thirty-Hour Program:

(a) By completing twelve hours in a single subject

(b) By completing six hours in each of two subjects

In the Thirty-six-Hour Program:

(a) By completing fifteen hours in a single subject

(b) By completing six hours in one subject and nine hours in another

Regulations Pertaining to the "Composite Minor"

Inasmuch as one of the chief purposes of the "Composite Minor" for students having a major emphasis on Elementary Education, Music Education, or Health and Physical Education is to provide breadth of background, not more than one course in any general area may be taken for degree credit in the "Composite Minor." Students choosing the "Composite Minor" will take twelve hours of work from the following list of courses if they are under the thirty-hour program or fifteen hours if they are under the thirty-six-hour program.

Courses numbered 4335 are restricted to students having a major emphasis on Elementary Education.

Courses Comprising the "Composite Minor"

Allied Arts 4335 *or* 4351 *or* Applied Arts 4335

Anthropology 4351

Clothing and Textiles 4335

Economics 4335

English 4335 *or* 4351

Food and Nutrition 4335

Government 4351

History 4335 *or* 4351

Music 4335 *or* 4351

Philosophy 4351

Spanish 4335

Speech 4335 *or* 4351

With the exception of Spanish 4335, the courses carrying the number 4335 may not be credited toward a major or a minor in the particular subject. A student who wishes to count Spanish 4335 as a part of a major or minor in Spanish must have completed Spanish 331 and 332 or their equivalent.

SUMMARY OF STEPS REQUIRED OF ALL APPLICANTS FOR THE MASTER'S DEGREE

Consult the latest issue of the Graduate Bulletin for details.

1. Secure official admission. Permission to enroll for courses does not automatically grant admission to the Graduate School.

2. Take the Aptitude Test of the Graduate Record Examinations either prior to first registration or at the next examination date thereafter.

3. At the beginning of graduate study, file the "Preliminary Outline of Work for the Master's Degree." When your "Preliminary Outline" has been approved by the Dean, keep it and use it as your guide in all subsequent registrations until you have completed twelve hours of graduate work.

4. Upon the completion of twelve hours of graduate work, file the "Application for Admission to Candidacy for the Master's Degree" (permanent degree plan). When your "Application for Admission to Candidacy" has been approved by the Dean, keep it and use it as your guide in all subsequent registrations. Do not register for a course not in your program without first securing the Dean's approval.

5. Not earlier than twelve weeks and not later than nine weeks prior to your proposed graduation date, file the "Statement of Intention to Graduate."

6. Follow carefully the college calendar and list of deadlines in connection with all matters pertaining to graduation—submitting a thesis (if your program requires a thesis), taking the comprehensive examination for the Master's degree, ordering academic regalia, and paying the graduation fee.

REGULATIONS PERTAINING TO THE DOCTORS' DEGREES

DOCTOR OF EDUCATION AND DOCTOR OF PHILOSOPHY

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.

Only those students with outstanding records in undergraduate work and previous graduate work should undertake doctoral study. The Doctor's degree is never awarded for mere routine fulfillment of requirements. The highest academic degree is reserved only for applicants of superior attainments in scholarship and research.

ADMISSION TO THE DOCTORAL PROGRAM

The general requirement for admission to the Graduate School as an unclassified graduate student is the possession of a Bachelor's degree from a college or university approved by its regional accrediting agency or otherwise recognized for the excellence of its work. For doctoral study, the possession of a Master's degree is desirable but not a requirement.

However, no one is considered an applicant for the doctorate until he has taken the necessary examinations and his status has been favorably determined by his major and minor departments and by the Graduate Council.

To be admitted to doctoral study, an applicant must take the Aptitude Test of the Graduate Record Examinations and make a score satisfactory to the Graduate Council. This regulation applies to all students, regardless of the time they began taking graduate courses.

Those failing to reach the required standard on the Aptitude Test may continue to take courses as unclassified graduate students without a degree objective, or, if they wish to be considered further for admission to doctoral study, they will take the Advanced Test in their major subject. Those making satisfactory scores on the Advanced Test will ordinarily be admitted to the doctoral program in spite of low scores on the Aptitude Test. Those making unsatisfactory scores on both the Aptitude Test and the Advanced Test will be advised not to attempt the doctorate. However, a department which considers a student to be exceptionally promising material for the doctorate in spite of low scores on both tests may petition the Graduate Council for a special review of the record.

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 eighteen 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 twenty-four 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 twenty-four to thirty semester 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 twenty-four to thirty semester 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 SEVENTY-TWO TO NINETY 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 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 Ed.D. or the Ph.D. 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 twelve to fifteen 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 alone.

In satisfying the remaining requirements for the doctorate, over and above the minimum residence, an applicant may not receive credit for more than twelve hours of dissertation courses (731-2 and 831-2) or for more than nine 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 established himself satisfactorily on the basis of the Graduate Record Examinations and 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 officially admitted to the doctoral program on the basis of his standing on the Graduate Record Examinations and consideration by the Graduate Council, 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. Mimeographed material setting forth the specific functions of the advisory committee is available to faculty members and students.

QUALIFYING EXAMINATION FOR ADMISSION TO CANDIDACY

When the applicant has satisfied all of the foregoing requirements (Graduate Record Examinations, language or statistics, preliminary examination) and has completed most of the course work prescribed as a result of the preliminary examination, and at a time suggested by his advisory committee, he will undergo the qualifying examination, which helps to determine whether he is to be admitted to candidacy for the Doctor's degree.

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 fifteen weeks.

If the qualifying examination is considered satisfactory by the advisory committee, the chairman will prepare a recommendation to the Graduate Council as explained below, that the applicant be admitted to candidacy for the Doctor's degree.

ADMISSION TO CANDIDACY FOR THE DOCTOR'S DEGREE

When the applicant for the degree of Doctor of Philosophy or Doctor of Education has satisfied all of the requirements shown above, the chairman of the advisory committee will present a formal written request to the Graduate Council that the applicant be admitted to candidacy for the Doctor's degree.

This request 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. This request must be approved by the Graduate Council before an applicant can be admitted to candidacy for the doctorate. No request will be approved unless the applicant has satisfied the requirements in foreign languages and/or statistics.

Upon the admission of an applicant to candidacy for the doctorate, the Dean will notify him in writing, with copies of the letter to the chairman of the advisory committee and the head of the departments 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 (September 1 to August 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.

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.

These is available at small cost a brief mimeographed pamphlet giving complete instructions for preparing and submitting a dissertation. Each candidate is expected to secure a copy of these instructions and follow them carefully.

The final version of the dissertation, prepared and approved as indicated in the mimeographed pamphlet, must be in the hands of the Dean at least four days before the commencement at which the candidate hopes to receive his degree. Three typewritten copies of the final version are required by the college.

Accompanying the final version must be an abstract of the dissertation, not more than two thousand words long. Abstracts should be carefully prepared; they will be published in a college bulletin.

The cost of binding the three required copies of the dissertation and of preparing other reproductions that may be considered necessary and other fees incident to graduation must be paid before the candidate will be certified to receive his degree.

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

FEES AND DEPOSITS

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 twelve or more semester hours, the registration fee is $25.00 each semester. For those enrolled for fewer than twelve 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 $150.00 per semester of the long session. Non-resident students enrolled for fewer than twelve 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 three semester hours' credit or less; for each course carrying four 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

* 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.

second paragraph if they are residents of Texas. The fee for non-residents is shown in paragraph three above. All students enrolled for Field 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 fee of $4.00 is required for each of the Graduate Record Examinations administered in the Institutional Testing Program. Admission to these examinations is by ticket only. Any student who plans to take the Aptitude Test or the Advanced Test (see page 17 of this Bulletin) will have to make application and send a check for the fee at least five weeks in advance of the proposed test date.

Visitor's Fee

A fee of $5.00 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.

Late Registration Fee

Any student who fails to register and pay fees during the regular registration period shall be required to pay an additional service charge of $2.00.

General Property Deposit

Each student enrolled in the college must make a general property deposit of $7.00. 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 fifty 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 one to three semester hours, a laboratory fee of $2.00 is charged for each semester. For courses in which the semester credit is four hours or more, the laboratory fee is $4.00 per semester.

Graduation Fee

The graduation fee is $5.00. 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 $21.00 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 $8.00. Students who pay the full $21.00 fee in the Fall Semester but do not enroll in the Spring Semester will be entitled to a refund of $6.00.

Special Fees for Certain Courses

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

Accounting 441, 442 — $4.00 each semester.

Allied Arts 4311, 4312, 421, 426, 427—$5.00 each semester.

Applied Music (private lessons) — $30.00 each semester for each course.

Architecture 423, 424, 4316, 4317 — $5.00 each semester.

Education 4315 — $3.00.

Secretarial Administration 421 — $4.00.

Identification Card Fee

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

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 $5.00 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

* S. B. No. 232, Regular Session, Fifty-third Legislature.

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 sixty per cent of his registration and activity fees, and during the second week, twenty 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 twelve 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 thirty-eight 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 eight dormitories with a normal capacity of almost three thousand students. 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 18 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-months 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.

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

The Lubbock Auto Company Fellowship—Restricted to candidates for the Doctor's degree who have completed all course work and wish to devote their full time to the dissertation. The stipend is $1,000. Applications are to be addressed to the Dean of the Graduate School.

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 Gifford-Hill-Western Fellowship in Agronomy or Agricultural Engineering.

The James Newton Michie Fellowship in Mathematics.

The Jonnie McCrery Michie Fellowship in Food and Nutrition.

The Phillips Petroleum Company Fellowship in Agronomy.

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 carrells 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 1955-56, the Library holdings consisted of approximately 140,000 catalogued volumes, 36,000 periodicals, and 125,000 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.

Each course listed on a student's schedule must be approved by a representative of that department, and the whole program of courses must be approved by a representative of the major department and the Dean of the Graduate School.

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. 631-2; it carries six semester hours' credit.

While working on the doctoral dissertation, candidates for the Doctor's degree will enroll for course No. 731, 732 (Research).

For bookkeeping purposes, final registration for the doctoral dissertation will be under course No. 831-2.

AGRICULTURE

Dean W. L. Stangel, Graduate Chairman

Assistant Dean N. C. Fine, 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. However, one who has a major in Agricultural Education may not have a minor in any field of education.

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 E. L. McBride
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.
433. Farm Management and Records. Cr. 3. (2-3). Mr. Leonard.
434. Advanced Farm Management. Cr. 3. Mr. Leonard.
436. World Trade in Agricultural Products. Cr. 3.
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. McBride, Mr. Leonard.
May be repeated for credit.
631-2. 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.
424. Organization and Administration of Vocational Agriculture. Cr. 2.
426. Advanced Methods in Future Farmer Work. Cr. 2.
432. Methods in Adult Agricultural Education. Cr. 3. (2-3). Mr. Leach,
443. Methods of Teaching Vocational Agriculture in the High School. Cr. 4. (2-6). Mr. Chappelle.
461. Student Teaching. Cr. 6. (0-18). Mr. Leach.

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.
631-2. Master's Thesis. Cr. 6.
Required for Master of Science in Agriculture; optional for Master of Educatio

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.
425. Seed Technology. Cr. 2. (1-2). Mr. Ayers.
430. Agronomy Problems. Cr. 3.
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). Mr. Little.
436. Soil Chemistry. Cr. 3. Mr. Little.
437. Range Plant Management. Cr. 3. (2-3).
438. Advanced Range Management. Cr. 3. (2-3).
439. Soil Microbiology. Cr. 3. Mr. Young.

For Graduates

511. Agronomy Seminar. Cr. 1.
May be repeated for credit.
534. Agronomy Research. Cr. 3.
May be repeated for credit.
535. Research Methods. Cr. 3. Mr. Young.
631-2. Master's Thesis. Cr. 6.

ANIMAL HUSBANDRY

Professor R. H. Black
Head of the Department

For Undergraduates and Graduates

411. Animal Husbandry Seminar. Cr. 1. Mr. Black.
May be repeated for credit.
435. Horse Production. Cr. 2. Mr. Harbaugh.

427. Swine Production. Cr. 2.
431. Beef Cattle Production. Cr. 3. Mr. Black.
432. Animal Breeding. Cr. 3. Mr. Black.
433. Sheep Production. Cr. 3. Mr. Mowery.
435. Dairy Cattle Production. Cr. 3.
436. Advanced Animal Nutrition. Cr. 3. Mr. Neely.
438. Range Livestock Production. Cr. 3.
439. Hormones in Animal Production. Cr. 3.

For Graduates

533. Current Investigations in Animal Husbandry. Cr. 3.
May be repeated for credit.
631-2. 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.

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.
631-2. 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.
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.
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.
631-2. 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

331-2. Principles of Bacteriology. Cr. 3. (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.
333. Bio-ecology. Cr. 3. (2-3). Mr. Studhalter.
411. Biology Seminar. Cr. 1. Mr. Studhalter and 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.
631-2. Master's Thesis. Cr. 6. Staff.

ENTOMOLOGY

For Undergraduates and Graduates

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

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.

631-2. Master's Thesis. Cr. 6. Staff.

BUSINESS ADMINISTRATION

Dean George G. Heather, Graduate Chairman

A student may have a major for the degree of Master of Business Administration in General Business, Accounting, Business Education, Economics, Finance, Management, or Marketing. His minor may be in any of these subjects (other than the one he chooses as his major), in a combination of several business subjects, or in a subject outside of Business Administration. However, one whose major is Business Education may not have a minor in another field of education.

In five of the areas of Business Administration, special seminars (numbered 534) are offered. Every graduate student beginning work after September 1, 1956, is required to complete at least two of these seminars as part of his program for the Master's degree. After September 1, 1956, graduate degree credit may not be earned in courses numbered in the 300 series.

All programs for the degree of Master of Business Administration are to be prepared by the Business Administration Committee on Graduate Study and are to be approved by the Graduate Chairman before they are 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. Mr. Norwood.
4311. CPA Review I. Cr. 3. Mr. Taylor
4312. CPA Review II. Cr. 3. Mr. Roberts

441. Machine Accounting. Cr. 4. (3-3).
Machine service fee $4.
442. Machine Accounting. Cr. 4. (3-3).
Machine service fee $4.

For Graduates

531. Controllership. Cr. 3. Mr. Norwood.
532. Internship. Cr. 3. Mr. Rushing.
533. Current Accounting Theory. Cr. 3. Mr. Rushing.
534. Seminar. Cr. 3. Mr. Norwood.
Enrollment limited to non-accounting majors.
631-2. 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.
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.
631-2. 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.

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.
631-2. 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.
437. Current Economic Problems. Cr. 3. Mr. Clover.
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.

For Graduates

4335. Human Geography. Cr. 3. Mr. Clover.
Enrollment limited to graduate students in elementary education.
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.
631-2. 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.
631-2. 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.

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.
631-2. 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 eighteen semester hours of work must be done outside this department.

CHEMISTRY

For Undergraduates and Graduates

331-2. 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.

353-4. Organic Chemistry. Cr. 5, each. (3-6).
For minors only.

411-2. Chemical Literature and Seminar. Cr. 1.

431. Qualitative Organic Analysis. Cr. 3. (1-6). Mr. Dennis.

433. Inorganic Preparations. Cr. 3. (0-9). Mr. Wendlendt.

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.

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

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 Anaylsis 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.
5322. Advanced Organic Chemistry II. Cr. 3. Mr. Lee, Mr. Estok.
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.
5328. Mechanisms of Organic Chemistry. Cr. 3. Mr. Lee, Mr. Estok.
5334. Selected Topics in Biological Chemistry. Cr. 3. Mr. Dennis.
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, Graduate Courses.
631-2. Master's Thesis. Cr. 6.
731,732. Research. Cr. 3, each.
Required of student working on the Doctor's dissertation.
831-2. Doctor's Dissertation. Cr. 6.
Required as the final registration for the dissertation.

CHEMICAL ENGINEERING

For Undergraduates and Graduates

425-6. 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.
433-4. 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. Holcomb.
438. Petroleum Refining Engineering. Cr. 3. Mr. Holcomb.

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. Holcomb.
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.
631-2. 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 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 details.

EDUCATION

For Undergraduates and Graduates

330. Principles of Modern Education. Cr. 3. Mr. Garlin.
333. Curriculum Development in Elementary Education. Cr. 3. Mr. Browning, Mr. Livingston.
334. Curriculum Development in Secondary Education. Cr. 3. Mr. Cooper, Mr. Jackson.
335. Elementary Education Methods. Cr. 3. Mr. Browning, Mr. Mecham.
336. Secondary Education Methods. Cr. 3. Mr. Garlin, Mr. Davidson.
337. Foundations of Special Education. Cr. 3.
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.
437. Public School Relations. Cr. 3. Mr. Wallace, Mr. Hartsell.
438. Supervision and Curriculum Development. Cr. 3. Mr. Wallace, Mr. Mecham.
4312. Elementary School Organization and Administration. Cr. 3. Mr. Wallace, Mr. Browning.
4313. Secondary School Organization and Administration. Cr. 3. Mr. Fallon.
4315. Audio-Visual Education. Cr. 3. Mr. Davidson, Mr. Hartsell.
Machine service fee $3.
4316. Workshop in Curriculum Development. Cr. 3. Mr. Cooper.
4317. Curriculum Development Practicum. Cr. 3. Mr. Davidson.
4323. Applied Curriculum Development. Cr. 3. Mr. Cooper.
4324. Applied Curriculum Practicum. Cr. 3. Mr. Davidson.
4325. Children's Literature. Cr. 3. Mr. Browning.
4326. Reading Development in the Elementary School. Cr. 3. Mr. Livingston, Mr. Mecham.

For Graduates

5139. Advanced Administrative Workship. Cr. 1. Mr. Wallace.
May be taken for a minimum of 2 and a maximum of 6 semester hours credit by repeating the course.
530. Advanced Educational Psychology. Cr. 3. Mr. Mecham.
532. Philosophy of Education. Cr. 3. Mr. Jackson.
534. Advanced Educational Sociology. Cr. 3. Mr. Jackson.
535. Federal, State, County and Local School Administration. Cr. 3. Mr. Wallace.

5536. Elementary School Administration. Cr. 3. Mr. Mecham, Mr. Browning.
5537. Secondary School Administration. Cr. 3. Mr. Fallon.
5538. Advanced Audio-Visual Education. Cr. 3. Mr. Davidson, Mr. Hartsell.
5539. Administration of Business Services. Cr. 3. Mr. Wallace.
5312. Elementary Supervision and Curriculum Development. Cr. 3. Mr. Mecham.
5313. Secondary Supervision and Curriculum Development. Cr. 3. Mr. Mecham.
5314. Advanced Curriculum Development. Cr. 3. Mr. Mecham.
5316. Junior College Education. Cr. 3. Mr. Fallon.
5317. Advanced Curriculum Practicum. Cr. 3.
5318. Audio-Visual Education Practicum. Cr. 3. Mr. Davidson, Mr. Hartsell.
5319. Audio-Visual Production. Cr. 3. Mr. Davidson, Mr. Hartsell.
5321. Individual Study in Education. Cr. 3. Mr. Wallace.
Enrollment limited to students who have completed the first stage (Master's degree) of graduate work in education and who have been recommended for this course by the Education Department Committee on Individual Study. May be repeated for credit.
5322. Foundations of Educational Research. Cr. 3. Mr. Cooper. Mr. Fallon
5331. Human Development in Education. Cr. 3. Mr. Mecham.
5337. Advanced Supervision Workshop. Cr. 3. Mr. Wallace, Mr. Mecham.
5341. Developing Arithmetic Programs in Elementary Education. Cr. 3. Mr. Livingston, Mr. Mecham.
5342. Developing Reading Programs in Elementary Education. Cr. 3. Mr. Livingston.
5343. Developing Natural and Physical Environment Concepts in Elementary Education. Cr. 3.
5344. Developing Language Arts Programs in Elementary Education. Cr. 3. Mr. Livingston, Mr. Mecham.
5345. Developing Social Studies Programs in Elementary Education. Cr. 3. Mr. Browning.
5351. General Education Seminar. Cr. 3. Mr. Garlin.
5352. Seminar in History and Philosophy of Education. Cr. 3. Mr. Jackson.
5353. Seminar in 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. Mecham.
5356. Seminar in Secondary Education. Cr. 3. Mr. Garlin.
5357. Seminar in the Junior College. Cr. 3. Mr. Fallon.
5358. Seminar in Educational Administration. Cr. 3. Mr. Wallace.
5359. Seminar in Supervision and Curriculum Development. Cr. 3. Mr. Wallace, Mr. Mecham.
5361. Seminar in Health Education. Cr. 3.
5363. Seminar in Audio-Visual Education. Cr. 3. Mr. Hartsell.
5364. Seminar in Educational Psychology. Cr. 3. Mr. Mecham.
631-2. Master's Thesis. Cr. 6. Staff.

731, 732. Research. Cr. 3, each. Staff.
Required of students working on the Doctor's dissertation.
831-2. 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.
4351. Structure and Dynamics of Philosophical Thought. Cr. 3. Mr. Little.

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.
333-4. Architectural Working Drawing. Cr. 3 each. (1-6). Mr. Bradshaw.
420. Professional Practice. Cr. 2. Mr. Barrick, Mr. Bradshaw.
423-4. Life Drawing II, III. Cr. 2 each. (0-6). Mr. Parkinson.
$5 model fee each.
4316-17. Architectural Sculpture. Cr. 3 each. (1-6). Mr. Tracy.
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

341. Art Workshop. Cr. 4. (0-12).
$5.00 materials fee for ceramics part of the course.
433-4. Commercial Design II. Cr. 3 each. (0-9). Mr. Parkinson.
4311-12. Ceramics. Cr. 3 each. (0-9). Mr. Tracy.
Materials fee, $5 each.
4313-14. Methods of Teaching Art Integrated for the High School. Cr. 3 each. (2-3). Mrs. Sasser.
4318-19. History of Painting and Sculpture. Cr. 3 each. Mr. Kleinschmidt, Mrs. Sasser.
4321-22. Methods of Teaching Art Integrated for the Elementary School. Cr. 3 each. (2-3). Mrs. Sasser.
4335. Art in Elementary Education. Cr. 3. (1-6). Mrs. Sasser.
Enrollment limited to graduate students in elementary education.
4351. Art in the Modern World. Cr. 3. Mrs. Sasser.

CHEMICAL ENGINEERING

See Department of Chemistry and Chemical Engineering, page 53.

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

312-3. 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. Spuhler.
332-3. Alternating Current Circuits. Cr. 3 each.
337. Electronics. Cr. 3. Mr. Spuhler, Mr. Stenis.
436-7. Principles of Electromagnetic Fields. Cr. 3 each. Mr. Houston.
4112-13. Alternating Current Machinery Laboratory. Cr. 1 each. (0-3). Mr. Bullen, Mr. Blackwell.
4115-16. Vacuum Tube Circuits Laboratory. Cr. 1 each. (0-3). Mr. Houston.
4121-22. Control System Instrumentation Laboratory. Cr. 1 each. (0-3). Mr. Spuhler.
4124. Electrical Transmission Lines Laboratory. Cr. 1. (0-3). Mr. Houston.
4221-22. Control System Instrumentation. Cr. 2 each. Mr. Spuhler.
4312-13. Alternating Current Machines. Cr. 3 each. Mr. Blackwell.
4315-16. Vacuum Tube Circuits and Systems. Cr. 3 each. Mr. Houston, Mr. Spuhler.
4323-4224. Electrical Transmission Lines. Cr. 3, 2. Mr. Houston, Mr. Blackwell.

For Graduates

531-2. Vacuum Tubes and Associated Circuits. Cr. 3 each. Mr. Houston, Mr. Spuhler.
533. Symmetrical Components. Cr. 3.
535. Electric Power Systems. Cr. 3.
536-7. Advanced Network Theory. Cr. 3 each. Mr. Houston, Mr. Spuhler.
538-9. Advanced Electrical Machine Theory. Cr. 3 each.
5211-12. Special Problems in Electrical Engineering. Cr. 2 each. Staff.
5311-12. Automatic Control Systems. Cr. 3 each. Mr. Spuhler.
631-2. 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). Mr. St. Clair.
423. Industrial Procurement. Cr. 2. Mr. Penick.
432-433. Industrial Plant Design. Cr. 3 each. (1-6). Mr. St. Clair.
435. Safety Engineering. Cr. 3. Mr. St. Clair.
436. Engineering Economy. Cr. 3. Mr. Penick.
437. Quality Control. Cr. 3.

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. (2-4). Mr Helmers.
425. Heat Transfer. Cr. 2. Mr. Helmers.
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 eighteen 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 531, 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.
4319. Victorian Literature. Cr. 3. Miss Teague.
(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. Cr. 3. Mr. Guilds.
4326. The American Novel after 1870. Cr. 3. Mr. Guilds.
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,
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.

For Graduates

4335. Principles of Language. Cr. 3. Mr. Gunn.
Enrollment limited to graduate students in elementary education.
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.
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.
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.
631-2. Master's Thesis. Cr. 6.
731, 732. Research. Cr. 3, each.
Required of students working on the Doctor's dissertation.
831-2. 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.
4328-29. Spanish Civilization. Cr. 3 each. Mr. Hamilton.
Offered in alternate summers in Mexico City.
4335. Spanish in the Elementary School. Cr. 3.

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.
631-2. 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 331-2 or 333-4 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 repeat such courses as may be designated by the major professor.

For Undergraduates and Graduates

431-2. Optical Mineralogy and Petrography. Cr. 3, each. (1-6).
433-4. 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.
Required of all graduate students majoring in geology.
531-2. 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.
5322. Advanced Field Geology. 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.
631-2. 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 Organization. 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.
4351. Political Ideologies and Institutions. Cr. 3. Staff.

For Graduates

531. Reading and Research. Cr. 3. Staff.
May be repeated in different fields of emphasis.
631-2. 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.
4311. Physical Education for the Junior and Senior High School. Cr. 3. (Women). Miss Rainey.

432. Physiology of Exercise. Cr. 3. Mr. Kireilis.
4321. Methods and Techniques of Driver Instruction. Cr. 3. (3-2). Mr. Jennings.
4322. Organization and Administration of Interscholastic and Intercollegiate Athletic Programs. Cr. 3. (Men). Mr. Jennings.
4323. Organization and Administration of Camps. Cr.3. Mr. Kireilis.
4324. Organization and Administration of Intramural Sports. Cr. 3. (Men). Mr. Philbrick.
4326. Safety Education. Cr. 3. (3-2). 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.

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.
631-2. 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. Mr. Kinchen.
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 Middle Period. Cr. 3. Mr. Connor.
4343. Recent Texas History. Cr. 3. Mr. McKay.
4351. The Canadian Dominion. Cr. 3. Mr. Kinchen.
4354. The Far East. Cr. 3. Mr. Eaves.
4362. Medieval Civilization. Cr. 3. Staff.
4371. Teaching of History in the High School. Cr. 3. Staff.

For Graduates

4335. History Appreciation for Elementary Teachers. Cr. 3. Staff.
Enrollment limited to graduate students in elementary education.
530. Seminar in Southwestern History. Cr. 3. Mr. Connor.
531. Seminar in Texas History. Cr. 3. Mr. Holden, Mr. McKay.
532. Seminar in American History. Cr. 3. Mr. Manning.
533. Seminar in European History. Cr. 3. Mr. Eaves, Mr. Pearce.
534. Historical Methods and Historiography. Cr. 3. Mr. Wallace.
535. The American Heritage. Cr. 3. Staff.
631-2. Master's Thesis. Cr. 6. Staff.
731, 732. Research. Cr. 3, each. Staff.
Required of students working on the Doctor's dissertation.
831-2. Doctor's Dissertation. Cr. 6. Staff.
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. Mr. Wallace.
334. Races, Peoples and Languages of North America. Cr. 3. Mr. Holden.
335. Archaeology of America North of Mexico. Cr. 3. Mr. Wendorf.
336-7. Archaeology of Mexico. Cr. 6. Mr. Wendorf.
Conducted biennially in the summer.
431. Field Archaeology. Cr. 3. Mr. Wendorf.
433-4. Southwestern Archaeology. Cr. 6. Mr. Wendorf.
A field course. Lectures, research and excavation. Summer only.
4351. Origins of Social Customs and Institutions. Cr. 3. Mr. Holden.

For Graduates

531. Seminar in Anthropology. Cr. 3. Mr. Holden.
532. Seminar in Anthropology. Cr. 3. Mr. Holden.

SOCIOLOGY

MAJORS AND MINORS FOR THE MASTER'S DEGREE

For Undergraduates and Graduates

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. Staff.
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. Staff.
532. Research Methods in Sociology. Cr. 3. Staff.
631-2. Master's Thesis. Cr. 6. Staff.

HOME ECONOMICS

Dean Willa Vaughn Tinsley, Graduate Chairman

The major for the Master's degree will usually be General Home Economics, but in special circumstances, a major may be approved in Clothing and Textiles, Food and Nutrition, or Home Economics Education. One who has a major in Home Economics Education may not have a minor in any field of education.

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). Mrs. Beitler.
434. Metal and Plastic. Cr. 3. (1-6). Mrs. Lockard.
435. Jewelry and Lapidary. Cr. 3. (1-6). Mrs. Lockard.
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.

For Graduates

4335. Theory and Practice of Art for Elementary Teachers. Cr. 3. Mr. Randall, Mr. Lockhart.
Enrollment limited to graduate students in elementary education.

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.

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.
431. Advanced Textiles. Cr. 3.
432. Textile Testing. Cr. 3. (2-3).
433. History and Philosophy of Dress. Cr. 3.
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).
437. Demonstration Clothing. Cr. 3. Mrs. Kinchen.

For Graduates

4335. Textile Trends and Resources for Elementary Teachers. Cr. 3.
Enrollment limited to graduate students in elementary education.
511. Advanced Clothing Units. Cr. 1.
May be repeated for two or three hours credit.
531. Special Problems in Clothing and Textiles. Cr. 3.
May be repeated for six or nine hours credit.
631-2. 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).
May be repeated for credit.
431. Nutrition in Disease. Cr. 3. (2-3).
432. Advanced Human Nutrition. Cr. 3. Mrs. Lamb.
434. Food Service for Special Occasions. Cr. 3. (1-6).
435. Food Demonstration. Cr. 3. (2-3).
436. Experimental Cookery. Cr. 3. (1-6). Mrs. Lamb.

For Graduates

4335. Principles and Applications of Nutrition for Elementary School Teachers. Cr. 3. Mrs. Lamb.
Enrollment limited to graduate students in elementary education.

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.

631-2. 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. Miss Clewell.

414. Specific Problems in Planning and Preparing Teaching Materials in Home Economics. Cr. 1. Miss Nesbitt.
May be repeated for credit.

426. Problems in Student Teaching. Cr. 2. Mrs. Adams, Miss Clewell, Miss Nesbitt.

433. Civil Defense in Home and Community. Cr. 3. Miss Clewell.

435. Adult Leadership in Home Economics. Cr. 3. Miss Clewell.

461. Student Teaching in Home Economics. Cr. 6. (3-15). Mrs. Adams, Miss Clewell, Miss Nesbitt.

For Graduates

531. Organization and Administration of Homemaking Education. Cr. 3.

532. Curriculum Development in Home Economics. Cr. 3. Mrs. Adams, Miss Clewell.

533. Evaluation in Home Economics. Cr. 3. Miss Tinsley.

534. Techniques of Research in Home Economics. Cr. 3. Mrs. Adams.

536. Problems. Cr. 3. Mrs. Adams, Miss Nesbitt.
May be repeated for credit.

537. Techniques of Supervision in Home Economics. Cr. 3. Mrs. Adams.

631-2. 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). Miss Drew.

432. Home Management Residence. Cr. 3. Miss Drew.
At least six weeks 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 with the permission of the dean, may work on personal managerial problems under supervision.

433. Household Equipment. Cr. 3. (2-3). Miss Drew.

JOURNALISM

Professor William E. Hall, Jr.
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. Mr. Hall.
430. Law of the Press. Cr. 3. Mr. Hall.
432. High School Publications. Cr. 3. Mrs. Allen.
433. Public Opinion and Propaganda. Cr. 3. Mr. Hall.
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.
332. Differential Equations. Cr. 3.
333. Advanced Algebra. Cr. 3.
337. College Geometry. Cr. 3. Mr. Underwood.
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. Mr. Hazelwood.
436. Introduction to Finite Groups. Cr. 3. Mr. Heineman.
437. Theory of Numbers. Cr. 3. Mr. Underwood.
438. Solid Analytic Geometry. Cr. 3. Mr. Hineman.
439. Vector Analysis. Cr. 3. Mr. Fuller, Mr. Sparks.
4311. Extended Analytic Geometry. Cr. 3. Mr. Underwood.

For Graduates

531. Advanced Problems. Cr. 3.
May be repeated for credit.
533. Advanced Topics in Analysis. Cr. 3. Mr. Fuller.
535. Analytic Projective Geometry. Cr. 3. Mr. Underwood.
536, 537. Modern Algebra. Cr. 3 each.
5312, 5313. Functions of a Complex Variable. Cr. 3 each. Mr. Sparks.
5314, 5315. Functions of a Real Variable. Cr. 3 each. Mr. Fuller, Mr. Riggs.
631-2. 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

4335. Music for Children. Cr. 3. Mr. Elliott.
Enrollment limited to graduate students in elementary education.
530, 531. Seminar in Music Education. Cr. 3, each.
532. Choral Music Workshop. Cr. 3.
533. Instrumental Music Workshop. Cr. 3.
631-2. 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. Mr. Besdin.
336. Electricity and Magnetism. Cr. 3. Mr. Besdin.
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).

411-2. Physical Seminar. Cr. 1, each.
415-6. Special Projects. Cr. 1, each. (0-3).
423-4. Electrical Measurements. Cr. 2, each. (0-6) Mr. Schmidt.
431. High School Physics Teaching. Cr. 3.
435. Mechanics. Cr. 3. Mr. Merrymon.
436-7. Individual Study in Specified Fields. Cr. 3, each. (3-0 or 0-9).

For Graduates

531-2. Theoretical Physics. Cr. 3. Mr. Besdin.
533-4. Quantum Mechanics. Cr. 3, each. Mr. Besdin.
535. Nuclear Physics. Cr. 3. Mr. Besdin.
537. Electromagnetic Theory. Cr. 3. Mr. Besdin.
538-9. Geometrical and Physical Optics. Cr. 3, each. Mr. Rush.
631-2. Master's Thesis. Cr. 6.

PSYCHOLOGY

Professor Sylvan J. Kaplan
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. Every applicant is required to take the Miller Analogies Test, preferably before entering the Graduate School, and the Advanced Test (Psychology) of the Graduate Record Examinations as soon as he has completed a total of thirty semester hours of undergraduate and graduate work in Psychology.

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 thirty-semester-hour program* or a certificate as a Vocational Rehabilitation Counselor in a sixty-semester-hour program which includes 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 ninety semester hours beyond the Bachelor's degree, exclusive of the internship.

*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.

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 ninety 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. Mr. Greenberg.
435. Abnormal Psychology. Cr. 3. Dr. O'Loughlin.
436. Personality Development. Cr. 3. Mr. Greenberg.
437. Experimental Psychology. Cr. 3. (2-3). Mr. Melching.
438. Experimental Psychology. Cr. 3. (2-3). Mr. Melching.
439. Industrial Psychology. Cr. 3. Mr. Kuntz.
4311. Psychology of Social Change. Cr. 3. Mr. Greenberg.
4312. Methods in Clinical Psychology. Cr. 3. Mr. Anderson.
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.
4319. The Nature of Intelligence. Cr. 3. Mr. Barnett.
4322. Guidance Techniques at Primary and Elementary Levels. Cr. 3. Miss True.
4323. Introduction to Adjustment Counseling. 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. Mr. Greenberg.
4326. Psychology of the Blind. Cr. 3. Mr. Greenberg.

For Graduates

531. Introduction to Projective Techniques. Cr. 3. Mr. Kaplan.
532. Problems in Psychology. Cr. 3. Staff.
533. Advanced Developmental Psychology. Cr. 3. Miss True.
534. Practicum in Intelligence Testing. Cr. 3. Mr. Barnett.
536. Advanced Experimental Psychology. Cr. 3. (1-6). Mr. Hayes or 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.
5317. Techniques of Counseling and Guidance. Cr. 3. Mr. Barnett.
5318. Practicum in Techniques of Counseling and Guidance. Cr. 3. Mr. Barnett.
5319. Advanced Industrial Psychology. Cr. 3. Mr. Kuntz.
5321. Learning Theory. Cr. 3. Mr. Kaplan or Mr. McCutchan.

5322. Advanced Physiological Psychology. Cr. 3. Mr. Kaplan.
5323. Interviewing: Principles and Practice. Cr. 3. Mr. Anderson.
5324. Personality Theory. Cr. 3. Mr. Greenberg.
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.
631-2. Master's Thesis. Cr. 6. Staff.
731, 732. Research. Cr. 3, each. Staff.
Required of sudents working on the Doctor's dissertation.
831-2. 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. Miss Grubb.
434. Principles of Audiometry. Cr. 3. Miss Grubb.
435. Interpretative Reading. Cr. 3. Miss Pendleton, Miss Thompson.
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. Miss Thompson
(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.)
4321-22. 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

4335. Basic Speech for Elementary Teachers. Cr. 3. Mr. Larson, Miss Pendleton.
Enrollment limited to graduate students in elementary education.
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.)
631-2. Master's Thesis. Cr. 6. Staff.

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