

BULLETIN OF

**LAMAR STATE COLLEGE
OF TECHNOLOGY**



1965-1966

BULLETIN
of
LAMAR STATE COLLEGE OF TECHNOLOGY

Vol. XV

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FIFTEENTH ANNUAL CATALOG ISSUE

With Announcements for 1965-66

Member:

Association of Texas Colleges and Universities
American Council on Education
National Commission on Accreditation
Southern Association of Colleges and Secondary Schools
Association of American Colleges
Texas Association of Music Schools
American Society for Engineering Education
American Association of University Women
American Association of Colleges for Teacher Education
Approved by the Texas Education Agency
Approved for the Training of Veterans under all classifications
Departments of Chemical Engineering, Civil Engineering, Electrical
Engineering, Industrial Engineering, and Mechanical Engineering
accredited by Engineering Council
for Professional Development



Established as a four-year coeducational
state-supported college on September 1, 1951

The courses, tuition, and fees, and all other conditions and policies set
forth in this catalog issue shall be subject to change without notification.

HOW TO ENTER LAMAR STATE COLLEGE

High School Graduates



When to Apply

1. Application for admission should be made well in advance of the expected enrollment date—six months in advance if possible.

Where to Apply

1. All required admission forms should be addressed to the Dean of Admissions, Lamar State College, Beaumont, Texas 77704.

How to Apply

1. File application for admission (form attached to back of this catalog).
2. Take College Entrance Examination Board's (CEEB) Scholastic Aptitude Test (SAT). Have test scores sent to Lamar State College (December, January, March test dates preferred).
-  3. Submit a health data form executed by a physician. This form is not required of evening school students (health form attached back of this catalog).
-  4. Have transcript of high school grades sent directly to Dean of Admissions, Lamar State College, immediately after high school graduation.
5. Students desiring dormitory space should file an application for room reservations with the Director of Housing, Lamar State College. A \$20 room deposit is required (reservation blank attached back of this catalog).

Requirements for Admission (Details pages 60-66 of this catalog).

1. *Graduation from an accredited high school with:
 - A. Four (4) units of English (excludes speech, journalism, business English, etc.).
 - B. Two (2) units of mathematics (one unit must be in algebra).
 - C. Four (4) units from two of the following groups:
 1. Group I—Two (2) units of social studies;
 2. Group II—Two (2) units of natural science;
 3. Group III—Two (2) units of foreign language.
 - D. Six (6) units of electives (must not include more than four (4) vocational units).
2. Total verbal and quantitative aptitude scores on CEEB aptitude test (SAT) must be 700 or above.

Transfer Students

1. Students seeking admission as transfer students from other institutions see page 64 of this catalog for procedures.

*Applicants for admission to the School of Engineering—see special requirements page 61 of this catalog.

DIRECTORY FOR CORRESPONDENCE

To obtain prompt attention, address inquiries to the following persons or agencies:

Academic Program	Richard W. Setzer, Vice-President of Academic Affairs
Academic Records and Transcripts	Celeste Kitchen, Registrar
Admissions and Testing	Norris H. Kelton, Dean of Admissions
Athletics	J. B. Higgins, Athletic Director
Books and Supplies	James E. Raney, Manager, Bookstore
Business Affairs	H. C. Galloway, Comptroller
Employment for Students	Joe B. Thrash, Placement Office
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Graduate School	M. L. McLaughlin, Dean
School of Arts and Sciences	Edwin S. Hayes, Dean
School of Business	J. D. Landes, Dean
School of Education	W. Richard Hargrove, Dean
School of Engineering	Frank A. Thomas, Jr., Dean
School of Fine and Applied Arts	Ted Skinner, Dean
School of Vocations	E. E. Miller, Director
Housing, Dormitory Reservations	Ronald Hulin, Student Life Office
Library	Julia Plummer, Librarian
Publications and Information	R. E. Oliver, Director
Research Center	Lloyd Cherry, Director
Scholarships	David Bost, Dean, Student Life
Student Activities	J. Paul Pederson, Director
Student Health	Mrs. Ola Saunders, Health Center
Student Loans	David Bost, Dean, Student Life
Teacher Certification	Certification Officer, School of Education
Tuition, Fees, Expenses	Business Office
Veterans' Affairs	Joe B. Thrash, Placement Officer

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CALENDARS FOR 1965 AND 1966

1965

JANUARY							FEBRUARY							MARCH							APRIL										
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1966

JANUARY							FEBRUARY							MARCH							APRIL									
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25	26	27	28	29	30		30	31																						

LAMAR STATE COLLEGE OF TECHNOLOGY

College Calendar for 1965-66

Fall Semester, 1965

Sept. 13	Monday	8 a.m.	Orientation for new students.
		6 p.m.	Testing for new students in evening classes.
14	Tuesday	8 a.m.	Registration of former students and others who have completed entrance procedures.
		6 p.m.	Testing for evening students. Registration of evening students.
15	Wednesday	8 a.m.	Continued registration.
		1 p.m.	Registration of late entering students.
		6:30 p.m.	Evening classes begin.
16	Thursday	8 a.m.	Classes begin.
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Registration after this date limited to available classes. </div>			
20	Monday	8 p.m.	Last day for registration or adding courses.
Oct. 1	Friday	8 p.m.	Twelfth Class Day.
Oct. 18-Nov. 26			Period for application for January graduation.
Oct. 27	Wednesday	8 p.m.	Last date for dropping or withdrawing without penalty.
Nov. 8-12	Mon.-Fri.		Mid-term week.
Nov. 26-Feb. 23			Period for application for May graduation.
Nov. 24	Wednesday	10 p.m.	Thanksgiving holidays begin.
25	Thursday	10 a.m.	Dormitories close.
28	Sunday	12 noon	Dormitories open.
29	Monday	7 a.m.	Dining Hall opens.
		8 a.m.	Classes resume.
Dec. 3	Friday	5 p.m.	Last date for approval for January graduation.
17	Friday	5 p.m.	Christmas holidays begin.
		6 p.m.	Dining Hall closes.
		10 p.m.	Dormitories close.
Jan. 2	Sunday	12 noon	Dormitories open.
3	Monday	7 a.m.	Dining Hall opens.
		8 a.m.	Classes begin.
17-19	Mon.-Wed.		Restricted social activities.
20-27	Thurs.-Thurs.		Final exams—fall semester.
Jan. 28	Friday	12 noon	Final date for submitting semester grades to the Registrar's office.

Spring Semester, 1966

Jan.	31	Monday	8 a.m.	Admission conferences for late transfers and new students.
			6 p.m.	Admission conferences for late transfers and new students in evening school.
Feb.	1	Tuesday	11 a.m.	Registration of former students and others who have completed entrance procedures.
			6 p.m.	Registration of all evening students.
	2	Wednesday	8 a.m.	Continued registration.
			1 p.m.	Registration for late entering students.
			6:30 p.m.	Evening classes begin.
	3	Thursday	8 a.m.	Classes begin.
				Late registration (penalty fee charged).
				Payment of fees is a part of registration.
Feb.	7	Monday	8 p.m.	Last day for registration or adding courses.
	18	Friday		Twelfth Class Day.
	23	Wednesday	5 p.m.	Last day for approval for May graduation.
Mar.	16	Wednesday	7 p.m.	Last day for dropping courses or withdrawing without penalty.
	21-25	Mon.-Fri.		Mid-term week.
Apr.	7	Thursday	10 p.m.	Easter holidays begin.
	8	Friday	8 a.m.	Dining Hall closes.
			10 p.m.	Dormitories close.
	11	Monday	12 noon	Dormitories open.
	12	Tuesday	7 a.m.	Dining Hall opens.
			8 a.m.	Classes resume.
May	2-June 17			Period for application for August graduation.
May	16-18	Mon.-Wed.		Restricted social activities.
	19-26	Thurs. Thurs.		Final exams—spring semester.
	27	Friday	12 noon	Final date for submitting semester grades to Registrar's office.
	28	Saturday	10 a.m.	Dining Hall closes.
			8 p.m.	Commencement exercises.

✓ Summer Session, 1966

First Term

June	5	Sunday		Limited operations of dormitories.
	6	Monday	7 a.m.	Dining Hall opens.
			8 a.m.	Registration.
			6 p.m.	Registration—evening classes.
	7	Tuesday	7 a.m.	Classes begin.
				Late registration (penalty fee charged).
				Payment of fees is a part of registration.
				tion.

CALENDAR

June	8	Wednesday	7 p.m.	Last date for registration or for adding courses.
	10	Friday		Fourth Class Day.
	17	Friday	5 p.m.	Last date for approval for August graduation.
	27	Monday	7 p.m.	Last date for dropping courses or withdrawing without penalty.
July	14-15	Thurs.-Fri.		Final exams—first term.
	16	Saturday	12 noon	Last date for reporting term grades to Registrar's office.

Second Term

July	18	Monday	8 a.m.	Registration.
			6 p.m.	Registration—evening classes.
	19	Tuesday	7 a.m.	Classes begin.

Registration after this date limited to available classes.

				Late registration (penalty fee charged). Payment of fees is a part of registration.
July	20	Wednesday	7 p.m.	Last date for registration or for adding courses.
	22	Friday		Fourth Class Day.
Aug.	8	Monday	7 p.m.	Last date for dropping courses or withdrawing without penalty.
	25-26	Thurs.-Fri.		Final exams—second term.
	27	Saturday	8 a.m.	Last date for reporting term grades to Registrar's Office.
			9 a.m.	Commencement.
			10 a.m.	Dining Hall and dormitories close.

BOARD OF REGENTS

J. B. Morris, Chairman..... Beaumont, Texas
Otho Plummer, Vice-Chairman..... Beaumont, Texas
Garland Shepherd, Secretary..... Beaumont, Texas
Cecil Beeson..... Orange, Texas
J. G. Bertman..... Liberty, Texas
Lee Eagleson..... Port Arthur, Texas
A. H. Montagne..... Orangefield, Texas
Pat Peyton, Jr..... Beaumont, Texas
Arthur A. Temple, Jr..... Diboll, Texas

FACULTY

LAMAR STATE COLLEGE OF TECHNOLOGY

DIRECTORY 1965-66

OFFICERS OF ADMINISTRATION

GENERAL

- F. L. McDONALD, A.B., M.A., M.S., Ph.D., President
Administration Building
- RICHARD W. SETZER, A.B., M.A., Ph.D., Vice-President of Academic
Affairs
Administration Building
- G. A. WIMBERLY, B.S., Assistant to the President
Administration Building
- H. C. GALLOWAY, JR., B.S., M.Ed., Comptroller
Administration Building
- NORRIS H. KELTON, B.A., M.A., Dean of Admissions
Administration Building
- CELESTE KITCHEN, B.A., M.Ed., Registrar
Administration Building
- DAVID BOST, B.A., M.J., Dean of Student Life
Room 201, Student Union Building
- COL. WARD HOFFMAN, B.A., Dean of Men
Room 201, Student Union Building
- MRS. BESS NEAL GENTRY, B.S., M.Ed., Dean of Women
Room 201, Student Union Building
- JACK HILL, B.B.A., M.B.A., Director of Evening Classes
Room 100, Liberal Arts Building
- JOE B. THRASH, B.S., M.A., Director, Testing and Placement Center
Room 102, Liberal Arts Building

SCHOOLS

- EDWIN S. HAYES, B.S., Ph.D., Dean, School of Arts and Sciences
Room 103, Biology-Geology Building
- J. D. LANDES, B.S., M.S., Ph.D., Dean, School of Business
Room 103, Business Building
- W. RICHARD HARGROVE, B.S., M.Ed., Ed.D., Dean, School of Education
Room 208, Business Building

FRANK A. THOMAS, JR., B.S., M.S., Ph.D., Dean, School of Engineering
Room 101, E1, Engineering Building

TED SKINNER, B.S., M.A., Ph.D., Dean, School of Fine and Applied Arts
Room 206, Music-Speech Building

M. L. McLAUGHLIN, B.S., M.Ed., Ed.D., Dean, Graduate School
Administration Building

E. E. MILLER, B.S., M.S., Director, Lamar School of Vocations
Room 105, Vocations Building

OTHER ADMINISTRATIVE OFFICERS AND STAFF

OSCAR K. BAXLEY, JR., B.B.A., Assistant to Comptroller
Administration Building

BILLY G. CROCKETT, B.B.A., Assistant to Auditor
Administration Building

MRS. MAVIS HOLLYFIELD, B.S., Assistant to Dean of Women
Student Union Building

W. F. HOLLIMAN, B.B.A., Purchasing Agent
Administration Building

RONALD E. HULIN, B.B.A., Assistant to Dean of Student Life
Student Union Building

C. H. HUNT, Auditor
Administration Building

FRED E. KAY, B.S., M.Ed., Property Clerk
Administration Building

GEORGE E. McLAUGHLIN, JR., B.S., Assistant to Dean of Men
Student Union Building

MARY MALONE, Cashier
Administration Building

JANE ANN MAXWELL, B.J., B.A., Assistant to Director of College
Information
Administration Building

LEE ROY MYERS, Superintendent, Buildings and Grounds
Maintenance Building

JOHN MORRIS NAUMANN, B.S., Supervisor of Computer Facilities
Engineering Building

RICHARD E. OLIVER, Director of College Information
Administration Building

PAUL PEDERSON, B.A., Director of Student Activities
Student Union Building

VERNON PIKE, I.B.M. Operator
Administration Building

WILLARD PLATZER, B.B.A., Property Manager
Administration Building

ELMER RODE, JR., B.B.A., Assistant Registrar
Administration Building

WILLIAM J. ROGERS, B.S., Horticulturist
Maintenance Building

JOE LEE SMITH, B.A., Assistant to Director of College Information
Administration Building

EUGENE WHEAT, Accountant
Administration Building

ADMINISTRATIVE ASSISTANTS

KATY CLAUNCH, Senior Secretary
Administration Building

MRS. FRANKIE PLETZER, Senior Secretary
Administration Building

MRS. WILLA V. NEWTON, Senior Secretary
Vocations Building

MARGO SHELTON, Senior Secretary
Administration Building

FACULTY SESSION 1964-65

- FRANCIS E. ABERNETHY, Associate Professor of English, 1956, 1961
 B.A., Stephen F. Austin State College
 M.A., Ph.D., Louisiana State University
- ROBERT F. ACHILLES, Associate Professor of Speech, 1963
 B.S., McPherson College
 M.A., University of Wichita
- HOWARD W. ADAMS, Professor of Education, 1956, 1962
 B.A., Wayne State Teachers College
 M.A., Ed.D., University of Nebraska
- ISABELLE ALLEN, Associate Professor of English, 1939, 1951
 B.A., M.A., Texas Woman's University
- JOEL L. ALLEN, Assistant Professor of Economics, 1960, 1963
 B.S., Arkansas A & M College
 M.S., Baylor University
- WADE LEE ALLEN, Associate Professor of Mathematics, 1964
 B.S., Ohio University
 Ph.D., University of Florida
- JON PAUL ALSTON, Instructor in Sociology, 1964
 B.A., Emory University
 M.S., Florida State University
- ARNOLD C. ANDERSON, Associate Professor of Speech, 1956, 1961
 B.A., Northern State Teachers College
 M.A., University of South Dakota
- MRS. VIRGINIA N. ANDERSON, Assistant Professor of Home Economics,
 1960, 1964
 B.S., Georgia State College for Women
 M.E., Trinity University
- O. B. ARCHER, Professor of Mathematics, 1923, 1961
 B.S., M.S., The University of Texas
- MRS. DOROTHY MARGARET ARMITAGE, Assistant Professor of
 Chemistry, 1964
 B.A., College of Wooster
 Ph.D., Ohio State University
- SAUL ARONOW, Professor of Geology, 1955, 1962
 B.A., Brooklyn College
 M.S., State University of Iowa
 Ph.D., University of Wisconsin
- LUTHER L. BAILEY, Professor of Business Administration, 1963
 B.B.A., The University of Texas
 M.B.A., Southern Methodist University
 Ph.D., The University of Texas
- MRS. DIANNE MARTIN BAKER, Associate Professor of Physical and
 Health Education For Women, 1952, 1959
 B.A., M.A., Texas Woman's University
- HAROLD THEODORE BAKER, Professor of Chemistry—Head, Depart-
 ment of Chemistry, 1962
 B.S., University of Minnesota
 Ph.D., State University of Iowa
- EDWARD F. BALDWIN, Assistant Professor of Economics, 1959, 1962
 B.B.A., M.B.A., The University of Texas
- H. A. BARLOW, Associate Professor of Accounting, 1951, 1958
 B.S., Louisiana Polytechnic Institute
 M.B.A., Louisiana State University
 Certified Public Accountant

- ROBERT J. BARNES, Professor of English, 1960, 1961
B.A., M.A., The University of Kansas
Ph.D., The University of Texas
- MARY FRENCH BARRETT, Assistant Professor of Music, 1959
B.M., M.M., Eastman School of Music
Performer's Certificate
- *LUTHER A. BEALE, Professor of Civil Engineering—Head, Department
of Civil Engineering, 1955
B.S., M.S., Georgia Institute of Technology
Registered Professional Engineer
- LAWRENCE D. BELL, Assistant Professor of Mathematics, 1956
B.E., C.E., North Carolina State College
LL.B., St. John's University
Registered Professional Engineer
Admitted to New York Bar
- MRS. MARY KATHERINE BELL, Assistant Professor of Mathematics,
1962
B.S., Florida State University
M.A., University of Cincinnati
- MYRTLE LEE BELL, Associate Professor of Psychology, 1963
B.S., M.S., Texas College of Arts and Industries
Ed.D., The University of Texas
- RICHMOND O. BENNETT, Professor of Business Administration, 1957
B.S., M.S., Texas A & M University
Ph.D., The University of Texas
- VAHE BERBERIAN, Assistant Professor of Music, 1964
B.M., French College, Beirut, Lebanon
M.M., Academy of Fine Arts, Beirut, Lebanon
- CHARLSIE E. BERLY, Associate Professor of English, 1947, 1953
B.A., Randolph Macon
M.A., Southern Methodist University
- LARRY THOMAS BIDDISON, Instructor in English, 1963
B.A., Texas College of Arts and Industries
M.A., Louisiana State University
- PAULINE A. BIRD, Associate Professor of English, 1946, 1963
B.S., Stephen F. Austin State College
M.A., The University of Texas
- ROY H. BISER, Associate Professor of Physics, 1946, 1951
B.A., The Rice University
M.S., University of Michigan
- E. B. BLACKBURN, JR., Associate Professor of Education, 1962, 1963
B.S., North Texas State University
M.Ed., Hardin-Simmons University
Ed.D., University of Colorado
- MRS. JEWEL D. BLANTON, Associate Professor of Speech, 1942, 1951
B.A., Texas Christian University
M.A., Northwestern University
- LYLE E. BOHRER, Assistant Professor of Electrical Engineering, 1946,
1954
B.S., The Rice University
M.S., University of Colorado
Registered Professional Engineer

*On leave.

- CLAUDE B. BOREN, Professor of Sociology—Head, Department of Sociology, 1955, 1961
B.A., Texas Technological College
M.A., Washington State University
Ph.D., The University of Texas
- WILLIAM H. BOUGHTON, Professor of Commercial Art—Head, Department of Commercial Art, 1954, 1957
B.A., University of Iowa
M.A., University of California
- CLARINE E. BRANOM, Associate Professor of English, 1946, 1953
B.A., East Texas State College
M.A., The University of Texas
- WILBER C. BREINING, JR., Assistant Professor of Psychology, 1956, 1959
B.S., M.S., North Texas State University
- JOAN E. BRENIZER, Assistant Professor of Mathematics, 1957, 1961
B.S., Lamar State College of Technology
M.A., The University of Texas
- RALPH J. BROOKNER, Associate Professor of Mathematics, 1963
B.A., The Rice University
M.A., University of Michigan
Ph.D., Columbia University
- EDNA MARTHA BROOKS, Assistant Professor of Music, 1953
B.M., Louisiana State University
M.M., The University of Texas
- OTTO GEORGE BROWN, Professor of Mechanical Engineering—Head, Department of Mechanical Engineering, 1962
B.S., University of Oklahoma
M.S., Ph.D., The University of Texas
Registered Professional Engineer
- JOHN A. BRUYERE, Associate Professor of Mechanical Engineering, 1957, 1961
B.S., M.S., The University of Texas
Registered Professional Engineer
- GEORGE ANTHONY BRYAN, JR., Assistant Professor of Biology, 1964
B.S., Texas Western College
M.S., Pennsylvania State University
- HENRY P. BULLER, Assistant Professor of Psychology, 1961
B.A., Bethel College
M.Ed., University of Kansas
- RICHARD E. BURKART, Assistant Professor of Music, 1955, 1958
B.M., B.M.E., M.M., Louisiana State University
- CHARLES T. BUTLER, Assistant Professor of Sociology, 1958, 1964
B.A., M.A., The University of Texas
- MARGARET DAVIS CAMERON, Professor of Chemistry, 1956, 1958
B.A., Texas Woman's University
M.S., The University of Houston
Ph.D., Tulane University
- CRYSTAL CANON, Associate Professor of Speech, 1950, 1955
B.A., Texas Woman's University
M.A., Northwestern University
- DEWEY R. CARLIN, JR., Instructor in Electrical Engineering, 1958
B.S., Lamar State College of Technology
M.S., The University of Texas
- MARY EMILY CARPENTER, Instructor in English, 1963
B.A., Centre College
M.A., Indiana University

- JOHN MICHAEL CARROLL, Instructor in English, 1962
B.A., M.A., Colorado State University
- LLOYD B. CHERRY, Professor of Electrical Engineering—Head, Department of Electrical Engineering, Director of Lamar Research Center, 1946, 1961
B.A., M.A., The University of Texas
B.S., E.E., Oklahoma State University
Registered Professional Engineer
- ARTHUR FRANK CLAGETT, Assistant Professor of Sociology, 1964
B.A., Baylor University
M.A., The University of Arkansas
- MRS. RUTH S. COFFEY, Assistant Professor of Government, 1956, 1962
B.S., Lamar State College of Technology
M.A., The University of Texas
- JAY N. COLLIER, Assistant Professor of Music, 1955, 1960
B.M., The University of Houston
M.M., Southern Methodist University
- MRS. BETTY FAY COODY, Assistant Professor of Education, 1963
B.A., East Texas State Teachers College
M.Ed., The University of Texas
- ALAN N. COOK, Instructor in Business Administration, 1963
B.B.A., M.S., Baylor University
- JAMES L. COOKE, Professor of Electrical Engineering, 1956, 1962
B.S., Texas Technological College
M.S., The University of Texas
Ph.D., Northwestern University
Registered Professional Engineer
- JAMES CARL COX, JR., Professor of Chemistry, 1955, 1958
B.S., West Virginia Wesleyan College
LL.B., The University of Maryland
M.S., Ph.D., The University of Delaware
- STERLING CROMWELL CRIM, Associate Professor of Mathematics, 1964
B.S., Baylor University
M.Ed., North Texas University
M.A., Peabody College
- FLOYD M. CRUM, Professor of Electrical Engineering, 1955, 1958
B.S., M.S., Louisiana State University
Registered Professional Engineer
- MRS. MARSHA LEA DAGGETT, Instructor in Home Economics, 1964
B.S., Texas Woman's University
M.Ed., Sam Houston State Teachers College
- NANCY SUE DARSEY, Assistant Professor of Secretarial Science, 1955, 1959
B.B.A., M.B.A., Texas Technological College
- CAROL M. DAVIS, Assistant Professor of Physical and Health Education for Women, 1957, 1961
B.S., North Texas State University
M.A., University of Michigan
- CHESTER A. DAVIS, Professor of Sociology, 1949, 1960
B.A., North Texas State University
M.A., University of Wisconsin
Ph.D., University of Maryland
- DARRELL E. DAVIS, Assistant Professor of Geology, 1957, 1960
B.S., Lamar State College of Technology
M.S., The University of Kansas
- DORIS DAVIS, Assistant Professor of Home Economics, 1954
B.S., Sam Houston State College
M.Ed., The University of Texas

- ELVIS C. DAVIS, JR.**, Associate Professor of Accounting, 1956, 1963
 B.B.A., Lamar State College of Technology
 M.B.A., The University of Arkansas
 Certified Public Accountant
- IRVING O. DAWSON**, Professor of Government—Head, Department of Government, 1951, 1961
 B.A., North Texas State University
 M.A., Ph.D., The University of Texas
- JAMES MICHAEL DeGEORGE**, Instructor in English, 1962
 B.A., Saint Thomas University
 M.A., Tulane University
- ANDRE PIERRE DELFLACHE**, Professor of Civil Engineering, 1958, 1964
 Civil Engineer of Mines, University of Brussels
 D.Sc. University of Brussels
 Registered Professional Engineer
- DOCK B. DEMENT**, Assistant Professor of Mathematics, 1955, 1958
 B.A., Henderson State Teachers College
 M.A., Louisiana State University
- RONALD T. DENNIS**, Associate Professor of Education, 1963
 B.S., Louisiana Polytechnic Institute
 M.Ed., Mississippi College
 Ed.D., University of Alabama
- ROBERT L. DINGLE**, Associate Professor of Mathematics, 1959, 1964
 B.S., The University of Houston
 M.S., The University of Arkansas
 M.Ed., The University of Houston
- RAYMOND LEE DRENAN**, Assistant Professor of Sociology, 1962
 B.S., University of Illinois
 M.P.S., University of Colorado
- JOSEPH VINCENT DUST**, Assistant Professor of Civil Engineering, 1962
 B.S., University of Illinois
 M.S., Southern Methodist University
 Registered Professional Engineer
- EWIN ALFRED EADS**, Professor of Chemistry, 1946, 1962
 B.S., M.S., North Texas State University
 Ph.D., Tulane University
- DON ADAMS EDWARDS**, Instructor in Mathematics, 1964
 B.A., University of Houston
 M.S., University of Houston
- JOSEPH D. EDWARDS, JR.**, Associate Professor of Chemistry, 1960
 B.S., Louisiana College
 M.A., Ph.D., The University of Texas
- EDWIN OTTO EISEN**, Assistant Professor of Chemical Engineering, 1964
 B.S., M.S., Ph.D., Newark College of Engineering
- JOHN M. ELLIS**, Associate Professor of Sociology, 1963
 B.A., Sam Houston State College
 M.A., Ph.D., The University of Texas
- WINFRED S. EMMONS, JR.**, Professor of English, 1955, 1960
 B.A., Louisiana Polytechnic Institute
 M.A., University of Virginia
 Ph.D., Louisiana State University
- *SAMUEL LEE EVANS**, Associate Professor of History, 1959, 1962
 B.A., Texas A & M University
 M.A., Ph.D., The University of Texas
- H. E. EVELAND**, Professor of Geology—Head, Department of Geology, 1951
 B.S., M.S., Ph.D., University of Illinois

*Deceased.

- WILLIAM L. FARIS**, Instructor in Industrial Engineering, 1952
B.S., The University of Houston
- JOE N. FIELDS**, Associate Professor of Chemistry, 1946, 1960
B.A., Bethel College
M.A., The University of Texas
- *HUOT FISHER**, Assistant Professor of Music, Assistant Band Director,
1957, 1959
B.M., Oberlin Conservatory
M.M., University of Illinois
- WILLIAM T. FITZGERALD**, Associate Professor of Biology, 1951, 1962
B.S., Bethel College
M.A., George Peabody College
- OTTO R. FLOCKE**, Associate Professor of Psychology, 1954, 1958
B.A., M.A., North Texas State University
- MILTON L. FORBES**, Assistant Professor of Biology, 1963
B.A., M.A., Iowa State Teachers College
Ph.D., Florida State University
- CHARLES ALLEN FORD**, Assistant Professor of Mathematics, 1958, 1963
B.S., B.E., Texas A & M University
Ph.D., The University of Texas
- EARL W. FORNELL**, Professor of Government, 1957, 1962
B.A., M.A., New School of Social Research
M.A., Columbia University
Ph.D., The Rice University
- NATHAN TRAVIS FRANCIS**, Assistant Professor of Modern Languages,
1962, 1964
B.A., Texas Technological College
M.A., Texas Christian University
- HARRY L. FRISSELL**, Professor of English, 1958, 1963
B.A., Southwestern University
M.A., Ph.D., Vanderbilt University
- HOWARD V. GALLIHER**, Assistant Professor of Business Administration,
1954, 1958
B.A., Centenary College of Louisiana
M.B.A., The University of Houston
- DAVID GORDON GATES**, Professor of Industrial Engineering, 1963
B.S., M.S., University of Arkansas
Ph.D., Oklahoma State University
- GILBERT W. GATLIN**, Instructor in Biology, 1964
B.S., M.S., Texas A & M University
- MRS. MARILYN GEORGAS**, Instructor in English, 1963
B.A., Sam Houston State College
M.A., Lamar State College of Technology
- DELBERT L. GIBSON**, Associate Professor of Sociology, 1959, 1961
B.A., Baylor University
Th.M., Southwestern Baptist Theological Seminary
M.A., Ph.D., The University of Texas
- BENNIE JON GILCHRIEST**, Instructor in Speech, 1963
B.S., Lamar State College of Technology
M.A., Texas Technological College
- CLAUDE FRANK GILSON**, Assistant Professor of Mathematics, 1963
B.S., Lamar State College of Technology
M.Ed., Stephen F. Austin State College
- VERNON M. GLASS**, Associate Professor of Physical and Health Education for Men, Head Football Coach, 1963
B.S., The Rice University

*On leave.

- OSCAR T. GOINES, Assistant Professor of Physics, 1961
B.S., Stephen F Austin State College
M.S., Texas A & M University
- MRS. ANNIE SUE GREEN, Instructor in Mathematics, 1964
B. A., M.S., Lamar State College of Technology
- THOMAS J. GREENE, Associate Professor of Mechanical Engineering,
1960, 1961
B.S., United States Naval Academy
M.S., Massachusetts Institute of Technology
Registered Professional Engineer
- RAE R. GREMILLION, Assistant Professor of Physical and Health Ed-
ucation for Women, 1961, 1963
B.S., M.S., Northwestern State College
- LAWRENCE S. GUIDRY, Instructor in Mathematics, 1964
B.S., Loyola University
M.S., Northwestern State College
- ROBERT HENRY GUNN, Assistant Professor of Physical and Health
Education for Men, 1962
B.S., The Rice University
- HOWELL HOLMES GWIN, JR., Assistant Professor of History, 1962,
1963
B.A., M.A., Ph.D., Mississippi State University
- CHARLES W. HAGEMAN, JR., Professor of English—Head, Depart-
ment of English, 1959
B.A., The University of Texas
M.A., Columbia University
Ph.D., The University of Texas
- LEONARD ALLEN HALE, Assistant Professor of Mechanical Engineer-
ing, 1964
B.S., M.S., Texas Technological College
Ph.D., The University of Texas
- MRS. NORMA S. HALL, Professor of Secretarial Science—Head, De-
partment of Secretarial Science, 1941, 1955
B.S., M.S., The University of Texas
- W. RICHARD HARGROVE, Professor of Education—Dean, School of
Education, 1964
B.S., M.Ed., North Texas State University
Ed.D., George Peabody College
- MRS. GENEVIEVE CAREY HARLAN, Assistant Professor of Education,
1959, 1962
B.S., Lamar State College of Technology
M.A., Columbia University
- ANNE HARMON, Assistant Professor of Chemistry, 1959, 1961
B.S., Menmouth College
M.S., Baylor University
- MRS. MARY WANDA HARP, Professor of Home Economics—Head,
Department of Home Economics, 1963
B.S., M.S., North Texas State University
Ph.D., Texas Woman's University
- MRS. OLGA DEHART HARVILL, Instructor in English, 1962
B.A., M.A., Lamar State College of Technology
- WARREN N. HAWKINS, Instructor in English, 1964
B.B.A., M.A., North Texas State University
- EDWIN S. HAYES, Professor of Biology—Dean, School of Arts and
Sciences, 1942, 1954
B.S., North Texas State University
Ph.D., The University of Texas

- JEROME D. HENDERSON**, Instructor in Speech, 1964
B.A., Hartwick College
M.A., Temple University
- B. R. HENRY**, Associate Professor of Engineering Drawing, 1946, 1956
B.S., M.S., East Texas State College
- GORDON HENSLEY**, Associate Professor of Modern Languages, 1964
B.A., Texas Technological College
M.A., The University of Texas
Ph.D., Universidad Interamericana
- JAMES BENTON HIGGINS**, Athletic Director, Professor of Physical and Health Education for Men—Head, Department of Physical and Health Education for Men, 1949, 1963
B.A., Trinity University
M.Ed., The University of Houston
- JEROME A. HOCK**, Assistant Professor of Commercial Art, 1955, 1959
B.A., University of Kansas City
M.F.A., Kansas City Art Institute
- BELLE MEAD HOLM**, Professor of Physical and Health Education for Women—Head, Department of Physical and Health Education for Women, 1963
B.S., M.A., George Peabody College
Ph.D., Texas Woman's University
- PAUL W. HOLMES**, Assistant Professor of Music, 1953, 1955
B.M., Hardin-Simmons University
M.M., The University of Texas
- RYAN A. HOWARD**, Instructor in Commercial Art, 1964
B.A., B.S., M.A., The University of Texas
- *MRS. JEAN MARIE HUDSON**, Assistant Professor of Mathematics, 1951, 1955
B.A., Carleton College
M.A., University of Oklahoma
- BILL G. HULSOPPLE**, Associate Professor of Speech, 1964
B.S., University of Dayton
M.A., University of Denver
Ph.D., Ohio State University
- HENRY HUTCHINGS, III**, Instructor in English, 1964
B.A., M.A., Southern Methodist University
- DELMAS LEE HYBARGER**, Associate Professor of Education, 1958
B.S., Stephen F. Austin State College
M.S., The University of Houston
- PAUL EDWARD ISAAC**, Associate Professor of History, 1960, 1962
B.A., Pepperdine College
M.A., Ph.D., The University of Texas
- FRED M. JACOB**, Assistant Professor of Physical and Health Education for Men, Assistant Football Coach, 1963
B.S., The Rice University
M.Ed., The University of Houston
- FREDERIC C. JELEN**, Professor of Chemical Engineering, 1961
B.S., S.M., Massachusetts Institute of Technology
M.A., Ph.D., Harvard University
Registered Professional Engineer (New York, Texas)
- ANDREW J. JOHNSON**, Assistant Professor of History, 1958, 1960
B.A., The University of Texas
M.A., Indiana University
Ph.D., Indiana University

*On leave.

- MRS. ANN DICKINSON JONES, Assistant Professor of Business Administration, 1957, 1960
B.S., M.S., The University of Arkansas
- HUBERT B. KASZYNSKI, Associate Professor of Music, 1955
B.M., Sherwood School of Music
M.M., Chicago Musical College
- MRS. MYRTLE P. KERR, Associate Professor of Commercial Art, 1951, 1960
B.A., Northwestern Louisiana
M.A., Columbia University
- ROBERT JERALD KING, Instructor in Government, 1964
B.S., Lamar State College of Technology
M.A., Baylor University
- C. D. KIRKSEY, Professor of Business Administration, 1946, 1957
B.S., M.S., North Texas State University
Ph.D., The University of Texas
- DONALD PAUL KRAUSE, Instructor in English, 1963
B.A., M.A., North Texas State University
- JOSEPH COOKE LAMBERT, Instructor in History, 1962
B.A., Millsaps College
M.A., Louisiana State University
- G. F. LANDEGREN, Associate Professor of Physics, 1946, 1957
B.S., Texas A & I College
M.A., The University of Texas
- J. D. LANDES, Professor of Business Administration—Dean, School of Business Administration, 1946, 1961
B.S., M.S., North Texas State University
Ph.D., University of North Carolina
- EDWARD MARK LARSON, Instructor in Government, 1964
B.A., Kansas Wesleyan University
M.A., University of Kansas
- PHILIP W. LATIMER, Associate Professor of Mathematics, 1946, 1956
B.A., Baylor University
M.S., North Texas State University
- CHARLES HENRY LAUFFER, Instructor in Mathematics, 1962
B.S., M.A., Auburn University
- MRS. NORA B. LEITCH, Assistant Professor of English, 1954, 1962
B.A., Meredith College
M.A., Lamar State College of Technology
- *JOHN M. LEVOSKY, Assistant Professor of Mechanical Engineering, 1959, 1961
B.S., Lamar State College of Technology
M.S., Oklahoma State University
Registered Professional Engineer
- J. KAREN LEWIS, Instructor in English, 1963
B.A., M.A., The University of Texas
- MICHAEL D. LINN, Instructor in English, 1963
B.A., M.A., Montana State University
- JOHN H. LOCKHART, Associate Professor of Modern Languages, 1952, 1959
B.A., Baylor University
M.A., The University of Texas
- RUSSELL J. LONG, Professor of Biology, 1951, 1958
B.A., Ohio Northern University
M.A., Miami University
Ph.D., Ohio State University
- MRS. LLEWELLA JEAN LUSK, Instructor in Modern Languages, 1963
B.A., M.A., Birmingham Southern College

*On leave.

- HOWARD MACKEY**, Associate Professor of History, 1963
B.A., University of Toledo
M.A., Ph.D., Lehigh University
- ROBERT J. MADDEN**, Assistant Professor of Commercial Art, 1959, 1961
B.A., Centenary College of Louisiana
M.F.A., The University of Arkansas
- JOHN WAYNE MADES**, Instructor in Mathematics, 1964
B.A., Millikin University
M.A., University of Missouri
- CONRAD DELL MANG**, Professor of Education, 1957, 1961
B.S., M.Ed., M.L., The University of Houston
Ed.D., The University of Texas
- JACK T. MARTIN**, Associate Professor of Physical and Health Education for Men, Head Basketball Coach, 1951, 1956
B.S., M.S., Hardin-Simmons University
- EUGENE P. MARTINEZ**, Assistant Professor of Mechanical Engineering, 1959, 1961
B.S., Lamar State College of Technology
M.S., The Rice University
- WILLIAM HENRY MATTHEWS, III**, Professor of Geology, 1955, 1962
B.A., M.A., Texas Christian University
- MARTIN L. MATTINGLY**, Instructor in Government, 1964
B.S., Lamar State College of Technology
M.A., Louisiana State University
- JOHN R. MAYS**, Assistant Professor of Civil Engineering, 1956, 1959
B.S., Lamar State College of Technology
M.S., University of Colorado
- ROBERT A. McALLISTER**, Professor of Chemical Engineering—Head, Department of Chemical Engineering, 1957, 1959
B.Ch.E., North Carolina State College
M.S., University of Wisconsin
S.M., Massachusetts Institute of Technology
Ph.D., Georgia Institute of Technology
Registered Professional Engineer
- *STERLING W. McGUIRE**, Assistant Professor of Mathematics, 1956, 1961
B.S., M.A., Sam Houston State College
- MARVIN L. McLAUGHLIN**, Professor of Education—Dean, Graduate School, 1946, 1964
B.S., Sam Houston State College
M.Ed., The University of Texas
Ed.D., The University of Houston
- HARRY T. MEI**, Associate Professor of Mechanical Engineering, 1960, 1962
B.S., National Taiwan University
M.S., Ph.D., The University of Texas
Registered Professional Engineer
- JOE M. MEJIA**, Assistant Professor of Chemistry, 1960, 1962
B.S., M.S., Texas A & M University
- ROBERT G. MERS**, Professor of Chemistry, 1951
B.A., Austin College
M.A., Ph.D., The University of Texas
- MICHAEL H. MERRITT**, Assistant Professor of Mathematics, 1964
B.A., Lamar State College of Technology
M.S., Texas A & M University
- RAY WATSON MOORE**, Assistant Professor of Music, 1964
B.M., Texas Technological College
M.A., Ed.D., Columbia University

*On leave.

- ESTON O. MORRISON**, Assistant Professor of Biology, 1963
B.S., Texas College of Arts and Industries
M.S., Ph.D., Texas A & M University
- DANIEL THOMAS MULLIN**, Associate Professor of Physical and Health Education for Men, 1964
B.S., Seton Hall University
M.S., University of New Mexico
Ph.D., University of Maryland
- JERRY ALDEN NEWMAN**, Instructor in Commercial Art, 1962
B.F.A., The University of Texas
M.F.A., University of Southern California
- L. WESLEY NORTON**, Associate Professor of History, 1959, 1962
B.A., Olivet College
M.A., Ph.D., University of Illinois
- ROBERT CHARLES OLSON**, Professor of English, 1962, 1963
B.S., Northwestern University
M.A., Ph.D., University of Colorado
- ROBERT GERALD O'NEILL**, Assistant Professor of Commercial Art, 1962, 1964
B.F.A., University of Omaha
M.F.A., University of Colorado
- SAM F. PARIGI**, Assistant Professor of Economics, 1961
B.S., Saint Edward's University
M.B.A., Ph.D., The University of Texas
- GEORGE L. PARKS**, Professor of Music—Head, Department of Music, 1947, 1951
B.S., Northwestern State College
M.A., Colorado State College
Ed.D., The University of Houston
- MRS. RETA G. PARRISH**, Assistant Professor of Mathematics, 1964
B.A., Southern Methodist University
M.A., Texas Woman's University
- CHARLES A. PARTIN**, Associate Professor of Economics, 1963
B.S., Stephen F. Austin State College
M.A., Ph.D., The University of Texas
- JAMES MILLARD PEARSON**, Assistant Professor of Economics, 1962
B.B.A., M.S., Baylor University
- HUGH O. PEEBLES**, Assistant Professor of Physics, 1963
B.S., The University of Texas
M.S., Ph.D., Oklahoma State University
- MRS. MARIANELLA M. PERMENTER**, Assistant Professor of Education, 1960
B.A., Stephen F. Austin State College
M.A., The University of Houston
- JOSEPH JOHN PERRET**, Assistant Professor of Modern Languages, 1962
B.A., M.A.T., Tulane University
- JOSEPH F. PIZZO, JR.**, Assistant Professor of Physics, 1964
B.A., University of Saint Thomas
Ph.D., University of Florida
- ARNOLD B. POPOFSKY**, Instructor in Speech, 1964
B.A., William Penn College
M.A., University of Miami
- ROBINSON P. RAMIREZ**, Associate Professor of Mechanical Engineering, 1963
B.S., M.S., Ph.D., Georgia Institute of Technology
Registered Professional Engineer
- BILLY DALE READ**, Instructor in Mathematics, 1964
B.S., Lamar State College of Technology
M.S., North Texas State University

- GARY R. REAVES, Instructor in English, 1964
B.A., Centenary College of Louisiana
M.A., Sam Houston State College
- JACK N. RENFROW, Assistant Professor of English, 1959, 1961
B.A., Louisiana Polytechnic Institute
M.A., University of Denver
Ph.D., Louisiana State University
- ORLANDO M. REYES-CAIRO, Assistant Professor of Modern Languages,
1964
B.A., University of South Dakota
M.A., University of Minnesota
- CARL J. RIGNEY, Professor of Physics—Head, Department of Physics,
1957
B.S., University of Louisville
M.S., Ph.D., Northwestern University
- MRS. MARGARET BIRCH RODGERS, Assistant Professor of Education,
1958, 1961
B.S., The University of Texas
M.Ed., The University of Houston
- ROBERT C. ROGAN, Associate Professor of Commercial Art, 1961
B.A., Washburn University
M.F.A., State University of Iowa
Ed.D., University of Kansas
- DAN W. ROGAS, Assistant Professor of Physical and Health Education
for Men and Assistant Football Coach, Golf Coach, 1955, 1957
B.S., Tulane University
- BRUCE G. ROGERS, Associate Professor of Civil Engineering, 1961, 1963
B.S., The University of Houston
M.S., Ph.D., University of Illinois
Registered Professional Engineer
- HENRY B. RULE, Professor of English, 1960, 1964
B.A., The University of Texas
M.A., Columbia University
Ph.D., University of Colorado
- THOMAS T. SALTER, Associate Professor of Education, 1960, 1961
B.S., Anderson College
M.Ed., Stephen F. Austin State College
Ed.D., The University of Houston
- R. BEELER SATTERFIELD, Assistant Professor of History, 1963
B.A., M.A., Vanderbilt University
Ph.D., Johns Hopkins University
- EARL SCHUMAN, Associate Professor of Speech, 1964
B.M.E., Texas Wesleyan College
M.M., University of Nebraska
M.A., University of Denver
- MRS. RUTH G. SCURLOCK, Instructor in English, 1954
B.A., Mary Hardin-Baylor College
- WILLIAM SEALE, Instructor in History, 1964
B.A., Southwestern University
M.A., Duke University
- E. LEE SELF, Associate Professor of Education, 1959, 1961
B.S., M.S., Northwestern Louisiana State College
Ph.D., Louisiana State University
- J. G. SHEPHERD, Assistant Professor of Physics, 1957
B.S., M.A., North Texas State University
- *STANLEY L. SISSOM, Instructor in Biology, 1961
B.S., M.S., North Texas State University

*On leave.

- TED SKINNER**, Professor of Speech—Dean, School of Fine and Applied Arts, 1955, 1958
 B.S., Northwestern University
 M.A., Colorado State College
 Ph.D., Northwestern University
- MRS. ELEANOR STEVENS SLADCZYK**, Assistant Professor of Secretarial Science, 1957, 1961
 B.B.A., The University of Texas
 M.B.A., The University of Houston
- MRS. GENEVIEVE SMITH**, Assistant Professor of Modern Languages, 1959, 1963
 B.A., Milton College
 M.A., Instituto Tecnológico de Monterrey
- W. RUSSELL SMITH**, Professor of Biology, 1946, 1958
 B.S., M.S., North Texas State University
 Ph.D., The University of Texas
- *WILLIAM BOYCE SMITH**, Assistant Professor of Mathematics, 1962, 1963
 B.S., Lamar State College of Technology
 M.S., Texas A & M University
- MONTY L. SONTAG**, Associate Professor of Education, 1962
 B.A., University of Denver
 M.A., Ed.D., Columbia University
- DAVID CLYDE SPENCER**, Instructor in History, 1963
 B.S., Wisconsin State College
 M.A., University of Missouri
- JEREMIAH M. STARK**, Professor of Mathematics—Head, Department of Mathematics, 1956
 B.S., United States Coast Guard Academy
 B.S., North Texas State University
 S.M., Ph.D., Massachusetts Institute of Technology
- BETTE ANN STEAD**, Instructor in Secretarial Science, 1962
 B.B.A., Lamar State College of Technology
 M.B.A., The University of Texas
- ARTHUR F. STELLEY**, Assistant Professor of Business Administration, 1954, 1960
 LL.B., Baylor University
- MANFRED STEVENS**, Associate Professor of Government, 1960, 1961
 B.A., M.A., University of Oklahoma
 Ph.D., University of Michigan
- *GLADSTONE TAYLOR STEVENS, JR.**, Assistant Professor of Industrial Engineering, 1962
 B.S., University of Oklahoma
 M.S., Case Institute of Technology
 Registered Professional Engineer
- **ARNEY LEE STRICKLAND**, Instructor in English, 1964
 B.A., Lamar State College of Technology
- WALTER ALLAN SUTTON**, Assistant Professor of History, 1963
 B.A., The Rice University
 M.A., Ph.D., The University of Texas
- *LESLIE M. SZENDY**, Assistant Professor of Civil Engineering, 1961
 B.S., M.S., Technical University of Budapest
- ROSA JEAN TANNAHILL**, Professor of Home Economics, 1951
 B.S., North Texas State University
 M.S., Colorado State University
- ERNEST C. TANZER**, Instructor in Biology, 1963
 B.S., M.S., Texas A & M University

*On leave.

**Exchange teacher.

- DAVID G. TAYLOR**, Associate Professor of Business Administration,
1955, 1957
B.A., M.A., Baylor University
- LLOYD H. TAYLOR, JR.**, Associate Professor of Business Administration,
1954, 1964
B.A., M.A., Baylor University
- PHILLIP H. TAYLOR**, Assistant Professor of Economics, 1958, 1961
B.B.A., Lamar State College of Technology
M.B.A., The University of Arkansas
- ANTHONY C. TENNISSEN**, Assistant Professor of Geology, 1963
B.S., University of Tulsa
M.S., Syracuse University
Ph.D., University of Missouri—School of Mines
- TYRUS TERRELL**, Associate Professor of Physical and Health Education
for Men, Head Track Coach, 1955, 1962
B.S., M.S., Oklahoma State University
- MRS. DOROTHY FAYE THAMES**, Assistant Professor of Mathematics,
1957, 1961
B.A., Birmingham Southern College
M.A., George Peabody College
- FRANK A. THOMAS, JR.**, Professor of Industrial Engineering—Dean,
School of Engineering, 1958, 1961
B.S., Purdue University
M.S., Ph.D., Georgia Institute of Technology
Registered Professional Engineer (Texas and Georgia)
- ROBERT BLAINE THOMAS**, Assistant Professor of English, Director
of Freshman English, 1960, 1961, 1963
B.S., Virginia Polytechnic Institute
M.A., Ph.D., Louisiana State University
- THOMAS DAVID THOMPSON**, Instructor in Music, 1964
B.M., American Conservatory
M.M., Northwestern University
- GLYNN TILLER**, Instructor in Government, 1963
B.S., Sam Houston State College
M.A., The University of Houston
- GEORGE B. TIMS, JR.**, Professor of Industrial Engineering—Head, De-
partment of Industrial Engineering, 1951
B.S., M.S., Oklahoma State University
Registered Professional Engineer
- LESTER B. TIPTON**, Assistant Professor of Physical and Health Educa-
tion for Men, Assistant Football Coach, Tennis Coach, 1959
B.S., Southern Methodist University
M.Ed., The University of Houston
- JOSEPH TRUNCALE**, Assistant Professor of Music, 1947, 1954
B.M., North Texas State University
M.L., The University of Houston
- BILLY D. TUBBS**, Assistant Professor of Physical and Health Educa-
tion for Men, Assistant Basketball Coach, 1960, 1962
B.S., Lamar State College of Technology
M.Ed., Stephen F. Austin State College
- FRANCIS H. TUCKER**, Instructor in Philosophy, 1963
B.A., Stephen F. Austin State College
M.A., The University of Texas
- WILLIAM R. TUCKER**, Professor of Government, 1956, 1963
B.A., M.A., University of Oklahoma
Ph.D., University of Geneva
- M. LOUISE UNANGST**, Instructor in English, 1963
B.A., Texas College of Arts and Industries
M.A., Louisiana State University

- MRS. JEANNETTE WRIGHT VAUGHN, Assistant Professor of Secretarial Science, 1954, 1957
B.A., Texas Woman's University
M.B.A., The University of Texas
- HENRY T. WADDELL, Associate Professor of Biology, 1963
B.S., M.S., George Peabody College
Ph.D., University of Florida
- KARL H. WADENPFUHL, Assistant Professor of Music, Assistant Band Director, 1964
B.M.E., Louisiana State University
M.A., Sam Houston State College
- KENYON L. WAGNER, Instructor in English, 1963
B.A., M.A., Eastern New Mexico University
- RICHARD E. WALKER, Professor of Chemical Engineering, 1963
B.S., Purdue University
M.S., Bucknell University
Ph.D., Iowa State College
Registered Professional Engineer
- ELSIE MARION WARE, Assistant Professor of History, 1960
B.S., Hendrix College
M.A., Louisiana State University
- ROBERT J. WATTS, Assistant Professor of Modern Languages, 1964
B.A., M.A., Duke University
- DONALD HERBERT WEISS, Assistant Professor of Philosophy, 1964
B.A., University of Arizona
M.A., University of Missouri
Ph.D., Tulane University
- CHARLES H. WILBANKS, Associate Professor of Education, 1946, 1952
B.S., Sam Houston State College
M.S., The University of Houston
- CHARLES A. WILEY, Professor of Music—Band Director, 1952, 1962
B.S., Texas Technological College
M.M., The University of Texas
Ed.D., The University of Colorado
- ROBERT HAROLD WILKERSON, Assistant Professor of English, 1964
B.A., M.A., University of Oklahoma
- DONALD E. WILLIAMS, Associate Professor of Business Administration, 1952, 1958
B.A., M.A., Ed.D., North Texas State University
- PRESTON B. WILLIAMS, Professor of History—Head, Department of History, 1950, 1955
B.A., M.A., North Texas State University
Ph.D., The University of Texas
- MRS. LOIS WILSON, Assistant Professor of Physical and Health Education for Women, 1955, 1960
BS., M.S., Texas Woman's University
- JACOB A. WOLKEAU, Associate Professor of Mathematics, 1957, 1961
B.A., University of Pennsylvania
M.S., University of Pittsburgh
- SAM M. WOOD, JR., Assistant Professor of Mathematics, 1958, 1962
B.A., The University of Texas
M.S., Texas A & M University
- NAAMAN J. WOODLAND, JR., Assistant Professor of History, 1957, 1959
B.A., B.S., Louisiana State University
M.A., Northwestern University
- RALPH A. WOOSTER, Professor of History, 1955, 1962
B.A., M.A., The University of Houston
Ph.D., The University of Texas

- JACK WRIGHT, JR., Instructor in Sociology, 1964
B.A., Northwest Nazarene College
M.A., Louisiana State University
- ALVICE W. YEATS, Associate Professor of English, 1961
B.A., McMurry College
M.A., Ph.D., The University of Texas
- ROGER E. YERICK, Associate Professor of Chemistry, 1958, 1961
B.S., Texas College of Arts and Industries
Ph.D., Iowa State University
- SHAO CHI YUAN, Associate Professor of Government, 1964
B.A., Fu Jen University
M.A., Ph.D., Harvard University
- MRS. DOROTHY STINE ZELLNER, Professor of Modern Languages—
Head, Department of Modern Languages, Fulbright Advisor,
1942, 1955
B.A., M.A., The University of Texas
Ed.D., The University of Houston

PART-TIME FACULTY

- SWIKI A. ANDERSON, Teaching Fellow of Engineering, 1964
B.S., Lamar State College of Technology
- MARY ELIZABETH BOOTH, Teaching Fellow of English, 1964
B.A., Radcliffe College
- LIBBIE M. CAMPBELL, Teaching Fellow of Mathematics, 1964
B.A., Lamar State College of Technology
- DONALD B. CROUCH, Teaching Fellow of Mathematics, 1963
B.S., Lamar State College of Technology
- MRS. JOYE V. DALTON, Teaching Fellow of English, 1964
B.A., Lamar State College of Technology
- MRS. ANNE DONOVAN, Teaching Fellow of Biology, 1964
B.S., The University of Texas
- MRS. JEAN T. DORRELL, Assistant Professor of Secretarial Science,
1950
B.S., Northwestern Louisiana
M.S., Louisiana State University
- MORRIS EDELSON, Teaching Fellow of English, 1964
B.A., Lamar State College of Technology
- JOHN T. FRANKLAND, Teaching Fellow of Engineering, 1964
B.S., Lamar State College of Technology
- NEWTON J. FRIEDMAN, Instructor in Government, 1964
B.A., Western Reserve University
Ph.D., Hebrew Union University
- MRS. NANCY H. GIFFORD, Teaching Fellow of English, 1964
B.A., Tufts University
- TERRELL W. JONES, Teaching Fellow of Mathematics, 1964
B.A., Lamar State College of Technology
- MRS. MARY KERR, Instructor in English, 1959
B.A., Vassar
M.A., Michigan State University
- DHIREN KOTHARI, Teaching Fellow of Engineering, 1963
B.S., Lamar State College of Technology
- EDMUND EMMETT LACY, Teaching Fellow of History, 1964
B.A., Baylor University
B.D., Th.D., Southwestern Baptist Theological Seminary

- MRS. SONIA McELWEE, Teaching Fellow of English, 1964
B.A., Louisiana Polytechnic Institute
- MRS. OLIVE ANN McLAUGHLIN, Teaching Fellow of English, 1963
B.A., Lamar State College of Technology
- WILBEN REECE NEWTON, Teaching Fellow of English, 1964
B.A., Lamar State College of Technology
- JERRY LEON OGLESBY, Teaching Fellow of Mathematics, 1964
B.S., The University of Mississippi
- MRS. ANNETTE E. PLATT, Instructor in English, 1963
B.A., M.A., The University of Texas
- GEORGE CLIFFORD SCULLEY, JR., Instructor in Business Administration, 1958
B.A., Lamar State College of Technology
Certified Public Accountant
- MARGO SHELTON, Instructor in Secretarial Science, 1963
B.B.A., Lamar State College of Technology
- MRS. DOROTHY WEATHERLY, Instructor in English, 1961
B.A., M.A., Stephen F. Austin State College

LIBRARY

- JULIA PLUMMER, Librarian, 1936, 1951
B.A., Southwestern University
B.S. in Library Science, Western Reserve University
- MRS. ESTHER CHURAN, Order Librarian, 1961
B.A., B.S. in Library Science, Texas Woman's University
- MAXINE JOHNSTON, Reference Librarian, 1955
B.S., Sam Houston State College
M.L.S., The University of Texas
- KIRA KALICHEVSKY, Assistant Engineering Librarian, 1957, 1959
B.A., Radcliffe College
M.L.S., Columbia University
- MRS. GEORGE ANNE MONGER, Government Documents Librarian, 1959
B.A., Baylor University
B.S. in Library Science, Western Reserve University
- ALOUSIA MOORE, Engineering Librarian, 1955
B.A., The University of Texas
B.S. in Library Science, University of Denver
- ROSA MAE SYLER, Associate Librarian and Head Cataloger, 1946, 1953
B.S., George Peabody College
B.S. in Library Science, Louisiana State University
- * * *
- HELEN C. BAILEY, Assistant Order Librarian, 1959
- MRS. F. S. BRADEN, Assistant Circulation Assistant, 1963
- MRS. FLORENCE CARLISLE, Clerk Circulation, 1964
- MRS. NELDA CASTLEMAN, Clerk Typist, 1963
- MRS. DIANE DUCOTE, Clerk Typist, 1962
- MRS. IDA B. HAMIC, Periodicals Librarian, 1949
- MRS. ESTHER HENSARLING, Assistant Periodicals Librarian, 1962
- MRS. THELMA L. McCOY, Technical Processes, 1959
- MRS. LOIS PARKER, Assistant Technical Services, 1960
- MRS. DOROTHY YEZAK, Circulation Librarian, 1955

CAMPUS MINISTERS

- ELDON H. DEGGE**, Director, Church of Christ Bible Chair
B.A., Abilene Christian College
M.A., Eastern New Mexico University
- ARTHUR M. PRY**, Director, United Christian Fellowship Center
B.A., Southwestern University
B.D., Yale University
- DON ROBERTSON**, Associate Director, United Christian Fellowship Center
B.A., The University of Texas
B.D., Austin Presbyterian Seminary
- WALTER MONTONDON**, Chaplain, Newman Center
- JOHN D. WORRELL**, Director, Canterbury House
B.A., University of the South
S.T.B., Berkeley Divinity School
- JAMES A. WRAY**, Director, Baptist Student Center
B.A., Baylor University
Th.M., Southwestern Baptist Theological Seminary

STUDENT HEALTH CENTER

- JOHN TERRY SMITH**, M.D., College Physician
- MRS. OLA SAUNDERS**, R.N., Director of Center
- MRS. CLEO H. BAUMCRATZ**, L.V.N., Resident Vocation Nurse
- MRS. THELMA WATSON**, L.V.N., Resident Vocation Nurse

BOOKSTORE

- JAMES E. RANEY**, Manager
- O. J. WILKERSON**, Storekeeper II
- DONALD STAFFORD**, Storekeeper II
- MARGARET DRAGOO**, Storekeeper I

DORMITORY SUPERVISORS

- LOUISE CASH**, Morris Hall
- MRS. FRANCES CHIONSINI**, Combs Hall
- MRS. SALLIE NOWLIN**, Gentry Hall
- BESSIE STRICKLAND**, Campbell Hall
- IDA VANMETER**, Gray Hall

FOOD SERVICES

- MRS. JOANN BOURGEOIS**, B. S., Dietitian, Director of Food Service, Dining Hall
- NETTYE MATHEWS**, Assistant Director of Food Services, Plummer Hall
- MYRTLE STERLING**, Assistant Director of Food Services, Gentry Hall
- RAYMOND YOUNGBLOOD**, Assistant Director of Food Service, Snack Bar

PRINT SHOP

- EDWIN PEARSON**, Printer II
- ALLEN LUCAS**, Printer I

ORGANIZATION OF THE COLLEGE**Schools and Departments****School of Arts and Sciences**

(Bible)
Biology
Chemistry
English
Geology
Government
History
Modern Languages
Physics
Psychology
Sociology

School of Business

Accounting
Business Administration
Economics
Secretarial Science

School of Engineering

Chemical
Civil
Electrical
Industrial
Mechanical
Mathematics

School of Education

Education
Home Economics
Physical and Health Education

School of Fine and Applied Arts

Commercial Art
Music
Speech

Graduate School

Chemistry
Education
Engineering
English
History
Mathematics

Note: Lamar School of Vocations courses are described in a separate bulletin.

GENERAL INFORMATION**Location**

Lamar State College of Technology is a state-supported institution located in the center of industrial Southeast Texas at Beaumont. Principal industries in the area are oil refining, shipping, shipbuilding, rubber manufacturing and chemical production. Surrounding the urban communities are ranches and rice farms.

The campus faces the Beaumont-Port Arthur Highway in southeastern Beaumont. With a population of approximately 120,000, Beaumont has modern schools, churches, and shopping districts to serve the thriving industrial community.

History

South Park Junior College was established in 1923. The college was organized and controlled by the South Park Independent School District, and classes were conducted in the South Park High School Building. Enrollment increased from about 125 in 1923 to 300 in 1931.

In 1932, the name of the institution was changed to Lamar College. At this time separate facilities were provided, additional equipment was purchased and new policies were instituted. By 1939, enrollment was approximately 640.

In 1940, Lamar Union Junior College District was created, and Lamar College was separated from the South Park Independent School District. Bonds were voted and new facilities were constructed on the site of the present main campus.

A movement to expand Lamar College into a four-year state-supported school culminated in the creation of Lamar State College of Technology on September 1, 1951. Since that time the curriculum has been expanded and liberalized to include many areas of study, and many additional facilities have been provided. Enrollment has increased until there are now over 7,800 students.

The College offered graduate work in specified fields beginning in the academic year of 1960-61.

Government

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

The general policies of the Graduate School are determined and administered by the Graduate Council.

Objectives

Lamar State College of Technology is a member of the Texas state

system of higher education, offering a variety of liberal, pre-professional, and professional programs of study. The philosophy of the College is expressed in the following objectives.

1. Provide educational opportunities, within the available resources, for all qualified students seeking admission.
2. Assist students to find and prepare for the particular vocation for which they are best suited by interest, aptitude, and background.
3. Promote and maintain professional competency in all instruction and research involved in academic programs leading to the authorized undergraduate and graduate degrees.
4. Insure that students have the opportunity to realize their full potential as individuals, as responsible citizens, and as leaders in a democratic society through a proper integration of general and special education in all degree programs.
5. Maintain, in all areas of the College, a joint quest by faculty and students for truth through research and creative study.
6. Develop and sustain such student organizations and services as are needed to insure a healthy, cultural, and intellectual student campus life.
7. Contribute scholarly and scientific services to the community, state, and nation.

Accreditation

Lamar is accredited by the Association of Texas Colleges and Universities and the Southern Association of Colleges and Secondary Schools. It is also approved by the Texas Education Agency.

The departments of Chemical Engineering, Civil Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering are accredited by the Engineering Council for Professional Development.

Degree Offerings

Bachelor of Arts in Biology, Chemistry, English, French, Economics, Geology, Government, History, Mathematics, Psychology, Sociology, Spanish, and Speech.

Bachelor of Science in Biology, Chemistry, Commercial Art, Education, Geology, Government, History, Home Economics, Mathematics, Music, Medical Technology, Physical and Health Education, Physics, Sociology, Speech, and the following **Engineering Fields**: Chemical, Civil, Electrical, Industrial and Mechanical.

Bachelor of Business Administration in Accounting, Economics, General Business, Management, Marketing and Secretarial Science.

Master of Arts in English and History.

Master of Education in Elementary Education and Special Education.

Master of Engineering Science in Engineering

Master of Science in Chemistry and Mathematics.

Organization

The College is organized into six schools. Each school is administered by an academic dean.

Schools

Arts and Sciences
Business
Education

Engineering
Fine and Applied Arts
Graduate

Student academic matters requiring the attention or approval of the academic deans are:

1. Guidance and assignment of counselor.
2. Academic load.
3. Changes in schedule.
4. Dropping and adding courses.
5. Unsatisfactory academic progress.
6. Withdrawal from college.
7. Graduation requirements.

Entering Dates

Courses and schedules have been arranged so that students may enter Lamar four times each year. The approximate entering dates are June 1, July 17, September 15, and February 1. The current College Calendar contains information regarding registration periods and exact entering dates.

FACILITIES

Buildings and Grounds

Located on a campus of approximately one hundred acres and valued in excess of \$18,000,000, the Lamar plant includes many new and functional buildings of modern design. These structures include: the Administration Building, Art Building, Biology-Geology Building, Bookstore, Business Building, Chemistry Building, Dining Hall, Engineering I, Engineering II, Health Center, Home Economics Building, Lamar Theatre, Liberal Arts Building, Library, McDonald Gymnasium, Music-Speech Building, Science Building, Student Union, Vocations I, Vocations II, Vocations III, and Women's Gymnasium. On-campus dormitories include Campbell Hall, Combs Hall, Gentry Hall, Gray Hall, Morris Hall, Plummer Hall, as well as three apartment buildings for married couples. Cardinal Stadium, a new 17,150-seat football stadium, was completed in the fall of 1964.

The President's Home, Superintendent of the Grounds' Home, athletic field house and practice fields, Olympic size swimming pool, tennis courts, and miscellaneous storage buildings are also located on the campus.

The Library

With the seating room for several hundred students, a reference room, a film supply room, a microfilm reader room, subscription to more than one thousand periodicals and over 85,000 volumes combined with a budget of sufficient size to increase volumes by several thousand per year, the library offers excellent service to both students and faculty.

Library hours are 7:45 a.m. to 10:00 p.m. Monday through Thursday, 7:45 a.m. to 5:00 p.m. Friday, 9:00 a.m. to 4:00 p.m. Saturday, and 2:00 p.m. to 5:00 p.m. Sunday. Closed holidays.

Health Center

The College maintains a Health Center for the use of students during the long term or summer session.

Two types of service are available: (1) out-patient service for those who have minor ailments but who do not require constant supervision, and (2) infirmary service for those who are in need of the continued attention of the College physician or a registered nurse.

It is not possible for the College to provide unlimited medical service. Special medicines, examinations, treatments, X-ray examinations, and laboratory tests are not furnished by the College. However, no charge is made for care in the Health Center up to ten days each semester. A small fee for drugs, supplies, and special services may be charged students required to remain in the Health Center for more than ten days.

The Health Center, located on East Virginia near Combs Hall, is adequately staffed and equipped for treating acute illnesses and minor injuries. It is not intended that the Center will provide care for students requiring surgery or the services of specialists. In these cases, every effort will be made by the College physician or nurse to notify the parents or guardians of the students' needs.

The College assumes no responsibility for continued medical care for students having chronic diseases. These students should arrange for the care of a private physician located in Beaumont or vicinity.

In the event the Health Center is filled to capacity, the College is not under obligation to provide hospital service elsewhere. However, the Health Center has a sufficient number of beds for all normal needs.

Students who are ill should report promptly to the Center for diagnosis and treatment. They will not be treated in the dormitory or in rooming houses. The College will take appropriate disciplinary action against students who refuse to report for medical advice when ill.

Bookstore

For the convenience of faculty and students, the College operates its own bookstore where supplies and books, new and used, may be purchased.

Used books which are currently approved may be sold to the bookstore at prices much better than such books would ordinarily bring. Books which must be discontinued are not purchased by the bookstore except at a salvage price.

The bookstore reserves the right to require the seller to prove his ownership.

Dining Hall

The College also owns and operates a dining hall located on the campus (see map, inside front cover).

Two snack bars are located in the Union Gymnasium Building where sandwiches, soft drinks, and light lunches are available.

Housing

A number of ultra-modern dormitories for women and men are located on the campus. The college also owns and operates three apartment buildings for married couples. For complete information regarding housing, see the Fees and Expenses section of this Bulletin.

Research Center

The Research Center was formally organized in 1956. It is administered by a director who serves as chairman of the faculty research committee. Many National Science Foundation grants as well as private foundation grants have been received through this research organization.

Proposed faculty research projects are submitted each year for approval and financing through the Research Center.

The East Texas area is one of the most heavily industrialized sites of the world, and many industrial research problems are referred by industries of the area to the Lamar Research Center. Faculty members and advanced students often cooperate in seeking the solutions to these industrial problems.

Computer Laboratory

The college operates a computer laboratory as a division of the Research Center. This laboratory houses three major computers of the digital and analog type, valued in excess of \$300,000. Faculty members and advanced students make good use of these computers in various approaches to research problems.

SERVICES**Counselors**

At registration each student is assigned a faculty counselor who is available for educational, vocational, and personal guidance. All students are expected to make appointments with counselors during each semester. Such arrangements are the responsibility of the student.

Counseling sessions will insure that a program of study is pursued in proper sequence and that academic progress is maintained by the student.

Testing and Placement Service

The Testing and Placement Center is located in Room 102 of the Liberal Arts Building and is open 8:00 a.m. to 5:00 p.m. Monday through Friday.

This Center provides testing service for entering students and for others who want it. Non-students wishing to use this service pay a fee depending upon the testing program desired.

Placement service is also provided at this Center and is available to all students, faculty, and former students.

Student Part-time Work

The College, local businesses, and industries provide a number of part-time jobs which enable students to earn part or all of their expenses while attending college. Students employed by the College (with few exceptions) will be selected and assigned by the Student Employment Director. Applicants for off-campus, part-time employment should also register with his office (Room 102, Liberal Arts Building).

Student Insurance

All students enrolled for nine or more semester hours are eligible to purchase accident and sickness insurance. Coverage is effective in the United States and Canada for a full twelve months. A brochure explaining the coverage and benefits is available at the Office of the Director of Student Activities. The fee is approximately \$13.00 per year and is payable upon enrollment.

Medical care insurance is required of all foreign students.

Teacher Certification

Lamar is an approved teacher-certifying agency. All teacher education programs of the college are approved by the Texas Education Agency. Students seeking teacher certification should consult with the Dean of the School of Education regarding requirements, etc.

Religious Centers

Several denominations provide a full-time ministry to the campus and toward that end have established student centers (adjacent to the campus).

In addition to credit Bible courses, listed elsewhere in this catalog, the centers offer opportunities for worship, non-credit study and counseling in order to aid the student in developing a meaningful context for his college years.

Intramural Sports Program

Under the supervision of the directors of intramural sports, the Department of Physical and Health Education offers an intramural program with opportunities for participation in recreational physical activities. Participation is voluntary.

Scholarship Honors

A chapter of Phi Kappa Phi, national honor society, was chartered in the spring of 1965. This honor society elects its membership from students who are within a year of graduation from the undergraduate school and who rank in the top ten per cent of their class scholastically. Membership is open to majors from all academic schools.

The Honors Program each spring honors those students who have gained recognition for outstanding work in special fields or for scholastic excellence. Suitable certificates and awards are presented.

Ex-Students Association

An association of former students of Lamar, whether graduates or not, has been formed. The Executive Secretary of the Alumni Association has an office on the campus.

Evening Classes

For administrative purposes, classes offered after 6:00 p.m. are referred to as evening classes. With few exceptions the same faculty members teach in both day and evening classes, and all educational facilities are the same. A person employed during the day hours may attend classes in the evening and work toward a degree or expand his knowledge in a special field of interest.

Course offerings in the evening are such that by judicious choice of classes continual progress toward an objective may be maintained. It is advisable to follow the program of study outlined in the catalog, but in every case such program should be approved by the department head concerned with the training objective of the student.

The School of Vocations also offers a variety of courses and training programs in the evening hours. Details are given in the School of Vocations catalog.

Vocational Courses

The School of Vocations offers vocational training programs in the following fields: diesel engines, industrial electricity, machine shop practice, refrigeration maintenance and repair, vocational nursing, and welding. Vocational nursing is a one-year program while the others extend over a period of two years.

This School also offers supplementary training in the following fields: apprenticeship training, distributive education, industrial supervision and leadership, and trade extensions.

For further details request catalog from: Lamar School of Vocations, Beaumont, Texas.

Veterans Education

Lamar is approved for educating veterans under the Vocational Rehabilitation Law, known as Public Law Number 16, and Public Law Number 550.

Veterans who are interested in continuing their education under federal laws providing such training are directed to secure information and aid in planning their college work by consulting the office for Veteran's Education, Room 102, Liberal Arts Building.

Veterans may lose payments for the first calendar month of the semester if application and enrollment forms are not completed by the end of registration week. It is not possible for the college to process late entries until the following month.

AWARDS

The following awards are available each year:

Sara Lou Aldrich Award. This award is presented annually to an instrumental music major, selected by the faculty of the Department of Music, who has been on the campus at least two years, who has demonstrated sound character and citizenship in addition to academic and vocational ability, and who has made significant contributions to the Department of Music. Cash value: \$50.00.

American History Award. Established in 1949, this award is provided by the American National Bank of Beaumont and consists of a United States Government savings bond. The recipient is selected by the social sciences faculty.

C. W. Bingman Special Recognition Award. Established in 1957 by Mrs. C. W. Bingman in memory of her husband, a former president of Lamar, the award consists of a plaque and \$50 in cash and serves to recognize a student for outstanding achievement for which no other award is offered. Recipients are chosen by the faculty.

Chemical Engineering Awards. Each year the American Institute of Chemical Engineers recognizes the student who has maintained the highest scholastic average in his first two years of study with appropriate prizes. The Sabine Area Section of AIChE annually presents a \$250 award to a student who at the end of his junior year has demonstrated outstanding qualities academically, in leadership, in participation in activities and who has financial need.

Chemistry Award. The Texas-Louisiana Gulf Section of the American Chemical Society each year presents a \$200.00 award to the outstanding student in Chemistry, as selected by the faculty of that department.

Civil Engineering Award. The student chapter of the American Society of Civil Engineers each year presents a plaque to the outstanding student in the Department of Civil Engineering.

Delta Sigma Pi Award. The male graduate who earns the highest scholastic average in the School of Business Administration each year is presented with a gold key by the Delta Eta Chapter of the international fraternity of Delta Sigma Pi.

Eleanor Annual Poetry Award. This award, established in 1951, is a cash prize of \$50 presented annually by Mrs. Eleanor Weinbaum to the Lamar student writing the best original poem of twenty lines. Winners are selected by judges appointed by the head of the English Department; the award is announced on Poetry Day in Texas and is presented on Lamar Honors Day.

John E. Gray Award. This award is a trophy presented each year by Dr. John E. Gray, former president of Lamar, to the graduating letterman having the highest scholastic average.

Mechanical Engineering Award. This cash award of \$100 memorializes the late Ernest H. Holdredge, head of the Department of Mechanical Engineering until his death. Recipients are chosen by a joint committee of the Lamar Society of Mechanical Engineers and the area chapter of the American Society of Mechanical Engineers from candidates proposed by the mechanical engineering faculty. Scholarship, leadership and need are considerations.

Ida Caldwell McFaddin Citizenship Award. Originated by Mrs. Caldwell McFaddin and perpetuated by her family, this award recognizes that student who has made the most outstanding contributions in campus citizenship. Recipients are selected by the faculty.

Nena Morris Memorial Awards. Three prizes, valued at \$25, \$15, and \$10, are given students ranking highest in oral and written Spanish examinations held each spring by the Pan-American Round Table of Beaumont. Purpose of the contest, open to any undergraduate student of Lamar whose preparatory college work has been done in the United States, is to increase interest in reading, writing, and speaking Spanish. A minimum of ten entries is required to assure a contest.

L. R. Pietzsch Memorial Engineering Award. Established in 1954 by the Pietzsch family, this annual award has a cash value of \$50. It is given in memory of L. R. Pietzsch, the first president of Lamar. The recipient is selected by the faculty of the School of Engineering on the basis of scholarship and citizenship.

Student Council Award. This award is presented annually to that member of the Student Council who in the opinion of his fellow Council members has made the most significant contributions to the Council. It carries a cash stipend.

Weed Award. Established by the Weed Family, these awards have a cash value of \$50 divided into two awards of \$15 each and two awards of \$10 each. They are presented to the winners in a speech contest and in an essay contest on subjects bearing on American government and good citizenship.

LOAN FUNDS AND SCHOLARSHIPS

Financial assistance in the form of loans and scholarships is available for a limited number of students. Details may be obtained from the "Bulletin of Scholarships and Loans" which can be obtained on request to the Dean of Student Life, Lamar State College, Beaumont, Texas.

A number of service and professional organizations make loans available to Lamar students. In addition, many students finance their education through commercial loan organizations. Information on these outside loan sources, as well as funds administered by the College and described below, may be obtained from the Dean of Student Life.

The Lamar Tech Emergency Loan Fund provides short-term assistance to students who have attended Lamar one semester or more and who have a minimum of 1.0 grade point average. Loans must be repaid prior to graduation. Loans of over \$50 require a co-signer. No student may borrow more than \$150 at any one time, no more than \$200 in any one semester, and no more than \$500 during his enrollment at Lamar. A 50c service charge is made on all loans, or interest is charged at 4 per cent per annum (whichever is greatest.)

The Lula M. Long Loan Fund is provided to assist students to continue their work at the college when, without financial assistance, they would be compelled to withdraw. Any full-time student who has completed one semester of work with at least a "C" average is eligible to apply for a loan.

The Lamar Emergency Loan Funds for Girls has been established by the American Association of University Women, Beaumont Chapter. This fund is designed to aid women students of Lamar in the event of financial emergency.

The Eunice Merkel Loan Fund is available for full time students who have completed one semester at Lamar with a grade point average of at least 1.0. Graduates of Orangefield High School and students who plan to

teach are given preference in the use of this fund. No interest is charged on short term emergency loans.

V. A. Kalichevsky Memorial Fund was established as a memorial to the late Dr. V. A. Kalichevsky from funds donated by the family and friends. Junior and senior engineering and chemistry students are eligible. Interest is charged at the rate of 4 per cent.

National Defense Student Loan Fund serves students whose academic background indicates superior capability or preparation in science, mathematics, engineering, modern foreign languages, or qualified students who desire to teach in the elementary or secondary schools. A student may borrow a sum not exceeding \$1,000 in one year or during his entire course in higher education a sum not exceeding \$5,000. A student may not borrow more than he actually needs.

The **Ex-Students Loan Fund** offers short-term loans for any purpose up to \$20 from funds provided by the Lamar Tech Ex-Students Association.

The **Tuition Loan Program** permits students who have attended Lamar one semester or more to borrow funds with which to pay tuition only, repayments to be scheduled after the student ceases to be a full-time student at Lamar. Loans may be made for \$75.00 for regular semesters and \$35 for summer terms. Eligibility is the same as for the Emergency Loan Fund. A folder describing this program can be obtained from the Dean of Student Life.

Jefferson County Medical Society Loan Fund. Lamar students majoring in pre-medicine, nursing, pharmacy, physical therapy and medical technology, and former students who complete pre-clinical training at Lamar in these fields, may be eligible for long-term low interest loans from a fund donated by the Jefferson County Medical Society. Information may be obtained from the Dean of Student Life.

United Student Aid Funds, Inc. Qualified students with one year of college completed may borrow up to \$1,000.00 per year from his hometown bank on approval of the College through this special program. Normal interest rates are six per cent with repayment scheduled after graduation. Application forms and specific information may be obtained from the Dean of Student Life.

The **Beaumont Y.B.M.L. Loan Fund**, established by a gift of \$5,000.00 by the Young Men's Business League, offers assistance to students who can qualify under terms of the Emergency Fund described previously.

Scholarships

In addition to the scholarships and loans provided by individuals and groups to assist Lamar students, the following assistance for special groups is also available.

Valedictorians

Each valedictorian from an affiliated high school of Texas is entitled to an exemption from payment of tuition for one year provided the student enters Lamar in the succeeding year after graduation. This scholarship is valued at \$50.00 per semester or \$100.00 for the year (2 semesters).

At registration each valedictorian should have in hand a signed statement from his principal or superintendent certifying to his academic rank at graduation.

Students with Physical Handicaps: (Vocational Rehabilitation)

The State Board for Vocational Education through the Vocational Rehabilitation Division, offers assistance on tuition to students who have certain physical disabilities, provided the vocational objective selected by the disabled person has been approved by a representative of the Division. Application for Vocational Rehabilitation assistance should be made to the nearest rehabilitation office or to the Director of Vocational Rehabilitation, 303 Walton Building, Austin, Texas. The Beaumont office is located at 564 First Federal Savings Building.

ACADEMIC REGULATIONS**Course Numbering**

Semesters of a course are numbered separately, and each number contains three or more figures. The first digit indicates the rank of the course: 1 means that it is for freshmen; 2, for sophomores; 3, for juniors; 4, for seniors; and 5, for graduates. The second figure indicates the number of semester hours credit. The third figure (or figures) indicates the order in which the course is taken. The letter a, b, c, or d following course numbers indicates partial credit in each case; full credit for such numbered courses will be granted only when the series is complete.

Applied music courses are numbered so that the second number indicates both semester hour credit and number of private lessons each week.

Semester Hour

The unit of measure for credit purposes is the semester hour which means one hour of recitation (or equivalent in laboratory work) each week for one semester. For each classroom hour, two hours of study are expected. Three hours of laboratory work are counted equivalent to one classroom hour. For laboratory work which requires reports to be written outside of class, two clock hours are usually counted as one semester hour.

Course

The unit of measure for instructional purposes is the course. Most courses meet three hours each week and have a credit value of 3 semester hours for one semester, or 6 semester hours for two semesters. Unless otherwise stated a course means 3 semester hours.

Registration Procedure

See "How to Enter" directions listed in the front section of this catalog and "Admission Requirements" listed elsewhere.

Students who expect to attend under some veteran's benefit plan should secure a certificate of eligibility from the Veterans' Administration before registration. The local office of the Veterans' Administration or the Director of Veterans' Education at Lamar will assist in securing this certification.

Registration is not complete until all tuition and fees have been paid and all necessary transcripts are on file in the Admissions Office.

No one may register after the last date for registration for credit as shown on the official calendar.

Admission to Class

The only way to become a member of a class is to register for it through the regular registration procedure.

Grading System

A—Excellent	D—Poor (passing)	W—Withdrawn
B—Good	F—Failure	Q—Course was dropped
C—Fair	I—Incomplete	

The grade of **W** or **Q** is given if the withdrawal or drop is made before the penalty date (see Dropping Course) or if the student is passing at the time of withdrawal or drop.

The grade of **I** is given when any requirement of the course, including the final examination, is not completed.

If a student is absent from the final examination and is not passing, the instructor may record the grade of **F** if he so desires.

Semester grades are filed with the Registrar. No grade may be recorded for a student not regularly enrolled in a course during the semester covered. No grade may be corrected or changed without the written authorization of the instructor concerned, except as indicated below. The written instruction for a grade change should be accompanied by a statement explaining the reason for the change.

Incomplete work must be made up the next succeeding semester after the grade of **I** is recorded. Unless a grade has been made up within the time limit indicated, or permission has been granted by the Vice-President of Academic Affairs to postpone the make-up, the Registrar is authorized to change the **I** grade to a grade of **F** and the course must be repeated in its entirety if credit for the work is desired.

Repetition of a Course

If a student repeats a course, his official grade is the last one made.

Grade Points

For the purpose of computing grade averages, grade points are assigned as follows: To the grade A, 3 points; to B, 2 points; to C, 1 point; to D and F, 0 points. A student's grade-point average is obtained by multiplying the number of semester hours credit of each grade by the grade points assigned to the grade and dividing the sum of these by the total number of semester hours of all work taken, whether passed or failed.

Reports

Reports on grades are mailed at the end of each semester or summer term. Mid-semester reports on students doing unsatisfactory work are sent just following the middle of the semester. Upon written request to the Registrar, students who are over 21, married, or veterans may have grades sent directly to them.

Honor List

At the end of each semester the Registrar prepares a list of all full time students who have no grades below B. This list is known as the Dean's List and is announced by the Vice-President of Academic Affairs.

Course Load

Entering students may carry a load of 15 semester hours or the amount regularly scheduled for the first semester of the program being followed. Students entering on probation may not carry more than 13 semester hours.

Overloads

The academic dean of the school concerned must approve all overloads. Overloads may be approved when: The regular degree program requires more than 15 semester hours of work or the student in the preceding semester has earned sufficient grade points to justify the overload. In general students who earn 18 grade points may enroll for 18 hours; 19 grade points, 19 hours; 36 grade points, 20 hours; 45 grade points, 21 semester hours.

What constitutes an overload for students working part or full time will depend upon the work schedule of the student requesting permission for an overload as well as his academic record of the preceeding semester.

Maximum Course Loads

1. Full-time students—no student will be allowed to enroll for more than 21 semester hours regardless of the number of grade points earned the preceding semester.
2. Part-time students—for students employed less than 40 hours each week, the maximum study load that may be approved is 14 semes-

ter hours; for those employed 40 or more hours each week, the maximum is 9 semester hours.

3. Students on Probation—full-time students on probation may not enroll for more than 13 semester hours. For students who are working, the maximum is 9 semester hours if employed part time and 6 semester hours if employed for 40 hours or more each week.
4. Summer session—The maximum course load for the summer session is 14 semester hours or 8 semester hours for one term.

Postponed Examinations

Arrangements for taking postponed examinations and examinations for removing conditions are made with the department head concerned. Such arrangements should be made at least forty-eight hours ahead of time for the examinations.

Early Examinations

Final examinations may not be given to a student except as regularly scheduled. For good reason a final examination may be postponed. Apply to the dean of the school concerned for permission.

Absences

Regularly and punctual attendance in classes and laboratories is required of all students. An absence is classified as approved or unapproved. A student having an approved absence may make up examinations, written assignments, reports, etc., without penalty. This privilege is not extended to those having unapproved absences.

For college-sponsored activities, the sponsor, coach, instructor, or supervisor submits to the Vice-President of Academic Affairs a list of participating students, and an absentee permit is published by his office. Such absences then become approved.

Students absent because of personal reasons, sickness, etc., are to report such absences to all instructors concerned. These instructors may accept the offered reason or may require the student to report to the Dean of Women or the Dean of Men for an official classification of the absence. If the absence is classified as approved, the student will receive an approved absence permit from the office of the Dean.

Students who are absent for two or more consecutive class meetings must report to the Dean of Women or Dean of Men for an approved absence permit.

Students accumulating excessive unapproved absences may be placed on disciplinary probation by the Dean of Women or the Dean of Men or be dropped from class and given the grade of F by the academic dean responsible for the course in question.

For each absence more than the number of weekly meetings of the class or laboratory (long semester) the instructor may lower the student's grade by 5 points.

Transfer from One Department to Another

Transfers must have the approval of the department heads concerned. The Registrar must be notified, and transfer should be arranged prior to the semester in which the transfer will take effect.

Transfer Students

See "Admission by Transfer from Another College" under "Admission Requirements."

Excess grade points transferred from another college cannot be used to make up a deficiency of grade points on work done at Lamar.

Changing Schedules

No course may be added, changed or dropped without the permission of the department head of the student's major field. Usually a course may not be added after the first week of the semester (first two days of summer session). Likewise, section changes may not be made after a like period unless the change involves one instructor only. See college calendar.

Dropping Course

A student may drop a course without penalty during the first six weeks (three weeks of the summer session) of the semester.

For drops after this penalty free period, grades are recorded as Q or F indicating that the student was passing or failing at the time of the drop.

A student may not drop a course within three days of the beginning of the final examination week.

Withdrawals

A student wishing to withdraw for the remainder of a semester, or summer term, should fill out a Withdrawal Petition in triplicate in the office of his academic dean. He must clear all financial obligations, and return all uniforms, books, laboratory equipment and other materials to the point of original issue.

Three copies of the withdrawal form signed by the academic dean, the Librarian, and the Dean of Women or Dean of Men are presented to the Registrar by the student.

On application before the end of the semester or summer session the comptroller will return such fees as are returnable according to the sched-

ule shown under the "Fees" section of the catalog bulletin. This refund is made only to persons withdrawing and if requested before the end of the current semester or summer session.

If a withdrawal is made before the end of the first six weeks (three weeks of summer term) or if the student is passing at the time of withdrawal, a grade of W is issued for each course so affected. A grade of F is issued for all courses not being passed at time of withdrawal after this penalty free period.

A student may not withdraw within three days of the beginning of final exam week.

A student who leaves without an official withdrawal will receive a grade of "F" in all courses and forfeit all returnable fees.

Enforced Withdrawal Due to Illness

The Director of the Health Center and the Dean of Student Life on the advice of competent medical personnel may require withdrawal or deny admission of a student for health reasons (mental or physical).

English Requirement

A full-time student (one taking 12 or more semester hours) must be registered for English 131, 132, 133, or 135, unless credit has been received. (Does not apply during summer terms.)

A student's use of English is subject to review prior to graduation. If found unsatisfactory, additional course work may be prescribed.

Physical Activity Course Requirement

All students must be registered for physical activity until they complete four semesters except as follows:

1. Those who are not able to participate in a regular or modified activity course because of physical handicaps (must have written exemption from college physician).
2. Those who choose active participation in the band for four fall semesters.
3. Students who are 25 years of age or over at the time of initial matriculation at their option may be exempted from this requirement.

Students exempted from the physical education requirement must submit elective hours approved by their major department in lieu of the requirement.

Bible Courses

A student may take as much as three semester hours of Bible study

each semester for a total of two semesters. This total may be raised to four semesters with the approval of the student's counselor if the field of study warrants such elective choice.

Advanced Standing Examinations

Advanced standing examinations are intended only for those students who have had the equivalent, in formal or informal training, of the work being presented in the course in question. College credit may be granted for those who pass advanced standing examinations with a grade of B or better.

To secure permission for such examinations, a student must obtain the written permission of the Vice-President of Academic Affairs, the department head responsible for the course, and the Comptroller of the College.

A fee of \$5.00 must be paid to the Business Office.

A student having received a grade (passing or failing) in a course may not take an advanced standing examination in such course.

Advanced standing examinations will not be approved for skill courses.

DEGREE REQUIREMENTS

Bachelor Degree—General

1. Remove all admission conditions.
2. Have the following minimums:
 - (1) 30 semester hours in residence at Lamar. Twenty-four semester hours of this minimum must be earned during the senior year, except for the special degree programs which apply to biology, law, and medical technology.
 - (2) A grade-point average of at least 1.0 on all courses in the major field and on all courses used for graduation. See "Transfer Student." Each registration in a course so used, whether passed or failed, will be counted in the grade-point calculation.
 - (3) A major of 24 semester hours, 12 of which must be in advanced courses.
 - (4) 12 semester hours (4 semesters) in mathematics or laboratory science (two different sciences) or 6 semester hours (2 semesters) of each.
 - (5) 6 semester hours in Government (231-232).
 - (6) 6 semester hours in United States History (231-232).
 - (7) 12 semester hours in English. See "English Requirements." Foreign students may choose English 233-234 or 331-332.

- (8) 4 semester hours of physical activity or marching band credit. (4 semesters.)
- (9) 30 semester hours in courses on the 300 and 400 level.
- (10) 122 semester hours exclusive of required physical education, band, orchestra, and chorus.
- (11) 60 semester hours selected from the following with no more than 12 semester hours (18 in English) in any one listed.
 - a. English, foreign language, music (not applied), speech, art (not applied).
 - b. Biology, chemistry, geology, physics, mathematics.
 - c. Economics, government, history, psychology, anthropology, sociology, philosophy, geography.
3. Complete the program of study as listed in the catalog.
4. No more than a total of 30 semester hours of correspondence and extension credit may be applied toward baccalaureate degree. (Eighteen semester hours is the maximum for correspondence work only.)
5. Make final application for graduation as required and pay the designated fee.
6. Attend the official graduation exercises or receive prior approval from the Vice-President of Academic Affairs for graduating in absentia.

If another baccalaureate degree is taken simultaneously or has been taken previously, here or elsewhere, the second baccalaureate degree may be granted upon the completion of all the required work of the second degree, and a total of 30 semester hours above the number required for the degree having the greater semester hour requirement.

Bachelor of Arts degree

1. Meet the basic requirements of all degree programs.
2. Have the following minimums:
 - (1) Completion of the course numbered 232 in a foreign language.
 - (2) 12 semester hours in social science.
 - (3) A minor of 18 semester hours, 6 of which must be in advanced courses.

Bachelor of Science degree

1. Meet the basic requirements of all degree programs.
2. 3 hours of speech may be substituted for 3 hours of English literature.

3. 124 semester hours, exclusive of required physical education, band, orchestra, and chorus.

The specific programs of study are listed in the departments concerned.

Bachelor of Business Administration degree

1. Meet the basic requirements of all degree programs.
2. Meet the specific requirements of the selected program of study as listed in the department concerned.
3. Complete 128 semester hours exclusive of required physical education, band, orchestra, and chorus.

Master Degree—General

1. Meet the requirements for admission to the Graduate School.
2. Meet the residence requirement of two semesters or equivalent in summer sessions.
3. Complete all work in six years.
4. Have all grades of "B" or better.
5. Work transferred may not exceed six semester hours.
6. No extension work may be applied toward a graduate degree.
7. Meet all general and specific degree requirements as listed in the Bulletin of the Graduate School.

Special Degree Programs

Law: In the preparation for the study of law, there are two plans. Under either plan the student completes three years of work at Lamar and one year at an accredited law school. Both plans have been approved by one or more recognized law schools of Texas.

Under Plan I a student may receive the Bachelor of Business Administration degree, while under Plan II the Bachelor of Arts or Bachelor of Science degree is granted.

Plan I:

Complete the program for the Bachelor of Business Administration degree as outlined in the program of study shown in the School of Business section of this catalog.

Plan II:

Complete 94 semester hours of the basic requirements for the Bachelor of Arts or Bachelor of Science degrees as shown under the Department of Government in this catalog.

Biology: A student may receive the degree of Bachelor of Science—biology major—after completion of one year in an approved college of dentistry or medicine.

The following minimums are required:

1. Complete 96 semester hours of the basic requirements for the Bachelor of Science degree. This includes all the required minimums except the total of 124 semester hours.
2. Complete at least 30 semester hours in an approved college of dentistry or medicine.
3. Apply for the degree by February 15 preceding the June graduation program.

ACADEMIC PROGRESS

Students are expected to make acceptable scholastic progress toward their degree objective. Students who fail to make such progress and accumulate grade point deficiencies may be placed on scholastic probation or suspension.

I. Scholastic Probation

At the beginning of each long semester, all students who have accumulated a grade point deficiency of more than 15 grade points (on all work taken) shall be placed on probation.

II. Scholastic Suspension

At the end of each long semester, all students on scholastic probation who have not reduced their grade point deficiency below the maximum allowable of 15 negative grade points shall be suspended.

III. Terms of Scholastic Suspension

1. First Suspension—one long semester.
2. Second Suspension—two long semesters.
3. Third Suspension—four long semesters and re-admission only with special permission of the Vice-President of Academic Affairs.

IV. Removal of Scholastic Probation and Suspension

A student may be removed from scholastic probation by reducing his grade point deficiency below the maximum allowable of 15 negative grade points. Students on suspension must remain out of college the required length of time.

Other Regulations—Scholastic Probation and Suspension

1. Students on scholastic probation cannot:
 - a. Be absent from classes except in cases of serious emergency approved by his academic dean.
 - b. Represent the College in any extracurricular activity.
 - c. Hold collegiate office.
 - d. Participate in trips or tours except required as class projects.
 - e. Participate in any major dramatic or musical production.
 - f. Carry a study load exceeding 13 semester hours.
2. Students returning from scholastic suspension will be admitted on scholastic probation.
3. A student who withdraws while on scholastic probation is considered to have failed to meet the minimum requirements for removal from probation and is thereby suspended.
4. Students on scholastic probation or suspension may attend summer school. The summer session is a penalty-free period.
5. Warning—Each student is responsible for knowing his academic status and the regulations which apply. A student who does not abide by the regulations governing his particular status may be required to reduce his academic load or withdraw from the College without special consideration.

GRADUATION**Application for Graduation**

Applications for graduation must be on file with the Registrar not later than December 1, March 1, or June 15 for the following January, June, or August dates respectively.

Before final approval of these applications, the following supplementary materials must be submitted:

1. Statements showing reasonable expectation of completion of degree requirements by graduation time.
2. Transcript showing grade-point average of at least 1.0 on all courses taken and applied to meet degree requirements. A course is counted each time taken whether failed or passed.
3. Receipt showing payment of cap and gown and diploma fees.
4. Clearance of all financial and property matters to date.
5. Approval of the department sponsoring the student.

The application of a student lacking a grade-point average of 1.0, either overall or in his major field, will be removed from the graduation list at the beginning of the semester.

If a student under such conditions does complete all degree requirements, he may apply for a statement of such completion and appear for the next graduation date.

The student is responsible for making the application, for securing official advisement about study plans for the last two semesters, and for checking compliance with all degree requirements with the Registrar.

Graduation Under a Particular Catalog

A student may complete his work for graduation according to the requirements of the catalog of the year in which he enters or graduates, or that of any intervening catalog. The catalog selected is subject to the approval of the department head concerned.

The catalog year shall be considered as beginning with the long session in September. Students entering for the first time in the summer session are subject to the catalog for the long session immediately following.

Failure to complete the requirements for graduation within seven years after the entering date will require the student to graduate under the regulations effective for the current graduating class.

The College reserves the right to make effective, during the course of a student's work toward graduation, any new ruling which may be necessary for the general good of the College and to substitute courses offered for those no longer offered.

Graduation Honors

Members of the graduating class who have a grade-point average of 2.45 or above are classified as "honor graduates."

Within this classification, certain qualifying students may be designated as graduating with "highest honors," or "high honors."

A student must complete 60 or more semester hours at Lamar State College to be eligible for graduation with honors.

GENERAL REGULATIONS

Minimum Class Enrollment

The College reserves the right not to offer any courses listed in this Catalog unless there are at least twelve students who register for the course.

Credit Through Advanced Placement

Entering freshmen who wish to receive credit for college-level work completed while in high school may do so by submitting scores on the

College Entrance Examination Board's Advanced Placement Tests. For scores required and credit so given, see Admissions sections of this Catalog.

Secondary school graduates who have participated in accelerated programs in high school are encouraged to take the College Entrance Examination Board's Achievement Test in the accelerated subject matter area. Acceptable scores will allow such students to enter advanced courses in the tested area; and they may, through successfully completing such advanced course work, receive credit for prerequisite work as allowed by listed departments. For particulars of this program, see Admissions section of this Catalog.

Interested students may request information from the Vice-President of Academic Affairs.

New Courses

In order to meet changing educational requirements, the College reserves the right to add any needed courses at any time without regard to the listing of such courses in the catalog. It is expected that a listing of these courses will appear in the next catalog issue.

The right to change numbers in order to indicate changes in semester hours credit is also reserved for the reasons above. Elsewhere in this catalog under "Course Numbering" is a further explanation of this policy.

Classification of Students

Students are classified as freshmen, sophomores, juniors, seniors, and special. For the purpose of determining eligibility to hold certain offices and for other reasons, regularly enrolled students are classified as follows:

Freshman: Has met all entrance requirements but has completed fewer than thirty semester hours.

Sophomore: Has completed a minimum of thirty semester hours with thirty grade points.

Junior: Has completed a minimum of sixty semester hours with sixty grade points.

Senior: Has completed a minimum of ninety semester hours with ninety grade points.

Special Student: Must meet all entrance requirements.

Full-Time Student: A student taking twelve or more semester hours (four or more in a summer term) is classified as a full-time student.

Assembly

Attendance at assemblies is expected of all students.

Change of Address

Students are not permitted to move during a semester without the prior permission of the Dean of Women or the Dean of Men. Students

maintaining households of their own and those living with parents or guardians are exceptions to this rule.

Any student who moves during a semester must immediately register his change of address in the office of the Dean of Student Life and in the office of the Registrar. He is responsible for all communications addressed to him at the address on file in these offices.

Eligibility for Extracurricular Activities

An extracurricular activity is understood to be any activity representing the student body, any student organization, any department or division organization or any general activity representing the College.

Any full-time student not on disciplinary or scholastic probation who is regularly registered is eligible to become a candidate or to hold student office or to represent the College in any extracurricular activity provided such student has a grade-point average of at least 1.0 for both the total of his college work completed at Lamar and that of the preceding semester.

For the purpose of establishing eligibility, two six-week summer terms may count as one semester.

Transfer students have the same eligibility as freshman students until completion of one semester at Lamar.

Eligibility for Intercollegiate Activities

A high school graduate who has been admitted as a regular student and who is registered for a minimum of twelve semester hours is eligible for intercollegiate athletics in the Southland Conference of which Lamar is a member.

For additional details on eligibility for intercollegiate athletics, the student is directed to make inquiry of the director of athletics or of the Conference faculty representative.

Telephone Service

Public telephone pay stations have been installed in the Liberal Arts, Engineering, Home Economics, Library, Union, and Vocation Buildings. Students are expected to use these telephones for their personal calls. Office telephones are for the use of faculty and administrative personnel only. Incoming telephone calls for students are transmitted to the students only in cases of emergency.

Student Debts

The College is not responsible for debts contracted by individual students or student organizations and will not act as a collection agency for organizations, firms, or individuals to whom students may owe bills.

Students and student organizations are expected to honor contractual obligations promptly, but in case of flagrant disregard of such obligations

the Dean of Men (Women) will take appropriate action depending on age or marital status of the student concerned.

Penalty for failure to clear up these obligations may be: a) No re-admission; b) Withholding of grades and transcript; c) Withholding of degree.

Hazing

Lamar State College of Technology is opposed to hazing in all of its various forms and will discipline all offenders in the spirit of statutes governing this offense, as set forth in Chapter 4-A of Title 15 of Vernon's Statutes in the State of Texas.

Parking Regulations

At registration time each student who pays the necessary fee is issued a car sticker which permits parking on the campus. This sticker is numbered and is to be placed in a specific place on the back window of the car.

Penalty for False Statements

A student who makes a false statement to any college official or on an official form submitted to the College is subject to immediate dismissal.

Official Summons

An official summons from any administrative office takes precedence over all other college activities of the student and should be answered promptly on the day and hour designated. Failure to heed this official summons may subject the student to serious disciplinary action.

Discipline

It is assumed that any student eligible for admission to the college is familiar enough with the acceptable rules of conduct for ladies and gentlemen to need no definite discipline regulations. The College reserves the right to place on disciplinary probation or to dismiss any student at any time for sufficient cause.

Any activity sponsored by any group of Lamar students recognized as such must conform to behavior requirements of the College. The officers of the particular group are held responsible for the behavior of the participants in the sponsored activity. Failure to maintain this standard of behavior may subject the group to suspension of all social activities for as much as one long semester.

Possession or use of alcoholic liquors on the campus is forbidden by law and the guilty student is subject to immediate dismissal as well as criminal prosecution. Possession or use of such liquors at any college sponsored function is classified as unacceptable behavior.

Disciplinary Probation

A student may be placed on disciplinary probation for unacceptable

behavior at any time or place. The Dean of Men or the Dean of Women may classify behavior as unacceptable and may set the period of probation. The student has the privilege of appealing the decision to the Disciplinary Committee of the College. This appeal is made through the office of the Dean of Student Life.

STUDENT ACTIVITIES

Student Government

All full time students are automatically members of the Student Association of Lamar State College of Technology. Officers of the association and representatives of the various schools and organizations are elected annually and make up the Association's executive body known as the Student Government. The Association offers the student an opportunity to promote and to participate in self government and to manage a well-rounded program of student activities.

Publications

The Redbird, the official college newspaper, is published regularly by a staff organized by the Director of College Information. The publication serves both as a medium of training and as a source of information. Any student is eligible to become a staff member.

The Cardinal is the official annual of Lamar State College. Any student is eligible to become a staff member. Those interested are urged to apply.

The Student Handbook is a handbook published primarily for the benefit of new students. Pertinent information concerning the College and student activities is given in this publication.

The Student Directory is published annually by the College. It contains a listing of the names, addresses, and telephone numbers of the student association, the faculty, and the administration.

Artist Series

The Artist Series Committee is made up of students and faculty. The committee annually arranges for the presentation of a number of programs by professional artists and entertainers. Outstanding personalities and companies which have been presented under the sponsorship of the committee include Bennet Cerf, William L. Laurence, Paul Draper, Albert Dekker, the General Platoff Don Cossack Chorus and Dancers, Sir John Gielgud, and Carlos Montoya.

The Student Union

The Student Union Building, completed in 1954 at a cost of \$300,000, provides facilities for recreation and leisure and is the campus center of extracurricular activities. The Student Life and Student Activities offices, lounges, two snack bars, the Student Government offices, and a large recreation center are located in this building. In 1961 an ultramodern bookstore was added to the Union Building at a cost of \$150,000.

Student Organizations

The 70 student organizations currently active on the campus offer students membership in one or more service, professional, religious, social, and mutual interest clubs.

Professional

Acappella Choir
American Chemical Society
American Institute of Chemical Engineers
American Institute of Industrial Engineers
American Institute of Physics
American Society of Civil Engineers
American Society of Mechanical Engineers
Association for Childhood Education
Beta Beta Beta
Chancery Club
Cardinal Theatre
Future Teachers of America
Geology Club
Home Economics Club
Institute of Electrical and Electronics Engineers
Lamar Tech Mathematics Club
Lamar Tech Student Literary Association
Marketing Association
Physical Education Professionals
Secretarial Science Club
Sociology Club
Society for the Advancement of Management
Society of Accountancy
Student Education Association
Texas Society of Professional Engineers
Young Democrats of Lamar Tech
Young Republicans of Lamar Tech

Religious

Baptist Student Union
Canterbury House
Church of Christ Bible Chair
Gamma Delta (Lutheran-Synodical Conference)
Newman Club
United Christian Fellowship

Service

Alpha Phi Omega
Circle K
Lambda Tau

Social**Sororities**

Alpha Chi Omega
Alpha Delta Pi
Delta Zeta
Gamma Phi Beta
Kappa Delta
Zeta Tau Alpha

Fraternities

Alpha Tau Omega
Delta Rho
Kappa Alpha Order
Pi Kappa Alpha
Sigma Chi
Sigma Nu
Sigma Phi Epsilon

Mutual Interest

Arab Student Organization
Chi Gamma Iota
Choir
International Club
Jewish Student Association of Lamar Tech
Lamar Tech Amateur Radio Club
Lamar Tech Shutterbugs
Women's Recreational Association

Honor Societies

Alpha Pi Epsilon—secretarial science
Alpha Pi Mu—industrial engineers
Alpha Psi Omega—fraternity for Curtain Club
Blue Key—senior and junior men's honor and service fraternity
Cap and Gown—senior women's honor society
Delta Omicron—women participants in music
Delta Psi Kappa—physical education sorority
Delta Sigma Pi—business and commerce fraternity
Eta Kappa Nu—electrical engineers
Freshmen Honor Society—freshmen with 2.5 average
Kappa Kappa Psi—fraternity for college bandmen
Kappa Pi—art fraternity for both men and women
Lamar Honor Fraternity for Civil Engineers
Phi Kappa Phi—All-campus honor society
Phi Mu Alpha Sinfonia—fraternity for men in music
Tau Beta Sigma—sorority for bandswomen

ADMISSIONS

Graduate School requirements are listed in the Graduate Bulletin. Applications should be submitted to the Dean of the Graduate School.

The vocational training program offered by the College is outlined in the Lamar School of Vocations Bulletin. Application is made to the Director of the School of Vocations.

Information related to admission to the undergraduate program of the College is listed in the following sections. Students seeking admission should study the requirements carefully and follow the procedure outlined for making application for admission. All required application forms are in the back of this bulletin. Requests for additional forms or admission information should be directed to the Dean of Admissions, Lamar State College of Technology, Beaumont, Texas.

General Requirements for Students Entering From High Schools

An applicant is required to have graduated from an accredited high school with the units of credit specified for enrollment in the school for which he is applying and to offer Scholastic Aptitude Test scores which meet the minimum requirement. The following sections give details of the minimum score requirement and list units of credit required for admission to the different Schools of the College.

Entrance Test Requirement

The Scholastic Aptitude Test (SAT) of the College Entrance Examination Board is required of applicants entering from high school unless graduation was prior to 1960. Test scores are one of several factors considered in determining the candidate's qualifications for admission.

The Scholastic Aptitude Test is administered by CEEB at test centers throughout the United States and in many foreign countries in December, January, March, May, and July. It is recommended that applicants take the test no later than the March date. The location of all test centers, test dates, fees, application forms, and general information about the test is given in the CEEB booklet, *Bulletin of Information—Scholastic Aptitude Test*. The bulletin may be obtained without charge from high school counselors, or by writing directly to the College Entrance Examination Board, Box 592, Princeton, New Jersey. A copy of the booklet should be secured EARLY so that a convenient test date and site can be selected. Application to take the test and test fees are sent to CEEB, not to this College.

Failure to take entrance tests in advance may seriously delay admission and registration.

Required SAT Score

Applicants are required to have a minimum combined (Verbal & Math) score of 700 on the SAT. High school records, training objectives, etc., are used to determine the conditions of admission, if any.

Applicants whose scores fall below the required 700 SAT score may be admitted on a trial basis to the summer session. Students so admitted are required to complete 12 semester hours (selected from English, history, mathematics, or science—must include English 131) and to earn 12 grade points during the trial summer session to be eligible for re-admission.

It is permissible for an applicant to retake the SAT and supply new scores for consideration.

Unit Requirement

Units required for admission to the Schools of Arts and Sciences, Business, Education, Fine and Applied Arts:

English ¹		4
Mathematics ²		2
Social Sciences	} 2 units from each of 2 of these {	} 4
Natural Sciences ³		
Foreign Language		
Electives ⁴		6
Total		16

Units required for admission to the School of Engineering:

English ¹	4
Mathematics	
Algebra	2
Plane Geometry	1
Trigonometry	½
Natural Sciences	
Chemistry	1
Physics	1
Social Sciences	2
Electives ⁴	4½
Total	16

Conditioned admission may be granted candidates who meet all other standards but have minor deficiencies in entrance units. The "condition" is removed upon the satisfactory completion of the first 30 hours of the curriculum in which he enrolls.

¹Only regular standard English units may be used to fulfill this requirement.

²At least one unit of algebra or plane geometry must be included.

³One unit of home economics or agriculture may be used in fulfilling this requirement; additional units of either are classified as vocational units.

⁴May not include more than 4 units in vocational courses with no allowance for drill subjects (physical education, military training, driver training, etc., and including band and chorus unless preceded by Music 1.) Courses classified as vocational include agriculture, home economics, business courses, drafting, shop, applied mathematics, etc.

Health Data Requirement

All students entering day classes for the first time must file a Health Data Form with the Dean of Admissions.

Social Security Number Required

The application for admission form calls for the applicant's Social Security Number. The number will be used as a permanent student number in machine processing of student records. Non-holders of Social Security cards should secure one so that the proper information can be entered on the application form.

How to Apply for Admission

1. Submit application for admission on the official form.

* Submit a completed Health Data Form properly executed by a physician. This requirement applies only to students entering day classes for the first time.

* 2. As soon as all high school work is completed, have the high school send Lamar State College a copy of the complete transcript certifying graduation.

* 3. Take the Scholastic Aptitude Test and have the scores sent to Lamar State College.

When to Apply

Application should be made well in advance of the proposed enrollment date—five or six months in advance if possible. Applicants who fail to have all required credentials on file by September first will be assigned to the last group of registrants.

* The application form should be submitted BEFORE transcripts are sent. Transcripts should be sent AFTER all high school work has been completed. Partial transcripts prior to graduation are not required. Students entering in February and in June often find that the interval between the completion of high school work and the beginning of a college semester is too short for the transcript to reach the College. (In such cases, temporary admission is granted which permits the student to register on a provisional basis pending the receipt of the transcript. eligible)

Advanced Placement

Two optional testing programs are offered to enable applicants to qualify for advanced standing and/or college credit.

1. Advanced Placement Examinations (Optional)

Applicants who wish to receive college credit for college-level work completed in high school may do so by submitting scores on the College Entrance Examination Board's Advanced Placement Exami-

Fill in All Blanks

nations. Examinations are given annually in May. Application is made directly to CEEB. Subject matter areas and the basis of granting credit is listed below.

Department	Required Score	Credit Granted
Chemistry	Score of 3 or above	Chemistry 141
English	Score of 5	Eng 131-132 (6 sem. hours)
	Score of 3 or 4	Eng 131 (Student receiving such credit must enroll in Eng 135 rather than Eng 132)
Foreign Language	Score of 4 or 5	Six semester hours of foreign language
	Score of 3	Three semester hours of foreign language
American History	Score of 3 or above	History 231-232
European History	Score of 3 or above	History 131-132
Biology	Score of 3 or above	Biology 141-142
Mathematics	Score of 3 or above	Math 138 (for engineering majors) Six semester hours of math (for non-engineering majors)
Physics	Score of 3 or above	Physics 141

2. Achievement Tests (Optional)

Students who have participated in accelerated programs in high school are encouraged to take the College Entrance Examination Board's Achievement Tests in the corresponding subject matter areas. The student may enter advanced courses provided the test results indicate he is qualified to do so. Minimum scores will be set by the College. Upon the completion of the advanced course with a grade of "C" or better, college credit is granted as indicated in the following table.

Achievement Tests are given on the regularly scheduled test dates in December, January, March, May, and July.

Application is made directly to CEEB.

Subject Matter Area	CEEB Test Required	Credit Granted
English	English Composition*	Eng. 131 if validated by completion of Eng. 135 with a grade of "C" or better.
Foreign Lang.	Spanish French German	Up to 6 semester hours if validated by completion of advanced course with grade of "C" or better.

Chemistry	Chemistry	Chm 141 if validated by completion of Chem 142 with a grade of "C" or better.
Mathematics	Level I	Mth 133-134 if validated by completion of Mth 138 with a grade of "C" or better.
Physics	Physics	Physics 141 if validated by completion of Physics 142 with a grade of "C" or better.

Acceptance Notices

Letters of acceptance are normally issued shortly after the required admission credentials are received. May graduates who are seeking fall enrollment usually receive notices in June. Lamar State College has no student quota. All applicants who meet entrance requirements are accepted.

Due to the number of applicants, it is not practical for the admissions office to acknowledge the receipt of test scores, applications etc. Failure to receive communications prior to the time acceptances are normally issued should not be interpreted as meaning that admission will be denied. Candidates not meeting admission requirements will be notified immediately.

Requirements of Students Entering From Other Colleges

Part Time ^{Hours or Regular} Transfer students are required to be eligible to re-enter the last college attended and to have passed a minimum of 9 hours with 9 grade points (3-2-1-0 basis) the last semester of attendance or to have remained out of college one regular semester. Applicants who are deficient more than 15 grade points on all work attempted will not be accepted.

Entrance examination scores must be submitted if less than 30 hours of college work has been completed. Scholastic Aptitude Test scores are preferred but the College will accept a satisfactory score on a standard test administered in the freshman testing program of any accredited college. The college reserves the right to require tests of any student if it appears that scores would be beneficial in determining admission or for counseling purposes.

*Required of all students who wish to meet the Freshman English requirement by taking Eng 135—Rhetoric and Composition instead of Eng 131, 132—Rhetoric and Composition.

**Required of all students who wish to register for both Mth 138 and Mth 139 without having previously received college credit for algebra and trigonometry.

Transfer of Credit

With the exception of "D" hours in freshman English, a student transferring from an accredited institution will be allowed as many hours as he has grade points (3-2-1-0 basis). Work accepted from an institution which is not accredited by its regional association is subject to validation by satisfactory work at Lamar State College.

Grades from other institutions are recorded as received. No grade is changed.

How to Apply for Admission

The following procedure should be followed in making application for admission.* All credentials should be sent to the Dean of Admissions, Lamar State College, Beaumont, Texas.

- Follow
the
steps*
1. Submit application for admission on the official form.
 2. Submit the Health Data Form properly executed by a physician. This requirement applies to students entering day classes for the first time.
 3. Submit transcripts from each college previously attended. This requirement applies regardless of the length of time in attendance and regardless of whether credit was earned or is desired.
 4. If entrance examination scores are required, take the prescribed entrance tests and/or have a record of test scores sent to the Admissions Office.

When to Apply

Application should be made well in advance of the proposed enrollment date—two or three months in advance if possible.

The application form should be submitted before transcripts are sent. Transcripts should normally be sent after all work to be transferred is completed. If the time interval between the end of a semester elsewhere and the beginning of a subsequent semester at this college is too short for the transcript to be submitted prior to registration, a temporary admission may be granted. Students on temporary admission who are subsequently found to be ineligible for admission will be withdrawn from College.

In some cases, questions regarding transfer need to be clarified while work is still in progress at another institution and can only be resolved by

*Students in attendance at another college who wish to do summer work only at Lamar State College may be admitted as transient students. A student applying for admission under this classification is required to: (1) submit the regular application for admission and (2) submit a Letter of Standing from his college. Transient students who later apply for regular admission must meet all entrance requirements and supply all required admission credentials.

the evaluation of a partial transcript. Under these circumstances, the partial transcript should be submitted and a supplementary transcript furnished at the end of the semester.

Admission by Individual Approval

A non-high school graduate who is 21 years of age or older may apply for admission as an individual approval student. Applicants must furnish evidence of preparation substantially equivalent to that required of other applicants, and of aptitude and seriousness of purpose to successfully pursue a college course of study. Personal interviews are required and applicants must submit CEEB scores on the Scholastic Aptitude Test. Arrangements for interviews should be made with the Dean of Admissions several months prior to the proposed date of registration.

Admission of Students From Other Countries

Physical facilities limit the number of students that can be accepted from other countries, but a small number of admissions is granted every year and applications are welcomed. Approximately 60 students from 20 different countries are currently enrolled.

Applicants are required to have completed secondary schools with above average marks and to have been issued appropriate college entrance certificates, to be proficient in written and spoken English, to have adequate financial resources and to be in good physical condition. Candidates for admission are required to take the Scholastic Aptitude Test of the College Entrance Examination Board. If the applicant's native language is one other than English, the Department of State's English language examination must also be taken. The English Usage Test is given by American Consuls and The Scholastic Aptitude Test is given several times a year at test centers throughout the world. Details and special application forms may be secured by writing to the Dean of Admissions.

Readmission of Former Students

APD 02-12
A former student who has attended another college is required to submit a complete record of all work done subsequent to the last date of attendance at Lamar State College and to meet the quality requirements outlined for other transfer students. *(Last 2 para. of page 64)*

FEEES AND EXPENSES

Payment of Fees

Lamar State College of Technology reserves the right to change fees in keeping with acts of the Texas Legislature.

A student is not registered until all his fees are paid in full. Payment may be made by check, money order, or currency. Checks and money orders, not in excess of total fees, should be made payable to Lamar State College of Technology and will be accepted subject to final payment.

Fees Summary

Resident Students (Texas)

Semester Hours	Tuition	S.S. Fee	Bldg. Use Fee	Total + Laboratory Fees
12 or more	\$50.00	\$20.00	\$12.00	\$82.00 + Lab fee
11	47.00	20.00	12.00	79.00 " " "
10	43.00	20.00	12.00	75.00 " " "
9	39.00	20.00	12.00	71.00 " " "
8	35.00	20.00	12.00	67.00 " " "
7	31.00	7.00	6.00	44.00 " " "
6	27.00	7.00	6.00	40.00 " " "
5	23.00	7.00	6.00	36.00 " " "
4	19.00	7.00	6.00	32.00 " " "
3 or less	15.00	7.00	6.00	28.00 " " "

Non-Resident Student (out of Texas)

Semester Hours	Tuition	S.S. Fee	Bldg. Use Fee	Total + Laboratory Fees
12 or more	\$200.00	\$20.00	\$12.00	\$232.00 + Lab fee
11	183.00	20.00	12.00	215.00 " " "
10	167.00	20.00	12.00	199.00 " " "
9	150.00	20.00	12.00	182.00 " " "
8	133.00	20.00	12.00	165.00 " " "
7	117.00	7.00	6.00	130.00 " " "
6	100.00	7.00	6.00	113.00 " " "
5	83.00	7.00	6.00	96.00 " " "
4	66.00	7.00	6.00	79.00 " " "
3 or less	50.00	7.00	6.00	63.00 " " "

For summer session students the student service fee is \$5.00 per term.

These fees have been approved by appropriate acts of the Legislature of the State of Texas.

Student Responsibility for Residence Classification

The responsibility of registering under the proper residence classification is that of the student, and if there is any possible question of his right to classification as a resident of Texas, it is his obligation, prior to or at the time of his registration, to raise the question with the Dean of Admissions and have his status officially determined.

Every student who is classified as a resident student but who becomes a non-resident at any time by virtue of a change of legal residence by his own action or by the person controlling his domicile is required to notify the Dean of Admissions.

Students failing to comply with the residency provisions of the state tuition bill (Art. 2645c V.C.S. as amended 1957) are subject to penalties as set forth in the law and/or appropriate disciplinary action.

Property Deposit

Any student taking one or more courses is required by law to put up a \$7.00 property deposit. This deposit, less any charges, is returnable when the student leaves the College and must be maintained at this level. Students who have not attended classes for four years, and have not filed for a return of their deposit, forfeit this deposit.

Private Lessons in Voice and Instrumental Music

One half-hour lesson per week	\$18.00
Two half-hour lessons per week	36.00

Laboratory Fees

For all courses in which the combined credit of lecture and laboratory is from 1 to 3 semester hours, a laboratory fee of \$2.00 is charged for each semester. For such courses in which the credit is 4 semester hours or more, the laboratory fee is \$4.00 per semester.

Parking Fee

Charges for campus parking for the entire school year will be made at the beginning of the semester in which you enroll.

Semester Hours	Fall	Spring	1st Summer	2nd Summer
8 or more	\$6.00	\$4.00	\$2.00	\$1.00
7 or less	3.00	2.00	1.00	1.00

Only one registration required for one school year.

Returned Check Fees

If a check is returned unpaid, the student is automatically suspended from college, but may re-enter upon redemption of the check plus payment of the return check fee of \$2.00.

Special Fees

Fees for courses for which special plans must be prepared and for which specialists must be secured as instructors will be set for each such course by the college administration subject to the approval of the president.

Miscellaneous Fees

Certificate of Completion	\$4.00
Bachelor's Diploma	6.50
Cap and Gown Rental	6.50
Late Registration	2.00
Returned Checks	2.00
Re-entry Fee	5.00
Transcript Fee	1.00
Advanced Standing Examination	5.00 per course

Health and Accident Insurance

Additional health and accident coverage providing protection over and beyond that given by the health center is available at registration for students carrying 9 or more semester hours. The fee is \$13.00 (estimated). For their protection and welfare this (or similar) insurance is required of all foreign students.

Exemption 1: Scholarships to High School Honor Graduates

The highest ranking student in the graduating class of a fully affiliated Texas high school will be entitled to a scholarship valued at \$100.00. This scholarship must be utilized during the long session immediately following graduation.

Exemption 2: Ex-Service Men of World War I or World War II

Men and women who are citizens of Texas who served in the Armed Forces in World War I or World War II and were honorably discharged therefrom and who are not eligible for educational benefits provided for veterans of the United States Government, are exempt from tuition and laboratory fees, but not from other fees. To obtain this exemption, the service record, discharge papers, or other necessary papers must be presented at the time of registration.

The above exemption also extends to children of members of the Armed Forces who were killed in action or died while in the service in World War II.

Summary of Registration Expenses

Each student must study carefully his own budget. It is possible to attend Lamar on a very modest sum and yet participate in all important phases of the college program. To assist in planning registration expenses, the following estimate is furnished as a guide:

Full-time Student (12 or more semester hours):

Tuition, matriculation, building use, laboratory fees	\$ 82.00
	+ lab fees
Property deposit	7.00
Books and incidentals (estimated)	35.00
Health Insurance (if desired)	12.00
Parking fee (if desired)	6.00
Total (estimated)	142.00
	+ lab fees

Part-time Student (6 semester hours):

Tuition, matriculation, building use, and laboratory fees	\$ 40.00
	+ lab fees
Property deposit	7.00
Books and incidentals (estimated)	12.00
Parking fee (if desired)	3.00
Total (estimated)	\$ 62.00
	+ lab fees

The tuition fee varies with the semester hours carried so that the total is less or more than this estimate, according to the schedule shown in the section, "Fees Summary."

Refund of Fees

Any student withdrawing officially will receive a refund on tuition, student service, laboratory and private lesson fees according to the following schedule.

Long Session

1. During the first two weeks of the semester, 80 per cent.
2. During the third week of the semester, 60 per cent.
3. During the fourth week of the semester, 40 per cent.
4. During the fifth week of the semester, 20 per cent.

Summer Session

1. During the first week of the semester, 60 per cent.
2. After first week no refund.

No refunds are made when dropping courses.

Application for refund must be made to the Comptroller after the student has officially withdrawn, but not later than the end of the current semester or summer session.

It takes about 60 days to process these refunds.

Fine and Breakage Loss

All library fines, breakage or loss of equipment charges, or other charges must be paid before a transcript of credit or a permit to re-enter college will be issued.

The College reserves the right to make a special assessment against any student guilty of inexcusable breakage or loss of instructional equipment or other college property.

HOUSING

Dormitories

The dormitory housing program is part of the overall educational plan of the college. The Board of Regents has committed the college to maintaining full occupancy of all rooms in the dormitories. For these reasons, students at Lamar State College of Technology are required to live in one of the college dormitories and take their meals in the college dining hall.

The only exceptions to this regulation are:

- (1) Students who live with parents or relatives.
- (2) Married students who live with their wives or husbands.
- (3) Students whose health conditions demand special services.
- (4) Students whose part-time employment conflicts with the college meal service hours.
- (5) Students for whom no housing is available when all dormitories have been filled. In such cases, these students will be permitted to live in approved housing off campus until the beginning of a semester in which dormitory space becomes available.

The Dean of Men and the Dean of Women will review all requests for permission to live off campus. The college reserves the right to require campus residence of any student. A student who gives a false residence address or a false statement that he is living with relatives will be subject to suspension.

Dormitories for both men and women are ultra-modern residence halls, each three stories high. Each floor houses 36 students, organized into units for purposes of self-government, intramural athletics, and social life. Students live in suites for six. Each suite consists of two large bedrooms, two study rooms, and bath. Each room has a dial telephone for inter-campus and Beaumont exchange calls.

The Dining Hall serves three meals per day except on Sundays when only breakfast and lunch are served.

Costs

The charge for board and room for the nine-month term is \$638 for the residence halls. Charges for a full semester may be paid at the beginning of each semester; or for the convenience of those who desire, payments may be made as follows: (Students are required to pay the room rent for the semester in September and February and may purchase meal tickets on a monthly basis as outlined below:)

FEES AND EXPENSES

September	\$137.50 (semester room rent)
	24.50 (September board)
	<hr/>
	\$162.00
October	\$48.00
November	48.00
December	30.00
January	48.00
	<hr/>
	\$336.00
February	\$110.00 (semester room rent)
	48.00 (February board)
	<hr/>
	\$158.00
March	\$ 48.00
April	48.00
May	48.00
	<hr/>
	\$302.00
Total (nine-month period)	\$638.00

(Currently subject to 2% sales tax on board or about \$7.79 for nine months.)

If the monthly payment plan is followed, payments must be made on the first day of each semester and between the first and fifth day of all other months.

When students move into a dormitory, they automatically enter into a contract for room and board for the fall and spring semester, unless they officially withdraw from college or obtain special permission from the Dean of Student Life to live elsewhere.

Several window units are available for use in non-air conditioned dormitories from April 15 to October 15 each year. Air conditioned rooms are \$20 per month in addition to regular room charges, regardless of the number of occupants per room. Occupants share this additional cost.

Refunds for Board and Room

Board charges may be refunded as follows:

A student may obtain a refund for board or for room rent under the conditions listed below.

1. A written approval must be obtained from the director of housing and presented to the Comptroller for the specified payment.
2. The student must have been absent for approved cause in excess of ten consecutive days. The amount of the refund will be on a pro-rata basis beginning with the eleventh day of absence.

3. A student who withdraws from college before the close of a semester will be refunded board charges on a pro-rata basis for all remaining days paid for in advance.

Room rent charges may be refunded as follows:

1. A student who withdraws from school will be refunded the amount paid in advance for all months following the month of withdrawal. No refund will be made for the days remaining in the month of withdrawal after the first day of the month.

No refunds will be made for either board or room for official holidays or for absence from the campus other than those explained above since deductions for these were considered in determining the semester charges.

Senior Apartments

The college maintains a limited number of apartment units for senior students who desire this type of housing facility. These apartments are completely furnished, and each consists of kitchenette, private bath, built-in closets, and combination living room and bedroom area. Charges for board and room are \$700.50 for the nine-month term. Charges for room only basis for the nine-month term are \$350. For the convenience of students wishing an installment plan, monthly payments may be made to the Comptrollers' Office.

Summer Term

Charges for board and room for each six-week summer term are \$121.50. This is payable at time of admission to the dormitory. Air conditioned rooms are \$30 per six weeks in addition to the regular charge. Occupants share this additional cost.

Changes in Rates

The college reserves the right to change room and board rates with ten days notice.

Room Assignments

To accomplish the most efficient and economic use of Residence Hall space the college reserves the right to assign students to specific dorms as it deems necessary to achieve this end. Students may make known their dormitory preference, and ample consideration will be given each request.

Reservations

To reserve a room in the dormitories, direct a request to the Assistant to the Dean of Student Life, Lamar State College of Technology, Beaumont, Texas. A check for \$20 must accompany the reservation request. Room reservations may be cancelled with full refund until three weeks prior to the first day of classes. No refund will be made on cancellations received

after this date. Dormitory residents will be refunded deposits, less any breakage charges, at the end of the year. The \$20 deposit will not be refunded if the student moves from the dormitory at any time other than at the end of the semester.

All unclaimed rooms will be declared vacant and the deposit forfeited at 6:00 p.m. on the last day of registration unless the student gives the Dean of Student Life Office written instructions to hold the room for a longer period.

Apartments

A limited number of accommodations for married couples are located on the campus and are operated by the college. Although ample for a couple, these apartments are not large enough to permit occupancy by children.

Three new modern fire proof, three-story buildings, each accommodating 35 couples, are now available. Each apartment consists of kitchenette, bath, two clothes closets, and combination living room-bed room. These apartments are completely furnished with fold-away beds, living room furniture, dinette set, kitchen stove, refrigerator, and window fan. There is also a central laundry with automatic washers and dryers.

These apartments rent for \$585 for the nine months period. This rental includes all utilities except telephones. Renters may make direct arrangements with the telephone company if they desire telephone service.

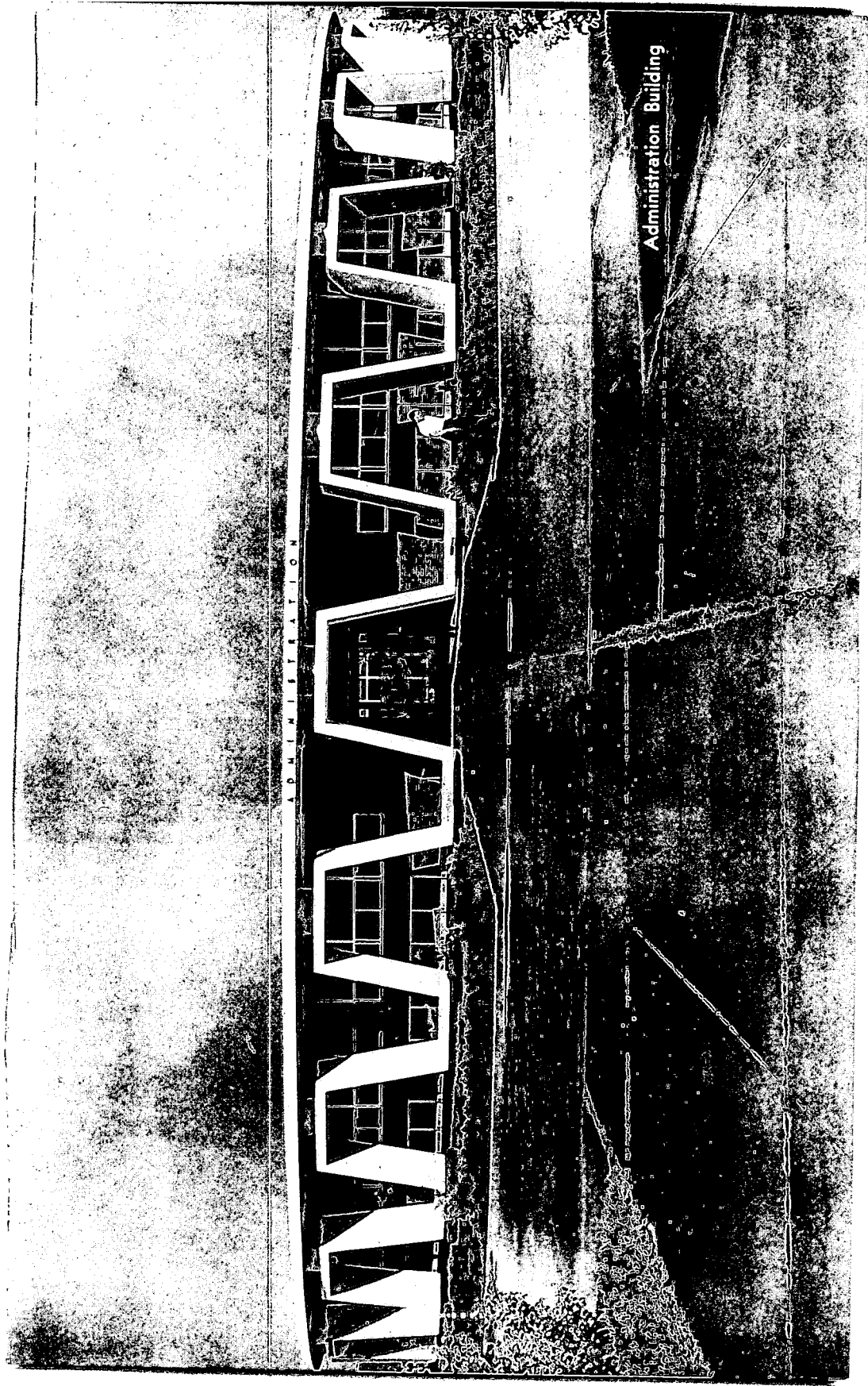
A reserved parking space goes with each apartment and is leased to the renter at \$6 for the nine months period.

For the convenience of students who wish to pay rentals by the month, the charges may be arranged in nine equal payments of \$65 each.

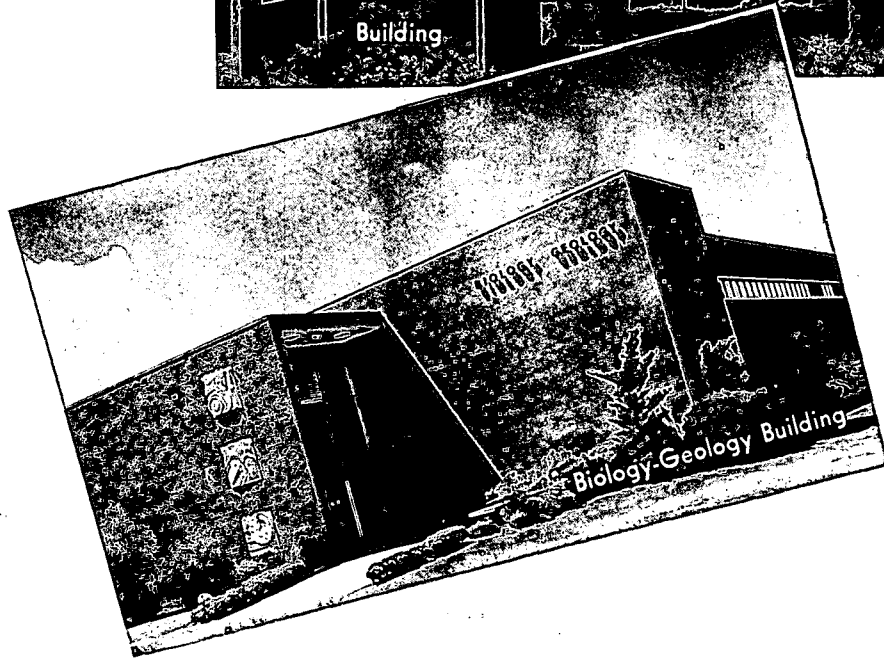
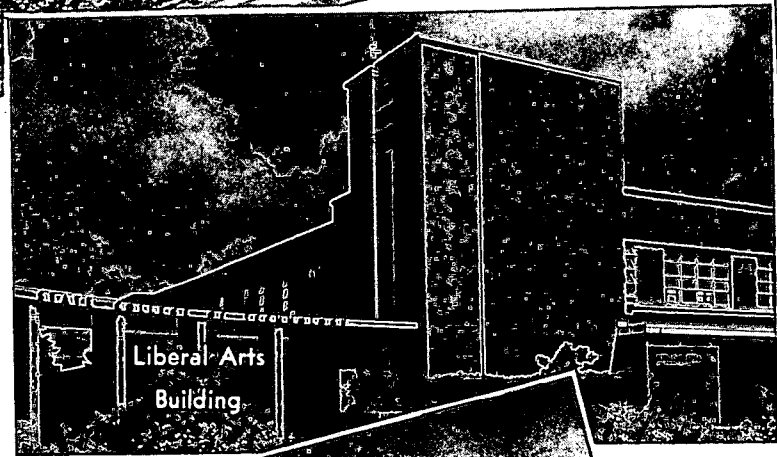
For information regarding these apartments, write the Dean of Student Life Office. A \$20 deposit is required to reserve an apartment. For those reserving apartments for the fall term the first payment of \$65 is due by September 5. If this first payment is not received by September 5, the apartment will not be held and the deposit will be forfeited. Apartment residents will be refunded deposits when moving, less breakage or cleaning charges.

Some of these apartments can be air-conditioned from April 15 to October 15 upon request of the occupant. An additional \$20 per month is charged for this service during the months of operation.

Rent refunds will not be made to students who move out during any month.



Administration Building



SCHOOL OF ARTS AND SCIENCES

Departments

Biology

Chemistry

English

Geology

Government

History

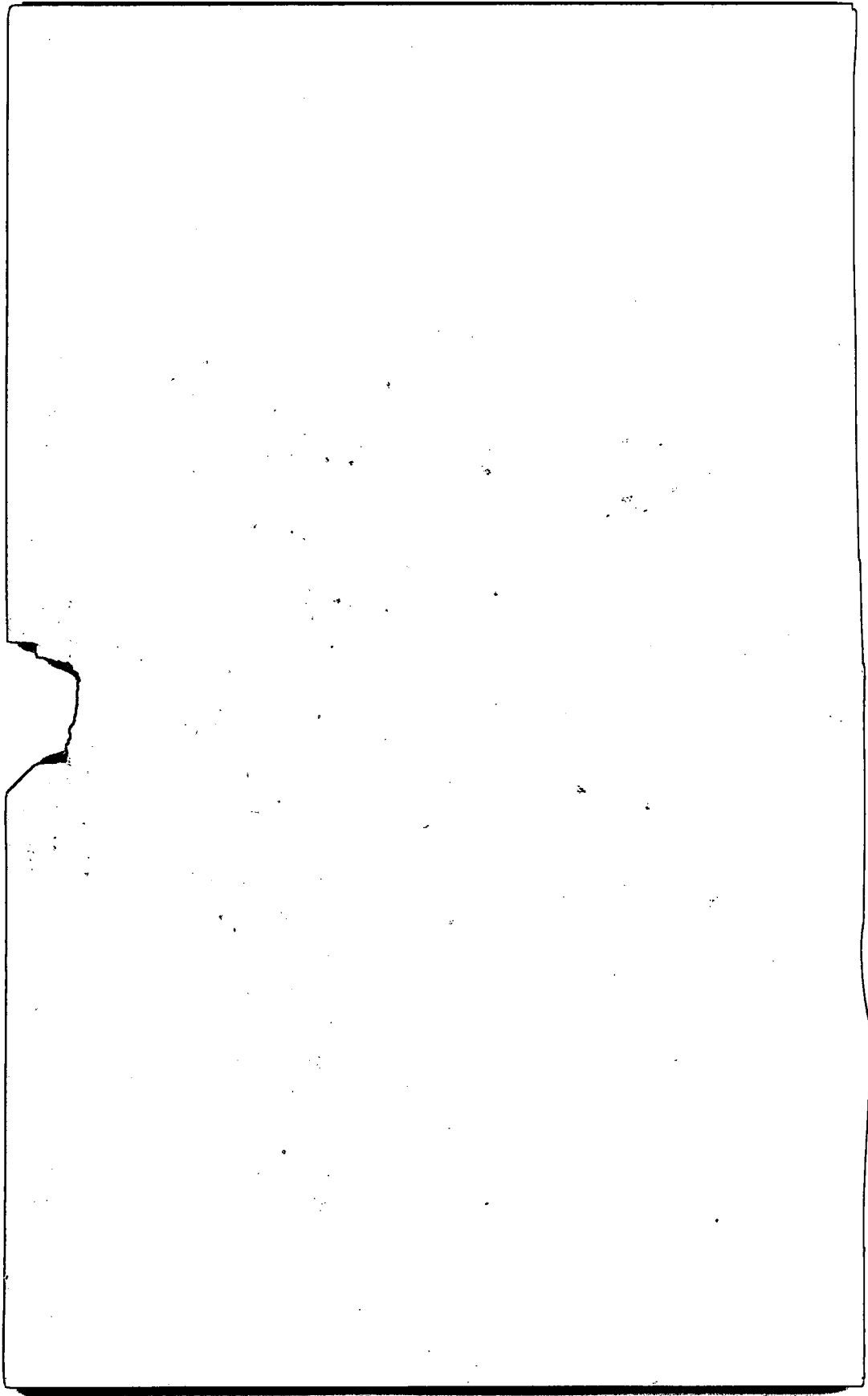
Modern Languages

Physics

Psychology

Sociology

(Bible)



School of Arts and Sciences

Degree Offerings

Bachelor of Arts with majors in the following fields:

Biology	Government
Chemistry	History
English	Psychology
French	Sociology
Geology	Spanish

Bachelor of Science with majors in the following fields:

Biology	History
Chemistry	Medical Technology
Geology	Physics
Government	Sociology

Master of Arts with majors in the following fields:

English	History
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Master of Science with major in the following field:

Chemistry

Honors Program

An honors program for students with excellent high school preparation in English and mathematics is administered by a faculty committee in the School of Arts and Sciences. Qualified students from the other Schools on the campus are invited to participate in this program.

The purpose of the honors program is to encourage a broader education than is provided in the regular curricula of the various departments. The college attempts to meet the academic needs of honor students by providing small classes and selected instructors in 38 semester hours of English, mathematics, science, philosophy, history, and government courses. In addition to these regular courses, four honors colloquia in various areas of cultural interest are offered. These courses and colloquia are distributed over the first three years in order not to interfere with normal progress toward the graduation requirements in the student's major field. The fourth year is left free for more specialized honors study within the major department.

To qualify for the honors program, a student must score high enough on the entrance examinations to qualify for both English 135 and Math 138. Students interested in applying for admission to the honors program should communicate with the chairman of the Honors Program Committee.

Bachelor of Arts or Bachelor of Science—Pre-Law Program

The Bachelor of Arts or Science Degree for pre-law students may be obtained in one of two ways:

- I. While in residence at Lamar completing the degree requirements prescribed in this bulletin. (The University of Texas Law School requires for admission a bachelor's degree.)
- II. By completing three years of work in the School of Arts and Sciences, totaling a minimum of 94 semester hours with a grade average of 1.3 in courses at Lamar, and completion of one year of law school with a 1.0 for a minimum of 30 semester hours of law courses. These 94 hours should be distributed as follows:
 1. 12 semester hours in English including English 131, 132 or 135.
 2. 6 semester hours in mathematics.
 3. 12 semester hours in one foreign language. (Not required for the Bachelor of Science degree.)
 4. 16 semester hours in laboratory science, including 8 semester hours in chemistry or physics, and 8 semester hours in biology or geology.
 5. 36 semester hours in the social sciences, including Government 231, 232, History 231, 232 and at least 15 semester hours of advanced social science courses.
 6. 4 semester hours of physical activity courses.
 7. Sufficient electives in Arts and Sciences to include 6 semester hours of advanced courses and to total 94 semester hours. Accounting 231, 232 may be counted among these electives.

The Head of the Department of Government is the advisor for pre-law students. All pre-law students should consult him at each registration period.

School of Arts and Sciences

DEPARTMENT OF BIOLOGY

Professors Hayes, Long, Smith.
Associate Professors Fitzgerald, Waddell.
Assistant Professors Bryan, Forbes, Morrison.
Instructors Sissom,* Gatlin, Tanzer.

Programs of Study

Bachelor of Science—Biology Major

First Year		Second Year	
Eng 131, 132—Composition	6	Eng 231, 232—Literature	6
Bio 141-142—General	8	**Bio 240—Comp Anatomy	4
Chm 141-142—General	8	Bio 243—Microbiology	4
Mth 133—Trigonometry	3	Bio 244—Disease & Immunity	4
Mth 134—Algebra	3	Chm 341, 342—Organic	8
Electives	6	Gov 231-232—State & Natl	6
HPE—Activity	2	Bio-Elective	4
		HPE—Activity	2
	36		38
Third Year		Fourth Year	
Bio 341—Histology	4	Bio 416-417—Bio Lit	2
Bio 342—Embryology	4	Bio Electives (Approved)	8
Chm 241—Quantitative	4	Electives	20
Chm 443—Biological	4		30
Phy 141—Mechanics	4	**Required of Pre-Meds and Pre-	
Phy 142—Electricity, etc.	4	dents; others may elect four se-	
His 231, 232—United States	6	mester hours of advanced Biology.	
Electives	6		
	36		

Bachelor of Science—Medical Technology

First Year		Second Year	
Same as for First Year of B.S. in		Eng 231, 232—Literature	6
Biology.		Bio 243—Microbiology	4
		Bio 244—Disease & Immunity	4
Third Year		Chm 243—Organic	4
Bio 341—Histology	4	Chm 244—Physiological	4
Bio 343—Med Technology	4	Phy 141—Mechanics	4
Chm 241—Quantitative	4	Phy 142—Electricity, etc.	4
His 231, 232—United States	6	Gov 231-232—State & Natl	6
Electives (Approved)	12	HPE—Activity	2
	30		38

*On leave.

Fourth Year

Twelve consecutive months spent in training at a hospital laboratory approved for teaching by the Council on Medical Education and Hospitals of the American Medical Association. After completing this training, and passing the examination given by the Board of Registry, the student is awarded the degree of Bachelor of Science-Medical Technology. Full details of approved laboratories and registry examinations may be obtained by writing to the Registry of Medical Technologists, American Society of Clinical Pathologists, Muncie, Indiana.

The three years of study shown will fulfill the requirements of the Registry.

Professional Nurse Program

Three years of training in an approved hospital nursing school plus the courses shown in this program of study qualifies a student to take the examination for becoming a registered nurse.

First Year

First Semester		Second Semester	
Eng 131—Composition	3	Eng 132—Composition	3
Bio 133—Anat & Physiol	3	Bio 134—Anat & Physiol	3
Chm 140—Fundamentals	4	Bio 245—Microbiology	4
Psy 231—General	3	Soc 131—Introduction	3
HPE—Activity	1	Psy 234—Child Psychology	3
		HPE—Activity	1
	14		17

Bachelor of Science in Nursing

The following first year program has been recommended for the student who plans to get a degree in nursing. For further study consult the catalog of the college where the degree is to be given and plan work at Lamar accordingly.

First Year		Summer Session	
Eng 131, 132—Composition	6	Eng 231, 232—Literature	6
Bio 141, 142—General	8	His 231, 232—United States	6
Chm 143, 144—Introductory	8		
Electives (Approved)	12		
HPE—Activity	2		
	36		12

Pre-Medical and Pre-Dental

Follow the same program shown for Bachelor of Science-Biology. Most medical and dental schools require three years or more of preprofessional training, and students may apply for entrance to the next class of such schools during their third or fourth year. Students who complete three years of the program may, after satisfactory completion of the first year in a

medical or dental school, apply for the degree of Bachelor of Science-Biology. Application for the degree under this plan must be made to the Registrar by June 15 of the year in which the degree is to be conferred.

Pharmacy

First Year		Second Year	
Bio 141, 142—General	8	Chm 341, 342—Organic	8
Chm 141, 142—General	8	Eco 231, 232—Principles	6
Eng 131, 132—Composition	6	Eng 231, 232—Literature	6
His 231, 232—United States	6	Gov 231, 232—State & Natl.	6
Mth 133, 134—Trig., Alg.	6	Phy 141, 142—General	8
HPE—Activity	2	HPE—Activity	2
	36		36

All colleges of pharmacy have a five year program, one preprofessional and four professional years. Students following the plan outlined above will be admitted to the second professional year of many colleges of pharmacy, including those of The University of Texas and The University of Houston. Consult the catalog of school of choice for specific requirements.

Veterinary Medicine

First Year		Second Year	
Eng 131, 132—Composition	6	Eng 231, 232—Literature	6
Bio 141, 142—General	8	Bio 345—General Botany	4
Chm 141, 142—General	8	Chm 341, 342—Organic	8
His 231, 232—United States	6	Gov 231, 232—State & Natl.	6
Mth 133—Trigonometry	3	Phy 141—Mechanics	4
Mth 134—Algebra	3	Phy 142—Electricity, etc.	4
HPE—Activity	2	Elective	3
		HPE—Activity	2
	36		37

Biology (Bio)

133-134—Human Anatomy and Physiology. Human anatomy and physiology with special emphasis on problems in nursing. Laboratory includes experiments in vertebrate physiology and the dissection of a mammal. Class: 2 hours. Laboratory: 2 hours. Credit: 3 semester hours for each semester.

141-142—General Biology. First semester devoted to the anatomy and physiology of man. Laboratory phase includes the dissection of the frog as a vertebrate type, and an elementary study of vertebrate tissues. Reproduction, development, and heredity of animals; disease and immunity are studied during the first part of the second semester. The last part of the second semester is devoted to a survey of the animal and plant phyla, emphasizing the phylogentic relationship of lower organisms, their natural history, and their bearing on human welfare. Either semester may be taken first, though the normal sequence is recommended. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours per semester.

240—Comparative Anatomy of the Vertebrates. Comparative anatomy presented from systemic viewpoint. Designed primarily for biology majors, pre-medical, and pre-dental students. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

243—Microbiology. Micro-organisms with emphasis on bacteria in soil, water, milk, and sewage. Laboratory includes the isolation, cultivation, and identification of common bacteria. Recommended for biology majors, pre-medical, pre-dental, and medical technology students. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

244—Disease and Immunity. Bacteria, rickettsiae and viruses in relation to disease. Theories of antigen-antibody responses. Laboratory includes the isolation, cultivation, and identification of pathogenic bacteria, and the immunization of laboratory animals. Prerequisite: Bio 243. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

245—Microbiology for Nurses. Micro-organisms with emphasis on those of medical significance. Special consideration is given to problems of personal and community health. Laboratory includes the sterilization of culture media and glassware, cultivation and study of common bacteria. Recommended for students in nursing education. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

330—Applied Anatomy and Kinesiology. Structural organization of the human body and the analysis of human motion. Includes skeletal system, attachments and actions of muscles. Emphasis is placed on the mechanics of support and of motion. Prerequisite: Bio 141-142. Class: 3 Hours. Credit: 3 semester hours.

341—Histology and Histological Technique. Study of normal tissues of vertebrates. Technique phase of the course includes fixation and stain-

ing of tissues, paraffin sections, conventional mounting. Designed for biology majors, pre-medical, pre-dental and medical technology students. Prerequisite: Bio 141-142 and 241-242 or 243-244. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

342—Embryology. Comparative study of the development of vertebrates, including maturation, fertilization, cleavage, and early embryology. Detailed organogeny of the chick. Recommended for biology majors, pre-medical and pre-dental students. Prerequisite: Bio 141-142, 241-242. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

343—Introduction to Medical Technology. Survey of procedures used in clinical laboratories, including practice in hematology, serology, and urinalysis. Designed for medical technology students. Prerequisite: Bio 141-142, 243-244. Class: 2 hours. Laboratory: 3 hours. Credit: 4 semester hours.

344—Advanced Physiology. Principles of general physiology, with special reference to cell metabolism, muscle-nerve relations, digestive, circulatory, respiratory, excretory, nervous, and endocrine systems. Designed primarily for biology majors, pre-medical and pre-dental students. Prerequisite: Bio 141-142, 241-242 or 243-244 and Chm 243-244 or Chm 341-342. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

345—General Botany. Introduction to plant structure and functions with emphasis on the seed plants. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

346—Invertebrate Zoology. Detailed consideration of the invertebrate phyla. Classification, natural history, phylogentic relationships, and economic importance. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

347—Genetics. General principles of heredity, including human inheritance. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

348—Plant Morphology. Structure, life histories and phylogenetic relationships of representative types of major plant groups. Prerequisite: Bio 345. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

416-417—Current Biological Literature. Reports by advanced students on research published in current professional periodicals. Required for biology majors. Recommended for pre-medical and pre-dental students. Prerequisite: Sixteen semester hours of biology. Class: 1 hour. Credit: 1 semester hour per semester.

430—Undergraduate Problems. Designed to afford opportunity for senior students to pursue individual interests in the investigation of problems in biology. Research to be directed by staff, and approval of department head required. Credit: 3 semester hours.

431—Seminar in Biological Sciences. Designed to enhance the biological science background of non-science majors. Relevant biological concepts, library research and synoptic reports, lectures by staff on special topics. Class: 3 hours. Credit: 3 semester hours.

441—Parasitology. Study of animal parasites including morphology, life history, and host-parasite relationships. Special emphasis on helminthic parasites of man and other vertebrates. Prerequisite: Bio 141-2; Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

442—Entomology. Morphology, life history, and control of insects, with emphasis on collection, identification, and classification. Prerequisite: Bio 141-2; Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

443—Limnology. Fauna, flora, ecology and productivity of fresh water. Prerequisite: Bio 141-2; Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

444—Vertebrate Natural History. Fish, amphibians, reptiles, birds, and mammals, with emphasis on collection, identification, and natural history of area forms. For the orientation of students entering professional biology as a career. Prerequisite: Bio 141-2; Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

445—Marine Biology. Natural history and ecology of fauna and flora in Gulf and estuarine waters. Recommended for biology majors. Prerequisites: Bio 141-2, 346. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

446—Terrestrial Ecology. A study of the interrelationships between terrestrial organisms and their environment. Laboratory stresses quantitative approaches to both field and experimental studies. Prerequisite: 16 semester hours of biology. Recommended for students planning a career in teaching or research in biology. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

447—Plant Taxonomy. Classification of tracheophytes. Collection, identification and preservation of herbarium specimens. Prerequisite: Bio 345, 348. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

4101, 4201, 4301—Institute in Biological Sciences. Designed to provide credit for participation in summer, in-service or other institutes. Credit varies with duration. May be repeated for credit when nature of institute differs sufficiently from those taken previously. Class: 1-3 hours. Credit: 1-3 semester hours.

DEPARTMENT OF CHEMISTRY

Professors Baker, Cameron, Cox, Eads, Mers. Associate Professors
Edwards, Fields, Yerick. Assistant Professors Armitage,
Harmon, Mejia

Program of Study

Bachelor of Science—Chemistry Major

American Chemical Society recommended program preparatory to
graduate work in chemistry.

First Year		Second Year	
Chm 141, 142—General	8	Chm 241—Quantitative	4
Eng 131, 132—Composition	6	Chm 333—Inorganic I	3
Mth 138—Analysis I	3	Eng 231, 232—Literature	6
Mth 139—Analysis II	3	Mth 231—Analysis III	3
Ger 131, 132—First Year	6	Ger. 231, 233	6
Bio 141—General	4	Bio 142—General	4
Phy 140—Mechanics and Heat	4	Phy 241—Electricity and Mag.	4
HPE—Activity	2	Phy 242—Sound and Light	4
		HPE—Activity	2
	36		36
Third Year		Fourth Year	
Chm 341, 342—Organic	8	Chm 412—Sen Seminar	1
Chm 343, 344—Physical	8	Chm 444—Organic Analysis	4
Gov 231, 232—State and Nat'l.	6	Chm 446—Instrumental Anal.	4
His 231, 232—American	6	Chm 436—Inorganic II	3
Mth 232—Analysis IV	3	Electives	18
Chm 411—Chm Literature	1		
	32		30

Chemistry (Chm)

140—Fundamentals. For student nurses. A survey of inorganic, organic, and biological chemistry. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

141—General. For students of science and engineering. General principles, problems, fundamental laws and theories. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

142—General. For students of science and engineering. A continuation of Chem 141. Elementary qualitative analysis and theories of solutions and equilibrium. Properties of the elements. Prerequisite: Chm 141. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

143—Introductory. For non-science majors. A survey course in elementary chemistry. Lecture and laboratory work in inorganic chemistry. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

144—Introductory. For non-science majors. Continuation of Chem 143. A brief survey of qualitative analysis, elementary organic and physiological chemistry. Prerequisite: Chm 143 or 141. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

241—Quantitative Analysis. For science and engineering majors. Theory and practice of analytical chemistry, utilizing gravimetric and titrimetric techniques. Prerequisites: Chm 142, Mth 133, 134, with a grade of C or better in each. Class: 3 hours. Laboratory: 5 hours. Credit: 4 semester hours.

243—Organic. Fundamental principles of chemistry of aliphatic and aromatic compounds. Prerequisite: Chm 144 or 142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

244—Physiological. An elementary course in physiological chemistry. Prerequisite: Chm 243 or 341. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

331—Introductory Radiation. Basic concepts of nuclear science. Principles and types of radiation measuring devices. Interaction of radiation with matter. Dose and dose rate calculations. Biomedical aspects of radiation. Source handling techniques. Isotopes in science, medicine, and industry. Nuclear reactors and nuclear weapons. Prerequisite: Chm 141, 142 or equivalent; or Phy 141, 142 or equivalent. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

333—Inorganic I. Generalizations involving atomic and nuclear theory. Properties of the elements, with emphasis on similarities and differences within and between groups and transitional series. Non-aqueous solvents, acids, bases, oxidation-reduction, etc. Prerequisite: Chm 241, with grade of C or better. Class: 3 hours. Credit: 3 semester hours.

341—Organic. Current theories and chemical principles that relate to the field of organic chemistry. Survey of the reactions and preparations of the principle classes of organic compounds. Prerequisite: Chm 142 with grade of C or better. Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

342—Organic. A continuation of Chm 341. Prerequisite: Chm 341. Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

343—Physical. Thermodynamic principles; modern chemical theory as applied to gases, liquids, solutions, equilibrium, and surface chemistry; kinetics of chemical reactions. Prerequisites: Chm 241, Phy 142 or 241, Mth 232 (or parallel). Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

344—Physical. Quantum theory as applied to atomic and molecular structure; the solid state; phase equilibria; molecular spectra; photochemistry; nuclear chemistry. Prerequisite: Chm 343. Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

411—Chemical Literature. Lecture and assigned reading in the chemical literature. Chemical literature search on an advanced level. Prerequisite: Chm 342, 344 (or parallel). Class: 1 hour. Credit: 1 semester hour.

412—Senior Seminar. Reports and assigned reading. Prerequisite: Senior standing in chemistry. Class: 1 hour. Credit: 1 semester hour.

431—Organic Preparations: A survey of organic chemistry from the standpoint of reaction types, their scope, and usefulness in organic synthesis. The laboratory preparation of organic materials with special attention to techniques and yields. Prerequisite: Chm 342. Class: 2 hours. Laboratory: 6 hours. Credit: 3 semester hours.

435—Modern Organic. Selected topics in modern organic chemistry with particular emphasis on reaction mechanisms. Prerequisites: Chm 342, 344 (or parallel). Class: 3 hours. Credit: 3 semester hours.

436—Inorganic II. Study of the quantized atom, periodicity, characteristics on the extra-nuclear structure. Valency and the chemical bond, complex ions and coordination compounds. Prerequisites: Chm 333, 344 (or parallel). Class: 3 hours. Credit: 3 semester hours.

439—Nuclear Chemistry. Theory of nuclear structure. Properties of nuclear radiations. Natural and artificial radioactivity and applications of radioactive tracers. Prerequisite: 24 semester hours of chemistry. Class: 3 hours. Credit: 3 semester hours.

443—Biochemistry. Principles of biochemistry. Current theories of chemistry as applied to biochemical materials. Prerequisites: Chm 241, 342 (or parallel). Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

444—Qualitative Organic Analysis. A systematic study of methods for the identification of organic compounds and mixtures of organic compounds. Prerequisite: Grade of C or better in Chm 341 and 342. Class: 2 hours. Laboratory: 8 hours. Credit: 4 semester hours.

427, 437, 447—Introduction to Research. Senior chemistry students. Problems are on the under-graduate level and emphasize research techniques. Prerequisite: B average in all previous chemistry courses. Credit: 2, 3, or 4 semester hours.

446—Instrumental methods of Analysis. Instrumental techniques in modern analytical chemistry. Theory and practice in optical, electrometric, and chromatographic methods. Prerequisites: Chm 241, 344 (or parallel), Mth 231, Phy 142 or 241. Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

4101, 4201, 4301, 4401—**Institute in Chemistry.** Institutes designed to advance the professional education of participants. The description of the area of study of each institute will appear on the printed semester schedule. When institutes are conducted in completely different areas and with the approval of the department head, a participant may repeat the course for credit. Class: 1 to 4 hours. Laboratory: 2 to 4 hours. Credit: 1 to 4 semester hours.

531—**Advanced Analytical.** Selected topics in contemporary analytical chemistry. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: Graduate standing. Class: 3 hours. Credit: 3 semester hours.

533—**Advanced Inorganic.** Selected topics in modern inorganic chemistry. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: Graduate standing. Class: 3 hours. Credit: 3 semester hours.

535—**Advanced Organic.** Selected topics in modern organic chemistry with particular emphasis on reaction mechanisms. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: Graduate standing. Class: 3 hours. Credit: 3 semester hours.

537—**Advanced Physical.** Selected topics in physical chemistry. Course may be repeated for a maximum of six semester hours credit when topic varies. Prerequisite: Graduate standing. Class: 3 hours. Credit: 3 semester hours.

669A-669B—**Thesis.** Prerequisite: Admission to candidacy for the master's degree. Credit: 6 semester hours.

DEPARTMENT OF ENGLISH

Professors Hagelman, Barnes, Emmons, Frissell, Rule, Olson.
 Associate Professors Abernethy, Allen, Berly, Bird, Branom, Yeats.
 Assistant Professors Leitch, Renfrow, Thomas, Wilkerson.
 Instructors Biddison, Carpenter, Carroll, DeGeorge, Georgas, Harvill,
 Hawkins, Hutchings, Krause, Lewis, Linn, Reaves, Scurlock,
 Strickland, Unangst, Wagner.

Bachelor of Arts—English Major

An English major must complete thirty semester hours in English (including English 131-132, English 231-232, English 331-332, and twelve additional advanced hours) as indicated in the suggested plan of study listed below. The advanced semester hours in English should include one period course, one genre course, one individual author course, and History of the English Language. The total number of hours required is 126.

The plan shows the required forty-four semester hours of general education, eighteen semester hours for the minor, and thirty semester hours of electives. The minor consists of eighteen semester hours, six of which must be advanced. The major in English chooses his minor and many of his electives from economics, fine arts, foreign languages, government, history, mathematics, philosophy, sciences, sociology, and speech.

A minor in English consists of English 131-132, English 231-232, English 331-332, and six additional advanced hours.

English majors who plan to study for an advanced degree are advised to take a second foreign language as electives.

Program of Study

First Year		Second Year	
Eng 131-132—Composition	6	Eng 231-232—British Literature	6
His 131-132—World Civilization	6	His 231-232—United States	6
Foreign Language—131-132	6	Gov 231-232—State and National	6
*Mth	6	Foreign Languages—231-232	6
Electives	6	Electives	6
HPE—Activity	2	HPE—Activity	2
	32		32
Third Year		Fourth Year	
Eng 331-332—American Literature	6	Eng 430—History of the	3
Eng	3	English Language	6
*Laboratory Science	8	Eng	6
Minor	9	Minor	9
Electives	6	Electives	12
	32		30

*A second year of a different science may be substituted for the mathematics requirement, or a second year of mathematics may be substituted for the science requirement.

Teacher Certification—English

Students wishing to secure the Bachelor of Arts degree in English and at the same time to certify for a provisional certificate-secondary with a teaching field in English, must include in their degree program the following:

1. Six hours of mathematics and eight hours of science.
2. A 24-hour approved additional teaching field in the place of the minor (consult this catalog, School of Education).
3. English 334 in the place of English 430.
4. Eighteen hours of Education to include 331, 332, 338, 438, 462.
5. Approved electives sufficient to bring the total number of hours to 132.

Master of Arts—English Major

The degree of Master of Arts in English requires the completion of thirty semester hours of graduate work: eighteen in English, six in thesis, and six in an approved minor or six additional hours in English. At least twelve semester hours, exclusive of the thesis, must be in English courses numbered 500 or above. The minor must be approved by the Head of the Department of English; such approval will be given on the basis of the support the minor can give to the major.

English (Eng)

131—Rhetoric and Composition. Intelligent and critical reading of mature exposition; correct and effective expository writing. Collateral readings; frequent themes. Class: 3 hours. Credit: 3 semester hours.

132—Rhetoric and Composition. A continuation of English 131. The research paper. Introduction to literary genres. Prerequisite: English 131 with a grade of "C" or better. Class: 3 hours. Credit: 3 semester hours.

133—English for Foreign Students. (English 133 and 134 satisfy freshman English requirements for students whose first language is not English.) A course in composition, involving reading and writing as noted for English 131. Laboratory periods devoted to intensive individual reading, writing, and speaking English. Prerequisites: a score of 70 on the English Usage Test and a passing grade on the Oral Rating Form, both tests being those of the American Language Institute of Georgetown University. These tests should be taken before departure from native country. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

134—English for Foreign Students. A continuation of English 133. Continued emphasis upon the reading, writing, and speaking of English. Introduced to literary genres. The research paper. Prerequisite: English

133 with a grade of "C" or better. Class: 2 hours. Laboratory: 3 hours.
Credit: 3 semester hours.

135—Rhetoric and Composition. An accelerated program for those exceptionally well prepared at time of enrollment. Extensive writing; finding, collecting, interpreting, and organizing source materials; introduction to literary genres. Offered first semester each year only. Satisfactory completion of the course meets requirements for freshman English. Class: 3 hours. Credit: 3 semester hours.

137—Grammar, Rhetoric, and Composition. Additional study for upperclassmen of the fundamentals of grammar, rhetoric, and composition with emphasis on the ability to write clearly, concisely, and correctly. Frequent themes; collateral reading. Prerequisite: freshman English. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

230—Masters of American Literature. A critical study of the major American writers from Franklin to Faulkner. May not be counted for English major credit. Prerequisite: English 132, 134, or 135 with a grade of "C" or better. Class: 3 hours. Credit: 3 semester hours.

231, 232—Survey of British Literature. A critical study of the literature of Great Britain from the Middle Ages to the present. Prerequisite: English 132, 134, or 135 with a grade of "C" or better. Class: 3 hours. Credit: 3 semester hours.

233, 234—Survey of World Literature. A critical and comparative study of the major works from classical, continental, and oriental literatures. Prerequisite: English 132, 134, or 135 with a grade of "C" or better. Class: 3 hours. Credit: 3 semester hours.

(Note: Any combination of English 230, 231, 232, 233, or 234 will satisfy the general requirement for second year literature unless otherwise stated by a specific department.)

235—Survey of Journalism. History of journalism. Introduction to the make-up, organization, and major problems of the modern newspaper. Gathering and reporting news. May not be counted for English major credit. Prerequisite: English 132, 134, or 135 with a grade of "C" or better and 24 semester hours of college work. Proficiency in typewriting is desirable. Class: 3 hours. Laboratory as needed. Credit: 3 semester hours.

236—Survey of Journalism. Preparation of copy for publication. Problems in editing, headline writing. May not be counted for English major credit. Prerequisite: Same as for English 235. Class: 3 hours. Laboratory as needed. Credit: 3 semester hours.

237—Expository Writing. Techniques of mature exposition. Prerequisite: English 132, 134, or 135 with a grade of "C" or better. Class: 3 hours. Credit: 3 semester hours.

- 330—Rhetoric.** Principles and usage of rhetoric. Study of what rhetorical principles are, how they are used, and how they can be taught. Practice in both reading and writing. Class: 3 hours. Credit: 3 semester hours.
- 331, 332—Survey of American Literature.** A critical study of the literature of the United States from the colonial period to the present. Class: 3 hours. Credit: 3 semester hours.
- 333—Shakespeare.** Rapid reading of the histories, comedies, and tragedies. The development of Shakespeare as a dramatist; his relationship to the Elizabethan theater; his social, political, and literary background in the Tudor-Stuart era. Class: 3 hours. Credit: 3 semester hours.
- 334—Advanced Grammar.** Intensive analysis of sentences; the concept of structural meaning. Prerequisite: Foreign language through 132. Class: 3 hours. Credit: 3 semester hours.
- 335—Creative Writing:** A workshop approach to the writing of articles and brief fictional forms. Prerequisite: recommendation by the department head. Class: 3 hours. Credit: 3 semester hours.
- 336—The Short Story.** The technique of the short story; its historical development; study and analysis of great short stories. Class: 3 hours. Credit: 3 semester hours.
- 337—The Drama.** The historical development of the drama from Aeschylus to the present. Intensive study of selected plays. Class: 3 hours. Credit: 3 semester hours.
- 338—British Novel.** The historical development of prose fiction in Great Britain. The novel as an art form. Intensive study of selected novels from Defoe to the present. Class: 3 hours. Credit: 3 semester hours.
- 339—American Novel.** A study of the history, growth, and technique of the American novel, with emphasis on the novels of the twentieth century. Class: 3 hours. Credit: 3 semester hours.
- 3311—Technical Report Writing.** Supervised preparation of technical and specific reports according to standard usage recommended by scientific and engineering societies. May not be counted for English major credit. Prerequisite: English 132, 134, or 135 with a grade of "C" or better. Class: 3 hours. Credit: 3 semester hours.
- 3312—Introduction to Linguistics.** A survey of descriptive and historical linguistics intended to provide some understanding of the nature of language and linguistic change, of the current methods used in describing and comparing languages, and of the interaction of language and culture. Prerequisite: foreign language through 132. Class: 3 hours. Credit: 3 semester hours.
- 3313—Mythology.** Classical, Scandinavian, German, and Oriental mythology emphasizing the myths, deities, and great legendary characters of Greek, Roman, Scandinavian, Teutonic, and Oriental civilizations most fre-

quently referred to in the literature of the western world. Class: 3 hours. Credit: 3 semester hours.

3314—Introduction to Folklore. Development of the folk tale and the folk song from primitive to modern times. Emphasis on motifs, formulae, and theories of origin. Class: 3 hours. Credit: 3 semester hours.

430—History of the English Language. Theory and nature of language. Studies in the growth of British and American forms. Prerequisite: Foreign language through 232. Class: 3 hours. Credit: 3 semester hours.

431—Chaucer. A study of the poetry and language of Chaucer with emphasis on the Canterbury Tales. Class: 3 hours. Credit: 3 semester hours.

432—The Age of Elizabeth. The non-dramatic literature of England from Skelton to Donne. Class: 3 hours. Credit: 3 semester hours.

433—The Age of Elizabeth. The dramatic literature of England, exclusive of Shakespeare, from Heywood to Ford. Class: 3 hours. Credit: 3 semester hours.

434—Shakespeare. Intensive study of selected major plays. Class: 3 hours. Credit: 3 semester hours.

435—The Seventeenth Century. The non-dramatic literature of England from the Metaphysical poets to Dryden. Class: 3 hours. Credit: 3 semester hours.

436—Milton. A study of Milton's poetry and prose against the social, political, and literary background of his time. Class: 3 hours. Credit: 3 semester hours.

437—Restoration and Eighteenth Century Drama. A study of the plays of the period: 1660-1800. Class: 3 hours. Credit: 3 semester hours.

438—The Eighteenth Century. The poetry and prose in England from the Restoration to the rise of Romanticism. Class: 3 hours. Credit: 3 semester hours.

439—The Romantic Period. An intensive study of the major authors of the period from Burns to Keats. Class: 3 hours. Credit: 3 semester hours.

4311—The Victorian Period. An intensive study of the major authors of the period from Carlyle to Swinburne. Class: 3 hours. Credit: 3 semester hours.

4313—The American Literary Renaissance: 1820-1860. An intensive study of the major authors of the period from Poe to Melville. Class: 3 hours. Credit: 3 semester hours.

4314—The Development of American Realism: 1860-1900. An intensive study of the major authors of the period from Whitman to Norris. Class: 3 hours. Credit: 3 semester hours.

4316—Literary Criticism. Chronological study of the great critics. An

introduction to aesthetics. Prerequisite: senior standing. Class: 3 hours. Credit: 3 semester hours.

4317—Contemporary Drama. A study of dramatic trends and representative plays from Ibsen to the present. Class: 3 hours. Credit: 3 semester hours.

4318—Contemporary Poetry. A study of poetic developments in England and America with emphasis on representative poets from Hardy to the present. Class 3 hours. Credit: 3 semester hours.

4319—Contemporary Fiction. A study of prose fiction representative of modern ideas and trends, with emphasis on English and Continental authors. Class: 3 hours. Credit: 3 semester hours.

4321—Selected Problems in Comparative Literature. Intensive study of an author or authors, literary genre, or period selected from the range of world literature. Emphasis upon analysis and literary method. Class: 3 hours. Credit: 3 semester hours.

4325—Language: Sound and Meaning. Theory of language for non-English majors. A study of meaning as related to words and to grammatical features. English phonology as applied to orthography. May not be counted for English major credit. Class: 3 hours. Credit: 3 semester hours.

4329—Honors Reading Program for Seniors. A tutorial program for senior Honors students (consult this catalog, Honors Program). Prerequisite: senior standing and recommendation of the department head. May not be counted for graduate credit. Credit: 3 semester hours.

530—Bibliography and Research Methods. An introduction to graduate research methods and sources. Basic course for all beginning graduate students. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

531—Old English. A study of the grammar and the reading of short selections from the poetry and prose written before 1200. Emphasis will be placed on vocabulary and the historical development of the language. Prerequisite: graduate standing and English 430 (History of the Language) or the equivalent. Class: 3 hours. Credit: 3 semester hours.

532—Middle English. A study of the grammar and the reading of short selections from literature of the period, 1200-1450. Emphasis will be placed on the development of the language into Modern English. Prerequisite: graduate standing and English 431 (Chaucer) or the equivalent. Class: 3 hours. Credit: 3 semester hours.

534—Studies in Medieval English Literature. An intensive study of an author or related authors selected from the Old English and Middle English periods. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

535—**Studies in Renaissance and Seventeenth Century English Literature.** An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

536—**Studies in Restoration and Eighteenth Century English Literature.** An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

537—**Studies in Nineteenth Century English Literature.** An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

538—**Studies in Twentieth Century Literature.** An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

539—**Studies in American Literature.** An intensive study of an author or related authors selected from the period. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

669A-669B—**Thesis.** Credit: 6 semester hours.

DEPARTMENT OF GEOLOGY

Professors Eveland, Aronow, Matthews
Assistant Professors Davis, Tennissen

Program of Study

Bachelor of Science—Geology Major

First Semester		First Year		Second Semester	
Eng 131—Composition	3	Eng 132—Composition	3	Bio 142—General	4
Bio 141—General	4	Bio 141—General	4	Chm 142—General	4
Chm 141—General	4	Geo 141—Physical	4	Geo 142—Historical	4
Geo 141—Physical	4	HPE—Activity	1	HPE—Activity	1
HPE—Activity	1				
		16			16
		Second Year			
First Semester		Second Semester			
Gov 231—Constitutions	3	Gov 232—State Natl.	3	Spc 131 or 331	3
Eng 231—Literature	3	Spc 131 or 331	3	Mth 134—Algebra	3
Mth 133—Trigonometry	3	Mth 134—Algebra	3	Geo 242—Petrology	4
Geo 241—Mineralogy	4	Geo 242—Petrology	4	Geo 234—Paleontology	3
Geo 233—Paleontology	3	Geo 234—Paleontology	3	HPE—Activity	1
HPE—Activity	1	HPE—Activity	1		
		17			17
		Third Year			
First Semester		Second Semester			
Phy 141—Mech & Heat	4	Phy 142—Electricity	4	Mth 139—Analysis II	3
Mth 138—Analysis I	3	Mth 139—Analysis II	3	Egr 223—Geol Drawing	2
Geo 334—Geomorphology	3	Egr 223—Geol Drawing	2	Geo 342—Structure	4
Geo 341—Stratigraphy	4	Geo 342—Structure	4	Elective	3
Elective	3	Elective	3		
		17			16
		Summer			
		Geo 360—Field Camp—6			
		Fourth Year			
First Semester		Second Semester			
His 231—United States	3	His 232—United States	3	Geo 432—Petroleum	3
Geo 431—Sedimentation	3	Geo 432—Petroleum	3	Geo 434—Geology of U.S.	3
Geo 446—Optical Min	4	Geo 434—Geology of U.S.	3	Geo 419—Seminar	1
Electives	6	Geo 419—Seminar	1	Electives	6
		16			16

Students who wish to specialize in geophysics should elect the following courses: Geo 433, Mth 231 and 331, E. E. 333

Bachelor of Arts—Geology Major**First Year**

(Same as for Bachelor of Science)

Second Year

First Semester		Second Semester	
Eng 231—Literature	3	Eng 232—Literature	3
Mth 134—Algebra	3	Mth 133—Trigonometry	3
Foreign Language	3	Foreign Language	3
Geo 241—Mineralogy	4	Geo 242—Petrology	4
Geo 233—Paleontology	3	Geo 234—Paleontology	3
HPE—Activity	1	HPE—Activity	1
	17		17

Third Year

First Semester		Second Semester	
Gov 231—Constitutions	3	Gov 232—State & National	3
Foreign Language	3	Foreign Language	3
Geo 341—Stratigraphy	4	Geo 342—Structure	4
Geo 334—Geomorphology	3	Electives	6
Elective	3		16
	16		

Fourth Year

First Semester		Second Semester	
Social Science	3	Social Science	3
His 231—United States	3	His 232—United States	3
Senior Geo Course	3	Senior Geo Course	3
Electives	6	Electives	6
	15		15

Geology courses above the 100 level must have grades of "C" or better if used to meet degree requirements for the geology major.

Geology (Geo)

141—Physical Geology. Earth materials, structure, land forms, mineral resources, and the process which have formed them. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

142—Historical Geology. History of the earth and its life. Prerequisite: Geo 141. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

220—Geology for Engineers. A survey of physical geology with emphasis on geologic problems in engineering practice. Primarily for engineering students. A student may not receive credit for both Geo 220 and Geo 141. Class: 2 hours. Laboratory: 2 hours. Credit: 2 hours.

233, 234—Paleontology. The classification, morphology and identification of invertebrate fossils. Field trip required. Prerequisite: Geo 142. Class: 2 hours. Laboratory: 2 hours. Credit: 3 semester hours each semester.

237—Physical Geography. The fundamental concepts of local, regional, and global geography. Prerequisite: sophomore standing. Class: 3 hours. Credit: 3 semester hours.

239—History of Life. History of the earth and its inhabitants, with emphasis on the life forms and their development. Includes the study of rocks, geologic time, fossils, and prehistoric man. Only for students having no geology credit. Class: 3 hours. Credit: 3 semester hours.

241—Mineralogy. The classification, properties, occurrence, and identification of minerals. Field trip required. Prerequisite: Geo 141 and Chm 141. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

242—Petrology. The classification, properties, occurrence, and identification of igneous, sedimentary, and metamorphic rocks. Field trip required. Prerequisite: Geo 241. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

334—Geomorphology. The development and classification of land forms. Field trip required. Prerequisite: Geo 142. Class: 3 hours. Credit: 3 semester hours.

341—Stratigraphy. The history, distribution, and correlation of sedimentary strata. Field trip required. Prerequisite: Geo 233. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

342—Structural Geology. Rock deformation and the resulting structures. Field trip required. Prerequisite: Geo 142 and Mth 133. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

360—Summer Field Course. Description of stratigraphic sections, preparation of geologic maps and field reports. Duration: 6 weeks. Total cost: \$200-\$300. Prerequisites: Geo 342 and E.Dr. 223. Credit: 6 semester hours.

419—Seminar. Reports on current literature. Prerequisite: senior standing. Class: 1 hour. Credit: 1 semester hour.

427, 428—Special Project. An individual library, laboratory, or field project. To receive credit, an acceptable typewritten report is required. Credit: maximum of 4 semester hours.

430—Earth Science Seminar. A survey of earth materials and processes, earth history, astronomy, and meteorology. Identification of mineral, rock, and fossil specimens, and cloud formations. Demonstrations of topographic, geologic, and weather maps. Designed for non-science majors. Prerequisite: senior or graduate standing. Class: 3 hours. Credit: 3 semester hours.

431—Sedimentation. The derivation, transportation, and deposition of sediments, with emphasis on environmental factors. Laboratory techniques for the study of sediments. Field trip required. Prerequisite: Geo 242. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

432—Petroleum Geology. The origin, accumulation, and geologic distribution of petroleum. Subsurface methods; electric and lithologic logs, structure contour maps, sample analysis. Field trips required. Prerequisite: Geo 342 and 431. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

433—Geophysics. Application of the principles of physics to geologic problems. Use of geophysical techniques in petroleum exploration. Prerequisite: Geo 342. Class: 3 hours. Credit: 3 semester hours.

434—Geology of the United States. A regional study of the topography, physiography, and geologic history of the United States. Prerequisites: Geo 342 and 334. Class: 3 hours. Credit: 3 semester hours.

435—Water-Supply Geology. The hydrologic cycle pertaining to recharge, movement and discharge of surface and ground-waters. Exploration, development and quality of water supplies. Prerequisite: Geo 342. Class: 3 hours. Credit: 3 semester hours.

437—Economic Geology. Occurrence and origin of commercially valuable metallic and non-metallic minerals and rocks. Exploration and development of deposits. Field trip required. Prerequisite: Geo 242 and 342. Class: 3 hours. Credit: 3 semester hours.

438, 439—Micropaleontology. The classification, morphology, and identification of microfossils, with emphasis on the Order Foraminifera. Prerequisite: Geo 234. Class: 1 hour. Laboratory: 4 hours. Credit: 3 semester hours each semester.

446—Optical Mineralogy. Optical properties of minerals. Use of the polarizing microscope in the identification of minerals and rocks. Prerequisite: Geo 242. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

DEPARTMENT OF GOVERNMENT

Professors Dawson, Fornell, Tucker.

Associate Professors Stevens, Yuan.

Assistant Professor Coffey.

Instructors King, Larson, Mattingly, Tiller.

Courses in the Department of Government are designed to prepare the student to become (1) a functioning citizen, (2) a teacher of government or social science, (3) a government employee on the national, state, or local levels, (4) a foreign service employee, (5) an analyst in public affairs for private industrial and commercial firms, labor unions, or endowed research institutes, (6) an active participant in the political processes.

The Department of Government serves in an advisory capacity for pre-law students. Each student having such interest is guided toward fulfilling the entrance requirements for law school and is given the preparatory background for his future work.

The major in government is based on the principle of a liberal education, with attention to the social sciences, and emphasis on the theory and practice of governments. Students in government should take certain basic courses in all fields of government but a minimum of three hours of constitutional law and political thought is mandatory. Courses in advanced government are offered in the following fields: American government and politics, comparative government (British, European, Far Eastern), international relations (organization, politics, and law), public administration, political thought, public law.

In general 231 and 232 are prerequisites to all advanced courses in government. A student with a major in government is required to complete a minimum of twenty-four hours in government and eighteen hours in a minor from the fields of history, English, sociology, economics, business or foreign language. Listed below is a suggested program of study leading to the degree of Bachelor of Arts or Bachelor of Science in government. The student of government is strongly urged to work toward the Bachelor of Arts degree.

Bachelor of Arts—Government

First Year		Second Year	
Eng 131, 132—Composition.....	6	Eng 231, 232—British Lit.....	6
Science or Mth*	6—8	Science or Mth*	6—8
Language**	6	Gov 231, 232—St and Nat.....	6
Electives***	12	His 231, 232—United States....	6
HPE—Activity	2	Language	6
		HPE—Activity	2
	32		32

***Selected from His 131, 132,
Phl 231, 232, Soc 131, 132,
Spc 131.

Third Year		Fourth Year	
Gov	9	Gov	9
Minor	9	Minor	9
Electives	12	Electives	12
	30		30

*This requirement may be met by taking 16 semester hours in laboratory science (two different sciences) or 12 semester hours in mathematics or 6 hours of mathematics and 8 semester hours of science.

**The foreign language is the completion of the 232 course in any foreign language.

Teacher Certification—Government

Students wishing to secure the Bachelor of Arts degree in government and at the same time to certify for a provisional certificate—secondary with a teaching field in government, must include in their degree program the following:

1. Six hours of mathematics and eight hours of science.
2. The minor must be expanded to include a 24 hour (approved) additional teaching field—consult this catalog, School of Education.
3. Advanced government courses must include the following: 331, 332, 334, 436 or 437, six hours from 431, 432, 433.
4. Eighteen hours of Education to include 331, 332, 338, 438, 462.
5. Approved electives sufficient to bring the total number of hours to 132.

Bachelor of Science—Government

The Bachelor of Science degree differs from the Bachelor of Arts in that approved electives may be substituted for the foreign language requirement, and that the minimum number of hours for graduation is 128.

First Year		Second Year	
Eng 131, 132—Composition	6	Eng 231, 232—British Lit.	6
Science or Mth	6—8	Science or Mth	6—8
Electives*	18	Gov 231, 232—St and Nat.	6
HPE—Activity	2	His 231, 232—United States.	6
		Electives	6
		HPE—Activity	2
	32		32

*Selected from His 131, 132,
Phl 231, 232, Soc 131, 132.
Spc 131

Third Year		Fourth Year	
Gov.	9	Gov.	10
Minor	9	Minor	9
Electives	15	Electives	12
	33		31

Government (Gov)

S 231—**The American Constitutional System, Federal and State.** A study of the background and composition of the national and state constitution; local government; the federal and state judiciaries; civil liberties. Prerequisite: sophomore standing. Class: 3 hours. Credit: 3 semester hours.

F 232—**American and State Government Organization and Functions.** A study of political parties; the legislative and executive branches; functions of both national and state government; foreign policy. Prerequisite: sophomore standing. Class: 3 hours. Credit: 3 semester hours.

330—**Political Behavior.** Economic, psychological, and social dimensions of political behavior; political participation, leadership and elites; political attitudes, voting behavior and the decision making process. Class: 3 hours. Credit: 3 semester hours.

331—**The Governments of Great Britain, France, and Germany.** A comparative study of the democratic governments of Western Europe. Class: 3 hours. Credit: 3 semester hours.

332—**International Politics.** A study of the concepts underlying the Western State system; nationalism and imperialism; the techniques and instruments of power politics; and the foreign policies of selected states. Class: 3 hours. Credit: 3 semester hours.

333—**The Governments of the Soviet Union and Eastern Europe.** A comparative study of the governments of the Soviet Union and Eastern Europe. Class: 3 hours. Credit: 3 semester hours.

334—**American Political Parties.** A study of political parties in terms of their theory, their history, and their practical function in contemporary American politics. Class: 3 hours. Credit: 3 semester hours.

335—**The American Presidency.** The role of the office in political and diplomatic, social and economic terms, as well as in the policy making aspects. Class: 3 hours. Credit: 3 semester hours.

336—**International Law and Organizations.** Elements of international law and principles and practices of international organizations. Class: 3 hours. Credit: 3 semester hours.

337—**American Diplomacy.** Historical development and selected problems of American diplomacy. (Government 337 and History 337 may not both be counted.) Class: 3 hours. Credit: 3 semester hours.

338—Governments of Latin America. The development of governments and politics in principal countries of South America with emphasis on factors that have conditioned political organization and contemporary political movements. Class: 3 hours. Credit: 3 semester hours.

339—Municipal Government and Administration. The organization, development, functions, and problems of city government in the United States. Designed generally for those interested in a career in City or County government. Class: 3 hours. Credit: 3 semester hours.

3301—The Legislative Process. The structure, functioning, and political control of legislative bodies. Class: 3 hours. Credit: 3 semester hours.

3311—Group Politics. Analysis and appraisal of the role of economic, social, and political groups in American politics; organization and techniques of political influence; the group struggle and resulting problems of public policy. Class: 3 hours. Credit: 3 semester hours.

3312—State and Local Government. An introduction to state and local government in the United States with special reference to Texas and its government and politics. Class: 3 hours. Credit: 3 semester hours.

419—Seminar. Current issues, problems, and literature in the various specialized areas of government. Credit: 1 semester hour.

430—Public Personnel Administration. The civil service movement; staffing, the human problem, position and pay classification, employment relations, and the machinery which has been developed for handling personnel matters. Class: 3 hours. Credit: 3 semester hours.

431—History of Political Thought I. The chief concepts of outstanding political thinkers from the Greeks through the Reformation. Class: 3 hours. Credit: 3 semester hours.

432—History of Political Thought II. A continuation of Government 431 from the Reformation through Karl Marx. Class: 3 hours. Credit: 3 semester hours.

433—History of Political Thought III. A continuation of Government 432 from Karl Marx to the present with attention given to modern American thought. Class: 3 hours. Credit: 3 semester hours.

434—Government Regulation of Economic Enterprise. Relationship of government to the economic system; causes, scope, and methods of administrative regulation; problems in government operations. Class: 3 hours. Credit: 3 semester hours.

435—Introduction to Public Administration. A survey of American public administration, with emphasis upon modern problems and trends. Class: 3 hours. Credit: 3 semester hours.

436—American Constitutional Law and Development. Development of the American Constitution through judicial interpretations, with particular emphasis on cases dealing with federalism, Congress, and the executive. Class: 3 hours. Credit: 3 semester hours.

437—American Constitutional Law and Development. A continuation of Government 436 with particular emphasis upon cases dealing with commerce, due process, and civil rights. Class: 3 hours. Credit: 3 semester hours.

438—Far Eastern Governments and Politics. A comparative study of the constitutions, governmental organization, and political developments in Japan, China, and India since World War II, considered against the social and economic background. Class: 3 hours. Credit: 3 semester hours.

439—Reading Program for Seniors. A specially arranged reading program for qualified seniors. Credit: 3 semester hours.

DEPARTMENT OF HISTORY

Professors Williams, Wooster.
Associate Professors Evans, Isaac, Mackey, Norton.
Assistant Professors Gwin, Johnson, Satterfield, Sutton, Ware, Woodland.
Instructors Lambert, Spencer.

Bachelor of Arts—History Major

The degree of Bachelor of Arts in History will be awarded upon the completion of the following requirements:

- A. General Requirements
 - English 131-132—Composition
 - Literature—six semester hours
 - Mathematics—six semester hours
 - Science—laboratory—eight semester hours (in same science)
 - Completion of the 232 course in a foreign language
 - Government 231-232—State and National
 - Physical Education or Band—four semester hours
- B. Major
 - History 131-132—World History
 - History 231-232—United States History
 - History 339—Historical Research
 - Advanced United States history—six semester hours
 - Advanced World (non-United States) history—six semester hours
- C. Minor
 - An approved minor of eighteen semester hours, including at least six advanced semester hours.
- D. Electives
 - Sufficient approved electives to complete a total of 126 semester hours.

Teacher Certification—History

Students wishing to secure the Bachelor of Arts degree in history and at the same time certify for a provisional certificate—secondary with a teaching field in history, must include in their degree program the following:

1. An approved twenty-four hour additional teaching field (See Department of Education section of this catalog for a list of approved teaching fields.)
2. Education 331, 332, 338, 438, and 462.
3. Sufficient approved electives to complete a total of 132 semester hours.

Suggested Program of Study

First Year		Second Year	
His 131-132—World History.....	6	His 231-232—United States.....	6
Eng 131-132—Composition.....	6	Eng 231-232—British Lit.....	6
Foreign Language.....	6	Foreign Language.....	6
Science or Mathematics.....	6-8	Science or Mathematics.....	6-8
Electives.....	6	Gov 231-232—St and Nat.....	6
HPE—Activity.....	2	HPE—Activity.....	2
	32-34		32-34
Third Year		Fourth Year	
His 339.....	3	His (Adv.).....	6
His (Adv.).....	6	Edu 438 and 462 or	
Edu 331, 332, 338 or		Electives.....	9
Electives.....	9	Minor (or other Teaching	
Minor (or other Teaching		Field) and Electives.....	15-18
Field) and Electives.....	12-15		30-33
	30-33		

Bachelor of Science—History Major

The degree of Bachelor of Science in History will be awarded upon the completion of the requirements for the Bachelor of Arts in History with the following modifications:

1. Approved advanced electives substituted for the foreign language requirement.
2. Sufficient approved electives to complete a total of 128 semester hours.

The provisional certificate—secondary with a teaching field in history is not granted in conjunction with the Bachelor of Science in History.

Master of Arts—History Major

The degree of Master of Arts in History requires the completion of thirty semester hours of graduate work: eighteen in history, six in thesis, and six in an approved minor or six additional hours in history. At least twelve semester hours, exclusive of the thesis, must be in history courses numbered 500 or above. The minor must be approved by the Head of the Department of History; such approval will be given on the basis of the support the minor can give to the major.

History (His)

131—History of World Civilization. Survey of world history to 1715. Class: 3 hours. Credit: 3 semester hours.

132—History of World Civilization. Survey of world history from 1715 to the present. Class: 3 hours. Credit: 3 semester hours.

134—History of Texas. Survey of Texas history from the beginning to the present time. Class: 3 hours. Credit: 3 semester hours.

231—History of the United States. Survey of United States history to 1865. Prerequisite: sophomore standing. Class: 3 hours. Credit: 3 semester hours.

232—History of the United States. Survey of United States history from 1865 to the present. Prerequisite: History 231. Class: 3 hours. Credit: 3 semester hours.

320—Honors Colloquy on History of Ideas. The origin and evolution of ideas which have influenced modern thought. Class: 2 hours. Credit: 2 semester hours. Prerequisite: enrollment in junior Honors Program.

331—Social and Intellectual History of the United States to 1865. Life and thought in the United States prior to 1865. Class: 3 hours. Credit: 3 semester hours.

332—Social and Intellectual History of the United States Since 1865. Life and thought in the United States since 1865. Class: 3 hours. Credit: 3 semester hours.

333—Economic History of the United States. Origin and development of American economic institutions. Class: 3 hours. Credit: 3 semester hours.

334—Military History of the United States. History of American warfare and the development of American military institutions and practices. Class: 3 hours. Credit: 3 semester hours.

335—Constitutional History of the United States. Growth and development of American constitutional principles. Class: 3 hours. Credit: 3 semester hours.

337—Diplomatic History of the United States. Historical development and selected problems of American diplomacy. (History 337 and Government 337 may not both be counted.) Class: 3 hours. Credit: 3 semester hours.

339—Historical Research. Principles and methods of historical research. Class: 3 hours. Credit: 3 semester hours.

430—Era of the Renaissance and Reformation. Western Europe from 1453 to 1610. Class: 3 hours. Credit: 3 semester hours.

431—The Old Regime. Western Europe from 1610 to 1783. Class: 3 hours. Credit: 3 semester hours.

432—The French Revolution and Napoleon. Western Europe from 1783 to 1815. Class: 3 hours. Credit: 3 semester hours.

433—Russia and Eastern Europe to 1825. Russia, Poland, and the Balkans from the period of the Byzantine Empire to 1825. Class: 3 hours. Credit: 3 semester hours.

- 434—Nineteenth Century Europe. Europe from 1815 to 1914. Class: 3 hours. Credit: 3 semester hours.
- 435—Twentieth Century Europe. Europe since 1914. Class: 3 hours. Credit: 3 semester hours.
- 436—The American West. The American West from the Louisiana Purchase to the present. Class: 3 hours. Credit: 3 semester hours.
- 437—The American South. The American South from colonial times to the present. Class: 3 hours. Credit: 3 semester hours.
- 439—Honors Program. A tutorial program for honors seniors. Admission by invitation only. Credit: 3 semester hours.
- 4311—Colonial America. Class: 3 hours. Credit: 3 semester hours.
- 4312—The American Revolution. Class: 3 hours. Credit: 3 semester hours.
- 4313—The Age of Jackson. Class: 3 hours. Credit: 3 semester hours.
- 4314—The American Civil War. Class: 3 hours. Credit: 3 semester hours.
- 4315—Reconstruction and Industrialization: The United States from 1865 to 1898. Class: 3 hours. Credit: 3 semester hours.
- 4316—World Power and Reform: The United States from 1898 to 1929. Class: 3 hours. Credit: 3 semester hours.
- 4317—New Deal and World Leadership: The United States Since 1929. Class: 3 hours. Credit: 3 semester hours.
- 4318—Classical Civilization. Greece and Rome from earliest times to the fall of the Roman Empire in the West. Class: 3 hours. Credit: 3 semester hours.
- 4319—Medieval Civilization. Western Europe and the Mediterranean area from the late Roman period to 1453. Class: 3 hours. Credit: 3 semester hours.
- 4323—Latin America to 1810. Class: 3 hours. Credit: 3 semester hours.
- 4324—Latin America Since 1810. Class: 3 hours. Credit: 3 semester hours.
- 4325—Tudor and Stuart England. England from 1485 to 1688. Class: 3 hours. Credit: 3 semester hours.
- 4326—Eighteenth Century England. England (Great Britain) from 1688 to 1815. Class: 3 hours. Credit: 3 semester hours.
- 4327—Victorian England. Great Britain from 1815 to 1914. Class: 3 hours. Credit: 3 semester hours.

530—History of Historical Writing. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

531—Sources and Literature of Early United States History. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

532—Sources and Literature of Recent United States History. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

533—Sources and Literature of Modern European History. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

534—Sources and Literature of Modern British History. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

535—Seminar in Texas History. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

536—Seminar in Southern History. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

537—Seminar in Early United States History. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

538—Seminar in Recent United States History. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

539—Seminar in the American West. Course may be repeated for a maximum of six semester hours credit when the topic varies. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis. Prerequisite: admission to candidacy for the master's degree. Credit: 6 semester hours.

DEPARTMENT OF MODERN LANGUAGES

Professor Zellner.

Associate Professors Hensley, Lockhart.

Assistant Professors Francis, Perret, Reyes-Cairo, Smith, Watts.

Instructor Lusk.

The language requirement for a Bachelor of Arts degree is the completion of the 232 course.

Students who plan to do graduate work are advised to study two foreign languages while earning the Bachelor of Arts degree.

Advanced Status. A student should register for course 132 if he has passed two years of high school study in the language elected for college. He may not receive credit for two units of high school language and the 131 course in the same language.

Prerequisite requirements may be waived according to the student's proficiency in the language—the proficiency being objectively determined by CEEB language scores submitted.

A student who desires a more advanced status may submit a CEEB achievement test score. If the student successfully completes the course in which he is placed with a grade of "C" or better, he will receive credit for the prerequisite courses beginning with the 131 course. A student may receive no more than six semester hours credit in this manner. (See Admissions, this catalog.)

Advanced Credit. A student who wishes advanced credit must take the College Board Advanced Placement Examination in his elected language. He will receive credit based on test scores achieved and determined by the language department. (See Admissions, this catalog.)

Bachelor of Arts—French Major or Spanish Major

A language major must complete twenty-four semester hours in the language selected beyond the 131-132 course. The courses required are 231-232 and eighteen advanced hours which include 333, 334 (Introduction to Literature), 335, 336 (Advanced Composition and Conversation) plus six additional advanced hours.

An approved minor consists of eighteen semester hours, six of which must be advanced. A language major usually selects his minor in a second foreign language or in the field of English, history, government, or sociology.

A minor in French, German, or Spanish consists of 18 semester hours of one language including at least six semester hours of advanced courses in the minor language elected. Only six of these hours may be earned by a student's proficiency score on a placement examination.

Program of Study

First Year		Second Year	
*Maj Lang 131-132—First Year	6	Maj Lang 231-232—Read,	
Eng 131-132—Composition	6	Comp, Conv	6
Sci	8	Eng 231-232—Brit Lit	6
Spc 131—Fund	3	His 231-232—United States	6
Phl 231, Soc 131, or Ant 231	3	Mth	6
HPE—Activity	2	HPE—Activity	2
Elec	6	Elec	6
	34		32
Third Year		Fourth Year	
Maj Lang 333-334—Literature	6	Maj Lang 336—Adv Comp	3
Maj Lang 335—Adv Comp	3	Maj Lang (Adv. hrs.)	6
Gov 231-232—St and Nat	6	Elec (incl. minor)	21
Elec (incl. minor)	18		30
	33		30
		Total degree hours	129

Teacher Certification

Students who wish to be certified to teach foreign language in the public schools may choose one or both teaching fields in foreign language.

The above program must be expanded to 132 hours to include 18 hours of education courses (331, 332, 338, 438, 462) as well as an additional teaching field of 24 required hours in the field selected. The 24 hour additional field is a substitute for the 18 hour minor.

A teaching field in foreign language (French, German, Spanish) must include the 231, 232, 333, 334, 335, 336 courses in the language chosen.

French (Fre)

131—First Year French. Pronunciation, conversation, reading, dictation, fundamentals. Use of recordings. Class: 3 hours. Credit: 3 semester hours per course.

132—First Year French. Reading, grammar, exercise in composition, conversation. Use of recordings. Prerequisite: French 131 or two years of high school French. Class: 3 hours. Credit: 3 semester hours.

231, 232—Reading, composition, conversation. Prerequisite for French 231: French 132. Class: 3 hours. Credit: 3 semester hours per course.

*Must be included if student has not already had the equivalent.

333—Introduction to French Literature. Survey of French literature through the eighteenth century. Readings from significant works. Lectures, readings, oral and written reports. Prerequisite: French 232. Class: 3 hours. Credit: 3 semester hours.

334—Introduction to French Literature. Survey of French literature since the eighteenth century. Readings from significant works. Lectures, readings, oral and written reports. Prerequisite: French 232. Class: 3 hours. Credit: 3 semester hours.

335—Advanced Composition. Prerequisite: French 232. Class: 3 hours. Credit: 3 semester hours.

336—Advanced Composition and Conversation. Prerequisite: French 335. Class: 3 hours. Credit: 3 semester hours. Required for French majors.

431—The Nineteenth Century French Novel. Prerequisite: 6 hours of advanced courses in French. Class: 3 hours. Credit: 3 semester hours.

432—French Drama After 1800. Prerequisite: 6 hours of advanced courses in French. Class: 3 hours. Credit: 3 semester hours.

German (Ger)

131—First Year German. Pronunciation, conversation, reading, dictation, fundamentals. Use of recordings. Class: 3 hours. Credit: 3 semester hours.

132—First Year German. Reading, grammar, conversation, exercises in composition. Use of recordings. Prerequisite: German 131 or 2 years of high school German. Class: 3 hours. Credit: 3 semester hours.

231, 232—Reading, Composition, Conversation. Prerequisite for German 231: German 132. Class: 3 hours. Credit: 3 semester hours per course.

233—Technical Translation. Translation of technical articles and books. Science majors may substitute German 233 for German 232 course to meet the Bachelor of Arts degree requirement. Prerequisite: German 231. Class: 3 hours. Credit: 3 semester hours.

333, 334—Survey of German Literature. Reading of significant works. Lectures, reading, oral and written reports. Prerequisite: German 232. Class: 3 hours. Credit: 3 semester hours per course.

335—Advanced Composition. Prerequisite: German 232. Class: 3 hours. Credit: 3 semester hours.

336—Advanced Composition and Conversation. Prerequisite: German 335. Class: 3 hours. Credit: 3 semester hours.

Spanish (Spa)

131—First Year Spanish. Pronunciation, conversation, reading, dictation, fundamentals. Use of recordings. Class: 3 hours. Credit: 3 semester hours.

132—First Year Spanish. Reading, grammar, conversation, exercises in composition. Use of recordings. Prerequisite: Spanish 131 or two years of high school Spanish. Class: 3 hours. Credit: 3 semester hours.

231, 232—Reading, Composition, Conversation. Prerequisite for Spanish 231: Spanish 132. Class: 3 hours. Credit: 3 semester hours per course.

332—Introduction to Spanish Literature. Survey of Spanish literature through the Golden Age. Readings from significant works. Lectures, readings, oral and written reports. Prerequisite: Spanish 232. Class: 3 hours. Credit: 3 semester hours.

333—Introduction to Spanish Literature. Survey of Spanish literature since the Golden Age. Readings from significant works. Lectures, readings, oral and written reports. Prerequisite: Spanish 232. Class: 3 hours. Credit: 3 semester hours.

334—Introduction to Spanish-American Literature. Survey of Spanish-American literature and civilization. Study of outstanding writers and their works. Lectures, readings, oral and written reports. Prerequisite: Spanish 232. Class: 3 hours. Credit: 3 semester hours.

335—Advanced Composition. Prerequisite: Spanish 232. Class: 3 hours. Credit: 3 semester hours.

336—Advanced Composition and Conversation. Prerequisite: Spanish 335. Class: 3 hours. Credit: 3 semester hours. Required for Spanish majors.

431—Contemporary Spanish Literature. Prerequisite: 6 hours of advanced Spanish. Class: 3 hours. Credit: 3 semester hours.

436—Spanish American Novel. Prerequisite: 6 hours of advanced Spanish. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF PHYSICS

Professor Rigney. Associate Professors Biser, Landegren.
Assistant Professors Goines, Peebles, Pizzo, Shepherd.

High school preparation for the physics major must include 2 units of algebra and $\frac{1}{2}$ unit of trigonometry. Those having inadequate high school mathematics must take Math. 133 and/or Math. 134 to make up the deficiency, preferably in the summer session preceding the freshman year of college.

Program of Study

Bachelor of Science—Physics Major

First Year

First Semester		Second Semester	
Chm 141—General	3-3-4	Chm 142—General	3-3-4
Eng 131—Composition	3-0-3	Eng 132—Composition	3-0-3
Ger 131—First Year	3-0-3	Ger 132—First Year	3-0-3
Mth 138—Analysis I	3-0-3	Mth 139—Analysis II	3-0-3
HPE—Activity	0-3-1	Phy 140—Intro Mchnics	3-3-4
Elective*	3	HPE—Activity	0-3-1
	17		18

Second Year

First Semester		Second Semester	
Eng—Literature	3-0-3	Eng—Literature	3-0-3
Ger 231—Read, Comp, Convr	3-0-3	Ger 233—Technical Trans	3-0-3
Mth 231—Analysis III	3-0-3	Mth 232—Analysis IV	3-0-3
Phy 241—Egr Heat Elmag	3-3-4	Phy 242—Egr Snd Lt Qua	3-3-4
HPE—Activity	0-3-1	HPE—Activity	0-3-1
Elective*	3	Elective*	3
	17		17

Third Year

First Semester		Second Semester	
Gov 231—Constitutions	3-0-3	Gov 232—State and Natl	3-0-3
His 231—United States	3-0-3	His 232—United States	3-0-3
Mth 331—Diff Eq	3-0-3	Mth—Elective	3-0-3
Phy 333—Anal Mech	3-0-3	Phy 338—Adv El and Magn	3-0-3
Phy 335—Atomic	3-0-3	Elective*	3
	15		15

Fourth Year

Mth—Electives	6
Phy 324—Modern Lab	2
Phy 416 or 417—Seminar	1

Phy—Electives	13
Electives*	11
	33

*At least 6 of the 23 semester hours of electives must be in other science or engineering courses.

Physics (Phy)

137—Descriptive Astronomy. A survey of facts and an introduction to important astronomical theories. The solar system, stars, nebulae, and star systems. Class: 2 hours. Demonstration and discussion: 1 hour. Credit: 3 semester hours.

138—Descriptive Astronomy. A continuation of Physics 137. Double stars, variable stars, star clusters and nebulae. Stellar theories. Class: 3 hours. Credit: 3 semester hours.

140—Introductory Mechanics. Emphasis is placed on derivations, units, and problem-solving. Prerequisites: Credit for or registration in Mth 139. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

141—General Physics—Mechanics, Sound, and Heat. Designed for majors in the physical or natural sciences. Emphasis placed upon understanding and application of basic physical laws. Prerequisite: Credit for Mth 133 and 134. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

142—General Physics—Electricity, Magnetism, Light and Modern Physics. A continuation of Phy 141. Prerequisite: Phy 141. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

143, 144—Physical Science. Designed for non-science majors. Topics are selected from physics, chemistry, geology, astronomy, and meteorology to illustrate the philosophy and methods of science. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours per semester.

220—Honors Science Colloquy. History and philosophy of science; influence of science on modern thought; questions of values raised by science. Class: 2 hours. Credit: 2 semester hours. Prerequisite: enrollment in sophomore Honors Program.

241—Engineering Physics—Heat, Electricity, and Magnetism. Emphasis is placed on derivations, units, and problem-solving. Prerequisite: Phy 140 or Egr 132 and credit for or registration in Mth 231. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

242—Engineering Physics—Sound, Light, and Quanta. Emphasis is placed on derivations, units, and problem-solving. Prerequisite: Phy 241. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

324—Modern Physics Laboratory. Selected experiments such as determination of the electronic charge and mass, and of Planck's constant; black-body radiation; gamma ray spectroscopy; specific heats of crystalline solids, mobility of electrons in semiconductors. Prerequisite: Registration in or credit for Phy 335. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

333—Analytical Mechanics. Use of vector notation in formulating and applying Newton's laws and the principles of momentum and energy. Dynamics of particles and rigid bodies emphasized. Statics treated briefly. Prerequisites: Phy 140 or 141-142 and credit for or registration in Mth 331. Class: 3 hours. Credit: 3 semester hours.

335—Atomic Physics. Conservation laws; special relativity; quantum effects; atomic structure; X-rays; nuclear and solid state physics. Prerequisites: Phy 241-242 or Phy 141-142 and Mth 231. Class: 3 hours. Credit: 3 semester hours.

338—Advanced Electricity and Magnetism. Electrostatic field; magnetic field; potential; capacitance; dielectrics; electromagnetic waves. Maxwell's equations; conduction in gases; thermoelectricity. Prerequisite: Phy 241-242 or 141-142 and credit for or registration in Mth 331. Class: 3 hours. Credit: 3 semester hours.

339—Thermal Physics. Temperature and thermometry; internal energy, entropy, and thermodynamic potentials; introduction to the kinetic theory of gases and the Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac statistics. Prerequisite: Phy 241-242 or Phy 141-142 and Mth 232. Class: 3 hours. Credit: 3 semester hours.

346—Electrical Measurements. Theoretical and practical definitions of electrical units; data handling and analysis; precision D. C. measurement of resistance, potential difference, and current; galvanometer characteristics; A. C. bridge measurement of self and mutual inductance, capacitance, and frequency; magnetic measurements. Prerequisite: Phy 241-242 or 141-142 and Mth 231. Class: 2 hours. Laboratory: 4 hours. Credit: 4 semester hours.

414, 415—Experimental Projects. Building of experimental apparatus under the supervision of a faculty member. Prerequisite: 6 hours of physics numbered above 300. Laboratory: 3 hours. Credit: 1 semester hour per course.

416, 417—Seminar. Reports on current publications and on topics not treated in other physics courses. Prerequisite: 6 hours of physics numbered above 300. Class: 1 hour. Credit: 1 semester hour per course.

430—Seminar in Physical Science. Designed for non-science majors. Measurement, light, the solar system, and stars; force and motion, work and energy, heat, weather, lightning, electric charge and current, magnetism; batteries, atoms and molecules. Class: 3 hours. Credit: 3 semester hours.

431—Classical Mechanics. Generalized coordinates; Lagrange's equations of motion; methods of solving Lagrange's equations; Hamilton's equations and the principle of least action; Hamilton-Jacobi partial differential equations. Prerequisite: Mth 331 and Phy 333 or Egr 231. Class: 3 hours. Credit: 3 semester hours.

432—Introductory Quantum Mechanics. Basic concepts of quantum mechanics. Schrodinger's equation; wave functions. Prerequisite: Phy 333 or 431, Phy 335, and Mth 331. Class: 3 hours. Credit: 3 semester hours.

433—Solid State Physics. Crystal structure; binding forces; mechanical and thermal properties; electrical conductivity; semiconductors; dielectric properties; magnetic properties; surface effects; phosphors and photoconductivity. Prerequisite: Phy 241-242 or Phy 141-142 and Mth 231. Class: 3 hours. Credit: 3 semester hours.

436—Nuclear Physics. Natural radioactivity; the positron; the neutron; artificial disintegration; central forces; nuclear scattering of alpha particles; charged particle accelerators; nuclear fission; isotope separation; cosmic rays; the meson; particles and waves. Prerequisite: Phy 335. Class: 3 hours. Credit: 3 semester hours.

437—Astrophysics. Solar spectroscopy; solar and planetary temperatures; stellar photometry and spectroscopy; double stars; luminosities; temperatures and diameters of stars; variable stars; star clusters; the galaxy; the nebulae; stellar atmosphere and interiors; evolution of stars; the "expanding universe"; radio astronomy. Prerequisite: Phy 335. Class: 3 hours. Credit: 3 semester hours.

440—Basic Physics for Teachers. Fundamental principles and concepts; force and work; energy and momentum; conservation laws; electric charge and current; magnetism; optics. Laboratory periods will be devoted to the individual's use of inexpensive materials to devise experiments and demonstrations suitable for high school laboratories. Prerequisite: 3 years of teaching experience in science or mathematics. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

448—Optics. Geometric and physical optics. Thick lens; lens systems; aberrations; lens design; spectroscope; interference; diffraction and resolving power; polarized light. Prerequisite: Phy 141-142 and Mth 139 or Phy 241-242. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

DEPARTMENT OF PSYCHOLOGY

Associate Professors Bell and Flocke.
Assistant Professors Breining and Buller.

Bachelor of Arts—Psychology Major

The degree of Bachelor of Arts in Psychology will be awarded upon completion of the following:

1. General Requirements

English 131-132—Composition—six semester hours
Literature—six semester hours
Mathematics—six semester hours
Biology 141-142—General—eight semester hours
Foreign Language—twelve semester-hours (completion of the 232 course in a foreign language)
Government 231-232—State and National—six semester hours
History 231-232—United States—six semester hours
Physical Activity—four semester hours

2. Major

Psychology 231—General Psychology
Psychology 232—Statistical Methods in Psychology
Psychology 333—Psychological Tests and Measurements
Psychology 430—Experimental Psychology
Psychology—Additional twelve semester hours—a minimum of nine semester hours must be on the advanced level

3. Minor

An approved minor of eighteen semester hours—a minimum of six semester hours must be on the advanced level

4. Electives

A sufficient number of approved electives to complete a total of 126 semester hours

SUGGESTED PROGRAM OF STUDY

First Year		Second Year	
Bio 141-142—General	8	Eng—Literature	6
Eng 131-132—Composition	6	Foreign Language	6
Foreign Language	6	His 231-232—United States	6
Mth	6	Psy 231—General	3
Electives	6	Psy 232—Stat Methods in Psy	3
HPE (Activity)	2	Electives	6
		HPE (Activity)	2
	34		32

Third Year	Fourth Year
Gov 231-232—State & Natl 6	Psy 430—Experimental Psy 3
Psy 333—Psy Tests 3	Psy (Advanced) 6
Psy (Advanced) 3	Electives 21
Electives 18	
—	—
30	30

Psychology (Psy)

231—General Psychology. Introduction to general psychology. Class: 3 hours. Credit: 3 semester hours.

232—Introduction to Statistical Methods. Statistical concepts and techniques used in psychological research. Class: 3 hours. Credit: 3 semester hours.

234—Child Psychology. A study of the growth and development of behavior patterns in children. Class: 3 hours. Credit: 3 semester hours.

235—Adolescent Psychology. A study of the growth and development of behavior patterns in adolescents. Class: 3 hours. Credit: 3 semester hours.

331—Systems and History of Psychology. Historical development of psychology. Emphasis on the evolution of major systems of psychology. Prerequisite: Psy 231 or recommendation of department head. Class: 3 hours. Credit: 3 semester hours.

332—Psychology of Personality. A study of several of the major theories of personality organization and adjustment processes. Prerequisite: Psy 231 or recommendation of department head. Class: 3 hours. Credit: 3 semester hours.

333—Psychological Tests and Measurements. Theory and use of instruments for the measurement of intelligence, interests, aptitudes, and attitudes. Prerequisite: Psy 231 and 232. Class: 3 hours. Credit: 3 semester hours.

334—Industrial Psychology. An introduction to the application of psychological tools and techniques in industrial settings. Stress will be placed on selecting, training, and evaluating workers. Prerequisite: Psy 333 or recommendation of department head. Class: 3 hours. Credit: 3 semester hours.

335—Motivation. A study of contemporary concepts, theories, and research in motivation. Prerequisite: Psy 231. Class: 3 hours. Credit: 3 semester hours.

336—Psychology of Communication. A study of the theory, structure, and function of communication patterns in various group settings. Prerequisite: Psy 332 or 335 or recommendation of department head. Class: 3 hours. Credit: 3 semester hours.

430—Experimental Psychology. Techniques to demonstrate and investigate concepts in psychology. Prerequisite: Psy 232 and 333. Class: 3 hours. Credit: 3 semester hours.

432—Abnormal Psychology. A study of abnormal behavior. Special emphasis on the symptomatology, etiology, and therapeutic approaches. Prerequisite: Psy 231. Class: 3 hours. Credit: 3 semester hours.

433—Differential Psychology. Individual and group behavior differences and similarities. Prerequisite: Psy 333. Class: 3 hours. Credit: 3 semester hours.

435—Leadership and Group Dynamics. A study of the nature, evaluation, and utilization of intra- and inter-personal forces producing behavior in various group structures. Prerequisite: Psy 333 or recommendation of department head. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF SOCIOLOGY

Professors Boren, Davis.
Associate Professors Ellis, Gibson.
Assistant Professors Butler, Clagett, Drenan, Weiss.
Instructors Alston, Tucker, Wright.

Bachelor of Arts—Sociology Major**Program of Study**

First Year		Second Year	
Eng 131, 132—Composition	6	Eng—Literature	6
His 131, 132—World History	6	His 231, 232—United States	6
Language	6	Language	6
Science or Mth	6-8	Science or Mth	6-8
Soc 131—Introduction	3	Soc	3
Soc 132—Social Problems	3	Elective or minor field	3
HPE—Activity	2	HPE—Activity	2
	32-34		32-34
Third Year		Fourth Year	
Gov 231, 232—State & Natl	6	Soc	6-9
Soc	6-9	Minor Field	6-12
Minor field	6-9	Electives	6-12
Electives	6-9		30
	30		
		Total—126 semester hours	

Bachelor of Science—Sociology Major

The program of study follows that outlined above for the Bachelor of Arts Degree with a second minor field substituted for the indicated courses in language.

Anthropology (Ant)

231—Introduction. The nature, development, and differentiation of man as a biological organism, and of culture as his distinctive creation and possession. Class: 3 hours. Credit: 3 semester hours.

232—Cultural Anthropology. The nature of culture, its development, transmission, and change. Class: 3 hours. Credit: 3 semester hours.

233—Primitive Society. Analysis and comparison of the culture and the conditions of life in selected non-industrial societies. Class: 3 hours. Credit: 3 semester hours.

Geography (Geg)

230—World Geography. Characteristics of major geographic regions; relationship of geographic environment to human society and culture. Class: 3 hours. Credit: 3 semester hours.

Philosophy (Phl)

231—Introduction. General characteristics of philosophy as a field of knowledge and as a method of inquiry. Class: 3 hours. Credit: 3 semester hours.

232—Logic. Nature and methods of correct reasoning; deductive and inductive proof; logical fallacies. Class: 3 hours. Credit: 3 semester hours.

233—History of Philosophy, I, Ancient and Medieval Philosophy. The development of Western philosophic thought from its inception in Greece to the end of the Medieval period. Class: 3 hours. Credit: 3 semester hours.

234—History of Philosophy, II, Modern Philosophy. The development of philosophic thought from the Renaissance through the nineteenth century; emphasis upon philosophers of the seventeenth and eighteenth centuries. Class: 3 hours. Credit: 3 semester hours.

320—Honors Aesthetics Colloquy. Questions concerning beauty, form and function, and values in the fine arts and literature. Class: 2 hours. Credit: 2 semester hours. Prerequisite: enrollment in junior Honors Program.

330—Ethics. Types and foundations of ethical conduct; major theories of ethics. Class: 3 hours. Credit: 3 semester hours.

331—American Philosophy. Major philosophies and philosophers of American society from the colonial period to the twentieth century. Class: 3 hours. Credit: 3 semester hours.

Sociology (Soc)

131—Introduction. Sociology as a field of knowledge. Basic terms, concepts, and theories of sociology applied to an explanation of human behavior, personality, groups, and society. Class: 3 hours. Credit: 3 semester hours.

132—Social Problems. Attributes of society and of persons which are subject to disapproval; the causes, extent, and consequences of these problems; programs and prospects of their resolution. Class: 3 hours. Credit: 3 semester hours.

220—Honors Colloquy on Man and Society. The study of the interrelationships between man and his sociocultural environment; foundations and methodology of the social sciences. Class: 2 hours. Credit: 2 semester hours. Prerequisite: enrollment in sophomore Honors Program.

233—Marriage and the Family. Characteristics of and problems within courtship, marriage, and family in American society. Class: 3 hours. Credit: 3 semester hours.

330—American Society. Description and analysis of structural and functional characteristics of American society and culture. Class: 3 hours. Credit: 3 semester hours.

331—The Field of Social Welfare. Historical development and current theory and practice of social welfare and social work. Class: 3 hours. Credit: 3 semester hours.

332—Social Psychology. Social and cultural influences upon individual behavior and personality; inter-personal and inter-group relations and collective behavior. Class: 3 hours. Credit: 3 semester hours.

333—Urban Sociology. Social and ecological processes in the urbanization movement; characteristics of urban society and culture. Class: 3 hours. Credit: 3 semester hours.

334—Industrial Sociology. The social structure of industry and of the trade union; inter-relationships of industry, union, and society; personal, social, and cultural factors in industrial organization and operation. Class: 3 hours. Credit: 3 semester hours.

336—Race Relations. Racial and cultural minority groups within society; causes and consequences of prejudice and discrimination and of changes in the relationships between minority and dominant groups. Class: 3 hours. Credit: 3 semester hours.

338—Criminology. Extent of and explanations for crime in American society; agencies dealing with crime and criminals; programs for control and prevention of crime and delinquency. Class: 3 hours. Credit: 3 semester hours.

339—Juvenile Delinquency. The nature, incidence, and explanations for juvenile delinquency in American society; agencies and programs for prevention and control of delinquency. Class: 3 hours. Credit: 3 semester hours.

430—Seminar in Sociology. Basic concepts and general principles of sociology as applied to the study of the individual, the group, and society. Class: 3 hours. Credit: 3 semester hours.

431—Population Problems. The growth and composition of population with emphasis on social, economic, and political problems. Class: 3 hours. Credit: 3 semester hours.

433—Social Control. The social processes which maintain social order; controls of society upon individual behavior; socialization as the process of development of conforming personality; the problems of order and authority in society. Class: 3 hours. Credit: 3 semester hours.

434—Social Change. Theories of social and cultural change. Science and technology as stimulators of change; social problems and disorganization as consequences of change; social planning for the control of social change. Class: 3 hours. Credit: 3 semester hours.

435—Sociology of Religion. Religion as a social institution; cultural foundations, social and individual functions, and principles of development of religious systems. Class: 3 hours. Credit: 3 semester hours.

436—Social Movements. Historical, structural, and tactical considerations in the development of major systems of belief and practice within society; political movements in American society. Class: 3 hours. Credit: 3 semester hours.

437—Public Opinion. Factors and processes in formation and change of public opinion; influence of the mass media of communication; analysis and evaluation of propaganda. Class: 3 hours. Credit: 3 semester hours.

COURSES IN BIBLE AND RELIGIOUS EDUCATION

Offered by the Association of Teachers of Religion

The courses described below are offered just off campus. If credit is desired, the fees are the same as for any college course.

A student may take as much as three semester hours of Bible study each semester for a total of two semesters. If the field of study warrants it, the student's academic dean may approve a total of twelve semester hours taken over a period of four semesters.

The instructors and locations of the chairs are as follows:

The Reverend James A. Wray
Baptist Bible Chair
912 East Virginia

The Reverend John D. Worrell
Canterbury Bible Chair (Episcopal)
796 East Virginia

Mr. Eldon H. Degge
Church of Christ Bible Chair
1018 East Virginia

Bible (Bib)

111—Acts of the Apostles. The history of the early Christian movement. Class: 1 hour. Credit: 1 semester hour.

131—The Old Testament. A critical study of the Old Testament and its relevance to Western culture. Class: 3 hours. Credit: 3 semester hours.

132—The New Testament. A critical study of the New Testament, its historical context, and the beginnings of the Christian Church. Class: 3 hours. Credit: 3 semester hours.

133—The Life and Teachings of Jesus. A critical study of the Gospels, the person and work of Jesus of Nazareth. Class: 3 hours. Credit: 3 semester hours.

134—The Life and Letters of St. Paul. A study of the life and ministry of St. Paul and the major portion of the Pauline letters. Class: 3 hours. Credit: 3 semester hours.

211—The Bible, Its Origin and Growth. A study of how the Bible came to be as it is today, with particular emphasis on date, authorship purpose, and canonization of the books contained within it. Class: 1 hour. Credit: 1 semester hour.

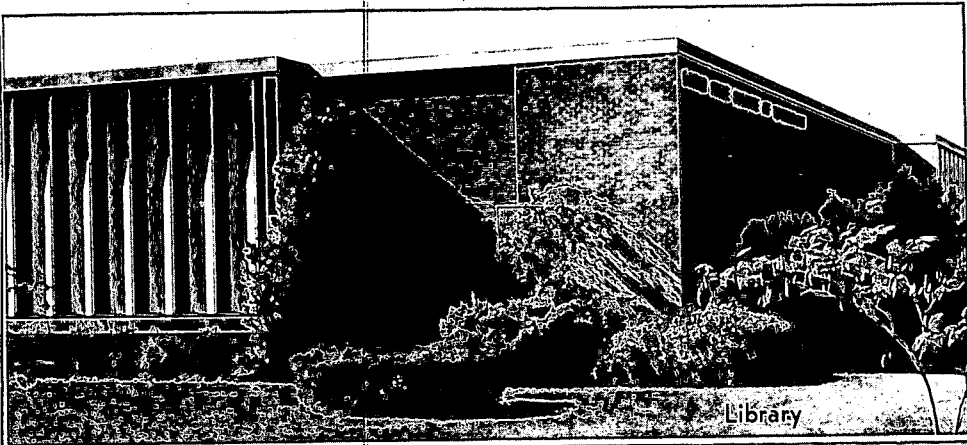
231—Church History. The history of the Christian Church, including the General Councils, the missionary movements, the Reformation, and the transition to the modern scene. Class: 3 hours. Credit: 3 semester hours.

232—Christian Ethics. The relation of the Christian Faith to daily living, with particular emphasis on vocation, courtship and marriage, the person, and society. Class: 3 hours. Credit: 3 semester hours.

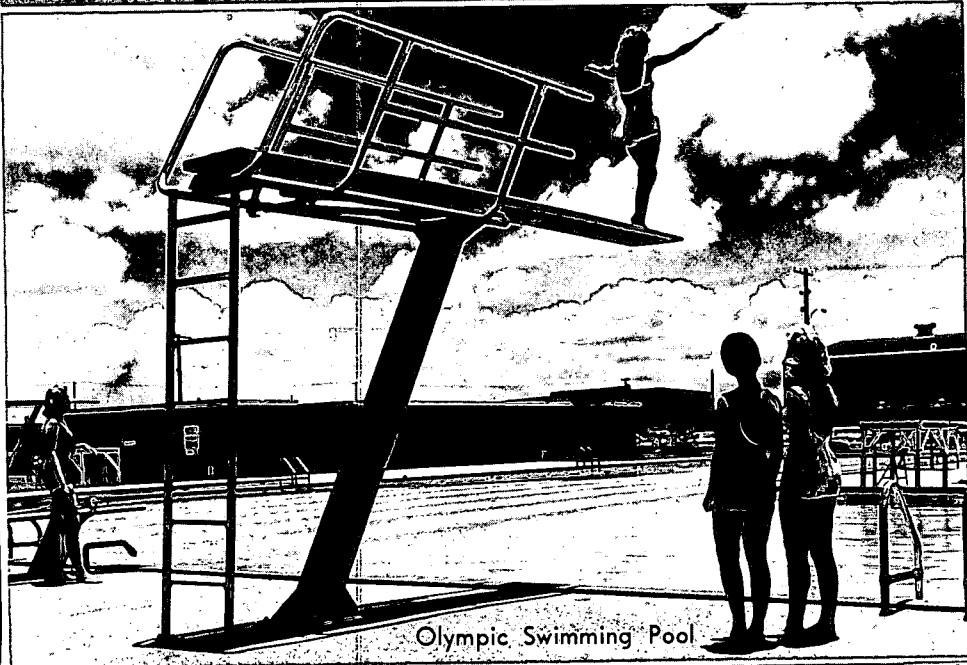
233—The Prophets of the Old Testament. A study of the major and minor prophets and the role they played in the development of the religion of Israel. Class: 3 hours. Credit: 3 semester hours.

331—Philosophy of Religion. Planned to describe the points of view in religious philosophy which are of vigorous contemporary influence, and to analyze the basic issues between them, including a study of religion as such, its historical development, with some emphasis on major contemporary religions. Class: 3 hours. Credit: 3 semester hours.

332—Great Ideas of the Bible. Planned to present to Biblical concepts of God, man, history, covenant, prophecy, vocation, and related ideas. Class: 3 hours. Credit: 3 semester hours.



Library



Olympic Swimming Pool



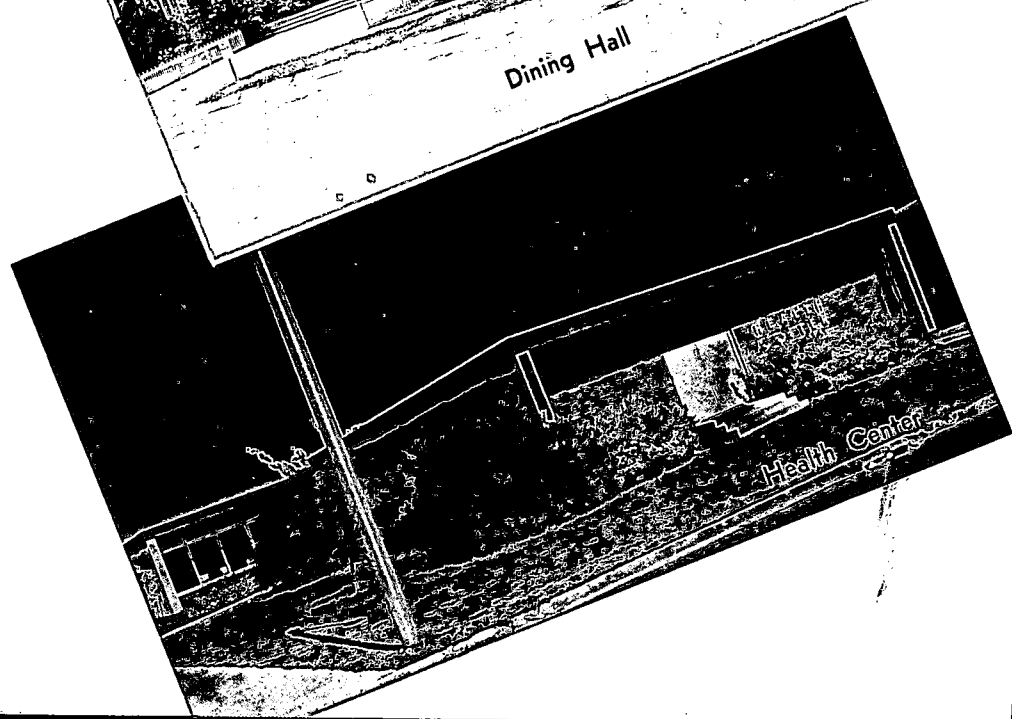
Science Building



Business Building



Dining Hall



Health Center

SCHOOL OF BUSINESS

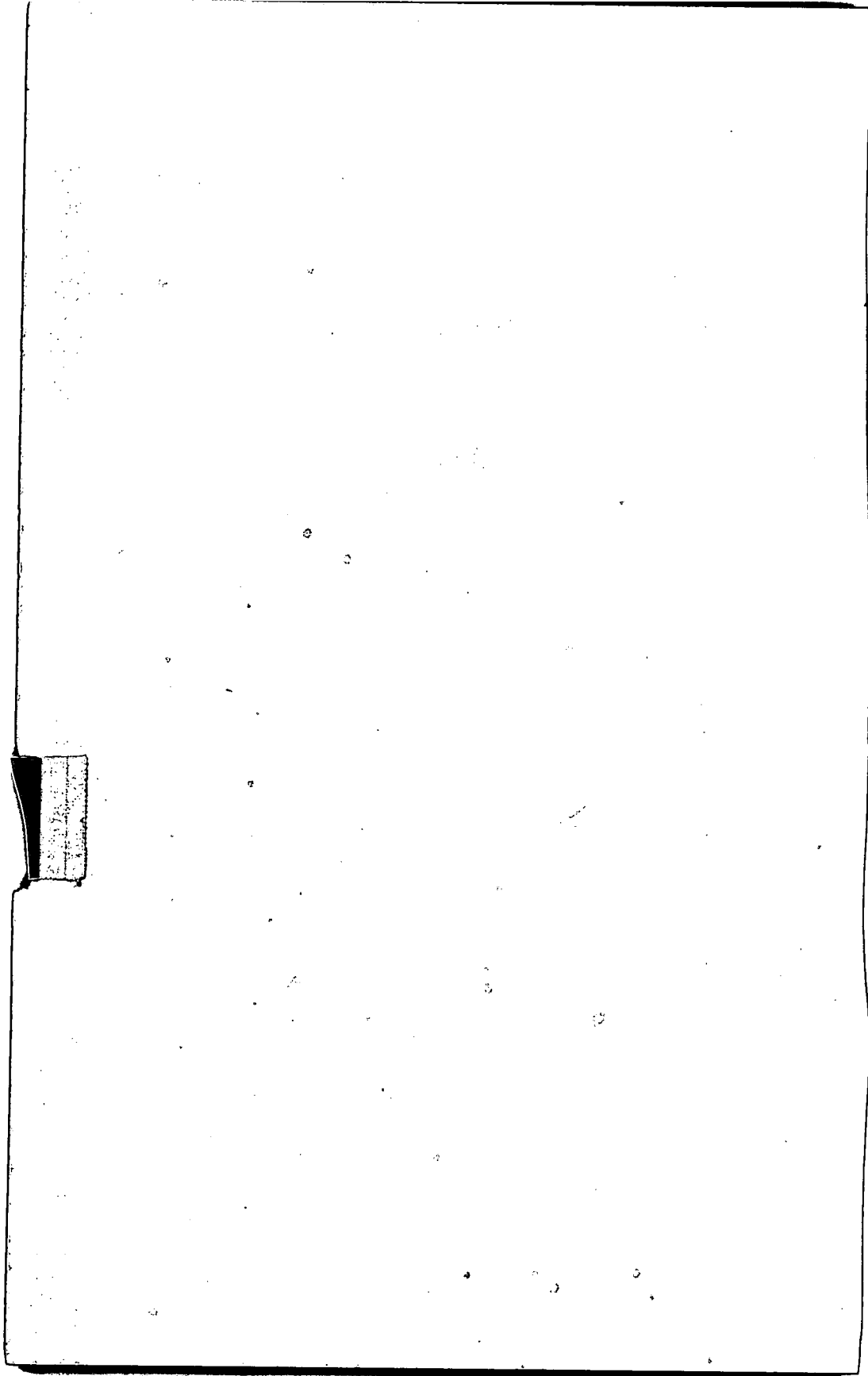
Departments

Accounting

Business Administration

Economics

Secretarial Science



School of Business

Professors Landes, Bailey, Bennett, Hall, Kirksey

Associate Professors Barlow, Davis, Partin, D. Taylor,
L. Taylor, Williams

Assistant Professors Allen, Baldwin, Darsey, Galliher, Jones,
Parigi, Pearson, Sladczyk, Stelley, P. Taylor, Vaughn

Instructor Stead

The School of Business was established by the College in 1954. Prior to this time degrees in business and economics were granted by the Division of Business which began in 1951.

The School of Business is divided into four departments: Accounting, Business Administration, Secretarial Science, and Economics. The Bachelor of Business Administration degree is granted in all areas. A three-year program especially designed for Pre-Law students is offered in the area of General Business.

OBJECTIVES

The faculty of the School of Business believes that the education of the modern businessman should include a well-rounded general education as well as professional study to provide a thorough understanding of environment and heritage. Such an understanding is necessary if American industries are to meet their responsibilities in a changing social and industrial order.

Of equal importance is the business graduate's understanding of the social, legal, governmental, and economic framework within which the American industrial organizations exist and operate. The general educational requirements are patterned to develop such understandings.

The professional education offered reflects the belief that theory and not techniques should be the proper concern of the undergraduate student. A selected body of fundamental business theory is presented in the core pattern of business subjects. This theory is developed along with certain basic quantitative tools of analysis and communication as preparation for the specialized professional courses.

Regardless of the position a graduate may fill in the business world, he will need to understand the consistent relativity of all areas and functions of business operations. The development of such basic business understandings is the objective of the core courses in business and economics required of all business graduates.

The specialized professional preparation of the student provides opportunities for study in a particular field of interest. It prepares a graduate to assume a position of responsibility in business, public service, or education.

The attainment of these objectives requires not only a given pattern of courses but also successful teaching and research. In classroom presentation, the School utilizes many approaches including lecture, discussion, case method, individual research projects, etc. Lower level courses are presented primarily from a historic and descriptive point of view, while the upper level courses are designed to develop the student's ability to analyze and utilize research findings in problem-solving situations.

DEGREES

The Bachelor of Business Administration curriculum consists of three distinct phases: Non-professional Education, Professional Specialization, and electives.

The degree will be awarded upon the completion of the following:

I. Curriculum Requirements

Plan I

A. Non-professional Education Courses (66 semester hours)

Eco 231, 232—Principles of Economics

Eng 131, 132—Composition

Gov 231, 232—State and National

His 231, 232—United States

Literature—six semester hours

Spc 131—Fundamentals of Speech

Soc, Phl, or Ant—three semester hours

Math 131, 132—Algebra and Descriptive Geometry, Finite

Physical Education or Band—four semester hours

Science—eight semester hours (in same science)

Non-professional Education Electives (twelve semester hours)

Twelve semester hours selected from the following fields:

(must include six semester hours of 300 or 400 level courses—exceptions may be made in areas of foreign language and math)—Anthropology, English, Speech, Math, Foreign Language, Government, History, Philosophy, and Sociology, and Psychology.

B. Pre-professional Course (three semester hours)

BA 134—Introduction to Business

C. Professional Core Courses (34 semester hours)*

Acc 231, 232—Principles of Accounting

BA 331—Business Law

BA 332—Principles of Finance

BA 334—Principles of Marketing

BA 335—Industrial Management

BA 431, 432—Business statistics

Eco 339—Economics of the Firm

Eco 438—Macro Economics

Sec 344—Business Communications

*Slightly different program of courses required by the Department of Secretarial Science for students planning to secure teacher certification. See Department of Secretarial Science in this catalog.

D. Professional Specialization (21-22 semester hours)

Acc Major (22 sem. hours)

Acc 331, 332—Inter Acc
 Acc 334—Cost Acc
 Acc 346—Tax Acc
 Acc 430—Auditing
 Acc 431, 432—Adv Acc

Gen Bus Major (21 sem. hours)

BA 333—Insurance
 BA 336—Per Management
 BA 4314—Admin Policies
 Eco 433—Hist of Eco Tht
 Eco 437—Inter Theory
 6 semester hours of advanced
 courses in Acc, BA, or Eco

Marketing Major (21 sem. hours)

BA 336—Per Management
 BA 337—Prin of Selling
 BA 338—Retailing
 BA 433—Advertising
 BA 4311—Sales Management
 BA 4312—Marketing Problems
 Eco 437—Inter Theory or
 Acc 334—Cost Acc

Economics Major (21 sem. hours)

See Department of Economics in
 this catalog for specific require-
 ments in this area of specialization.

Management Major (21 sem. hours)

Acc 334—Cost Acc
 BA 330—Elem of Super
 BA 435—Human Relations
 BA 436—Production Control
 BA 4313—Job Evaluation
 BA 4314—Admin Policies
 Eco 336—Labor Eco

Sec Sci Major (21 sem. hours)

BA 336—Per Management
 BA 437—Investments
 Sec 132—Inter Typing
 Sec 331—Sec Off Procedures
 Sec 332—Dict & Trans
 Sec 363—Adv Shorthand

E. Approved Electives (7-8 semester hours—300 or 400 level
 courses) to complete a total of 132 semester hours.

BBA—General Business

Plan II

The Plan II program is designed for distinguished students with su-
 perior ability. The pattern of courses required will develop a particularly
 strong background for graduate work. All students enrolling in the Plan II
 program must have the approval of the Dean of the School of Business. In
 general, such approval will be given only if the student's high school record
 and college entrance test scores give evidence of scholastic excellence.

A. Non-professional Education Courses (75 semester hours)

Eco 233—Prin and Policies

Eng 131, 132—Composition

*Foreign Language—twelve semester hours

Gov 231, 232—State and National

His 231, 232—United States

Literature—six semester hours

*One year of science may be substituted for the second year of
 foreign language when a student has completed two years
 of the same language on the high school level.

Mth—twelve semester hours (including 6 sem. hours of Calculus)

Phl 231—Introduction or Phl 232—Logic

Psy 231—General

Science—eight semester hours (in same science)

Soc 330—American Society

Spc 331—Professional Speech

Physical Education or Band—four semester hours

B. Professional Core Courses (28 semester hours)

Acc 231, 232—Prin of Acc

BA 331—Bus Law

BA 332—Prin of Finance

BA 334—Prin of Marketing

BA 431, 432—Business Statistics

BA 436—Prod Control

Sec 344—Business Communications

C. Professional Specialization (18 semester hours)

Acc 331, 332—Inter Acc

BA 435—Human Relations

BA 4314—Admin Policy

Eco 433—Hist of Eco Thought

Eco 437—Inter Theory

D. Approved Electives (12 semester hours—upper level courses including six hours of economics)

To complete a total of 133 semester hours.

- II. A minimum grade-point average of 1.00 in all business and economics subjects.
- III. A minimum grade-point average of 1.00 in all work required for degree.
- IV. Application for the degree must be made through the office of the Dean of Business at least one year in advance of the proposed graduation date.

The Bachelor of Arts degree in Economics will be awarded upon completion of the following requirements:

- I. The specific course requirements as set forth in the Department of Economics for the degree. (See Department of Economics in this catalog.)
- II. A minimum grade-point average of 1.00 in all economics courses.
- III. A minimum grade-point average of 1.00 in all work required for the degree.
- IV. A minimum of 126 semester hours exclusive of physical education and band.
- V. A minimum of 24 semester hours in the field of economics.
- VI. A minor of 18 semester hours, six of which must be of 300 or 400 level courses.

Selection of a Major

Every candidate for a degree must choose a major field in the School of Business. This choice must be made before the beginning of the junior year and is subject to the approval of the head of the department of the major field.

DEPARTMENT OF ACCOUNTING

Business and industry are controlled largely through the findings of adequate accounting systems. Accounting is concerned with the analytical recording of transactions related to a large variety of businesses, institutions, and industries, including interpretations of resulting data. Decisions and policies of significance are based on information obtained through the medium of accounting procedures.

The program in Accounting is designed for those students seeking careers in either private or public accounting.

Program of Study

Bachelor of Business Administration—Accounting Major

First Year		Second Year	
BA 134—Int to Bus	3	*Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	Eco 231, 232—Prin	6
Mth 131, 132—Finite	6	Eng—Literature	6
Science	8	Gov 231—Const & State	3
Soc, Phl, or Ant	3	His 231, 232—United States	6
Spc	3	HPE—Activity	2
HPE—Activity	2	Elective	3
Elective	3		32
	34		
Third Year		Fourth Year	
Acc 331, 332—Interm.	6	Acc 346—Taxation	4
Acc 334—Elem Cost	3	Acc 430—Auditing	3
BA 331—Bus Law	3	Acc 431, 432—Advanced	6
BA 332—Prin of Finance	3	BA 334—Marketing	3
BA 431, 432—Bus Ststes	6	BA 335—Indus Mgmt	3
Eco 339—Eco of Firm	3	Eco 438—Macro Eco	3
Gov 232—National	3	Sec 344—Bus Commun	4
Electives	6	Electives	7
	33		33

*Grade of "C" or better must be attained in Acc 231-232 by all accounting majors.

231—Principles of Accounting. Procedures and techniques used in recording business transactions and preparing financial statements. Journalization; posting; statement preparation; controlling accounts and subsidiary ledgers; adjusting and closing entries; voucher system. Class: 3 hours. Credit: 3 semester hours.

232—Principles of Accounting. Continuation of Acc 231 with special attention given the financial statements; cash and receivables; fixed assets; prepaid expenses; liabilities; capital stock and related owners' equity; manufacturing accounting; installment sales; branch accounts. Class: 3 hours. Credit: 3 semester hours.

331—Intermediate Accounting. Analysis of special problems and theories of current assets and corporation accounting. Capital stock; surplus and dividends; treasury stock; cash; receivables; inventories; net income concepts; corrections of prior year's earnings. Prerequisite: Acc 232. Class: 3 hours. Credit: 3 semester hours.

332—Intermediate Accounting. Continuation of Acc 331 with emphasis on the interpretation of data relative to managerial decisions. Investments; fixed assets; liabilities and reserves; analysis of operations; ratios; statement of application of funds. Class: 3 hours. Credit: 3 semester hours.

334—Cost Accounting. Job order and process cost approach to the control of manufacturing operation. Material; labor; overhead allocation; departmentalization; budgeting; data presentation. Prerequisite: Acc 232. Class: 3 hours. Credit: 3 semester hours.

335—Accounting Systems. Analysis of theoretical models illustrating the structure, design, and installation of specific types of systems. Insurance companies; public utilities; banks; retail stores; etc. Prerequisite: Acc 232. Class: 3 hours. Credit: 3 semester hours.

346—Taxation Accounting. Provisions of the internal revenue income tax code as applied to individuals and business firms. Taxable income; deductions; gains and losses; capital gains; withholding taxes; partnerships; corporations. Prerequisite: Acc 232. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

337—Municipal and Governmental Accounting. Special procedures for enterprises operating under appropriated budgets with attention given to federal, state, municipal governmental units. Bond funds; special assessment funds; general funds; budgets; financial statements. Class: 3 hours. Credit: 3 semester hours.

430—Auditing. Principles and procedures applied by public accountants and auditors in the examination of financial statements and accounts. Verification of data; audit working papers; reports; types of audits; procedures. Prerequisite: Acc 332. Class: 3 hours. Credit: 3 semester hours.

431—Advanced Accounting. Selected theories relative to business enterprises. Partnership operations; venture accounts; consignments; install-

ment sales; insurance; receivership; interest; annuities. Prerequisite: Acc 332. Class: 3 hours. Credit: 3 semester hours.

432—Advanced Accounting. Continuation of Acc 431 including the preparation and interpretation of consolidated statements for related corporations. Estates and trusts; home office and branch records; parent and subsidiary relationships; consolidated statements. Class: 3 hours. Credit: 3 semester hours.

433—C. P. A. Review. Preparation for candidates for the Certified Public Accountants' examination through review and study of problems and questions relative to the examination. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF BUSINESS ADMINISTRATION

The Department of Business Administration offers the following fields of concentration: General Business, Management, and Marketing

The General Business curriculum requires the basic core fundamentals of business but does not require any major field of concentration. Students who do not have a specific objective in mind will find that this degree plan gives them ample opportunity to explore a number of professional fields and prepares them for initial employment in a multitude of business careers.

The purpose of the Management curriculum is to give the student an understanding of the fundamentals of management and the relationship between all functional areas of business control. This program will equip the student to advance more rapidly to an executive position in industry. A student may specialize in personnel management or in production management by exercising given options in the pattern of course work required.

The Marketing curriculum provides information concerning buying, transporting, selling of goods as now performed by the service organizations in our economy. Over one-fourth of all the employed workers in America are engaged in some phase of marketing. This field has countless opportunities for specialists.

Pre-Law

The Department of Business Administration offers a three-year program especially designed for pre-law students. Students completing the program may enter directly into the law school of their choice. (The University of Texas requires a Bachelor's Degree for admission.)

Upon completion of the first year in an approved school of law and upon proper application, a student may receive the Bachelor of Business Administration degree from Lamar State College of Technology.

A second plan for pre-law students is offered in the School of Arts and Sciences.

Programs of Study

Bachelor of Business Administration—General Business Major (Plan I)

First Year		Second Year	
BA 134—Int to Bus	3	Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	Eco 231, 232—Prin	6
Mth 131, 132—Finite	6	Eng—Literature	6
Science	8	Gov 231—Const & State	3
Soc, Phl, or Ant.	3	His 231, 232—United States	6
Spc	3	HPE—Activity	2
HPE—Activity	2	*Electives	3
Elective	3		
	34		32
Third Year		Fourth Year	
BA 331—Bus Law	3	BA 333—Insurance	3
BA 332—Prin of Finance	3	BA 335—Indust Mgmt	3
BA 334—Marketing	3	BA 336—Per Mgmt	3
BA 431, 432—Bus Ststes	6	BA 4314—Admin Policy	3
Eco 339—Eco of Firm	3	Eco 433—His of Eco Tht	3
Gov 232—National	3	Eco 437—Interm Theory	3
Sec 344—Bus Commun	4	Eco 438—Macro Eco	3
*Electives	8	*Electives	12
	33		33

*Approved Electives—Must include non-professional electives and six semester hours of upper level courses in Business Administration and Economics.

Bachelor of Business Administration—General Business Major (Plan II)**

First Year		Second Year	
Eng 131, 132—Comp	6	Acc 231, 232—Prin	6
Foreign Language	6	Eco 233—Prin	3
Mth	6	Foreign Language or Science	6
Phl 231 or 232	3	His 231, 232—United States	6
Psy 231—General	3	Mth (Calculus)	6
Science	8	Soc 330	3
HPE—Activity	2	HPE—Activity	2
	34		32

**Admission to this program only by approval of the Dean of the School of Business.

Third Year		Fourth Year	
Acc 331, 332—Inter	6	BA 332—Prin of Finance	3
BA 331—Bus Law	3	BA 431, 432—Bus Ststes	6
BA 334—Marketing	3	BA 435—Human Relations	3
Eco 437—Interm Theory	3	BA 436—Prod Control	3

Eng—Literature	6	BA 4314—Adm Policy	3
Gov 231, 232—State & Natl	6	Eco 433—Hist Eco Tht	3
Spc. 331—Professional	3	Sec 344—Bus Commun	4
*Electives	3	*Electives	9
	33		34

*Approved Electives—Must be upper level courses and include six hours of Economics.

Bachelor of Business Administration—Management Major

First Year		Second Year	
BA 134—Inter to Bus	3	Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	Eco 231, 232—Prin	6
Mth 131, 132—Finite	6	Eng—Literature	6
Science	8	Gov 231—Const & State	3
Soc, Phl, or Ant	3	His 231, 232—United States	6
Spc	3	HPE—Activity	2
HPE—Activity	2	Elective	3
Elective	3		
	34		32

Third Year		Fourth Year	
Acc 334—Elem Cost	3	BA 334—Marketing	3
BA 330—Elem of Supvn	3	BA 435—Human Relations	3
BA 331—Bus Law	3	BA 436—Prod Control	3
BA 332—Prin of Finance	3	BA 4313—Job Eval	3
BA 335—Indus Mgmt	3	BA 4314—Admin Policy	3
BA 431, 432—Bus Ststes	6	Eco 336—Labor Eco	3
Eco 339—Eco of Firm	3	Eco 438—Macro Eco	3
Gov 232—Natl	3	Sec 344—Bus Commun	4
Electives	6	Electives	8
	33		33

Bachelor of Business Administration—Marketing Major

First Year		Second Year	
BA 134—Int to Bus	3	Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	Eco 231, 232—Prin	6
Mth 131, 132—Finite	6	Eng—Literature	6
Science	8	Gov 231—Const & State	3
Soc, Phl, or Ant	3	His 231, 232—United States	6
Spc	3	HPE—Activity	2
HPE—Activity	2	Elective	3
Elective	3		
	34		32

Third Year		Fourth Year	
Acc 334—Elem Cost or		BA 335—Indus Mgmt	3
Eco 437—Int Theory	3	BA 336—Pers Mgmt	3
BA 331—Bus Law	3	BA 338—Prin of Retail	3
BA 332—Prin of Finance	3	BA 433—Advertising	3
BA 334—Marketing	3	BA 4311—Sales Mgmt	3
BA 337—Prin of Selling	3	BA 4312—Mkt Problems	3
BA 431, 432—Bus Ststes	6	Eco 438—Macro Eco	3
Eco 339—Eco of Firm	3	Sec 344—Bus Commun	4
Gov 232—Natl	2	Electives	9
Electives	6		
	32		34

Pre-Law—Upon completion of the first year in an approved school of law, the B.B.A. degree may be conferred by Lamar State College of Technology.

Requirements:

1. Complete 106 hours exclusive of HPE and band.
2. Grade-point average of 1.5 on all college work taken.
3. Application for degree at end of first year of law school.

First Year		Second Year	
BA 134—Int to Bus	3	Acc 231, 232—Prin	6
Bio 141, 142—General	8	Eco 231, 232—Prin	6
Eng 131, 132—Comp	6	Eng—Literature	6
Mth 133—Trigonometry	3	Gov 231, 232—State & Natl	6
Mth 134—Algebra	3	His 231, 232—United States	6
Phl	3	HPE—Activity	2
Soc 131	3	Elective	3
Spc 131—Fundamentals	3		
HPE—Activity	2		
	34		35

Third Year	
Acc 331, 332—Interm	6
BA 332—Prin of Finance	3
BA 334—Marketing	3
BA 335—Indus Mgmt	3
BA 431, 432—Bus Ststes	6
Eco 339—Eco of Firm	3
Eco 438—Macro Eco	3
Sec 344—Bus Commun	4
*Electives	6

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*Advanced courses in Business Administration with the exclusion of Business Law.

Business Administration (BA)

134—Introduction to Business. Survey of the functional areas of business and their interrelationships. Economics of industry; ownership and organization; marketing; production; personnel; finance; business controls. Class: 3 hours. Credit: 3 semester hours.

330—Elements of Supervision. Industrial problems in leadership and intra-group relationships. Motivation; job satisfaction; work environment; counseling; training; communications. Class: 3 hours. Credit: 3 semester hours.

331—Business Law. Principles of law which form the legal framework for business activity. Applicable statutes; contracts; agency. Class: 3 hours. Credit: 3 semester hours.

332—Principles of Finance. A survey of the field of business finance. Financial planning; administration and control of financial activities; short-term and long-term financing; advantages and disadvantages of the various business organizations; security markets; commercial banking systems; Federal Reserve system; financial reorganization. Class: 3 hours. Credit: 3 semester hours.

333—Insurance. Application of fundamental principles to life, property, and casualty insurance. Contracts; premiums; legal statutes; risk; programming. Class: 3 hours. Credit: 3 semester hours.

334—Marketing. The social and economic aspects of distribution as found in business organizations. Structures; functions; institutions; problems. Class: 3 hours. Credit: 3 semester hours.

335—Industrial Management. Scientific management as applied to productive processes in industry. Plant location and layout; organization; lighting, heating, and power; personnel; efficiency; motivation; purchasing; controls. Class: 3 hours. Credit: 3 semester hours.

336—Personnel Management. Problems of personnel relations in business and industry. Recruitment; job description and analysis; testing and training; morale; records. Class: 3 hours. Credit: 3 semester hours.

337—Principles of Selling. Precepts of effective selling in the American economy. Sales process; prospecting; presentation; objectives; close. Class: 3 hours. Credit: 3 semester hours.

338—Retailing. The nature and functions of retailing in the marketing structure. Development; organization; methods; policies of operation; problems. Class: 3 hours. Credit: 3 semester hours.

3311—Labor Law. Historical interpretations and present provisions of regulations governing labor. Common law; state and federal statutes; Fair Labor Standards Act; workmen's compensation; social security; liability; United States Department of Labor; social legislation. Class: 3 hours. Credit: 3 semester hours.

431—Business Statistics. Introduction to the quantitative methods of analysis as applied to business problems. Analysis; presentation; frequency distribution; index numbers; dispersion; correlation; time series. Prerequisite: 6 hours of mathematics. Class: 3 hours. Credit: 3 semester hours.

432—Business Statistics. Continuation of BA 431 including the theory and practical application of the normal curve, probable error, and sampling. Index numbers; secular trend; seasonal variations; correlation; marketing research; forecasting, budgeting; quality control and investment analysis. Class: 3 hours. Credit: 3 semester hours.

433—Advertising. Social and economic character of advertising. Production; administration; copy procedure; media; layout; budgets; organization; evaluation. Class: 3 hours. Credit: 3 semester hours.

435—Human Relations. Case-study approach to business problems in human relations. Recognition and analysis of problems; formulation and communication of proposed solutions; critique. Prerequisite: BA 330 Class: 3 hours. Credit: 3 semester hours.

436—Production Control. Planning and controlling of industrial production processes. Quantitative and qualitative controls; scheduling; dispatching; problems. Prerequisite: BA 335 Class: 3 hours. Credit: 3 semester hours.

437—Investments. An appraisal of investment, alternatives in financial markets. Markets; securities; methods of analysis; investment programming. Class: 3 hours. Credit: 3 semester hours.

438—Credit and Statement Analysis. Theories and methods in evaluating financial statements of business organizations for credit purposes. Accounting; reports; ratios; structures; problems. Class: 3 hours. Credit: 3 semester hours.

4311—Sales Management. Planning, organization, and control of sales operations. Functions programs; production; development; distribution channels; contracts; campaigns; customer and price policies; administration. Class: 3 hours. Credit: 3 semester hours.

4312—Marketing Problems. Case problems in planning and controlling marketing organizations. Budgeting; operations; turnover; inventory; store promotion; research. Class: 3 hours. Credit: 3 semester hours.

4313—Job Evaluation and Wage Administration. The analysis and evaluation of employment positions as used in salary and wage determination. Job analysis; job evaluation; wage surveys; wage programs; salary structure; controls. Class: 3 hours. Credit: 3 semester hours.

4314—Administrative Policy. Fundamental considerations and procedures followed in business policy formulation and administration. Managerial structure; company objectives; coordination of departmental policies; organization of personnel; reappraisals. Class: 3 hours. Credit: 3 semester hours.

4315—Budgetary Control. Theories, problems and techniques of internal financial and budgetary controls. Financial planning; budgetary construction; evaluation; performance rating; replanning. Prerequisite: BA 335 Class: 3 hours. Credit: 3 semester hours.

4316—Business Problems. Intensive investigation and critical analysis of current business and economic problems. Individual research and reports required. Class: 3 hours. Credit: 3 semester hours.

4317—Electronic Data Processing. An introduction to electronic data processing equipment and systems; preparation, storage, and retrieval of information for punch cards, paper tape, and magnetic tape systems; flow charting; systems analysis and design with emphasis on business applications. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF ECONOMICS

The Department of Economics offers both the Bachelor of Arts degree and the Bachelor of Business Administration degree in the field of Economics. Students planning to enter graduate work are encouraged to follow the Arts curriculum.

Programs of Study

Bachelor of Arts—Economics Major

Requirements:

1. Complete 124 semester hours exclusive of HPE and Band.
2. Complete 24 semester hours in the field of economics.
3. Complete a minor of at least 18 semester hours, 6 of which must be in advanced courses.

First Year		Second Year	
Eng 131, 132—Comp	6	*Eco 231, 232—Prin	6
Foreign Language	6	Eng—Literature	6
Mth 133—Trigonometry	3	Foreign Language	6
Mth 134—Algebra	3	Gov 231, 232—State & Natl	6
Science	8	His 231, 232—United States	6
HPE—Activity	2	HPE—Activity	2
Elective	3	Elective	3
	31		35
Third Year		Fourth Year	
BA 431, 432—Bus Stctcs	6	Eco 433—Hist Eco Tht	3
Eco 339—Eco of Firm	3	Eco 437—Interm Theory	3
Sec 344—Bus Commun	4	Eco 438—Macro Eco	3
**Electives	19	**Electives	21
	32		30

*Grade of "C" or better must be attained in Eco 231-232 by all Economics majors.

**Electives must include six semester hours of advanced courses in Economics.

Bachelor of Business Administration—Economics Major

Requirement: Complete 30 semester hours in the field of Economics.

First Year		Second Year	
BA 134—Int to Bus	3	Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	*Eco 231, 232—Prin	6
Mth 131, 132—Finite	6	Eng—Literature	6
Science	8	Gov 231—Const & State	3
Soc, Phl, or Ant	3	His 231, 232—United States	6
Spc	3	HPE—Activity	2
HPE—Activity	2	Elective	3
Elective	3		
	34		32
Third Year		Fourth Year	
BA 331—Bus Law	3	BA 335—Indus Mgmt	3
BA 332—Prin of Finance	3	Eco 437—Interm Theory	3
BA 334—Marketing	3	Eco 438—Macro Eco	3
BA 336—Per Mgmt	3	Sec 344—Bus Commun	4
BA 431, 432—Bus Ststes	6	**Electives	20
Eco 339—Eco of Firm	3		
Gov 232—Natl	3		
**Electives	9		
	33		33

*Grade of "C" or better must be attained in Eco 231-232 by all Economics majors.

**Electives must include 15 semester hours of advanced courses in Economics.

231—Principles. Introduction to economic principles. Allocation of resources; determination of output and prices; distribution; and managerial economics. Class: 3 hours. Credit: 3 semester hours.

232—Principles. Continuation of Eco. 231. Emphasizes monetary theory; national income analysis; fluctuations and growth; public finance; international trade; and current economic problems. Class: 3 hours. Credit: 3 semester hours.

233—Principles and Policies. Comprehensive introduction to economic principles and problems for non-business students. Resource utilization; price determination; distribution of income; fiscal and monetary problems; economic growth. Class: 3 hours. Credit: 3 semester hours.

333—Corporation Finance. Historical development and present organizational structure of the corporate form of business enterprise. Legal posi-

tion; sources of capital; financial management; refunding; expansion. Class: 3 hours. Credit: 3 semester hours.

334—Public Finance. The collection, administration, and disbursement of fiscal resources of governmental units with application to current problems. Public revenues; public expenditures; governmental credit and debt; intergovernmental fiscal problems. Class: 3 hours. Credit: 3 semester hours.

335—International Trade. Theories, practices, and problems involved in international commerce between nations. Bases of trade; tariffs; exchange control; international monetary policies; current problems. Class: 3 hours. Credit: 3 semester hours.

336—Survey of Labor Economics. Past development and present organizational structure of the labor movement in America and its impact on the industrial society. Labor market; collective bargaining; wages; economic insecurity; labor legislation; governmental policies. Class: 3 hours. Credit: 3 semester hours.

339—Economics of the Firm. The application of the techniques of economic analysis to the managerial problems of business enterprises utilizing a problem-solving or case study approach. Goals of the firm; business forecasting; demand analyses; cost analyses; game theory; pricing policies; governmental relations. Class: 3 hours. Credit: 3 semester hours.

430—Government and Business. Regulation and restriction of business enterprises by government. Regulatory bodies; anti-trust laws; public utilities; transportation; government ownership. Class: 3 hours. Credit: 3 semester hours.

432—Money and Banking. Functions and policies of the American monetary and banking system. Commercial banking; central banking; Federal Reserve System; monetary theories and policies; economic stabilization and growth. Class: 3 hours. Credit: 3 semester hours.

433—History of Economic Thought. Historical development of economic thought from primitive periods to the present. Classical; historical; socialist; neo-classical; institutional thought. Class: 3 hours. Credit: 3 semester hours.

435—Comparative Economic Systems. A critical analysis of the basic theories and institutions of economic systems including a comparison of the American system with other existing systems. Capitalism; socialism; communism. Class: 3 hours. Credit: 3 semester hours.

436—Business Cycles. The nature and causes of business cycles. Cyclical theories; business fluctuations; forecasting stabilization; current problems. Class: 3 hours. Credit: 3 semester hours.

437—Intermediate Theory. Economic analysis and methodology. Distribution; theory; price theory; imperfect competition and monopoly; national income analysis. Class: 3 hours. Credit: 3 semester hours.

438—Macro Economics. A descriptive-analytical approach to the dynamic forces that influence the aggregate level of economic activity. Income and employment determinants; levels of income and employment; stabilization theory; investment and income relationship; monetary and fiscal policies. Class: 3 hours. Credit: 3 semester hours.

419—Seminar. An investigation of current literature in the field of economics. Analysis of problems; formal discussions; presentation of papers. Class: 1 hour. Credit: 1 semester hour.

4312—Seminar in Economics. A seminar for non-majors with considerable emphasis placed on independent study and student research. Nature and scope of economics; structure and workings of the American economy; international economics; economic problems and issues. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF SECRETARIAL SCIENCE

The Secretarial Science Department offers a four-year program leading to the degree of Bachelor of Business Administration. The general and specific requirements of the four-year curricula furnish a broad preparation and a highly specialized proficiency in the professional secretarial field.

The Department also offers a two-year program for students who do not desire to follow any degree plan. An accelerated one-year program is also offered for students who have had some training in skill subjects in high school. The one and two-year curricula are designed to develop competence in typewriting, shorthand, office machine operation, clerical record keeping, and business correspondence. Successful students are prepared to pass civil service examinations and the employment tests given by large business and industrial offices.

A major in Secretarial Science may be combined with courses in Education. This plan will qualify a graduate for a permanent teacher's certificate.

Typewriting is strongly recommended for all college students regardless of department or vocational preference. Not only has it an immediate return in better college work, but it builds a skill that is most useful in later-life activities.

Young men will do well to consider the many advantages of a secretarial course. The field is particularly rewarding to them because of its unlimited promotional opportunities. This is proved by the many successful men in position of leadership who began their business careers as secretaries.

Program of Study

First Year		Second Year	
BA 134—Int to Bus	3	Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	Eco 231, 232—Prin	6
Mth 131, 132—Finite	6	Eng—Literature	6
Sec 132—Interm Typing	3	Gov 231—Const & State	3
Science	8	His 231, 232—United States	6
Soc, Phl, or Ant.	3	HPE—Activity	2
Spe	3	Elective	3
HPE—Activity	2		
	34		32
Third Year		Fourth Year	
BA 331—Bus Law	3	BA 334—Marketing	3
BA 332—Prin of Finance	3	BA 335—Ind Mgmt	3
BA 431, 432—Bus Stctcs	6	BA 336—Pers Mgmt	3
Gov 232—Natl	3	BA 437—Investments	3
Sec 222—Prod Typing	2	Eco 339—Eco of Firm	3
Sec 363—Adv Shorthand	6	Eco 438—Macro Eco	3

Sec 344—Bus Commun	4	Sec 331—Sec Off Proc	3
Electives	6	Sec 332—Dict & Trans	3
		Electives	9
	33		33

Teacher Certification—Secretarial Science Major

Students who wish to qualify for a provisional teacher's certificate—secondary—with a teaching field in Secretarial Science must include in the Bachelor of Business Administration degree program the following changes:

1. The inclusion of Edu 331, 332, 338, 438, 462, and Eco 437.
2. BA 336, 432, 437, Eco 339, 438 are not required of those following the teacher certification plan.

Two-Year Terminal Program in Secretarial Science

First Year	Second Year		
Eng 131, 132—Comp	6	Acc 231, 232—Prin	6
Sec 132—Interm Typing	3	Eco 231, 232—Prin	6
Sec 135—Records	3	Gov 231—Const & State	3
Sec 231—Sec Prac	3	Mth 131, 132—Finite	6
Sec 363—Adv Shorthand	6	Sec 222—Prod Typing	2
Spc 131—Fund	3	Sec 344—Bus Commun	4
Electives	7	Sec 331—Sec Off Proc	3
HPE—Activity	2	Sec 332—Dict & Trans	3
	33		33

Secretarial Science (Sec)

121—Typewriting (Short Course). Introduction of the touch system on manual and electric machines. Simple letter forms; manuscripts; tabulations. Class: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

122—Typewriting (Short Course). Continuation of Sec 121 with emphasis on speed and accuracy in preparation of production units. (Sec 121 and Sec 122 equivalent to Sec 141.) Letters; rough drafts; manuscripts; tabulations. Class: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

135—Records. Methods and procedures in classifying and storing business records. Filing systems; records management and retention; duplicating equipment; dictating, transcribing, and office machines; evaluation. Class: 3 hours. Credit: 3 semester hours.

141—Typewriting. Basic fundamentals of touch typewriting skill on manual and electric machines with emphasis on the development of speed and accuracy in preparation of production units. Letters; manuscripts; tabulations; rough drafts; business forms. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

132—Intermediate Typewriting. Continuation of Sec 141 with high standards of speed and accuracy. Specific letter forms; tabulations; rough drafts; financial and legal forms; manuscripts; business forms and reports. Class: 1 hour. Laboratory: 4 hours. Credit: 3 semester hours.

231.—Secretarial Practice. Practical secretarial projects emphasizing use of functional English in correspondence; good judgment in office routine. Class: 3 hours. Credit: 3 semester hours.

222—Production Typewriting. Speed production of office-style material. Business forms; statistical tables; financial statements; legal documents; reports; correspondence. Class: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

233—Beginning Shorthand (Short Course). Introduction of Gregg Simplified Shorthand. Reading, writing; theory principles; brief forms. Class: 3 hours. Credit: 3 semester hours.

234—Beginning Shorthand (Short Course). Continuation of Sec 233 with intensification of shorthand reading and writing skills. (Sec 233 with Sec 234 equivalent to Sec 261.) Brief form review; previewed dictation; pretranscription practice. Class: 3 hours. Credit: 3 semester hours.

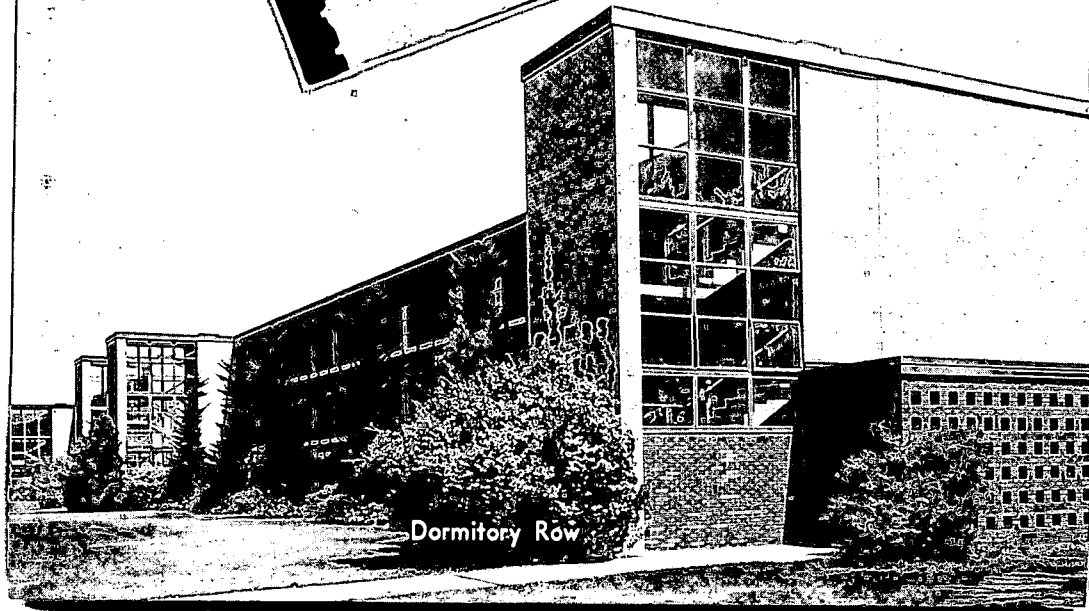
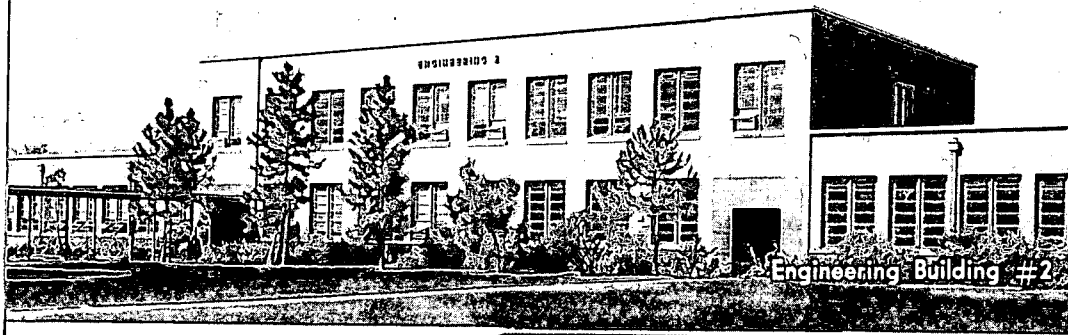
261—Beginning Shorthand. Intensive introduction to Gregg Simplified Shorthand. Reading; writing; theory principle; brief forms; previewed dictation; pretranscription practice. Class: 6 hours. Credit: 6 semester hours.

331—Secretarial Office Procedures. Analysis of responsibilities and duties of the administrative secretary. Procedure; work simplification; supervision; office etiquette and ethics; sources of information. Class: 3 hours. Credit: 3 semester hours.

332—Dictation and Transcription. Continuation of Sec 363 with stress on building shorthand speed and improving transcription skill. Vocabulary development; sustained dictation; volume production. Class: 3 hours. Credit: 3 semester hours.

344—Business Communications. Theories, practice, and problems involved in communications in business and industry with emphasis on use of practical psychology, good judgment. Letters; reports; memoranda; dictation. Prerequisite: touch system of typewriting. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

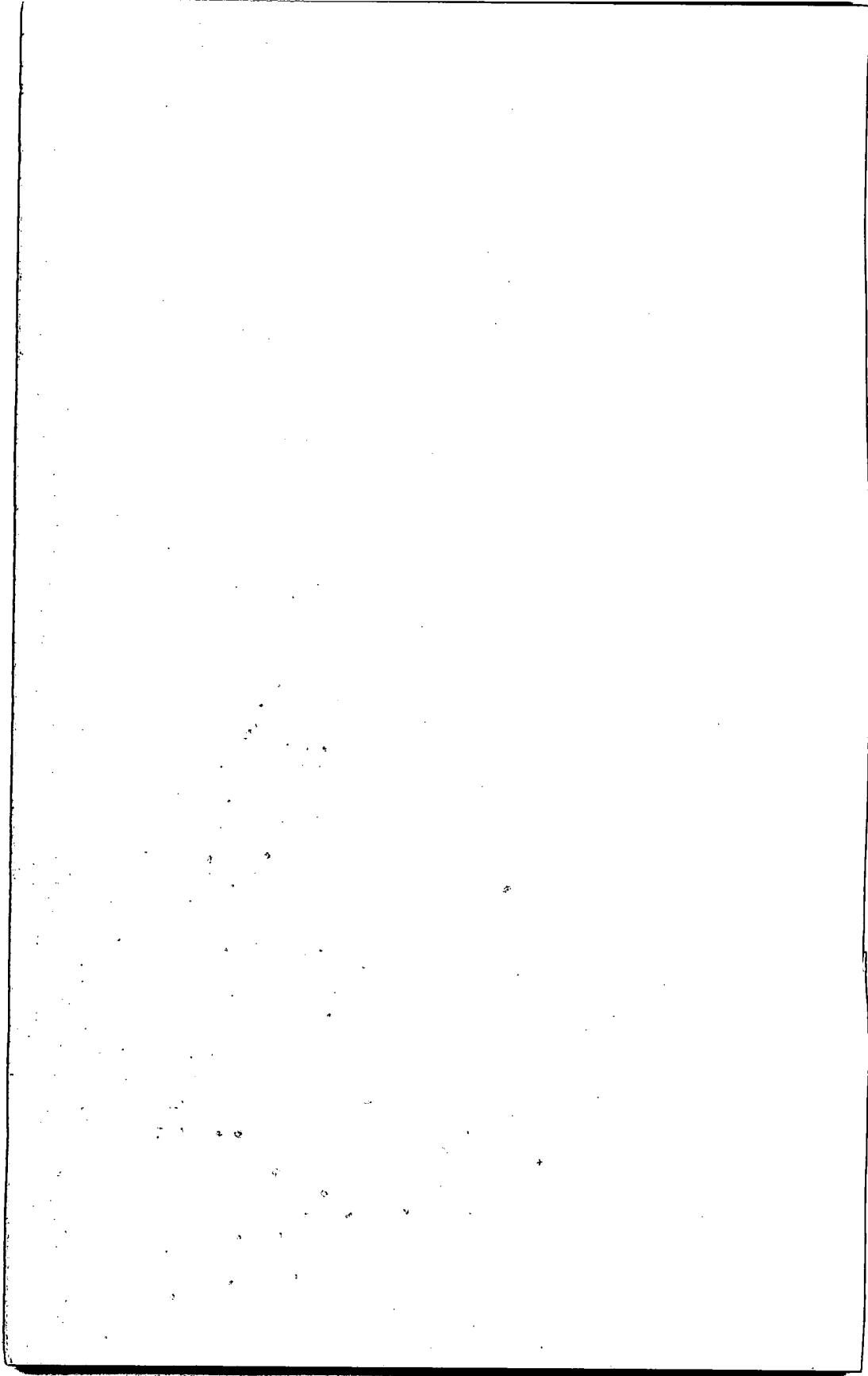
363—Advanced Shorthand. Continuation of Sec 261 with improvement of ability to take dictation and transcribe mailable copy. Theory principles; brief form derivatives; vocabulary development; speed building; mailable transcription; office-style dictation. Class: 4 hours. Laboratory: 4 hours. Credit: 6 semester hours.



SCHOOL OF ENGINEERING

Departments

Chemical
Civil
Electrical
Industrial
Mechanical
Mathematics



School of Engineering

Engineering has been defined as "the art and science by which the properties of matter and sources of power in nature are made useful to man in structures, machines, and manufactured products." The educational objective of the School of Engineering is to prepare its students to take positions of leadership commensurate with their abilities in a world where human relations, science, and engineering are of basic importance. The programs of the various departments of the engineering school are planned to prepare the students to become practicing engineers, administrators, investigators or teachers. However, the basic knowledge and mental discipline gained from these educational programs is sufficiently broad and fundamental to constitute excellent preparation for other careers.

Doing is an essential phase of engineering education. Only through continued practice and exercise of judgment can the stature of an engineer be attained. Consequently, laboratory work under the supervision of those who have had professional experience as well as a full scientific background is an important part of the various engineering curricula. Emphasis, however, is placed upon creative, analytical thinking rather than upon the acquisition of factual information or the attainment of manual skills.

All curricula have been designed upon a common core of subjects which appear throughout each curriculum. The first two years of study are common for all engineering students and are rich in mathematics and science. Until a student completes the first two years of work, he will be classed as an engineering student without departmental designation. A student will be able to determine his ultimate professional interests during this period of general study through consultation with his advisor, members of the faculty and practicing engineers.

The entrance requirements from high school for the School of Engineering are:

1. English	4	units
2. Mathematics		
Algebra	2	units
Geometry	1	unit
Trigonometry	$\frac{1}{2}$	unit
3. Natural Sciences		
Chemistry	1	unit
Physics	1	unit
4. Social Sciences	2	units
5. Electives	$4\frac{1}{2}$	units
Total	16	units

Students who meet the general entrance requirements of the College, but lack in specific requirements for the engineering curricula may, in some instances, be permitted to enroll in the School of Engineering; however, all deficiencies must be removed by the end of the first academic year. Students having entrance deficiencies or weaknesses are urged to use the summer terms preceding the freshman year in college to remove them.

Attention is directed to the section in this Catalog on admission requirements and, in particular, to the requirement that each person desiring to begin the regular program of mathematics in the engineering curriculum must take the Level I Mathematics Test.

In addition to instruction in the various branches of engineering, the functions of the School of Engineering include research, both on fundamental and applied problems, development of a technological library, extension activities, provision of a center of technical meetings and activities, and the management of a cooperative program.

A cooperative (co-op) program is offered to a limited number of qualified students enrolled in the School of Engineering, whereby the student spends alternate terms at work or study.

To meet the minimum qualifications for the co-op program, a student

1. Must have completed all freshman work in the core program, of which the last 15 semester hours credit must have been earned at Lamar.
2. Must have an overall grade point average of 1.5 or higher.

To remain in the program, a student must maintain his grade points and perform in a manner satisfactory to both his employer and Lamar Tech.

The period during which a student may participate in the co-op program extends through the regular sophomore and junior years. Co-op privileges are not extended to freshman or senior students. By participating in the co-op program throughout his eligibility a student extends the time required to obtain a degree to five years, but in doing so gains the equivalent of almost two years experience in industry.

A student may apply for admission to the co-op program through the office of the Dean of Engineering.

The degree of Bachelor of Science is offered in the following fields:

1. Chemical Engineering
2. Civil Engineering
3. Electrical Engineering
4. Industrial Engineering
5. Mathematics
6. Mechanical Engineering

The degree of Master of Engineering Science is also offered. Details may be found in the Graduate Bulletin.

Core Studies

First Year

Eng 131, 132—Comp	6
Chm 141, 142—General	8
Mth 138, 139, 231—Analysis	9
HPE—Activity	2
Liberal Arts Elective ²	3
Egr 121—Graphics	2
Egr 122—Int Data Proc	2
Egr 132—Mechanics I ³	3

35

Second Year

Mth 232—Mth Analysis IV	3	Mth 234—Prob and Stat	3
Mth 233—Linear Algebra	3	Egr 221—Mat Science	2
Phy 241—Elect and Mag	4	Egr 232—Mechanics III	3
Egr 231—Mechanics II	3	Egr 234—Thermo	3
Egr 211—Mechanics Lab	1	Egr 233—Elec Cir and Flds	3
Departmental Section ⁴	3 or 4	Phy 242—Engr Physics	4
HPE—Activity	1	HPE Activity	1

18 or 19

19

¹Three and one-half units of high school mathematics are required for registration in Mth 138. The Level I Mathematics Achievement Test is required for registration in both Mth 138 and Mth 139. Students deficient in algebra or trigonometry should take Mth 134 or Mth 133 or both. Geometry deficiencies must be eliminated in high school or by correspondence from the University of Texas.

²Liberal Arts Elective

Literature, government, history, modern language, anthropology, geography, philosophy, sociology, Bible (providing general college regulations are met), economics, fine arts (may not be applied courses).

³Credit in high school physics is recommended for Egr 132 and will be required in the fall of 1965.

⁴All students should take one of the humanities, except those who plan to study chemical engineering, and they should take Chm 241. In addition to the humanities course, those who plan to study civil engineering are to take Egr 213; and those planning to study mechanical engineering are to take Egr 212.

Humanities (All are required)

Gov 231, 232

His 231, 232

Eng (Literature)

Spc 131 or 331

Engineering (Egr)

121—Engineering Graphics. Principles of orthographic projection combined with descriptive geometry to solve space problems graphically. Lettering and drafting technique emphasized. Laboratory: 6 hours. Credit: 2 semester hours.

122—Introduction to Digital Computers. Interpretive routines and compilers are used. Problems are used to illustrate methods. Each student prepares a program for one of the digital computers on campus. Prerequisite: Mth 138 or concurrent. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

132—Mechanics I. Utilizes vectors in the study of particle dynamics. Statics of particles and rigid bodies. Energy methods. Prerequisite: Egr 122 or concurrent; Mth 139 or concurrent. Class: 3 hours. Credit: 3 semester hours.

211—Mechanics Laboratory. Numerical and graphical solutions to problems in applied mechanics. Some problems in kinematics are included. Prerequisite: Egr 231 or concurrent; Egr 121 and Egr 122. Laboratory: 3 hours. Credit: 1 semester hour.

212—Production and Fabrication Processes. Machinery, welding, casting, forming, and joining operations on materials of engineering importance. Demonstrations, lectures and laboratory exercises. Laboratory: 3 hours. Credit: 1 semester hour.

213—Engineering Measurements. Science of data collection applied to measurement of horizontal and vertical angles; horizontal and vertical distances; and site adaptation. Field layouts of tangents, simple curves, parabolic curves and clothoid spirals. Computation procedures utilized rotary and digital computers. Laboratory: 3 hours. Credit: 1 semester hour.

221—Materials Science. Basic principles underlying the behavior of solid, liquid and gaseous materials. Prerequisite: Mth 234 or concurrent; Phy 241; Chm 142. Class: 2 hours. Credit: 2 semester hours.

223—Geological Drawing. Study of lines and planes in space. True length, slope and bearing of lines. True size and slope of planes. Principle of rotation. Intersections and developments of closed surfaces. With Geological applications. Laboratory: 6 hours. Credit: 2 semester hours.

231—Mechanics II. Kinematics of rigid bodies, kinetics of rigid bodies, work and energy, impulse and momentum. Prerequisite: Egr 132; Mth 231 or concurrent. Class: 3 hours. Credit: 3 semester hours.

232—Mechanics III. Effect of loads on deformable bodies. Uniaxial and biaxial stress-strain relationships, statically indeterminate systems. Equations developed for torsion, bending and buckling. Prerequisite: Egr 231 and Mth 232. Class: 3 hours. Credit: 3 semester hours.

233—Electric Circuits and Fields. Electrical and magnetic units; heating effects; basic circuit analysis; electric and magnetic fields; ferromag-

netic circuits; inductance and capacitance; principles of energy conversion and measurements. Prerequisite: Phy 241; Mth 232 and 233 or concurrent. Class: 3 hours. Credit: 3 semester hours.

234—Thermodynamics. The fundamental laws of thermodynamics, properties of systems, gases, vapors, thermodynamic tables, and cycles. Prerequisite: Cnm 142; Phy 241; Mth 232; Engr 122. Class: 3 hours. Credit: 3 semester hours.

331, 332—Heat, Mass and Momentum Transfer. Fluid dynamics, heat transfer and mass transfer. An integrated two semester sequence. Prerequisite: Egr 234; Mth 233 and 234. Class: 3 hours each semester. Credit: 3 semester hours each semester.

333—Electronics. A study of charged particles; metals and semiconductors; vacuum tube and transistor characteristics; gaseous condition; rectifiers and power supplies. Prerequisite: Egr 233 and 221; Mth 233. Class: 3 hours. Credit: 3 semester hours.

334—Mechanics IV. Generalized stress-strain relationships, theories of material failure. Unsymmetrical bending, torsion of non-circular sections, buckling. Elastic and inelastic behavior compared. Laboratory demonstrations to illustrate theory. Prerequisite: Egr 221 and 232. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

531—Materials Science. Principles underlying the behavior of materials existing in the solid liquid and gaseous phases. Class: 3 hours. Credit: 3 semester hours.

533—Advanced Engineering Analysis I. Methods of solution of problems drawn from contemporary engineering practice. Methods of mathematical physics, including lump parameter and distributed parameter problems will be covered. Analog and digital computer techniques will be introduced and employed. Statistical concepts will be employed. Prerequisite: Mth 4301 or equivalent. Class: 3 hours. Credit: 3 semester hours.

534—Nonlinear Analysis. Equations with known solutions. Numerical and graphical methods; use of the phase plane and analysis of singular points. Analytical techniques; perturbation method, variation of parameters, and principle of harmonic balance; describing functions. Forced oscillations and linear equations with varying coefficients. Stability. Prerequisite: Egr 533 recommended. Class: 3 hours. Credit: 3 semester hours.

535—Controls Engineering Systems. Principles and analysis of systems and processes with applications drawn from the various engineering fields. Covers controls, response, stability and compensation. Special topics, which may be varied according to interest, from nonlinear systems, digital systems, statistically described signals and multivariable systems. Prerequisite: Mth 4301. Class: 3 hours. Credit: 3 semester hours.

537—Energy Conversion. A study of energy forms and their relation to physical systems, including general laws of thermodynamics, quantum

mechanics, electric and magnetic phenomena and methods of irreversible thermodynamics. Class: 3 hours. Credit: 3 semester hours.

539—Seminar. Investigation of current engineering research and literature. Written and oral reports will be required. Credit: 3 semester hours.

5311—Transport Phenomena. The fundamental relationships involved in momentum heat and mass transfer. Emphasis is on principles and fundamentals, but applications and analogies are developed extensively. Prerequisite: Mth 4301 or parallel, or Mth 433 or parallel. Class: 3 hours. Credit: 3 semester hours.

5313—Rate Processes. Rates of energy transfer with selected topics in the fields of mechanical, thermal, chemical, electrical, and other energy transformation. Prerequisite: Mth 4301. Class: 3 hours. Credit: 3 semester hours.

5314—Stagewise Processing. All stagewise processing operations such as distillation, extracting, absorption, etc., are treated as simple variations of the same process. Both equilibrium process and non-equilibrium stage process are considered. Multicomponent as well as binary systems are considered. Class: 3 hours. Credit: 3 semester hours.

5315—Advanced Engineering Mechanics. General analysis of stress and strain, equations of equilibrium and compatibility, stress strain relations, two dimensional stress problems, elastic energy principles, thermoelastic problems. Class: 3 hours. Credit: 3 semester hours.

5318—Experimental Mechanics. Use of reflection and refraction photoelastic apparatus to determine state of stress in opaque and transparent structural models. Demonstration of brittle coating techniques. Comparison of electrical resistance and mechanical strain gages. Investigation of dynamic loading with oscilloscopes and other recording apparatus. Prerequisite: Engr 5315. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

5322—Rheology. A study of the fundamentals of non-Newtonian liquid flow and how these principles can be applied to momentum, heat and mass transfer. Emphasis is on principles and fundamentals, but applications to practical problems, including methods of measuring rheological properties, are developed extensively for both non-elastic and elastic liquids. Class: 3 hours. Credit: 3 semester hours.

5331—Similitude and Model Design. Dimensional analysis, data processes, prediction equations and model design, including a study of distorted and dissimilar models. Models studied include structural, fluid flow, thermal, electrical, magnetic, acoustical, and illumination types. Various analogues from second-order ordinary and partial differential equations are also discussed. Prerequisite: Mth 434 recommended. Class: 3 hours. Credit: 3 semester hours.

5391—Work Systems Engineering. Study of current research in methods of engineering and work measurement; work design; work systems, systems of standard data and predetermined motion time data, statistical treatment of work measurement. Prerequisite: Mth 234, IE 338, CHE 320. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis. Prerequisite: Admission to candidacy. Credit: 6 semester hours.

DEPARTMENT OF CHEMICAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Professors Jelen, McAllister, Walker.

Assistant Professor Eisen.

The growth of the American chemical industry since the first World War has been nothing short of phenomenal. While industry as a whole has made great strides, the chemical field has literally gone ahead in tremendous leaps.

The work of the chemical engineer is the changing of raw materials into finished products with the great efficiency and economy. He is concerned primarily with the design, construction and operation of equipment and plants in which chemical or physical changes of materials are involved. The work of the chemical engineer enters into almost every modern industry. From petroleum to synthetic rubber, from steel to medicines, the chemical engineer engages in design, research, development, production, sales, and management. Among the fields in which the chemical engineer is of prime importance are petroleum, petro-chemicals, metals, agricultural pesticides and fertilizers, plastics, paints, foods, paper, glass, dyes, synthetic fibers, and a host of others. There is virtually no field which offers a greater opportunity than chemical engineering.

Program of Study

Bachelor of Science in Chemical Engineering

First and Second Year

(See Core Program)

Departmental Selection

Chm 241

Third Year

First Semester		Second Semester	
Chm 341—Organic	3-3- 4	Chm 342—Organic	3-3- 4
Egr 331—Ht Mass Mom		Chm 342—Phys Chm	3-3- 4
Trans I	3-0- 3	Egr 332—Ht Mass Mom	
CHE 342—Chm Proc Prin	3-3- 4	Trans II	3-0- 3
Egr 333—Electronics	3-0- 3	CHE 333—Thermo II	3-0- 3
Humanities ¹	3-0- 3	CHE 320—Egr Stat	2-0- 2
		Humanities ¹	3-0- 3

Fourth Year

First Semester		Second Semester	
CHE 414—Seminar	1-0- 1	CHE 443—Design	2-6- 4
or		CHE 433—Instrumentation ..	3-0- 3
CHE 4150—Projects	0-3- 1	CHE 423—Unit Op Lab II ..	1-6- 2
CHE 442—Unit Operations ..	3-3- 4	Humanities ¹	6-0- 6
CHE 432—Kinetics	3-0- 3	Elective	3
CHE 422—Unit Op Lab I ..	1-6- 2		
Humanities ¹	6-0- 6		
Elective	3		
	19		18

¹Humanities

Gov 231, 232; Spc 331 or Spc 131
 English (literature) 3 semester hours
 His 231, 232

Chemical Engineering (CHE)

320—Engineering Statistics. Advanced statistical methods, including analysis of variance, experimental design, and evolutionary operations. Prerequisite: Mth 234. Class: 2 hours. Credit: 2 semester hours.

333—Thermodynamics II. Properties of non-ideal substances. Maxwell relations, vapor pressure, latent heat, enthalpy-concentration, diagrams, chemical equilibria, equilibrium constants, fugacity, and activity. Prerequisite: Egr 234. Class: 3 hours. Credit: 3 semester hours.

342—Chemical Process Principles. The application of mathematics, chemistry, and physics to solution of problems in industrial chemistry. Included are topics on mass and energy balances, phase equilibria and economic evaluations. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

414—Seminar. An oral and written presentation of selected topics in chemical engineering from recent technical publications. Class: 1 hour. Credit: 1 semester hour.

422—Unit Operations Laboratory I. Laboratory work based on Egr 331 and 332. Prerequisite: CHE 331 or Egr 331. Laboratory: 6 hours. Credit: 2 semester hours.

423—Unit Operations Laboratory II. Laboratory work based on Egr 331 and 332, and CHE 442. Prerequisite: CHE 442 or concurrent registration in CHE 442. Laboratory: 6 hours. Credit: 2 semester hours.

432—Kinetics. Introduction to the kinetics of chemical reactions with a study of the rates and mechanisms of such reactions. Thermal and catalytic

reactions, both homogeneous and heterogeneous, are considered. Application of fundamental principles to the design and operation of commercial reactors is covered. Class: 3 hours. Credit: 3 semester hours.

433—Instrumentation. Fundamental principles of process dynamics and instruments used for measurement and control of process variables such as pressure, temperature, and flow rate. Class: 3 hours. Credit: 3 semester hours.

410, 420, 430, 440—Special Topics in Chemical Engineering. Selected topics in fluid mechanics, heat transmission, distillation, absorption, adsorption, filtration, and other Unit Operations. Class: 1 to 4 hours. Credit: 1 to 4 semester hours.

442—Unit Operations. A continuation of Egr 332. Includes humidification extraction, binary distillation, and multicomponent distillation. Prerequisite: Egr 332. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

443—Design. Application of chemical engineering fundamentals to the design and development of chemical processing plants. Includes calculations of capacity, economic evaluation of processes and equipment, equipment layout, specifications, cost estimates, and equipment design. Prerequisites: CHE 432, CHE 442. Class: 2 hours. Laboratory: 6 hours. Credit: 4 semester hours.

4101, 4201, 4301, 4401—Advanced Problems. Special advanced problems in chemical engineering to suit the needs of individual students. Class: 1 to 4 hours. Credit: 1 to 4 semester hours.

4111—Seminar. Oral presentation of advanced topics or research work in chemical engineering. Class: 1 hour. Credit: 1 semester hour.

4151, 4251, 4351, 4451—Chemical Engineering Projects. Individual projects in library or laboratory research in chemical engineering. Class: 1 to 4 hours. Credit: 1 to 4 semester hours.

4311—Heat Transmission. Process design calculations and process calculations involving the transfer of heat by conduction, convection, and radiation. Steady and unsteady state heat transmission. Prerequisite: Mth 232 and 233. Class: 3 hours. Credit: 3 semester hours.

4312—Filtration. Flow of liquids through homogeneous and non-homogeneous solids, porosity, permeability, constant rate and constant pressure, filtration, variable pressure-variable rate filtration, washing, cycles for maximum production and optimum cost, rotary filtration, and washing. Prerequisite: Egr 331. Class: 3 hours. Credit: 3 semester hours.

4315—Phase Rule. Application of the phase rule to chemical engineering three and four liquid components, and azeotropic distillation. Prerequisite: CHE 333. Class: 3 hours. Credit: 3 semester hours.

4316—Stagewise Processes. Graphical and analytical solutions of difference equations, and applications to the stagewise processes of engineering. Prerequisite: CHE 432, Mth 232 and 233. Class: 3 hours. Credit: 3 semester hours.

4317—Diffusional Operation. Principles of diffusion, boundary layer equations, mass-transfer coefficients, and diffusional operations of chemical engineering. Prerequisite: CHE 442. Class: 3 hours. Credit: 3 semester hours.

4318—Advanced Distillation. A study of the various design procedures used in multicomponent distillation and batch fractionation. Prerequisite: CHE 442. Class: 3 hours. Credit: 3 semester hours.

4321—Chemical Engineering Economics. Calculations involving process and control as determined by least cost or maximum profit. Based on unit operations and unit processes. Class: 3 hours. Credit: 3 semester hours.

4322—Advanced Unit Operations. The application of chemical engineering fundamentals to special problems selected for advanced study. Prerequisite: CHE 442. Class: 3 hours. Credit: 3 semester hours.

4323—Corrosion and Materials of Construction. Construction materials and corrosion in the chemical and petroleum industry. Class: 3 hours. Credit: 3 semester hours.

4325—Introduction to Nuclear Engineering. A study of the engineering aspects of nuclear fundamentals and processes. Class: 3 hours. Credit: 3 semester hours.

4326—Applied Mathematics for Chemical Engineers. Application of higher mathematics to the solution of chemical engineering problems. Prerequisite: Mth 232. Class: 3 hours. Credit: 3 semester hours.

4329—Properties of Gases and Liquids. A critical review of various estimation and correlation procedures for a number of physical properties of pure gases and liquids. Though the subject matter is tied closely to basic theory, its intrinsic value results from its utility in almost every chemical or petroleum industry. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF CIVIL ENGINEERING

Accredited by Engineers' Council for Professional Development

Professors Beale,* DelFlache
 Associate Professors Henry, Rogers.
 Assistant Professors Dust, Mays, Szendy.*

Civil Engineering is vital to man's economic, political, and social well-being. Modern technological developments are ever widening the vistas of this profession and deepening its scientific roots. These trends are accentuating and creating needs that can be met only by truly professional people whose education has the breadth of a liberal education and the depth of a firm foundation in mathematics and science. This curriculum is designed to meet these requirements. It is strong in the engineering sciences including the natural and earth sciences. It embraces a sound core of mathematics, physics and chemistry. Completion of this curriculum will enable a student to enter the professional field of practice or to pursue an advanced program of study leading to a graduate degree in Civil Engineering. Areas of activity include: soil, structural, hydraulic, sanitary, transportation, surveying and mapping, and power engineering. This curriculum is modern and designed to meet the requirements of the space and atomic age. Options are provided to fit the individual interest of the Civil Engineering student.

Program of Study

Bachelor of Science in Civil Engineering

First and Second Year

(See Core Program)

Departmental Selection

Spc 331 or Spc 131, Egr 213

Third Year

First Semester	Second Semester
CE 315—Ex Fld Mech I 0-3-1	CE 323—Surveying 1-3-2
CE 331—Environ Sc 3-0-3	CE 336—Hydrology 3-0-3
CE 334—Struct Mech 2-3-3	CE 326—Soil Science 2-0-2
Geo 220—Engr Geo 1-3-2	Egr 334—Mech IV 2-3-3
Egr 331—HMMT 3-0-3	CE 337—Sanitation I 2-3-3
Humanities ¹ 6-0-6	Humanities ¹ 6-0-6
18	19

*On Leave of Absence.

Fourth Year

First Semester		Second Semester	
CE 413—Thesis Research	1-0-1	CE 410—Seminar	1-0-1
CE 421—Photogrammetry	1-3-2	CE 438—Re Con Des	2-3-3
CE 430—Indet Struc	3-0-3	CE 439—Struc Stl Des	2-3-3
CE 434—Soils Engr	2-3-3	Humanities ¹	3-0-3
Phy 335—Atomic Physics	2-3-3	Electives ²	6
Humanities ¹	3-0-3		
Elective ²	3		18

18

Total 146 Semester Hours

¹Humanities

History 231, 232

Government 231, 232

English Literature

Eco 233

²Approved Science or Liberal Arts Elective.³Approved Engineering or Technical Electives

Civil Engineering (CE)

315—Experimental Fluid Mechanics I. Laboratory studies of fluid dynamics problems. Calibration of flow measuring devices. Friction and drag studies. Flow characteristics of open channels and closed conduits. Corequisite: Egr 331. Laboratory: 3 hours. Credit: 1 semester hour.

323—Surveying. Applications of measurement principles to civil engineering layout problems. Prerequisite: Egr 213. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

326—Soil Science. Study of physical properties of soil—classification—hydraulics applied to soil mechanics. Prerequisite: Geo 220. Class: 2 hours. Credit: 2 semester hours.

331—Environmental Science. Introduction to fundamental microbiology and biochemistry related to stream pollution, water and waste treatment, study of aerobic and anerobic decomposition of wastes and the effect of oxygen balance on streams. Prerequisite: Chm 142. Class: 3 hours. Credit: 3 semester hours.

334—Structural Mechanics. Analysis of loadings for bridges and buildings. Dynamic effects of moving loads. Influence lines. Shear and moment diagrams. Approximate analysis of indeterminate structures. Model analysis. Investigation of frames, girders, and bents. Prerequisite: Egr 232. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

336—Hydrology. Precipitation, surface water, infiltration, sub-surface water. Analysis of rainfall and runoff data. Collection studies. Hydraulics of wells. Net storm rain, peak discharge and flood runoff. Prerequisite: Geo 220. Class: 3 hours. Credit: 3 semester hours.

337—Sanitation I. An introduction to water and waste water treatment; forecasting water demand, storage, ground water, pumps and pump stations, distribution, quality of water, water treatment, stream purification, collection of waste water, and waste water treatment. Laboratory consists of physical, chemical and biological tests plus selected field trips. Prerequisite: CE 331. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

338—Engineering Specifications and Law. Specification writing and interpretation for engineering projects. Legal significance of specifications. Economic principles applied to engineering construction. Class: 3 hours. Credit: 3 semester hours.

421—Photogrammetry. Principles of aerial photography applied to map making. Route locations. Ground control. Introduction to use of photogrammetry equipment, including stereoscopes and plotters. Prerequisite: CE 323. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

422—Advanced Surveying. Geodesy and Cartography. Advanced measurement science and theory of error adjustment. Prerequisite: CE 323. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

413—Thesis Research. Class devoted to discussion of research methods and techniques of literature search. Progress reports on thesis work required. Prerequisite: An approved thesis proposal. Class: 1 hour. Credit: 1 semester hour.

430—Indeterminate Structures. Basic principles of statically indeterminate structural analysis, based upon requirements of equilibrium and continuity. Classical methods of strain energy, slope deflection and moment distribution used for analysis of frames, trusses and beams. Prerequisite: CE 334. Class: 3 hours. Credit: 3 semester hours.

433—Sanitation II. Introduction to the sanitation phase of public health work; communicable diseases, water and sewage treatment, food sanitation, industrial sanitation, swimming pool sanitation, refuse sanitation. Laboratory consists of laboratory tests and field trips. Prerequisite: CE 337. Class: 2 hours. Laboratory 3 hours. Credit: 3 semester hours.

434—Soils Engineering. Compressibility and strength characteristics. Stress distribution. Shallow and deep foundations, earth pressure theories, retaining walls, stability of slopes. Prerequisite: CE 326. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

435—Advanced Sanitation. Advanced studies in sanitary microbiology and chemistry; enzymes, metabolic reactions, energy, synthesis, growth and death. Microbiology as applied to water, wastes, and biological treat-

ment. Laboratory consists of physical, chemical, and biological tests on streams, bench-scale plants, and actual water and waste water plants. Prerequisite: CE 337. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

437—Transportation Engineering. Study of highway pavements. History and development of transportation facilities. Drainage requirements. Fundamentals of highway location, design, construction, and maintenance. Prerequisite: CE 434. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

438—Reinforced Concrete Design. The design of structural members based upon elastic theory. Different methods used in designing columns. Study of standard specifications. Introduction to ultimate strength design and prestressed concrete. Prerequisite: CE 430. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

439—Structural Steel Design. The elastic design of building and bridge components according to standard specifications. Plastic design of steel structures. Prerequisite: CE 430. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4101, 4201, 4301—Special Problems. Advanced problems and research in civil engineering under supervision of the staff. Laboratory and library research required. Credit: 1 to 3 semester hours.

4311—Plastic Design. Plastic methods of analysis applied to continuous frames, bents and girders. Consideration of load and shape factors. Structural behavior in the plastic range. Prerequisite: CE 430. Class: 3 hours. Credit: 3 semester hours.

4313—Foundation Engineering. Principles of soil science applied to the design of rigid and elastic foundations. Spread footings, floating foundations, retaining walls, pile structures and caissons. Prerequisite: CE 434. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4316—Soil Dynamics. Detailed study of mechanical properties of soil masses under the effect of dynamic loading, impact and shock wave propagation. Seismic phenomena, their reflection and refraction. Electronic recording and analysis of experimental transient data. Prerequisite: Geo 433. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF ELECTRICAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Professors Cherry, Cooke, Crum.

Assistant Professors Bohrer, Instructor Carlin.

Electrical engineers are found in virtually every major American industry. Their services are needed by public utilities, communications systems, manufacturing companies, and many other organizations in which precise measurement and control of operations are essential.

In each of the electrical engineering courses emphasis is placed upon analytical thinking of a creative nature rather than upon the acquisition of extensive factual information. The two fields of specialization, power and electronics, receive equal emphasis throughout the entire program of study. However, a degree of specialization may be achieved by the selection of specific approved electives in the senior year.

Bachelor of Science in Electrical Engineering

First and Second Year

(See Core Program)

Departmental Selection

His 231

Third Year

First Semester		Second Semester	
EE 317—Jr EE Lab	0-3- 1	EE 318—Jr EE Lab	0-3- 1
EE 331—Cir I	3-0- 3	EE 332—Cir II	3-0- 3
EE 337—Elect & Mag Fields	3-0- 3	Egr 333—Electronics I	3-0- 3
Egr 331—Ht, Mass & Momentum	3-0- 3	EE 336—Elec Mach	3-0- 3
Gov 231—Constitutions	3-0- 3	Egr 332—Ht, Mass & Momentum	3-0- 3
His 232—American	3-0- 3	Gov 232—State & Natl	3-0- 3
Spc 331 or Spc 131	3-0- 3	Phy 335—Atomic	3-0- 3
			18-3-19
	18-3-19		

Fourth Year

First Semester		Second Semester	
EE 411—Seminar	1-0- 1	Eco 233—Economics	3-0- 3
EE 415—Proj Lab	0-3- 1	EE 412—Seminar	1-0- 1
EE 417—Proj Lab	0-3- 1	EE 416—Proj Lab	0-3- 1
EE 431—Electronics II	3-0- 3	EE 418—Proj Lab	0-3- 1
EE 433—Net Anal	3-0- 3	EE 432—Electronics III	3-0- 3
EE 435—Elect Mach	3-0- 3	EE 436—Servo Mech	3-0- 3
Elective—Group A	3-0- 3	EE Elective	3-0- 3
Eng—Lit	3-0- 3	Elective Group A or B	3-0- 3
	16-6-18		16-6-18

Electives:**Group A Technical**

Any Mathematics course of junior or senior level
IE 331, 333, 335
ME 331, 338
CHE 4325
CE 230, 333
Chm 241, 242
Bio 133-134
Geo 220, 237
Phy 331, 335, 336, 337, 346, 348

Group B General

French 130, 131, 132, 231 or 232
German 130, 131, 132, 231 or 232
Spanish 231
All English courses numbered 200 or above
All government and history courses
Music 130, Art 235, Spc 231, 238, 315, 330, or 434
Psy 231, 434; Eco 336, 430
Soc 131, 334

Electrical Engineering (EE)

317—Junior E.E. Laboratory. To be taken in parallel with EE 331. Laboratory: 3 hours per week. Credit: 1 semester hour.

318—Junior E.E. Laboratory. To be taken in parallel with EE 332, Egr 333 and EE 336. Class: 3 hours per week. Credit: 1 semester hour.

331—Circuits I. A study of instantaneous current and voltage, the impedance function, complex algebra in circuit analysis, average power and effective current, equivalent networks, resonance, graphical methods, loop and node network equations, matrix solutions, and network theorems. Prerequisite: Egr 233, Mth 232, and Mth 233. Class: 3 hours. Credit: 3 semester hours.

332—Circuits II. Coupled circuits, balanced and unbalanced polyphase circuits, symmetrical components, non-linear elements, Fourier series and integral, transient response, complex frequency plane, Laplace transformation, filters. Prerequisite: EE 331. Class: 3 hours. Credit: 3 semester hours.

336—Electric Machinery I. Basic principles; electro-mechanical energy conversion principles; basic rotating machines; theory of ideal d-c, synchronous, and polyphase induction machines. Prerequisite: EE 337. Parallel registration in EE 332. Class: 3 hours. Credit 3 semester hours.

337—Electric and Magnetic Fields. Introduction to mathematical and physical concepts of electric and magnetic fields. Vector analysis applied to study of static electric fields, Coulomb's law, Gauss's law, divergence, energy and potential, capacitance, Laplace's equation, concept of and

forces in steady magnetic fields, time-varying fields. Prerequisite: Egr 233, Mth 232, and Mth 233. Class: 3 hours. Credit: 3 semester hours.

411-412—**Electrical Engineering Seminar.** A study of technical journals and magazines in electrical and related engineering fields; the preparation and presentation of papers on electrical subjects. Parallel: EE 431 and EE 435. Class: 1 hour. Credit: 1 semester hour for each course.

415-417—**Projects Laboratory.** An integrated laboratory study of the alternating current machines and circuits covered in EE 431, EE 433, and EE 435. Laboratory: 3 hours. Credit: 1 semester hour for each course.

416-418—**Projects Laboratory.** An integrated laboratory study of the machines and circuits covered in EE 432, EE 436, EE 437, and EE 438. Laboratory: 6 hours. Credit: 1 semester hour for each course.

431—**Electronics II.** Vacuum tubes and Semiconductors as circuit elements, unturned voltage and power amplifiers, and electronic computing circuits. Prerequisite: Egr 333, EE 331-337, and Mth 232. Class: 3 hours. Credit: 3 semester hours.

432—**Electronics III.** Tuned voltage and power amplifiers, oscillators, rectifiers with associated filters and regulators, modulation and demodulation (detection), relaxation oscillators, sweep generators, and electronic instruments. Prerequisite: EE 431. Class: 3 hours. Credit: 3 semester hours.

433—**Network Analysis.** A study of generalized four terminal networks, filters, transmission lines and termination equipment in steady state and in transient conditions. Prerequisite: EE 317, 332, and 337. Class: 3 hours. Credit: 3 semester hours.

434—**Transient Analysis of Circuits.** The fundamental principles of transient circuit analysis by using the Laplace Transform method of solving the circuit differential equations. Prerequisite: EE 317, 431, and Mth 232. Class: 3 hours. Credit: 3 semester hours.

435—**Electric Machinery II.** Continuation of EE 336. Lagrange's equations and dynamical system analysis; incremental motions transducers; generalized theory. Prerequisite: EE 336. Class: 3 hours. Credit: 3 semester hours.

436—**Control Engineering.** Introduction; the Laplace transformation transform functions; time response; frequency response; stability; design and compensation; special topics as time permits. Prerequisite: EE 435. Class: 3 hours. Credit: 3 semester hours.

437—**Micro-Wave.** A study of micro-wave generation, transmission, and detection. Includes a treatment of motion of electrons in microwave devices and specific tubes such as klystrons, traveling-wave tubes, and magnetrons. Consideration is given measurements and measuring devices at these frequencies. Parallel: EE 431, and EE 433. Class: 3 hours. Credit: 3 semester hours.

4101, 4201, 4301, 4401—Special Projects. Individual student study of theoretical or experimental projects under the guidance of a member of the staff. An outline of each proposed project must have been accepted by the head of the department before registration in this course. Prerequisite: EE 318, 337, 332 and Mth 232. Class: 1 to 4 hours. Laboratory: 2 to 8 hours. Credit: 1 to 4 semester hours.

DEPARTMENT OF INDUSTRIAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Professor Gates, Thomas, Tims.
Assistant Professor Stevens*
Instructor Faris.

Industrial Engineering is concerned with the design, improvement, and installation of integrated systems of men, materials, and equipment; drawing upon specialized knowledge and skill in the mathematical, physical, and social sciences together with principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems.

The course is basically engineering, with the usual engineering foundation in mathematics and the sciences, with additional emphasis on the human and economic factors essential in all engineering activity.

The organization and operation of industrial enterprises are stressed in the industrial engineering course. Courses in manufacturing processes, work measurement, industrial administration, management, engineering economy, tool engineering, and factory planning are offered.

The graduate is prepared to engage in the technical and managerial phases of industry and to advance to such responsibilities as engineering sales, purchasing, personnel administration, production planning and control, production cost control, plant location and factory planning, plant maintenance, product design and development and the administration and management of industries or their many subdivisions.

The successful industrial engineer must possess special interests and abilities in the analysis of the human, technical, and economic problems of the industrial culture. In addition he must possess the essential personality and character which will enable him to work with and direct others in the planning, organizing, improving, managing, and the successful operation of the various processes for the conversion, transformation, and fabrication of raw materials into products of all kinds and varieties.

Program of Study**Bachelor of Science in Industrial Engineering****First and Second Year**

(See Core Program)

Departmental Selection

Humanities¹ 3-0-3

*On Leave of Absence

Third Year

First Semester		Second Semester	
IE 330—Principles of IE	3-0- 3	IE 333—Egr Eco	3-0- 3
IE 335—Acct for Egrs	3-0- 3	IE 334—Ind Rel	3-0- 3
IE 339—Mfg Processes	3-0- 3	IE 338—Meth Egr	2-3- 3
Egr 212—Prod and Fab Proc	0-3- 1	Egr 333—Electronics	3-0- 3
Egr 331—Ht Mass Mom		Humanities ¹	3-0- 3
Trans	3-0- 3	Physics Elective	3-0- 3
Humanities ¹	3-0- 3		
IE 311—Seminar I	1-0- 1		18
CHE 320—Egr Statistics	2-0- 2		

19

Fourth Year

First Semester		Second Semester	
IE 411—Seminar II	1-0- 1	IE 4315—Org and Mgt	3-0- 3
IE 435—Prod and Inv Cont	3-0- 3	IE 436—Factory Plan	1-6- 3
IE 430—Stat Qual Cont	2-3- 3	IE 437—Oper Res	3-0- 3
Humanities ¹	3-0- 3	Humanities ¹	3-0- 3
Electives ²	6-0- 6	Electives ²	6-0- 6
IE 434—Mfg Egr or			
ME 332—Elem Mech Des	2-3- 3		18

19

¹Humanities (All required)

Gov 231, 232

English literature, 3 semester hours

Spc 331 or Spc 131

His 231, 232

²Electives (12 semester hours, at least 6 semester hours from Group A and at least 3 semester hours from Group B.)

Group A

BA 331—Bus Law

BA 3311—Labor Law

BA 4313—Job Evaluation

CE 338—Engr Spec and Law

IE 434—Mfg Egr

IE 4111, 4211, 4311, 4411—Special Problems

IE 4312—Sales Egr

IE 4313—Human Egr

ME 332—Machine Design

Mth 331—Differential Equations

Mth 3301—Intro to Data Proc

Mth 4312—Advanced Data Proc

Mth 4301, 4302—Advanced Calculus

Group B

Eco 233—Principles
Phl 231—Intro
Phl 232—Logic
Psy 231—General Psychology
Soc 334—Industrial Sociology

Industrial Engineering (IE)

311—Seminar. Current problems related to industrial engineering. Class: 1 hour. Credit: 1 semester hour.

330—Principles of Industrial Engineering. The function of the Industrial Engineer in industry. The introduction of the various industrial control systems designed, improved and installed by the industrial engineer. Class: 3 hours. Credit: 3 semester hours.

333—Engineering Economy. Economic evaluation of engineering alternatives. Interest, depreciation, valuation, cost control, replacement theory, taxation. Prerequisites: Mth 139. Class: 3 hours. Credit: 3 semester hours.

334—Industrial Relations. Application of the behavioral sciences to the problem of industrial organization and operation. Class: 3 hours. Credit: 3 semester hours.

335—Accounting for Engineers. Elements of accounting, cost accounting systems and budget systems with industrial applications. Class: 3 hours. Credit: 3 semester hours.

338—Methods Engineering and Work Measurement. Analysis and improvement of manual work methods. Time measurement of work and methods of establishing performance evaluation standards. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

339—Manufacturing Processes. Properties of engineering materials and methods of processing these materials. Class: 3 hours. Credit: 3 semester hours.

411—Seminar. Advanced methodologies, professional problems and current research in industrial engineering. Class: 1 hour. Credit: 1 semester hour.

430—Statistical Quality Control. The use of statistics in the design, installation and operation of systems for the design of quality, the prevention of defects and the assurance of given quality levels. Prerequisite: Mth 234. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

434—Manufacturing Engineering. The design of products for quantity production, the design of tools, gages, jigs and fixtures. Analysis, design and selection of materials-handling equipment. Prerequisite: IE 338, 333 and 339. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

435—Production and Inventory Control. Techniques employed in continuous process and job lot manufacture for planning and controlling production. Procurement, inventory control, scheduling, facilities loading, routing, dispatching. Prerequisite: Mth 234 and concurrent registration in CHE 320. Class: 3 hours. Credit: 3 semester hours.

436—Factory Planning. Principles and methods of designing and locating industrial plants. The design and location of a factory as the result of technical and economic analyses. Prerequisite: Egr 212, IE 330, 333, 338, 339 and 434. Class: 1 hour. Laboratory: 6 hours. Credit: 3 semester hours.

437—Operations Research. Introduction to the major techniques of operations research and their application to managerial decision-making. Transportation method, linear programming, allocation models, Monte Carlo technique. Prerequisite: Mth 234 and CHE 320. Class: 3 hours. Credit: 3 semester hours.

4111, 4211, 4311, 4411—Special Problems. An investigation into specialized areas of industrial engineering. A written report of the investigation is required. Credit: 1 to 4 semester hours.

4312—Sales Engineering. Study of the principles and methods used in selling engineering products. Class: 3 hours. Credit: 3 semester hours.

4313—Human Engineering. The specialized adaptation of engineering designs to meet human physiological and psychological needs. Prerequisite: IE 338. Credit: 3 semester hours. Class: 2 hours. Laboratory: 3 hours.

4315—Organization and Management: Theory of the organization, the relationship of human efforts for effective and efficient coordinated activity. Investigation of the executive functions: planning, decision-making, policy formulation, motivation, communication, control. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF MECHANICAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Professor Brown. Associate Professors Bruyere, Greene, Mei, Ramirez.
Assistant Professors Hale, Levosky,* Martinez.

Mechanical Engineering embraces the analysis, design, synthesis and selection of materials for mechanical and thermal processes and machines. Such a broad field must of necessity require a firm foundation in the fundamental sciences and mathematics as well as in the engineering sciences.

Application of the sciences to diverse areas of mechanical engineering are studied in the junior year. Although specialization at the upper-graduate level cannot be achieved, opportunity is provided the student at the senior level to examine certain aspects of Mechanical Engineering in more detail or to prepare for graduate study.

Mechanical engineers are found in every industry. They are engaged in professional engineering, research, management, and public service. The end products resulting from the application of their knowledge and professional skills are many, and a list would include, for example, all forms of transportation, central power plants, nuclear reactors and space vehicles.

Few fields of endeavor offer more to the individual in challenge and opportunity or require better preparation than does mechanical engineering.

Successful completion of the curriculum leads to the degree of Bachelor of Science in Mechanical Engineering.

Program of Study**Bachelor of Science in Mechanical Engineering****First and Second Year****Departmental Selection**

(See Core Program)

Second Year

Humanities¹

Egr 212—Prod and Fab Proc

*On Leave of Absence.

Third Year

First Semester		Second Semester	
ME 388—Thermo II.....	3-0- 3	Egr 333—Electronics	3-0- 3
Egr 331—Heat, Mass and Mom Transfer I	3-0- 3	Egr 332—Heat, Mass and Mom Transfer II.....	3-0- 3
Humanities ¹	3-0- 3	Humanities ¹	3-0- 3
Phy 335—Atomic Physics ..	3-0- 3	Eng 3311—Tech Report Writing	3-0- 3
Spc 331—or Spc 131.....	3-0- 3	ME 334—Engr Anal I.....	2-3- 3
ME 332—Elem Mech Des I..	2-3- 3	ME 333—Elem Mech Des II.	2-3- 3
ME 310—Instrmt Lab.	0-3- 1	ME 311—Fluid Mech and Heat Trans Lab	0-3- 1
	17-6-19		16-9-19

Fourth Year

First Semester		Second Semester	
Humanities ¹	3-0- 3	Humanities ¹	3-0- 3
Eco 233—Prin & Policies...	3-0- 3	ME 412—Test & Des Exp..	0-3- 1
ME 4319—Adv Mat Sc.....	2-3- 3		
ME 411—Seminar	1-0- 1		
ME 431—Egr Sys Des	1-6- 3		

(plus option 18 semester hours)

Total 146 Semester Hours

¹Humanities (all required)

His 231, 232

Gov 231, 232

Eng (Literature) 3 semester hours.

ME Options

(18 semester hours minimum)

Aero-Space		Graduate School Preparatory	
ME 433—Aerodynamics	3	ME Elective (Engineering Science)	3
ME 4312—Gas Dynamics	3	ME Electives (Design and Analysis)	6
ME 4321—Space Dynamics	3	Tech Electives.....	6
ME Electives (ME Approved Electives)	9	Mod. Language	3
	18		18

Professional

Power Systems Elective.....	3
ME 438—Environmental Systems Engineering.....	3
ME 432—Vibrations or ME 4311—Controls Egr.....	3

Engineering Science Elective.....	3
IE 339—Mfg Process	3
Electives	
(Mth 3301, IE 434, IE 436, IE 331,	
Psy 231, Soc 334, Phl 231, Phl 232)	3
	—
	18

Courses selected in each option must include at least three semester hours of engineering sciences and at least six semester hours of analysis, design, and engineering systems.

Mechanical Engineering (ME)

310—Instruments Laboratory. Various instruments with mechanical engineering applications are studied and used. Instruments include pressure, temperature, area, speed, power, torque, and frequency measuring devices. Prerequisites: Egr 331 or parallel. Laboratory: 3 hours. Credit: 1 semester hour.

311—Fluid Mechanics and Heat Transfer Laboratory. Selected experiments illustrating the fundamentals of fluid flow and heat transfer are performed. Prerequisites: ME 310 and Egr 332 or parallel. Laboratory: 3 hours. Credit: 1 semester hour.

332—Elements of Mechanical Design I. The design of machine components including shafting, columns, springs and frames with regard to static and dynamic forces employing analytical and graphical analysis. Prerequisite: Egr 232 or approval of department head. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

333—Elements of Mechanical Design II. The design of power transmission machinery. Complete design of some assigned machine. Prerequisite: ME 332. Class: 2 hours. Laboratory: 3 hours. Credit 3 semester hours.

334—Engineering Analysis I. Methods of analysis of engineering situations requiring application of fundamentals of engineering science and mathematics are studied. Projects requiring synthesis and analysis of engineering systems are assigned. Prerequisites: Mth 232 and approval of department head. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

338—Thermodynamics II. A continuation of Egr 234 including vapor and gas cycles, mixtures of gases, thermodynamics of chemical systems and psychrometrics. Prerequisite: Egr 332 or parallel. Class: 3 hours. Credit: 3 semester hours.

411—Seminar. Oral and written presentation and discussion of selected topics including those from current literature of fields related to mechanical engineering. Professional activities are encouraged. Class: 1 hour. Credit: 1 semester hour.

412—Testing and Design of Experiments. The design and execution of selected experiments from internal combustion engines, steam power plants, refrigeration, air-conditioning, and others. Emphasis is placed on analysis, procedure, and presentation of technical reports. Prerequisite: ME 311 and senior standing. Laboratory: 3 hours. Credit: 1 semester hour.

4101, 4201, 4301, 4401—Advanced Problems in Mechanical Engineering. Special problems in the various phases of mechanical engineering are assigned to individual students or to groups. Readings are assigned and consultations are held. Class: By consultation. Credit: Up to 4 semester hours.

431—Engineering Systems Design. The design techniques of integrated component systems are treated. The student is required to utilize these techniques by designing such a system. Prerequisite: ME 333 and ME 334 or parallel. Class: 1 hour. Laboratory: 6 hours. Credit: 3 semester hours.

432—Mechanical Vibrations. The theory of vibrating systems, including kinematics of vibrations, harmonic and non-harmonic, single and multiple degrees of freedom; free and forced vibrations, with and without damping. Applications to crank and slider, rotating machinery, balancing, vibration, isolation and absorption, and instrumentation. Prerequisites: ME 334 or parallel, and ME 332. Class: 3 hours. Credit: 3 semester hours.

433—Aerodynamics. Topics include circulation and curl, irrotational flow, velocity, potential, vortex theorems, the equations of motion, flow about a body, and the thin airfoil. Vector and complex notation is used. Prerequisite: Egr 332 or parallel. Class: 3 hours. Credit: 3 semester hours.

434—Internal Combustion Engines. The principles of design and analysis of various types of internal combustion engines. Prerequisites: ME 338 and Egr 332. Credit: 1 hour. Laboratory: 6 hours. Credit: 3 semester hours.

435—Turbomachinery. Flow problems encountered in the design of water, gas and steam turbines, centrifugal and axial-flow pumps and compressors. Prerequisite: Egr 332. Class: 3 hours. Credit: 3 semester hours.

437—Advanced Machine Design. The application of machine design principles to an integrated design of a complete machine, including fabrication and economic consideration. Prerequisite: ME 333. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

438—Environmental Systems Engineering. Design of refrigeration and air-conditioning systems including selection of mechanical equipment, controls, piping, and duct layout. Laboratory consists of design and experiment. Prerequisite: Egr 332. Class: 1 hour. Laboratory: 6 hours. Credit: 3 semester hours.

439—Advanced Strength of Materials. Introduction to the fundamental theory of three dimensional elasticity. Specialization of the general theory

to provide the theory of plane stress and plane strain. Determination of stress and deflections in a beam on elastic foundation, plates, shells, and cylinders. Study of torsion of bars and cylinders. Prerequisite: ME 334. Class: 3 hours. Credit: 3 semester hours.

4311—Controls Engineering. The theory of integrated automatic control systems with application to combustion, temperature, pressure, flow and humidity control. Industrial control systems are considered. Prerequisite: Egr 332. Class: 3 hours. Credit: 3 semester hours.

4312—Gas Dynamics. Fundamentals of one-dimensional compressible flow. An introduction to multi-dimensional wave phenomena with various applications. Prerequisite: Egr 332 and approval of department head. Class: 3 hours. Credit: 3 semester hours.

4313—Heat Transfer. Advanced theory and application of heat transfer for various boundary conditions. Conduction, convection, and radiation are considered. Prerequisite: Egr 332. Class: 3 hours. Credit: 3 semester hours.

4314—Fundamentals of Physical Metallurgy. Fundamental and scientific principles of physical metallurgy to include nucleation theory of solidification, behavior of single and polycrystalline solids under stress and heat treatment—plastic deformation and recrystallization, and basic principles of X-ray diffraction used in physical metallurgy. Prerequisite: ME 4319 or parallel. Class: 3 hours. Credit: 3 semester hours.

4315—Thermodynamics III. An introduction to the kinetic theory of gases, statistical mechanics, and quantum theory. Prerequisite: ME 338 and ME 334 or parallel. Class: 3 hours. Credit: 3 semester hours.

4316—Thermodynamics IV. Topics in chemical thermodynamics of interest to the Mechanical Engineer, including combustion and combustion charts, binary mixtures, equilibrium and generalized thermodynamic charts. Prerequisite: ME 338. Class: 3 hours. Credit: 3 semester hours.

4317—Engineering Analysis II. A continuation of ME 334 with some emphasis being placed on analog methods and computer techniques in solving engineering problems. Prerequisite: ME 334. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4318—Two-Dimensional Photoelasticity. Stress and strains at a point. Stress-strain relations. Isoclinics and stress trajectories. A brief review of optics with emphasis on polarization of light. Double refraction. Stress-optic law. Stress Patterns. Analysis of photoelastic results. The laboratory consists of preparing photoelastic models, determining stresses with a photoelastic analysis, and comparing results from existing theoretical approaches. Prerequisites: ME 333 and ME 4319 or parallel. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4319—Advanced Materials Science. A continuation of Egr 221. Aspects of elastic behavior, as well as stress and strain measurement, yield phenomena, tension, torsion, hardness, and assorted effects are considered. Criteria for selecting proper engineering materials are discussed. Prerequisite: ME 338. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4320—Propulsion Systems. Basic elements of rocket propulsion involving both solid and liquid propulsion systems. Prerequisite: Egr 332. Class: 3 hours. Credit: 3 semester hours.

4321—Space Dynamics. An analytical treatment of the mechanics of orbital motion, with applications to the trajectories of astronomical objects and space vehicles. Prerequisite: Egr 332 or parallel. Class: 3 hours. Credit: 3 semester hours.

4322—Theories of Turbulence. Background and statistical theory of turbulence are discussed. Statistical theory is applied to isotropic turbulence. Older phenomenological theories of turbulence are reviewed. Prerequisite: Egr 332. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF MATHEMATICS

Professors Stark, Archer.

Associate Professors Allen, Brookner, Crim, Dingle, Latimer, Wolkeau.

Assistant Professors K. Bell, L. Bell, Brenizer, DeMent, Gilson,
Hudson,* McGuire,* Merritt, Parrish, Smith,* Thames, Wood.

Instructors Edwards, Green, Guidry, Lauffer, Mades, Merritt, Read.

The importance of mathematics to the ambitious scientist and engineer of the present day cannot be overemphasized. Many phenomena of nature can be understood adequately only when translated into the language of mathematics. In a day when inventions are sought almost on schedule, a student majoring in science or engineering at a technological college may expect to find an emphasis on the basic tool of mathematics.

Mathematicians with adequate training and background find a variety of opportunities in industry, in government service, in the actuarial profession, as statisticians, and of course, as teachers of mathematics on the secondary school, college, or university levels. For further information along these lines, the reader is invited to confer with faculty members and is referred to the publication "Professional Opportunities in Mathematics," obtainable from the Mathematical Association of America.

The Mathematics Department offers programs leading to the Bachelor of Science degree, the Bachelor of Arts degree, and the Master of Science degree. The Bachelor of Arts degree is primarily for those who plan to teach mathematics in secondary schools. The Bachelor of Science degree is recommended for those undergraduate students who plan to do industrial work in mathematics or to enter graduate school for an advanced degree in mathematics. For information concerning the Master of Science degree, refer to the Bulletin of Lamar State College of Technology Graduate School.

Those wishing to secure the Bachelor of Arts degree in mathematics while fulfilling the requirements for a provisional secondary school certificate with a teaching field in mathematics, will find below the details of such a program. Also given below are programs of study for the Bachelor of Arts degree with major in mathematics and minor unspecified, the Bachelor of Science degree with major in mathematics and minor in engineering, and the Bachelor of Science degree with major in mathematics and minor in physics. Programs of study for the Bachelor of Science degree with other than the minors listed here may be prepared by consultation with the mathematics department. In the list of courses found below, graduate courses are distinguished by the fact that their course numbers begin with the digit 5.

*On Leave of Absence.

Programs of Study

Bachelor of Arts—Mathematics Major

1. General requirements:
 - (1) Eng 131, 132—composition.
 - (2) Eng Literature—6 sem hrs
 - (3) Laboratory science—8 sem hrs (same science)
 - (4) Gov 231, 232—State and National
 - (5) His 231, 232—United States
 - (6) Foreign Language through 232 (same Lang.)
 - (7) HPE (Activity)—4 sem hrs
2. Major requirements:
 - (1) A minimum of 24 semester hours of mathematics including 15 hours of advanced courses approved by the department
3. Minor requirements:
 - (1) A minor of 18 hours approved by the department
4. Electives—(approved)

First Year			
	First Semester		Second Semester
Mth 138—Analysis I	3-0- 3	Mth 231—Analysis III	3-0- 3
Mth 139—Analysis II	3-0- 3	Eng 132—Comp	3-0- 3
Eng 131—Comp	3-0- 3	Science	3-3- 4
Science	3-3- 4	Minor	3-0- 3
Minor	3-0- 3	*Elective	3
HPE—Activity	0-3- 1	HPE—Activity	0-3- 1
17		17	

Second Year			
	First Semester		Second Semester
Mth 232—Analysis IV	3-0- 3	Mth 331—Diff Equations	3-0- 3
Eng—Literature	3-0- 3	Eng—Literature	3-0- 3
His 231—United States	3-0- 3	His 232—United States	3-0- 3
For Lang 131	3-0- 3	For Lang 132	3-0- 3
*Elective	3	*Elective	3
HPE—Activity	0-3- 1	HPE—Activity	0-3- 1
16		16	

Third Year			
	First Semester		Second Semester
Mth—(adv.)	3-0- 3	Mth—(adv.)	3-0- 3
Gov 231—St and Natl	3-0- 3	Gov 232—St and Natl	3-0- 3
For Lang 231	3-0- 3	For Lang 232	3-0- 3
Minor	3-0- 3	Minor	3-0- 3
*Electives	3	*Electives	3
15		15	

Fourth Year

First Semester		Second Semester	
Mth—(adv)	3-0- 3	Mth—(adv)	3-0- 3
Minor	3-0- 3	Minor	3-0- 3
*Electives	9	*Electives	9
	15		15

*Approved by the Mathematics Department.

Teacher Certification—Mathematics

Those wishing to secure the Bachelor of Arts degree in mathematics and at the same time certify for a provisional certificate—secondary with a teaching field in mathematics must include in their degree program the following:

- (1) 18 hours of professional education as follows:
Edu 331, 332, 338, 438, and 462.
- (2) Minor to be expanded to include an approved 24 hours teaching field other than mathematics. (Consult this catalog—Dept of Edu.)
- (3) 15 hours of advanced mathematics as follows:
Mth 330, 331, 333 or 334, 335 or 336 or 337, and 433.
- (4) Approved electives sufficient to make a total of 132 sem hrs.

Bachelor of Science—Mathematics Major

Program I—Engineering Minor

First Year

First Semester		Second Semester	
Eng 131—Comp	3	Eng 132—Comp	3
Chm 141—General	4	Chm 142—General	4
Egr 122—Int Data Proc	2	Mth 139-231—Analysis	
Mth 138—Analysis I	3	II and III	6
Egr 121—Graphics	2	Egr 132—Mechanics I	3
*Liberal Arts Elective	3	HPE—Activity	1
HPE—Activity	1		
	18		17

Second Year

First Semester		Second Semester	
Mth 232—Analysis IV	3	Mth 234—Prob and Stat	3
Mth 233—Linear Algebra	3	Mth 331—Diff Equations	3
Phy 241—Egr Heat Elmag	4	Egr 221—Mat Science	2
Egr 231—Mechanics II	3	Egr 232—Mechanics III	3

Egr 211—Mech Lab	1	Egr 233—Elet Cit and Fld	3
Eng—Literature	3	Egr 234—Thermo	3
HPE—Activity	1	HPE—Activity	1
	<hr/>		<hr/>
	18		18

Third Year

First Semester		Second Semester	
Mth 338—Adv Cal	3	Mth 339—Adv Cal	3
Egr 331—Ht Mass Mom Trans I	3	*Mth Elective	3
Phy 242—Egr Snd Lt Qua	4	Egr 332—Ht, Mass Mom Trans II	3
Gov 231—St and Natl	3	Gov 232—St and Natl	3
*Mth Elective	3	Eng—Literature	3
		*Elective	3
	<hr/>		<hr/>
	16		18

Fourth Year

First Semester		Second Semester	
Mth 431—Complex Var	3	Mth 432—Complex Var	3
*Mth Elective	3	Egr 333—Electronics	3
His 231—United States	3	His 232—United States	3
*Electives (Mth, Phy, Egr)	6	*Electives (Mth, Phy, Egr)	6
	<hr/>		<hr/>
	15		15

*Approved by department head.

Program II—Physics Minor

First Year

First Semester		Second Semester	
Chm 141—General	4	Chm 142—General	4
Eng 131—Comp	3	Eng 132—Comp	3
*Liberal Arts Elective	3	Egr 122—Int Data Proc	2
Mth 138—Analysis I	3	Mth 231—Analysis III	3
Mth 139—Analysis II	3	Phy 140—Intro Mech	4
HPE 111—Activity	1	HPE 112—Activity	1
	<hr/>		<hr/>
	17		17

Second Year

First Semester		Second Semester	
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
Mth 232—Analysis IV	3	Mth 234—Prob and Stat	3
Mth 233—Linear Algebra	3	Mth 331—Differential Equat	3
Phy 241—Egr Heat Elmag	4	Phy 242—Egr Snd Lt Qua	4
HPE 211—Activity	1	HPE 212—Activity	1
	<hr/>		<hr/>
	17		17

Third Year

First Semester		Second Semester	
Gov 231—St and Natl.....	3	Gov 232—St and Natl.....	3
Mth 338—Adv Cal.....	3	*Mth Elective.....	3
Phy 333—Analyt Mech.....	3	Phy 335—Atomic Phy.....	3
Phy 339—Thermal Phy or Egr 234—Thermo.....	3	Mth 339—Adv Cal.....	3
*Mth Elective.....	3	*Electives.....	6
*Liberal Arts Elective.....	3		
	18		18

Fourth Year

First Semester		Second Semester	
Egr 331—Ht, Mass, Mom Transfr.....	3	Phy 338—Adv El and Mag.....	3
Mth 431—Complex Variables.....	3	Mth 432—Complex Var.....	3
*Mth Elective.....	3	*Mth Elective.....	3
*Phy Elective.....	3	*Electives.....	6
*Elective.....	3		
	15		15

*Approved by department head.

Mathematics (Mth)

131—Finite Mathematics I. Principles of mathematics, number bases, and coordinate geometry. Prerequisite: 2 units of high school mathematics. Class: 3 hours. Credit: 3 semester hours.

132—Finite Mathematics II. Symbolic logic, theory of sets, probability and statistics, theory of games, mathematical induction, and group theory. Class: 3 hours. Credit: 3 semester hours.

133—Plane Trigonometry. Trigonometric functions and their applications, trigonometric identities and equations. Prerequisite: 1½ units of high school algebra and 1 unit in plane geometry. Class: 3 hours. Credit: 3 semester hours.

134—College Algebra. Determinants, binomial theorem, theory of equations, progressions, permutations, combinations and probability. Prerequisite: 2 years of high school algebra. Class: 3 hours. Credit: 3 semester hours.

138—Analysis I. Functions and graphs, slope, properties of limits, derivatives of algebraic functions and applications, integration. Class: 3 hours. Credit: 3 semester hours.

139—Analysis II. Applications of the definite integral, transcendental functions, methods of integration. Prerequisite: Analysis I. Class: 3 hours. Credit: 3 semester hours.

231—Analysis III. Plane analytic geometry, hyperbolic functions, polar coordinates, parametric equations, solid geometry, vectors. Prerequisite: Analysis II. Class: 3 hours. Credit: 3 semester hours.

232—Analysis IV. Partial differentiation, multiple integrals, infinite series, differential equations. Prerequisite: Analysis III. Class: 3 hours. Credit: 3 semester hours.

233—Linear Algebra. Set notation, number fields, groups, vectors, geometry of space, vector spaces, determinants, linear transformations, matrices. Prerequisite: Analysis II. Class: 3 hours. Credit: 3 semester hours.

234—Probability and Statistics. Permutations and combinations, factorials, elementary principles of probability, mathematical expectation, averages, curve fitting, engineering applications. Prerequisite: Analysis III. Class: 3 hours. Credit: 3 semester hours.

330—Principles of Mathematics. An introduction to some modern topics in mathematics. Symbolic logic, a development of the number system, groups, fields, sets, boolean algebra, function theory, and probability. Prerequisite: Mth 231. Class: 3 hours. Credit: 3 semester hours.

3301—Introduction to Data Processing. Types of digital computing systems. Design of computation for computing machinery. Prerequisite: Mth 232. Class: 3 hours. Credit: 3 semester hours.

331—Differential Equations. Analytical solution of ordinary differential equations in terms of elementary and classical functions. Application to problems in geometry, engineering, and physics. Introduction to solution by series and numerical methods. Prerequisite: Mth 232. Class: 3 hours. Credit: 3 semester hours.

333—Higher Geometry. An axiomatic treatment of one or more of the important types of space—projective, metric, Euclidean, or topologic. Emphasis on the method rather than on the content. Prerequisite: Mth 231. Class: 3 hours. Credit: 3 semester hours.

334—Higher Geometry. Advanced topics in Euclidean geometry followed by a brief study of satellites. Constructible elements, problem of Apollonius, geometrical transformations. Euler line, Feuerbach Theorem, geometry of the triangle, Dandelin spheres, conic sections. Prerequisite: Mth 231. Class: 3 hours. Credit: 3 semester hours.

335, 336—Higher Algebra. Postulates for the system of positive integers. Systems of integers, rational numbers, real numbers, and complex numbers by embedding. Dedekind cuts. Groups, rings, fields, Diophantine equations, congruences, matrix theory. Prerequisite: Mth 231. Mth 335 is not a prerequisite for Mth 336. Class: 3 hours. Credit: 3 semester hours for each course.

337—Theory of Equations. Complex numbers, general theorems on algebraic equations, solution cubic and quartic equations. Determinants and matrices. Cramer's Rule. Symmetric functions, resultants, discriminants and elimination, the Graeffe method. Prerequisite: Mth 231. Class: 3 hours. Credit: 3 semester hours.

338, 339—Advanced Calculus. The number system, the concept of a function, limits, sequences, continuity, differentiability, the Riemann integral, functions of several variables, differentiable functions of several variables, multiple integrals, improper integrals, infinite series, Taylor's series, and Fourier series. Prerequisite: Mth 232. Class: 3 hours. Credit: 3 semester hours for each course.

4131, 4231, 4331—Special Problems. Special advanced problems in mathematics to suit the needs of individual students. Class: 1 to 3 hours. Credit: 1 to 3 semester hours.

4301, 4302—Advanced Calculus for Engineers. Linear ordinary differential equations, the Laplace Transform, series solutions of differential equations, boundary-value problems, orthogonal functions, introduction to vector analysis and functions of a complex variable, partial differential equations of mathematical physics. Prerequisites: Mth 232. Class: 3 hours. Credit: 3 semester hours.

431, 432—Introduction to Functions of a Complex Variable. Review of theorems from analysis and point set theory followed by a study of analytic functions from the Cauchy-Riemann and Weierstrass points of view. Compact sets, uniform convergence, Taylor Expansion Theorem, analytic continuation, Laurent expansions, calculus of residues, conformal mapping. Prerequisite: Mth 338. Class: 3 hours. Credit: 3 semester hours each course.

4311—Numerical Solution of Differential Equations. Analytical foundations. Methods for ordinary and partial differential equations. Prerequisites: Mth 3301, 331. Class: 3 hours. Credit: 3 semester hours.

4312—Advanced Data Processing. Application of computing machinery. Programming and operation. Prerequisite: Mth 3301. Class: 3 hours. Credit: 3 semester hours.

4315—Numerical Analysis. Approximations, interpolations, finite differences, numerical integration, curve fitting. Prerequisite: Mth 3301, 331. Class: 3 hours. Credit: 3 semester hours.

433—Vector Analysis. The algebra and calculus of vectors with applications. Scalar and vector fields, operators, Green's, Stokes's, and Divergence Theorems; Curvilinear coordinates. Other topics as time permits. Prerequisite: Mth 232. Class: 3 hours. Credit: 3 semester hours.

434—Partial Differential Equations. General and particular solutions, boundary conditions. Fourier series, Bessel functions, harmonic analysis, numerical solutions, conditions of heat, flow of electricity. Prerequisite: Mth

331 and either Mth 338 or Mth 4301. Class: 3 hours. Credit: 3 semester hours.

435—Introductory Topology. Topological spaces, metric spaces, product spaces, connected spaces, and compact spaces. Open sets, closed sets, neighborhoods, limit points, closure, interior, boundary, continuity, homeomorphism, subspaces, components, and open coverings. Some applications to analysis. Class: 3 hours. Credit: 3 semester hours.

437, 438—Probability and Statistics. Discrete and continuous event spaces, functions of several random variables, independent experiments, Central Limit Theorem, and properties of special distribution. Introduction to analysis of variance. Prerequisite: Mth 234. Credit: 3 hours. Credit: 3 semester hours for each course.

439—Seminar. Lectures, reports, and discussions on special topics. Class: 3 hours. Credit: 3 semester hours.

530—Seminar in Mathematics for Teachers. A review of basic mathematics through description and problem solving techniques. May not be taken for credit by science, engineering, or mathematics students. Class: 3 hours. Credit: 3 semester hours.

531—Theory of Functions of Real Variable. Analytic functions, pathological functions, set functions, Riemann integral, measure theory. Lebesgue integral, Riemann-Stieljes and Lebesgue-Stieljes integral. Class: 3 hours. Credit: 3 semester hours.

532—Modern Algebra. Numbers, sets, rings, fields, polynomials, and the theory of fields. The theory of fields includes the study of subfields, prime fields, simple field extensions, algebraic field extensions, and Galois fields. Class: 3 hours. Credit: 3 semester hours.

533—Calculus of Variations. The Euler-Lagrange differential equation, necessary conditions of Legendre, Jacobi, and Weierstrass, sufficient conditions for an extreme, brachistochrone problem, geodesics, surfaces of revolution of minimum area, other problems as time permits. Class: 3 hours. Credit: 3 semester hours.

534—Topology. Sets, compact spaces, topological spaces, embedding and metrization, and Urysohn lemma. Uniform spaces and function spaces as time permits. Class: 3 hours. Credit: 3 semester hours.

535—Introduction to Advanced Analysis. The Riemann mapping theorem, prime number theorem, functions of finite order. Turan's proof of Fabry gap theorem, other topics as time permits. Prerequisite: Mth 431. Class: 3 hours. Credit: 3 semester hours.

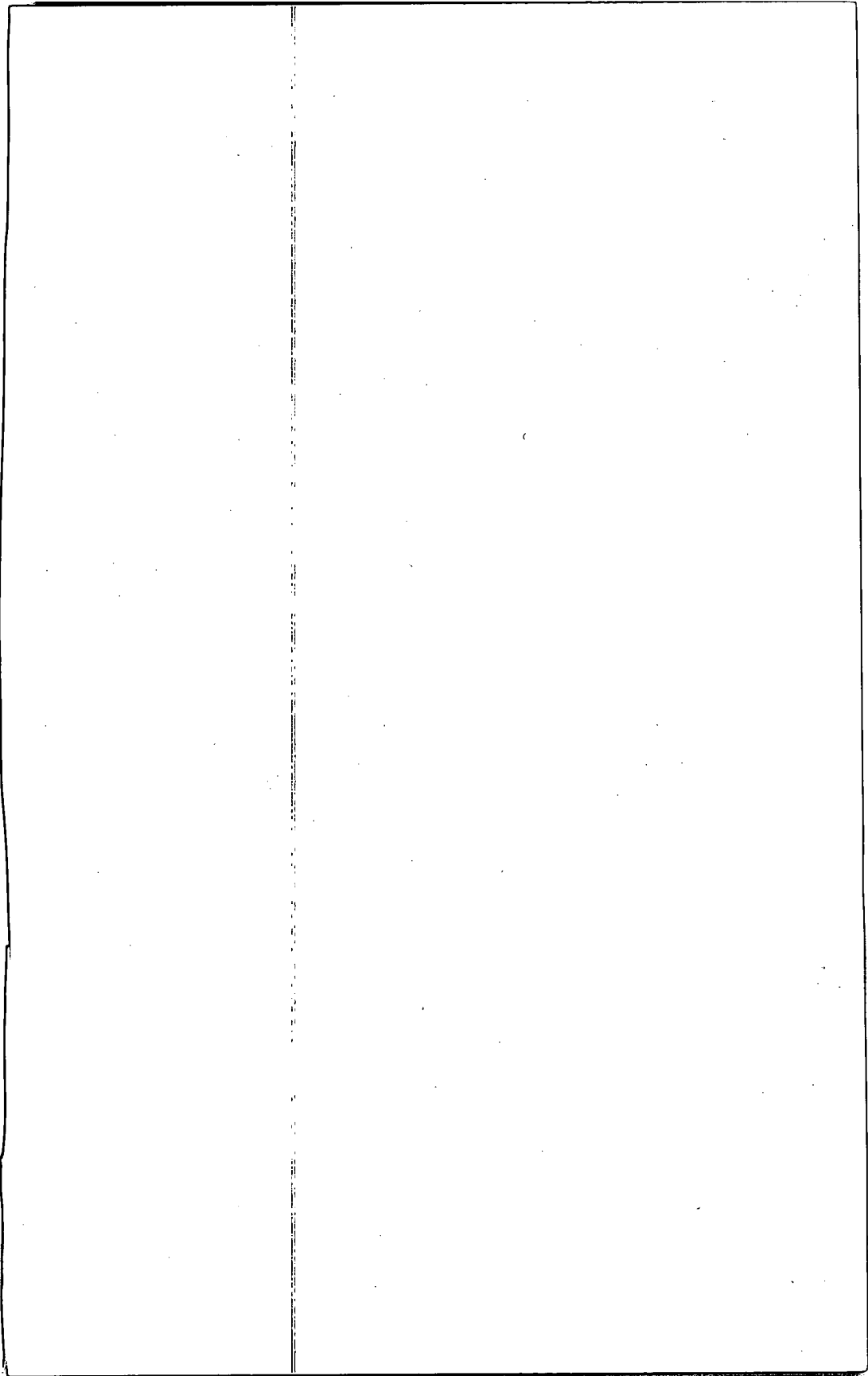
536—Integral Equations. Fredholm theory. Eigenvalues, and eigenfunctions. Volterra integral equation. Degenerate, symmetric, resolvent, iterated,

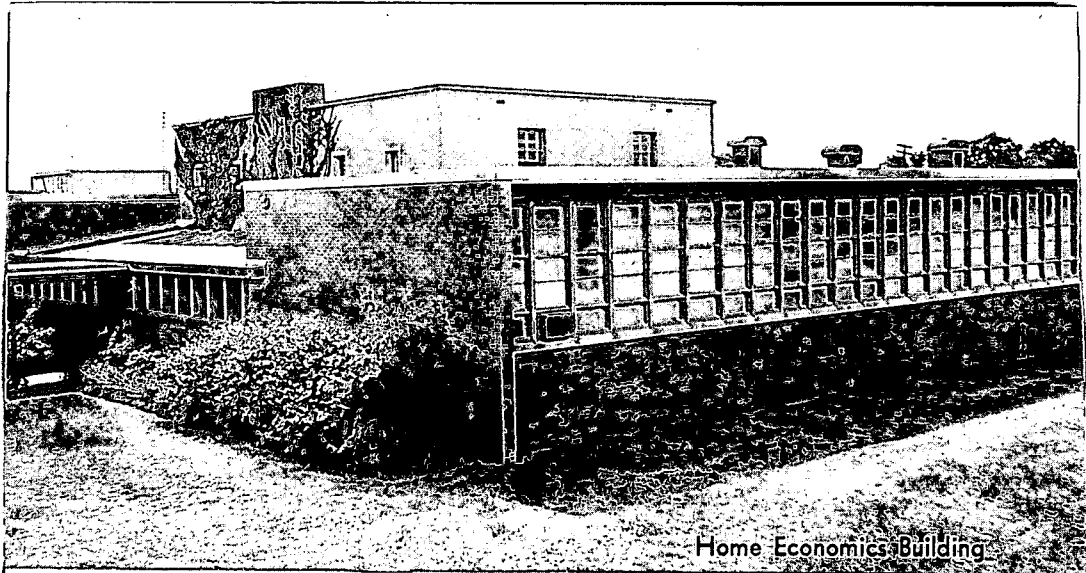
and arbitrary kernels. Neumann series. Use of integral equation theory as a unified approach to boundary value problems, differential equations, and potential theory. Class: 3 hours. Credit: 3 semester hours.

537—Methods of Applied Mathematics. The Dirichlet problem, solution of boundary-value problems, the Bergman kernel function, method of the minimum integral, applications of conformal mapping. Fredholm theory. Prerequisite: Mth 431. Class: 3 hours. Credit: 3 semester hours.

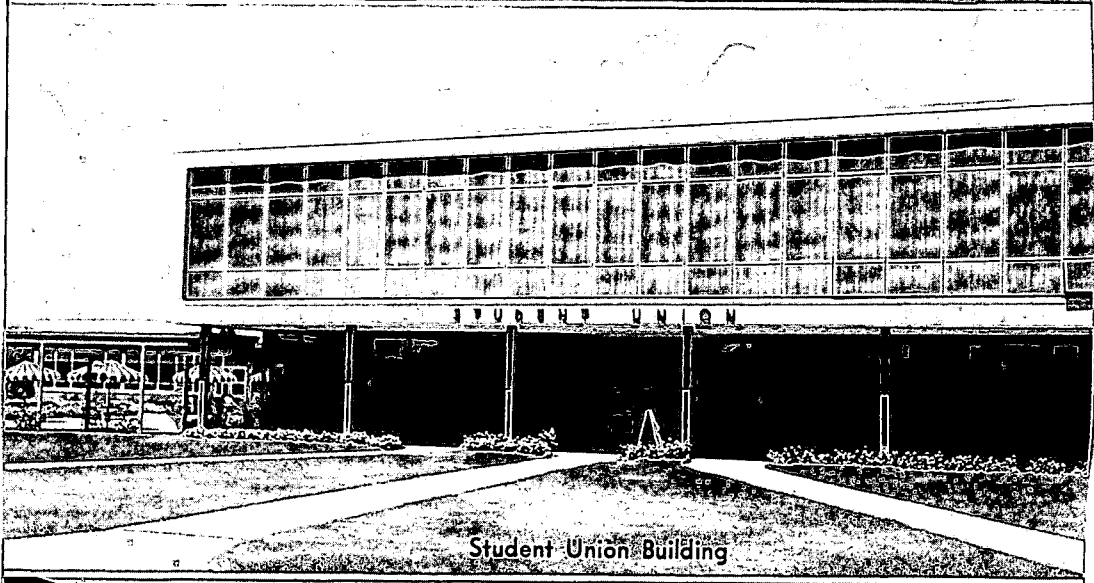
539—Infinite Series. Sequences, power series, series of functions, complex series, expansion of functions, tests for convergence, uniform convergence, conditions for rearranging terms in a series. Fourier series, Lambert series, Weierstrass theorem on double series, asymptotic expansions, summation of series. Class: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis. Prerequisite: admission to candidacy for the master's degree. Credit: 6 semester hours.

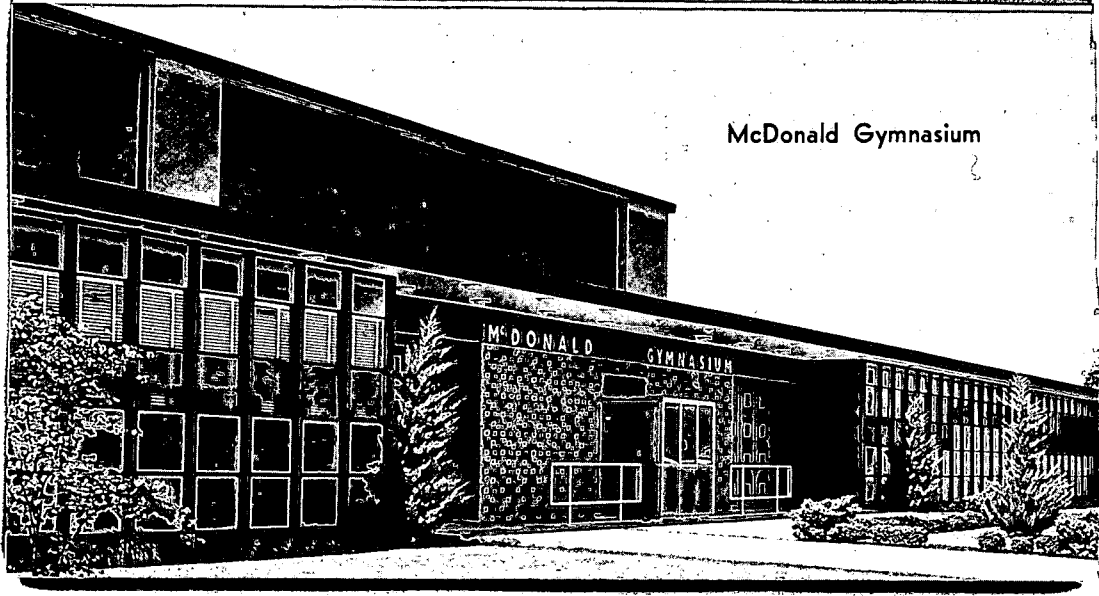




Home Economics Building



Student Union Building



McDonald Gymnasium

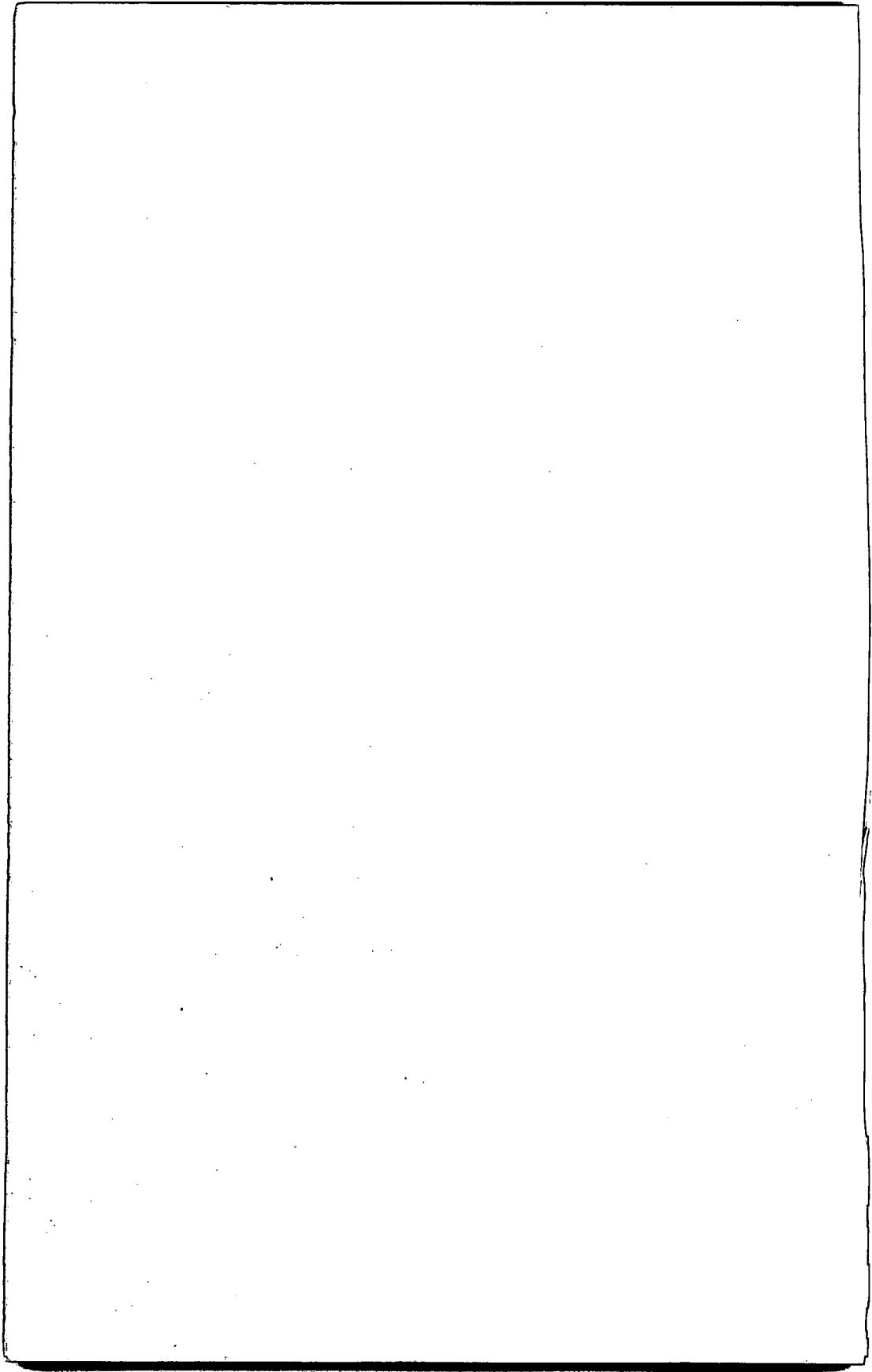
SCHOOL OF EDUCATION

Departments

Education

Home Economics

Physical and Health Education



School of Education

The School of Education is composed of four departments: Education, Home Economics, Physical and Health Education for Men, and Physical and Health Education for Women. Degrees offered are the Bachelor of Science degree in Education—Elementary, the Bachelor of Science degree in Education—Secondary, the Bachelor of Science degree in Home Economics, the Bachelor of Science in Physical and Health Education, and the Master of Education—Elementary, and the Master of Education—Special Education.

DEPARTMENT OF EDUCATION

Professors Hargrove, McLaughlin, Adams, Mang.
Associate Professors Bell, Blackburn, Dennis, Hybarger, Salter,
Self, Sontag, Wilbanks.
Assistant Professors Coody, Harlan, Permenter, Rodgers.

Bachelor of Science in Education—Elementary

The Bachelor of Science in Education (Elementary) as outlined fully under Provisional Certificate Sequences is designed to meet the requirements for a teaching certificate in the State of Texas. The person who majors in Elementary Education may receive a certificate endorsement to teach in one or more of the Special Education fields by meeting the additional curriculum requirements as outlined under Provisional Certificate Sequences.

Bachelor of Science in Education—Secondary

The Bachelor of Science in Education (Secondary) as outlined fully under Provisional Certificate Sequences is designed to meet the requirements for a teaching certificate in the State of Texas. Attention is called to the fact that students may qualify for a certificate to teach in secondary schools by completing the requirements for a Bachelor of Science in Secondary Education or by fulfilling certification requirements while obtaining a degree in a specific discipline.

Master of Education in Elementary Education

The Master of Education degree in Elementary Education may be designed to fulfill the curriculum requirements of the Professional Certificate for elementary teachers. The choice of a thesis or non-thesis plan can be made.

The prerequisites for full admission to graduate standing in this program are the same as those established for all master's degrees at this institution, with the following additional requirements: (1) The applicant must have completed 24 semester hours in education, including 12 semester hours of junior-senior courses in elementary education; (2) The student must have completed a course in supervised student teaching or have taught one year.

To fulfill requirements for this degree, the graduate student must earn a minimum of 36 semester hours of graduate credit and complete a residence requirement of one academic year or its equivalent in summer sessions. The student may elect to write a thesis. If so, he is required to complete a minimum of 24 semester hours of course work in addition to a thesis.

Additional information concerning this degree is included in the **Graduate Bulletin**. All correspondence concerning admission should be directed to the Dean of the Graduate School.

Master of Education in Special Education

The Master of Education degree in Special Education may be designed to fulfill the curriculum requirements of the Provisional Certificate for teachers of the mentally retarded and orthopedically handicapped/minimally brain damaged. The choice of a thesis or non-thesis plan can be made.

The prerequisite for full admission to graduate standing in this program are the same as those established for all master's degrees at this institution, with the following additional requirements: (1) The applicant must have completed 24 semester hours in education, including 6 semester hours in special education and 12 semester hours in elementary education methods and materials courses; and (2) The student must have completed a course in supervised student teaching or have taught one year.

To fulfill requirements for this degree, the graduate student must earn a minimum of 36 semester hours of graduate credit and complete a residence requirement of one academic year or its equivalent in summer sessions. The student may elect to write a thesis. If so, he is required to complete a minimum of 24 semester hours of course work in addition to a thesis.

Additional information concerning this degree is included in the **Graduate Bulletin**. All correspondence concerning admission should be directed to the Dean of the Graduate School.

Teacher Education—A Shared Responsibility

The preparation of teachers is a responsibility that is shared by all of the schools of the college. Policies concerning teacher education programs and the actual curricular requirements in each program are determined by the Teacher Education Committee. This Committee is composed of faculty members who represent the various departments of the college offering teacher education programs. Within the framework of the policies established, the Department of Education coordinates all teacher education programs throughout the institution.

Admission to Teacher Education

Applications for admission to teacher education are made at the beginning of the junior year. Applications are filed with the Dean of the School of Education.

To be eligible for admission students must have an overall academic grade points average of 1.0 (C), be of junior standing, and have completed a minimum of 45 semester hours of the Academic Foundation Program. Prior to admission, students must demonstrate ability to write clear and correct English. Students may, at the discretion of the Teacher Selection and Screening Committee, be required to pass examinations in speech, hearing, and general physical health.

Teacher Education Programs

Lamar State College of Technology provides undergraduate programs of teacher education which fulfill the curriculum requirements for the following Provisional Certificates in the State of Texas: Elementary School Teacher, Secondary School Teacher, Teacher of the Homebound and Hospitalized, Teacher of the Mentally Retarded, Teacher of the Minimally Brain-Injured, Teacher of the Orthopedically Handicapped, Speech and Hearing Therapy, Driver Education, and All-Levels Music Teacher.

Graduate programs may be designed to fulfill the curriculum requirements for the Professional Certificates in the State of Texas. Professional Certificates are available in Elementary Education, Secondary Education (English and History), and Special Education.

Provisional Certificate Sequences

Academic Foundations (60 semester hours)

The Academic Foundations program that is outlined below is required of all students working toward a Provisional Certificate at this college. Within the general framework shown, some course selections may be governed by the type of certification or degree obtained. Where appropriate a maximum of 6 semester hours (8 in science) taken in Academic Foundations may be included in any one teaching field.

A. Required Core Courses	42 Hours
Eng 131-132—Composition	6 hrs.
Eng—Literature	6 hrs.
Mth	6 hrs.
Science—Laboratory (same science)	8 hrs.
Gov 231-232—State and National	6 hrs.
His 231-232—United States	6 hrs.
HPE—Activity	4 hrs.

42

B. Foundations Electives and Degree Requirements 18 Hours

These hours must be selected from approved courses in the following groups with courses included from a minimum of three groups:

- Group I. English, Foreign Language, Philosophy, Bible.
- Group II: Art, Music, Speech.

Group III: Biology, Chemistry, Mathematics, Geology, Physics.

Group IV: History, Government, Economics, Geography.

Group V: Sociology, Anthropology, Psychology

Elementary Education Degree and Certificate Requirements

In addition to completing the Academic Foundation program, the student must fulfill the requirements in the Area of Specialization, Professional Education, and elective courses. This plan presumes an overlap of 6 semester hours between Academic Foundations and the Area of Specialization, thus allowing 12 semester hours of free electives. If the Area of Specialization is in a discipline other than English, mathematics, science, or history, the free electives may be reduced to 6 semester hours.

Academic Specialization (36 semester hours)

A. Specialization in one subject (18 hours, 9 advanced). Courses must be in one of the following areas: English, history, mathematics, one science, one foreign language, speech, art, music, or physical education. Courses may include 6 hours (8 in science) taken as part of the Academic Foundations.

B. Work in a Combination of subjects (18 semester hours). Specific requirements are:

Geg 230—World Geography

CA 337—Art in the Elementary School

Spc 333—Storytelling

HPE 233—Physical Education in the Elementary School

MTy 131—Elements of Music

His 134—Texas History

Professional Development (30 semester hours)

Edu 331—Foundations in Education

Edu 332—Educational Psychology

Edu 333—Language Arts in the Elementary School

Edu 334—Curriculum & Materials in the Elementary School

Edu 335—Arithmetic in the Elementary School

Edu 339—Reading in the Elementary School

Edu 434—Classroom Management & Evaluation

Edu 437—Science & Social Studies in the Elementary School

Edu 465—Student Teaching in the Elementary School

Free Electives (6 semester hours)

A minimum of six semester hours are to be chosen by the student as free electives.

The elementary education degree and certificate requirements are shown in outline form below, comprising a desirable sequence of courses.

First Year		Second Year	
Eng 131-132—Comp.	6	Eng—Literature	6
Science—Laboratory	8	His 231-232—United States	6
Mth	6	Gov 231-232—St & Natl.	6
MTy 131—Ele of Music	3	Science	3
His 134—Texas	3	Geg 230—Wld Geography	3
HPE—Activity	2	HPE—Activity	2
Acad Found—Elect	6	Acad Found—Elect	6
	34		32
Third Year		Fourth Year	
CA 337—Art Elem Sch	3	Edu 335—Arith in Elem Sch	3
Edu 331—Foundations	3	Edu 339—Read in Elem Sch	3
Edu 332—Edu Psy	3	Edu 437—Sci & Soc Stud	3
Edu 333—Lang Arts	3	Edu 434—Clstrm Mgt & Eval	3
Edu 334—Cur & Mat	3	Edu 465—Student Teaching	6
HPE 233—PE in Elem	3	Area of Specialization—(Adv) ..	6
Spc 333—Storytelling	3	Free Electives	6
Area of Specialization	6		
(3 hrs. advanced)			
Acad Found—Elect	3		
Free Electives	6		
	36		30

Special Education Certificate Requirements

Certification in Elementary Education and certification in Special Education—Mental Retardation and/or Orthopedically Handicapped/Minimal Brain Injury may be obtained under this plan.* Students follow the same curriculum that is outlined for elementary teachers, except that one of the following sequences in Special Education is required:

Mental Retardation

- Edu 3301—Survey in the Education of Exceptional Children
- Edu 3311—Nature and Needs of the Mentally Retarded
- Edu 430—Education of the Mentally Retarded
- Edu 431—Psychology of Exceptional Children

Orthopedically Handicapped/Minimal Brain Injury*

- Edu 3301—Survey in the Education of Exceptional Children
- Edu 337—Education of the Orthopedically Handicapped
- Edu 439—Nature and Needs of the Neurologically Impaired
- Edu 431—Psychology of Exceptional Children

*The requirements to certify as a teacher of Minimally Brain Injured children are the same as those required to teach Orthopedically Handicapped children.

Note that the addition of 6 hours from either the certification program for Mentally Retarded or Orthopedically Handicapped/Minimal Brain Injury over and above the 12 hours required for completion of one area will entitle the student to **dual certification in Special Education**, along with certification in Elementary Education.

Any or all of the above courses may be taken as elective hours by those students who do not necessarily wish to certify in either of the Special Education areas. Additional information concerning this program may be obtained from the Dean of the School of Education.

Secondary Education Degree and Certification Requirements

In addition to completing the Academic Foundations program, the student must fulfill the requirements in the Area of Specialization, Professional Education, and elective courses. Students may obtain certificates to teach in secondary schools by obtaining a degree in a particular discipline. Some programs are available through only one of the above avenues, as shown below:

Bachelor of Science in Education	Bachelor's Degree in a Particular Discipline
Art	Art
Biology	English
Chemistry	French
English	Government
French	Physical and Health Education (Men)
General Science	Physical and Health Education (Women)
German	History
Government	Home Economics
Physical and Health Education (Men)	Mathematics
Physical and Health Education (Women)	Speech
History	Secretarial Science
Mathematics	
Physics	
Spanish	
Speech	

Academic Specialization (48 semester hours)

Secondary Education (48 semester hours)

All curricula leading to certification in secondary fields require a minimum of 24 semester hours (12 advanced) in each of two teaching fields or a minimum of 48 semester hours (18 advanced) in a single area of specialization. All programs at this college except Secretarial Science, General Science, Home Economics, and All Levels Music require two teaching fields.

Students certifying under Plan I (two teaching fields) are required to select one academic field as being of greatest interest. Details concerning specific requirements in the various specialization areas may be found in the sequences below:

Art

Specialization: (24 semester hours) CA 137, 138, 235, 236, 337, 338, 437, 438.

(When selected as area of greatest interest program must include Spc 131, MLt 130, and 6 additional hours of art.)

Biology

Specialization: (24 semester hours) Bio 141, 142, 345, 346, plus 8 hours (4 advanced) of approved Biology courses.

(When selected as area of greatest interest program must also include Chm 141, 142, Bio 243, 244.)

Chemistry

Specialization: (24 semester hours) Chm 141, 142, 241, 333, plus 9 hours of advanced Chemistry. (Chm 143 with grade of B or better may be substituted for Chm 141.)

(When selected as area of greatest interest program must include Bio 141, 142, and Phy 141, 142 or equivalent.)

English

Specialization: (24 semester hours) Eng 131, 132, 231, 232, 331, 332, 334, plus 3 hours of advanced English. (Foundations Program must include a foreign language through 232 for students who had Foreign Language in high school and a Foreign Language through 132 for students who had no Foreign Language in high school.)

(When selected as area of greatest interest, program must include 6 additional hours of advanced English and a Foreign Language through 232.)

French

Specialization: (24 semester hours) Fre 131, 132, 231, 232, 333, 334, 335, 336. Other courses in French may be substituted for Fre 131 and Fre 132 if the student has high school credits equivalent to the 131 (two high school units) and 132 (three high school units.) (When selected as area of greatest interest program must include Spc 131 and 3 hours from Phl 231, Soc 131, or Ant 231.)

General Science (Plan II—Composite Field)

Specialization: (50 semester hours) Bio 141, 142, Chm 141 or 143, Chm 142 or 144, Geo 141, 142, Phy 141 or 143, Phy 142 or 144, plus 18 hours of advanced science courses.

German

Specialization: (24 semester hours) Ger 131, 132, 231, 232, 333, 334, 335, 336. Other courses in German may be substituted for Ger 131 and Ger 132 if the student has high school credits equivalent to the 131 (two high school units) and 132 (three high school units.)

Government

Specialization: (24 semester hours) Gov 331, 332, 334, 436 or 437; 6 hours from 431, 432, 433; plus Gov 231, 232 which are included in core requirements of Academic Foundations.
(When selected as area of greatest interest program must include a foreign language through 232.)

Physical and Health Education (Men)

Specialization: (26 semester hours) HPE 132, 235, 236M, 321, 322, 336, 435, 436, plus 4 hours of HPE activity included in Academic Foundations. (Foundations Programs must include Bio 141, 142, 330, Spc 131.
(When selected as area of greatest interest program must include HPE 333, making a total of 29 semester hours.)

Physical and Health Education (Women)

Specialization: (24 semester hours) HPE 132, 236, 238, 330, 437, 438; 2 hours from HPE 115, 117, 118, 119, 211, 212, 214, 215, 217, 218; plus 4 hours of HPE activity in Foundations Program. (Foundations Program must include Bio 141, 142, 330, Spc 131.)
(When selected as area of greatest interest program must include HPE 333 and 4 additional hours of HPE activity courses listed above.)

History

Specialization: (24 semester hours) His 131, 132, 6 hours advanced American History, 6 hours advanced World History, plus His 231, 232 which are included in Foundations Program.
(When selected as area of greatest interest program must include History 339 and Foreign Language through 232.)

Home Economics (Vocational)

Specialization: (48 semester hours) HEc 111, 131, 132, 133, 137, 231, 232, 235, 331, 332, 333, 334, 335, 433, 444, 447.
(Academic Foundations Program must include Spc 131, Eco 231, Chm 143, Chm 144.)

Mathematics

Specialization: (24 semester hours) Mth 138, 139, 231, 232, 330, 331, 333 or 334; 335, 336 or 337.

Physics

Specialization: (24 semester hours) Phy (141, 142, 348) or Phy (140, 241, 242); 333; 335; plus 6 hours to be selected from Phy 324, 436, 338, 346, 414, (416 or 417). Foundations Program must include Mth 138, 139, 231, 331, Chm 141, 142.
(When selected as area of greatest interest, program must include Spc 131.)

Secretarial Science (Plan II—Composite Field)

Specialization: (48 semester hours) Acc 231, 232, BA 331, 332, 334, 335, 431, Eco 232, 437, Sec 222, 132, 331, 332, 344, 363.
(Academic Foundations must include Spc 131, Eco 231, plus 3 hours from Sociology, Philosophy, or Anthropology.)

Spanish

Specialization: (24 semester hours) Spa 131, 132, 231, 232, 333, 334, 335, 336. Other courses in Spanish may be substituted for Spa 131 and Spa 132 if the student has high school credits equivalent to the 131 (two high school units) and 132 (three high school units).

Speech

Specialization: (24 semester hours) Spc 131, 134, 233, 234, or 238, 335, 377, plus 6 advanced hours of Speech.
(When selected as area of greatest interest program must include Spc 133, both 234 and 238, CA 130.)

Professional Development (18 semester hours)

- Edu 331—Foundations in Education
- Edu 332—Educational Psychology
- Edu 338—Curriculum, Materials, and Evaluation in the Secondary School
- Edu 438—Classroom Management
- Edu 462—Student Teaching in the Secondary School

Free Electives (6 semester hours)

A minimum of six semester hours are to be chosen by the student as free electives.

The secondary education degree and certificate requirements are shown in outline form below, comprising a desirable sequence of courses:

First Year		Second Year	
Eng 131-132—Comp	6	Eng—Literature	6
Science—Laboratory	8	His 231-232—United States	6
Mth	6	Gov 231-232—St and Natl	6
HPE—Activity	2	HPE—Activity	2
First Teaching Field	3	First Teaching Field	6
Additional Teach Field	3	Additional Teach Field	6
Acad Found—Elect	6	Acad Found—Elect	3
	34		35

Third Year	Fourth Year
Edu 331—Foundations 3	Edu 438—Classroom Mgt. 3
Edu 332—Edu Psy 3	Edu 462—Student Teaching . . . 6
Edu 338—Cur & Mth. 3	First Teaching Field—Adv. . . . 6
First Teaching Field 9	Additional Teach Field—Adv. . . 6
(6 hrs advanced)	Acad Found—Elect. 3
Additional Teach Field 9	Free Electives 6
(6 hrs advanced)	
Acad Found—Elect. 6	
33	30

All-Levels Music Degree and Certificate Requirements

The completion of this program leads to certification to teach music at all levels of the public schools in Texas. An outline of the plan may be found under the "Music" section of this catalogue. Additional information concerning it may be obtained from the Dean of the School of Education or from the Head of the Department of Music.

Speech and Hearing Therapy Degree and Certificate Requirements

The plan leading to certification in Speech and Hearing Therapy is outlined in the "Speech" section of this catalog.

Driver Education Certification Requirements

Certification to teach driver education is available as a special designation on an existing Texas Teaching Certificate. Specific course requirements are as follows:

- HPE 320—Safety and First Aid
- HPE 334—Driver Education
- HPE 416—Student Teaching in Driver Education.

Professional Certificate Sequences

Elementary

The Master of Education in Elementary Education may be designed to fulfill the curriculum requirements for the Professional Certificate in the State of Texas. (See information in this section about the Master of Education degree.)

Secondary

Approved programs of study fulfilling the curriculum requirements for the Professional Certificate—Secondary are available in the specialization areas of English and history. To qualify for this certificate, a student must obtain a Master of Arts degree in English or in history and comply with other specified requirements. Details concerning this program are included in the Graduate Bulletin of this institution.

Special Certificate Sequences**Certification for Persons with Baccalaureate Degree (or higher)
Who Are Not Certified to Teach in Texas**

1. Information concerning these certification plans is available in the office of the Dean of the School of Education.
2. Persons with degrees from Texas colleges apply directly to the Dean of the School of Education for certification.
3. Persons with degrees from out-of-state colleges apply to the Texas Education Agency for certification.

**Certification for Persons With Texas Teaching Certificates
Who Desire Additional Endorsements**

Those persons with elementary certificates who desire secondary certification, those with secondary certificates who desire elementary certification, and those with secondary certificates who desire additional endorsements may obtain information from the Dean of the School of Education.

Student Teaching**Admission to Student Teaching**

Students wishing to enroll in student teaching must be screened and approved in order to be eligible to register for this course. Applications are to be submitted to the Director of Student Teaching one semester before that which is being considered for student teaching. Failure to do so may delay admission to the Student Training program by at least one semester.

In order to qualify for student teaching, students must meet the following standards:

- (1) Be of senior standing.
- (2) Possess a grade point average of 1.0 in all work taken at Lamar, in all content areas in which he intends to teach, and in all professional education courses completed.
- (3) Have completed adequate hours and courses in content areas in which he is certifying to teach.
- (4) Have completed all prerequisite courses in professional education.
- (5) Be formally admitted to the Teacher Education Program.
- (6) Be approved by the Director of Student Teaching.
- (7) Have completed six semester hours in Education courses at this college prior to Student Teaching.

Education (Edu)

330—Teaching Media and Programed Instruction. Observation, demonstration, and practice in utilizing modern teaching media, including teaching machines and programing. Class: 3 hours. Credit: 3 semester hours.

331—Foundations in Education. History, philosophy, and organization of education with particular emphasis on American education. Class: 3 hours. Credit: 3 semester hours.

332—Educational Psychology. The physical bases and the mental processes of learning. Consideration given to psychological vocabulary, psychological procedure, testing methods, and literature of psychology. Class: 3 hours. Credit: 3 semester hours.

333—Language Arts in the Elementary School. The study and use of materials and techniques in the teaching of oral and written communication. Prerequisite: Edu 331 and 332. Class: 3 hours. Credit: 3 semester hours.

334—Curriculum and Materials in the Elementary School. A survey of the elementary school including philosophy, grouping, class organization, curriculum plans, lesson plans, and materials for teaching. Prerequisite: Edu 331 and 332. Class: 3 hours. Credit: 3 semester hours.

335—Arithmetic in the Elementary School. A study of the content, materials, and methods used in teaching arithmetic. Prerequisite: Edu 331 and 332. Class: 3 hours. Credit: 3 semester hours.

336—Children's Literature. A survey covering the field of literature from the earliest writings for children to current books and magazines for juveniles. Prerequisite: Edu 331 and 332. Class: 3 hours. Credit: 3 semester hours.

337—Testing and Evaluation in the Public Schools. Evaluation techniques used in the public schools. Class: 3 hours. Credit: 3 semester hours.

338—Curriculum, Materials, and Evaluation in the Secondary School. The structure and organization of the curriculum, materials used, and types of evaluation utilized. Prerequisite: Edu 331 and 332. Class: 3 hours. Credit: 3 semester hours.

339—Reading in the Elementary School. Methods and materials for teaching reading in the elementary school. Emphasis upon the placement of materials and lesson planning. Prerequisite: Edu 334. Class: 3 hours. Credit: 3 semester hours.

3301—Survey in the Education of Exceptional Children. An orientation to characteristics, programs, and problems of children who are exceptional—mentally, physically, or emotionally. Designed as an overview of the field. A first course for those planning to certify in Special Education. Class: 3 hours. Credit: 3 semester hours.

3311—Nature and Needs of the Mentally Retarded. Nature and causes of mental retardation; physical and mental characteristics; the organization and administration of classes; evaluation, integration, and adaptation of the program to meet socio-economic needs. Observation opportunities provided. Class: 3 hours. Credit: 3 semester hours.

3312—Education of the Orthopedically Handicapped. Curriculum development, methods and materials; school programs for the orthopedically handicapped in regular and special classes, hospitals and home instruction. Class: 3 hours. Credit: 3 semester hours.

430—Education of the Mentally Retarded. Problems in the selection, preparation, development, and use of curriculum materials. Use of resource, selection of equipment, employment opportunities, and a review of recent research. Opportunities provided for functional experiences. Class: 3 hours. Credit: 3 semester hours.

431—Psychology of Exceptional Children. Social and emotional characteristics and adjustment problems of children and youth who are exceptional. Class: 3 hours. Credit: 3 semester hours.

432—Classroom Management—Music. A correlation of classroom management and practices with music principles and teaching techniques in grades 1-12. Prerequisite: Edu 334 and 338. Class: 3 hours. Credit: 3 semester hours.

434—Classroom Management and Evaluation—Elementary. A study of problems relating to classroom management, pupil control, methods of evaluation, reporting to parents, and record keeping. Prerequisite: Edu 434 and senior standing. Class: 3 hours. Credit: 3 semester hours.

435—Teaching the Slow Learner. Problems of organization, curriculum, guidance, and administration for the slow learner in the elementary and secondary public schools. Class: 3 hours. Credit: 3 semester hours.

436—Education of Gifted Children. Problems in identification, educational programs, guidance, and administrative educational adjustments for gifted children. Class: 3 hours. Credit: 3 semester hours.

437—Science and Social Studies in the Elementary School. Content, methods, and materials for teaching science and social studies in the elementary school. Prerequisite: Edu 334. Class: 3 hours. Credit: 3 semester hours.

438—Classroom Management—Secondary. Organization of subject matter, lesson planning, classroom management, and general methods of teaching. Prerequisite: Edu 338. Class: 3 hours. Credit: 3 semester hours.

439—Nature and Needs of the Neurologically Impaired. Causes and effects; facilities, resources and reports, guidance, administration, and planning for both the child and his environment to meet his special needs. Class: 3 hours. Credit: 3 semester hours.

4101, 4201, 4301—Workshop in Education. A number of workshops designed to advance the professional education of experienced teachers are offered. A description of the problem area of education to be studied in any given workshop will appear on the printed semester schedule. When workshops are conducted in completely different areas and with approval

of the department head, a student may repeat this course for credit. Class: 1 to 3 hours. Credit: 1 to 3 semester hours.

462—Student Teaching in the Secondary School. Supervised observation and teaching in the secondary school. Prerequisite: Edu 438. Class: 3 hours in secondary classroom 5 days per week for 16 weeks. Credit: 6 semester hours.

464—Student Teaching—Music All Levels. Supervised observation and teaching music education. Includes participation in both elementary and secondary schools. Prerequisite: Edu 432. Class: 3 hours in elementary and secondary classroom 5 days per week for 16 weeks. Credit: 6 semester hours.

465—Student Teaching in the Elementary School. Supervised observation and teaching in the elementary school. Prerequisite: Edu 434. Class: 3 hours in elementary classrooms 5 days per week for 16 weeks. Credit: 6 semester hours.

466—Student Teaching—Elementary School and Special Education. Supervised observation and teaching in the elementary school and special education. Prerequisite: Edu 434. Class: 3 hours in elementary classroom 5 days per week for 8 weeks and 3 hours in special education classroom 5 days per week for 8 weeks. Credit: 6 semester hours.

530—Structure and Organization of Public Education. Analysis of the operation and functions of public education at the local, state, and national levels. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

531—Research. Introduction to the skills and techniques necessary for research and problem solving in education. Emphasis on terminology, methodology, and spirit of systematic research. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

532—Current Issues in Education. Current controversies and trends in public education. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

533—Contemporary Philosophies of Education. Influence of recent philosophies on education. Schools of educational philosophy and implications for curriculum development and teaching methods. Class: 3 hours. Credit: 3 semester hours.

534—Advanced Study in Child Psychology. A study of the development and nature of the human personality. Emphasis on recent psychological and biological experiments. Class: 3 hours. Credit: 3 semester hours.

535—Advanced Educational Psychology. Current theories and developments in the process of learning. Emphasis on motivation, transfer, and learning techniques. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

536—Problems in Teaching Language Arts and Social Studies. Recent developments and trends with primary consideration given to individual teaching problems and individual research. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

537—The Elementary School Curriculum. Analysis of the objectives, organization, and content of the different areas of the elementary school curriculum. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

538—Problems in Teaching Arithmetic and Science. Study of current developments and trends with emphasis upon individual teaching programs. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

539—Developmental Reading. Methods for extending and refining fundamental reading habits and attitudes, and for increasing reading efficiency. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5301—Current Literature for Children and Adolescents. Survey of recent literature for children and adolescents. Emphasis given to non-fiction in such areas as earth science and social science. Extensive reading of actual literature. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5311—Advanced Studies in Mental Retardation. Sociological and educational problems related to mental retardation. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5312—Occupational Education for the Mentally Retarded. Employment opportunities, job analyses, guidance and placement procedures, agency services. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5313—Psychology of the Mentally Retarded. Examination of the psychological problems of mental retardation. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5314—Seminar on the Education of the Mentally Retarded. Study of the sociological and educational problems related to mental retardation. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5315—Problems and Issues in Special Education. Appraisal of current problems, trends and practices in the education and care of exceptional children. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5316—Administration and Supervision of Special Education Programs. Organization, financing, staffing and supervision in special education programs. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis. Prerequisite: admission to candidacy for the Master of Education Degree. Credit: 6 semester hours.

DEPARTMENT OF HOME ECONOMICS

Professors Harp, Tannahill. Assistant Professors Anderson, Davis.
Instructor Daggett.

Bachelor of Science in Home Economics

Candidates for the Bachelor of Science Degree in Home Economics shall meet all basic requirements for the Bachelor of Science degree and shall include courses in economics, education, psychology, science, and speech as shown in the program of study. Courses in home economics are required as follows:

Child Development and Family Relations—9 semester hours.

HEc 137—Family Development

HEc 333—Child Development

HEc 334—Nursery School

Clothing and Textiles—9 semester hours.

HEc 132—Clothing Selection and Construction

HEc 231—Textiles

HEc 331—Advanced Clothing Construction

Food and Nutrition—9 semester hours.

HEc 131—Food Selection and Preparation

HEc 235—Meal Management

HEc 332—Human Nutrition

Home Equipment, Furnishings, Management, and Economics, 13 semester hours.

HEc 330—Consumer Economics

HEc 335—Housing and Home Furnishings

HEc 433—Household Equipment

HEc 444—Home Management

Related Art—6 semester hours.

HEc 133—Art in Home Economics

HEc 232—Dress Design

Specialization—6 semester hours.

HEc 134—Foundations in Home Economics

HEc 437—Seminar in Home Economics—General Home Economics Only

Program of Study

General Home Economics

First Year		Second Year	
Eng 131-132—Comp	6	Eng—Literature	6
Chm 143-144—Intro or		Gov 231-232—State & Nat.	6
Bio 141-142—Gen Biology	8	Psy 232—Human Dev.	3
HEc 131—Food Prep	3	HEc 231—Textiles	3
HEc 132—Beg Clothing	3	HEc 232—Dress Design	3
HEc 133—Art in HEc	3	HEc 235—Meal Mgt	3
HEc 134—Found in HEc	3	Science or Math	8-6
HEc 137—Family Dev	3	HPE Activity	2
Spc 131—Fundamentals	3		
HPE Activity	2		
	34		34-32

Third Year		Fourth Year	
Eco 233—Principles & Pol	3	HEc 433—Household Equipment	3
Edu 331—Found in Edu Cur	3	HEc 437—Seminar in HEc	3
HEc 330—Consumer Eco	3	HEc 444—Home Mgt	4
HEc 331—Clothing Const	3	Electives	21
HEc 332—Nutrition	3		
HEc 333—Child Dev	3		
HEc 334—Nursery School	3		
HEc 335—Home Furn	3		
His 231-232—United States	6		
Electives	3-5		
	33-35		31

Home Economics Education*

(Vocational)

First Year		Second Year	
Eng 131-132—Comp	6	Eng—Literature	6
Chm 143-144—Intro or		Gov 231-232—State & Nat.	6
Bio 141-142—Gen Biology	8	Psy 232—Human Dev.	3
HEc 131—Food Prep	3	HEc 231—Textiles	3
HEc 132—Beg Clothing	3	HEc 232—Dress Design	3
HEc 133—Art in HEc	3	HEc 235—Meal Mgt	3
HEc 134—Fnd in HEc	3	Math	6
HEc 137—Family Dev	3	Eco 233—Principles & Pol	3
Spc 131—Fundamentals	3	HPE Activity	2
HPE Activity	2		
	34		35

Third Year	Fourth Year
Edu 331—Found in Edu Cur. 3	HEc 433—Household Equip. 3
Edu 332—Edu Psy 3	HEc 438—Tchg Mtds & Mtls 3
HEc 330—Consumer Eco 3	HEc 444—Home Mgt 4
HEc 331—Clothing Const. 3	HEc 462—Std Tchg in HEc 6
HEc 332—Nutrition 3	Electives 12
HEc 333—Child Dev. 3	
HEc 334—Nursery School 3	
HEc 335—Home Furn. 3	
HEc 338—Cur, Mat, Eval 3	
His 231-232—United States 6	
Electives 3	
36	28

*(For those who wish to qualify for a teacher's certificate.)

Home Economics (HEc)

131—Food Selection and Preparation. Scientific theories underlying the selection and preparation of foods with application made in laboratory. Class: 2 hours. Laboratory: 4 hours. Credit: 3 semester hours.

132—Clothing Selection and Construction. Fundamental techniques in clothing construction, pattern and fabric selection. Class: 2 hours. Laboratory: 4 hours. Credit: 3 semester hours.

133—Art in Home Economics. Study and application of the concepts and elements of art as related to the field of Home Economics. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

134—Foundations in Home Economics. An overview of the total profession of Home Economics. Class: 3 hours. Credit: 3 semester hours.

137—Family Development. The individual and the family in our modern society. Class: 3 hours. Credit: 3 semester hours.

138—Principles of Nutrition. Basic principles of nutrition in health and disease. Food selection and quality of nutrients in normal and therapeutic diets related to physiological and psychological needs of individuals considering socio-economic background. Class: 3 hours. Credit: 3 semester hours.

231—Textiles. Textiles and their chemical properties. Emphasis on problems in the selection and care of fabrics. Class: 3 hours. Credit: 3 semester hours.

232—Dress Design. Application of art concepts of design and color as related to clothing. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

235—Meal Management. Meal planning and food selection for nutritional adequacy throughout the life cycle for different socio-economic groups. Class: 1 hour. Laboratory: 4 hours. Credit: 3 semester hours.

239—Nutrition and Health. Nutrition related to fundamental health habits and the essentials of an adequate diet. Emphasis on nutrition education in school and community. Class: 3 hours. Credit: 3 semester hours.

330—Consumer Economics. Consumer information and an analysis of problems in household economics and finance. Class: 3 hours. Credit: 3 semester hours.

331—Advanced Clothing Construction. Advanced techniques in construction including experience in tailoring. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

332—Human Nutrition. Nutrition and functions of nutrients related to the chemistry and physiology of the human body throughout the life cycle. Class: 3 hours. Laboratory: 1 hour. Credit: 3 semester hours.

333—Child Development. A study of the young child as a basis for understanding the dynamics of child growth and development. To be taken as a parallel course with Home Economics 334. Class: 3 hours. Credit: 3 semester hours.

334—Nursery School. Nursery school organization and procedure with observation and experience through participation with children from two to four years of age. To be taken as a parallel course with Home Economics 333. Laboratory arranged. Credit: 3 semester hours.

335—Housing and Home Furnishings. Housing and home furnishings including the application of concepts of interior design. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

337—Social Fundamentals. Human behavior in contemporary life. Class: 3 hours. Credit: 3 semester hours.

338—Philosophy and Principles of Vocational Home Economics. Interpretation of Home Economics as a discipline concerned with developing student competencies. Class: 3 hours. Credit: 3 semester hours.

410—Home Nursing Workshop. Primarily intended for those desiring to give instruction in home nursing. Those completing the course may qualify as a Red Cross instructor in Home Nursing. Class: 30 hours. Credit: 1 semester hour.

412—Nursery Education Workshop. Methods of handling children in a nursery school. Class: 30 hours. Credit: 1 semester hour.

433—Household Equipment. Selection, arrangement, use, and care of basic equipment. Class: 3 hours. Credit: 3 semester hours.

437—Seminar in Home Economics. Designed to afford research opportunities for senior students to pursue individual interests in the profession of home economics. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

438—Methods and Materials for Teaching Home Economics. Objectives, methods, and techniques of teaching vocational home economics in the public school. Prerequisite: Edu 331 and 332; and HEC 338. Class: 3 hours. Credit: 3 semester hours.

444—Home Management. Management of home resources—human and material. Opportunities provided for group living and practical experiences in managerial processes in the Home Management residence. Housing fee: \$27.50 per month except married students not living in home, fee \$15.00 per month. Dormitory rent will be transferred for dormitory students. Class: 2 hours. Laboratory to be arranged. Credit: 4 semester hours.

462—Student Teaching in Home Economics. Supervised observation and teaching in the secondary school. Class: 3 hours in an approved vocational program 5 days per week for 16 weeks. Credit: 6 semester hours.

**DEPARTMENT OF PHYSICAL AND HEALTH EDUCATION
FOR MEN**

Professor Higgins. Associate Professors Glass, Martin, Mullin, Terrell.
Assistant Professors Gunn, Jacob, Rogas, Tipton, Tubbs.

Program of Study

The following degree program certifies students for the provisional
teaching certificate—secondary—in the state of Texas.

Bachelor of Science In Physical And Health Education (Men)
(Teacher Certification Plan I)

First Year		Second Year	
Eng 131-132—Composition	6	Eng—Literature	6
Bio 141-142—Gen Biology	8	Gov 231-232—State and Natl	6
Mth 131-132—Finite	6	His 231-232—United States	6
Spc 131—Fundamentals	3	HPE 235—Health Edu	3
HPE 132M—Principles	3	HPE 236M—PE—Sec Sch	3
HPE—Activity	2	HPE—Activity	2
*Electives	6	*Electives	6
	34		32
Third Year		Fourth Year	
Bio 330—App Anat & Kinesiol	3	Edu 438—Classroom Mgt Sec	3
Edu 331—Foundations	3	Edu 462—Stu Tchng Sec Sch	6
Edu 332—Edu Psy	3	HPE 435—Correctives	3
Edu 338—Curr Mat—Sec Sch	3	HPE 436—Org & Admin	3
HPE 321—Coaching—Major Spt	2	*Electives	18
HPE 322—Coaching—Major Spt	2		
HPE 333—Physiology	3		
HPE 336—PE—Sec Sch	3		
*Electives	11		
	33		33

*Electives must include the following:

- a. An approved additional teaching field of 24 semester hours
(Consult this catalog, Department of Education, for requirements for
additional teaching fields).
- b. Eleven semester hours of electives from the following five groups with
courses included from a minimum of 3 groups.

I	II	III	IV	V
English	Art	Biology	History	Sociology
For. Lang.	Music	Chemistry	Government	Anthropology
Philosophy	Speech	Geology	Economics	Psychology
Bible		Mathematics	Geography	
		Physics		

Physical Education (HPE)**Activity Courses for Men**

111M—Activity. First activity course required of all men students seeking a degree at Lamar. A basic physical fitness program designed to bring all male students to a level of physical fitness which will allow them to perform their normal daily tasks with ease and have a comfortable reserve of energy. Class: 3 hours. Credit: 1 semester hour.

112M—Activity. Second required activity course. A continuation of the physical fitness program and a brief introduction to the various recreational activities offered in the second year of the required program. Prerequisite: HPE 111M. Class: 3 hours. Credit: 1 semester hour.

119M—Modified Activity. Modified or special exercise programs and selected game fundamentals for those individuals who, for physical limitations, are unable to take regular activity courses. Class: 3 hours. Credit: 1 semester hour.

211M-212M—Activity. Continuation of required physical education activity. Consists of instruction in fundamentals, rules and participation in selected team, dual and individual sports and activities of the student's choice. Prerequisite: HPE 111M and 112M. Class: 3 hours. Credit: 1 semester hour.

Professional Courses

132M—Principles. Definition, terminology, aims, objectives, history and principles of physical education, health education, recreation and safety. A survey course of the nature of the fields and specialized areas within the professional field with opportunities for self-evaluation in the professional competencies expected of personnel in the profession. May be used to satisfy part of requirements for the Teachers' Certificate. Class: 3 hours. Credit: 3 semester hours.

227M—Swimming. Demonstrations, lectures, and practice in the basic techniques of swimming and water safety. Class: 2 hours. Credit: 2 semester hours.

228. Senior Life Saving. Lectures, demonstrations and practice in the technique of life saving. Prerequisite: HPE 227(M). Class: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

229—Water Safety Instructor Course. Organization, conditioning, and preparation of student in the required swimming and life saving skills. Advanced students may qualify for American Red Cross Water Safety Instructor. Prerequisite: Current Red Cross Senior Life Saving Certificate. Class: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

233—Physical Education in the Elementary School. The theory and practice of teaching physical education activities in the elementary grades. Classroom instruction and field laboratory assignments are included for

demonstration and practice. Stress is placed on games of low organization. Classified as elementary physical education for purposes of teacher certification. Prerequisite: HPE 132. Class: 3 hours. Credit: 3 semester hours.

235—Health Education in the Secondary School. Subject matter and grade placement, teaching methods and practice in preparation of teaching units in Health Education at the secondary school level. A study of source materials, planning and organizing included. Prerequisite: HPE 132. Class: 3 hours. Credit: 3 semester hours.

236M—Physical Education in the Secondary School. Theory, methods and materials for instruction of physical education at the secondary level with stress on individual, team, recreational, and carry-over type games and sports for later adult life participation. Classroom and field laboratories for demonstration and practice included. Prerequisite: HPE 132. Class: 3 hours. Credit: 3 semester hours.

320—Safety and First Aid. A survey of safety and first aid. Includes traffic safety and safety at home, work, school and play. Includes the scope, needs, and limitations of first aid with laboratory training in the techniques and methods of treatment of injuries. Class: 2 hours. Credit: 2 semester hours.

321—Coaching Major Sports—Football and Baseball. The fundamentals, theory, history, development, and modern techniques of football and baseball. Lectures and demonstration in coaching methods and techniques. Prerequisite: Nine semester hours in physical education. Class: 2 hours. Credit: 2 semester hours.

322—Coaching Major Sports—Basketball and Track. The fundamentals, theory, history, development, and modern techniques in basketball and track. Lectures and demonstrations in coaching methods and techniques. Prerequisite: 9 semester hours in physical education. Class: 2 hours. Credit: 2 semester hours.

331—Health Education in the Elementary School. Health problems and interests of elementary school children, the promotion of the healthful school environment, understanding health appraisal of elementary school children, and curriculum construction. Class: 3 hours. Credit: 3 semester hours.

333—Physiology of Exercise. Muscular, nervous, circulatory, and respiratory systems as related to exercise. Experiments on human subjects are used. Prerequisite: Bio 141, 142, and 340. Class: 3 hours. Credit: 3 semester hours.

334—Driver Education. Traffic rules and regulations and the basic facts concerning the cause and prevention of accidents. The course includes behind-the-wheel training in the use of the training automobile while instructing students. For teaching professional students how to teach driver education. Prerequisite: Texas Driver's License. Class: 3 hours. Credit: 3 semester hours.

335—Officiating Major Sports. Theory and practice of officiating sports and games. Includes a study of the rules of each sport, mechanics for officials, and practice experience in officiating games and sports. Class: 3 hours. Credit: 3 semester hours.

336—Physical Education in the Secondary School. A continuation of Physical Education 236. Theory, methods, and materials for instruction of physical education at the secondary level with stress on individual, team, recreational, and carryover type games and sports for later adult life participation. Classroom and field laboratories for demonstration and practice included. Prerequisite: HPE 236. Class: 3 hours. Credit: 3 semester hours.

416—Student Teaching in Driver Education. Supervised observation and teaching of driver education in actual class and behind-the-wheel training. Prerequisite: "B" in HPE 334. Class: 1 hour. Credit: 1 semester hour.

430—Problems in Physical and Health Education, Recreation and Safety. Special problems in physical and health education, recreation and safety are assigned to individual students or to groups of students. Assignments are made and consultations are held. Class: by consultation. Credit: 3 semester hours.

431—Recreation Leadership. A survey of the field of recreation with stress on playground management, program making, observation and practice in activities and methods, leadership and skills. Include problems in the promotion of recreation in the community. Offered summer session only. Prerequisite: 15 hours in physical education. Class: 3 hours. Credit: 3 semester hours.

435—Adapted Physical Education (Correctives). Diagnosis and recognition of remedial cases. Instructional and remedial activities for individuals needing modified or special exercise programs. Prerequisite: 12 hours in physical education, Bio 141-142 and 340. Class: 3 hours. Credit: 3 semester hours.

436—Organization and Administration of Physical and Health Education and Athletics. Administration procedures in setting up and conducting programs in physical education, health education, and intramural athletics. A survey of types of programs, administrative organizations, scope, personnel, policies, functions and duties of supervision, related problems in the three areas. Prerequisite: 15 hours in physical education. Class: 3 hours. Credit: 3 semester hours.

PHYSICAL AND HEALTH EDUCATION FOR WOMEN

Professor Holm. Associate Professor Baker.
Assistant Professors Wilson, Davis, Gremillion.

Program of Study

**Bachelor of Science in Physical and Health Education for Women
(Teacher Certification—Plan I)**

First Year		Second Year	
Bio 141-142—General	8	Eng—Literature	6
Eng 131-132—Composition.....	6	Gov 231-232—St & Nat	6
Spc 131—Fundamentals.....	3	His 231-232—United States.....	6
Math	6	HPE 236—P Edu—Sec Sch.....	3
HPE 132—Principles	3	HPE 238—Personal Health.....	3
HPE—Activity	2	HPE—Activity	3
*Electives	6	*Electives	6
	34	H	33
Third Year		Fourth Year	
Bio 330—Anatomy	3	HPE 437—Sport Theory.....	3
HPE 330—Health Edu—Sec Sch	3	HPE 438—Sport Theory.....	3
HPE 333—Physiology.....	3	Edu 438—Classroom Mgt.....	3
Edu 331—Foundations.....	3	Edu 462—Stud Teaching.....	6
Edu 332—Edu Psy	3	HPE—Activity	2
Edu 338—Curr Mat.	3	*Electives	17
HPE—Activity	3		
*Electives	12		
	33		34

*Electives must include the following:

1. Additional teaching field of 24 semester hrs. (See Dept of Edu this catalog for requirements for additional teaching fields.)
2. Eleven semester hrs. of electives must be in academic foundation courses selected from English, Foreign Language, Philosophy, Bible, History, Government, Economics, Geology, Sociology, Anthropology, or Psychology.

Physical and Health Education for Women (HPE)

Candidates for a Bachelor of Science degree in Health and Physical Education for Women shall meet all general requirements for the degree as set forth by the college, as well as meet specific requirements designed by the department. The following are required courses in the professional field.

Theory Courses

132—Principles of Physical Education. Definition, terminology, aims, objectives, and history of physical education, and health education. Includes the nature of and specialized areas within the profession. Class: 3 hours. Credit: 3 semester hours.

233—Physical Education in the Elementary School. The theory of teaching physical education activities in the elementary grades. Classroom instruction and field laboratory assignments are included for demonstration and practice. Stress is placed on games of low organization. Classified as elementary physical education for purposes of teacher certification. Class: 3 hours. Credit: 3 semester hours.

236—Physical Education in the Secondary School. Materials for teaching physical education in the secondary grades. Teaching situations and problems are studied, and activities are analyzed at the secondary level. Class: 3 hours. Credit: 3 semester hours.

237—Community Hygiene. Fundamental community health problems, sanitation and public health laws. Class: 3 hours. Credit: 3 semester hours.

238—Personal Health. A study of bodily organs and diseases; systems; physical and mental health concepts; knowledges and appraisal of individual health. Class: 3 hours. Credit: 3 semester hours.

330—Health Education in the Secondary School. Organization, theory and content; physical examinations and recognition of symptoms of common diseases of school children. Class: 3 hours. Credit: 3 semester hours.

331—Health Education in the Elementary School. Includes health problems and interests of elementary school children, the promotion of the healthful school environment, an understanding of health appraisal of school children and curriculum construction. Class: 3 hours. Credit: 3 semester hours.

334—Driver Education. Traffic rules and regulations, and the basic facts concerning the cause and prevention of accidents. The course includes behind-the-wheel training in the use of the training automobile while instructing students. For teaching professional students how to teach driver education. Prerequisite: 320. Class: 3 hours. Credit: 3 semester hours.

435—Adapted Physical Education (Correctives). Diagnosis and recognition of remedial cases. Instructional and remedial activities for individuals needing modified or special exercise programs. Prerequisites: 12 hours in Physical Education, Bio 141-142 and 340. Class: 3 hours. Credit: 3 semester hours.

437—Theory of Individual Sports. Lectures, demonstrations, and practices in techniques of teaching individual sports. Also study of the rules, their interpretation, and techniques of officiating. Class: 3 hours. Credit: 3 semester hours.

438—Theory of Team Sports. Lectures, demonstrations, and practices in techniques of teaching team sports. Also study of rules, their interpretation, and techniques of officiating. Class: 3 hours. Credit: 3 semester hours.

Activity Courses for Women

The following are activity courses from which four hours must be selected for graduation. This requirement is met during both semesters of the freshman and sophomore years. It is recommended that the student take one sport, one dance, one aquatic and one elective hour.

Students enrolled in Physical Education are required to have regulation costumes which may be purchased in the college bookstore. Equipment for class work is provided by the student.

The physical education activity program is geared to meet the needs of every college woman, including those whose activity must be restricted and each student is expected to enroll in a class.

Students majoring in Physical Education must take ten semester hours of activity courses. Selection of courses subject to approval of the department head.

Activity:

111, 112—Activity. Required activity for women. Selected body building exercises, and physical activities directed toward increasing the physical fitness of students. Class: 3 hours. Credit: 1 semester hour.

211, 212—Activity. Continuation of HPE 111 and 112. Class: 3 hours. Credit: 1 semester hour.

Aquatics:

113—Beginning Swimming and Diving. Demonstrations, lectures and practice in the basic techniques of swimming and diving. With principles of water safety for various levels of skill and emphasis on individual achievement of swimming, diving, and safety skills. Class: 3 hours. Credit: 1 semester hour.

114—Intermediate Swimming and Diving. Demonstrations, lectures and practice in the techniques and analysis of selected swimming strokes and dives. Class: 3 hours. Credit: 1 semester hour.

115—Lifesaving and Canoeing. Demonstrations, lectures and practice in lifesaving and canoeing skills. The student may obtain the American Red Cross Lifesaving Certificate upon completion of specific requirements. Tryout required for admittance. Laboratory: 3 hours. Credit: 1 semester hour.

Dance:

117—Folk Dance. Instruction and practice in beginning folk dance. Emphasis is placed upon the historical and cultural background of the various national dances. Class: 3 hours. Credit: 1 semester hour.

118—Modern Dance. An introductory course in modern dance. Instructions and practice in the techniques of modern dance and beginning work in composition. Class: 3 hours. Credit: 1 semester hour.

119—Tap Dance. Instruction and practice in beginning tap dance. Class: 3 hours. Credit: 1 semester hour.

Sports:

The following courses are planned to develop in the student an appreciation and knowledge of the activity, as well as to develop skills for the enjoyment of participation. Class: 3 hours. Credit: 1 semester hour.

210—Archery.

211—Tennis.

212—Basketball and Hockey.

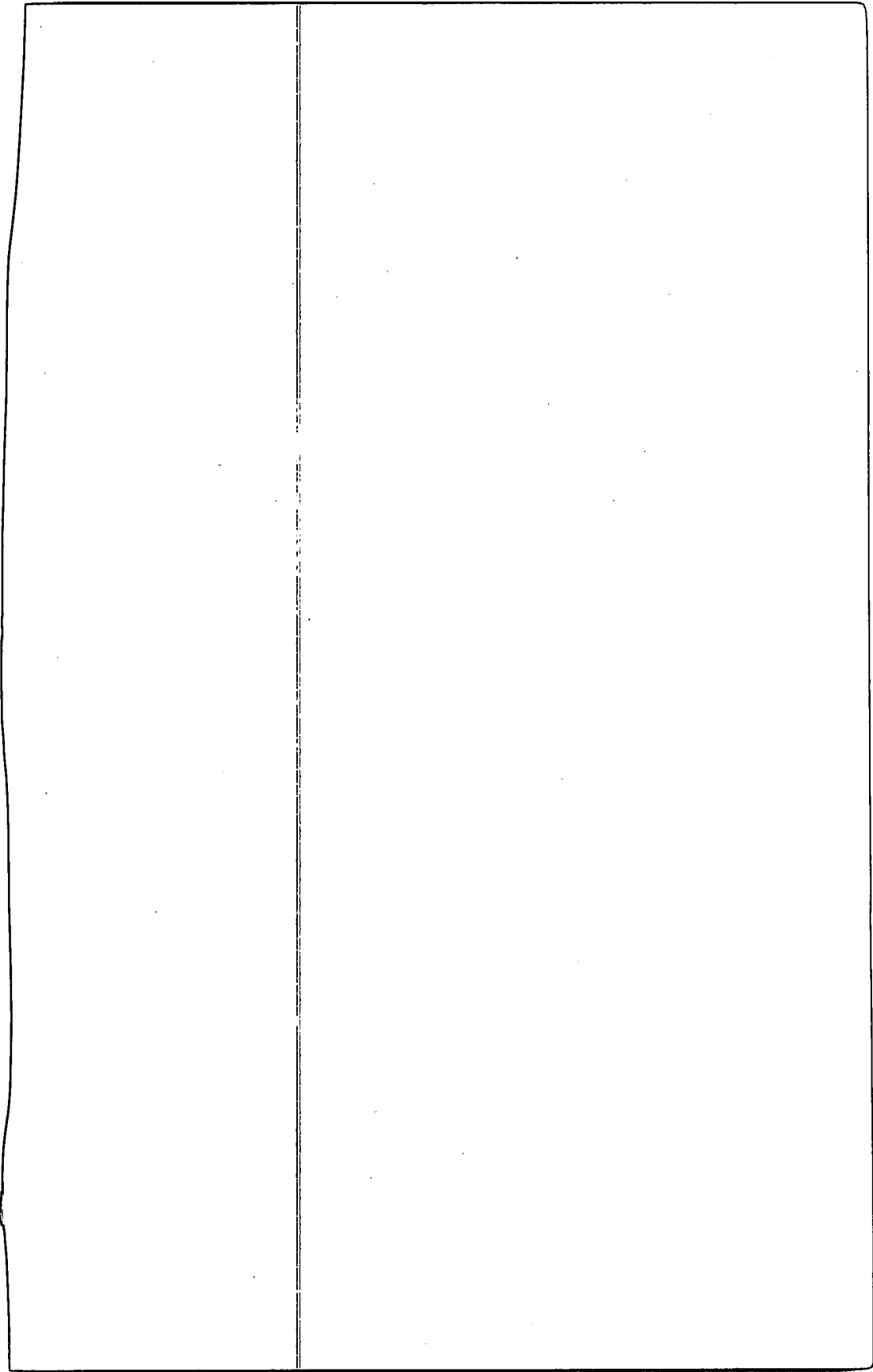
214—Soccer and Volleyball.

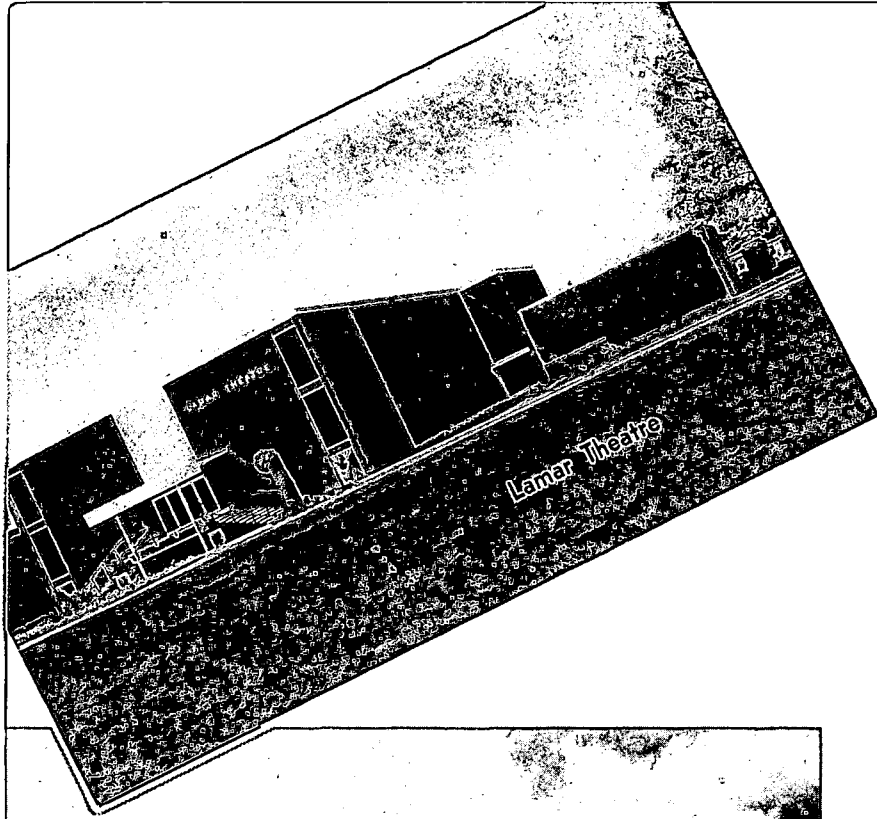
215—Trampoline and Tumbling.

217—Badminton.

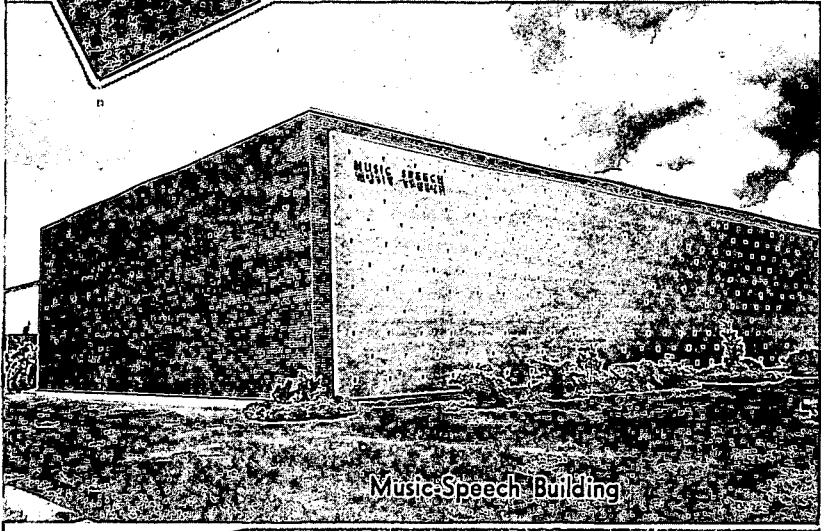
218—Fencing.

219-2110—Modified Activity.





Lamar Theatre



Music-Speech Building



Art Building

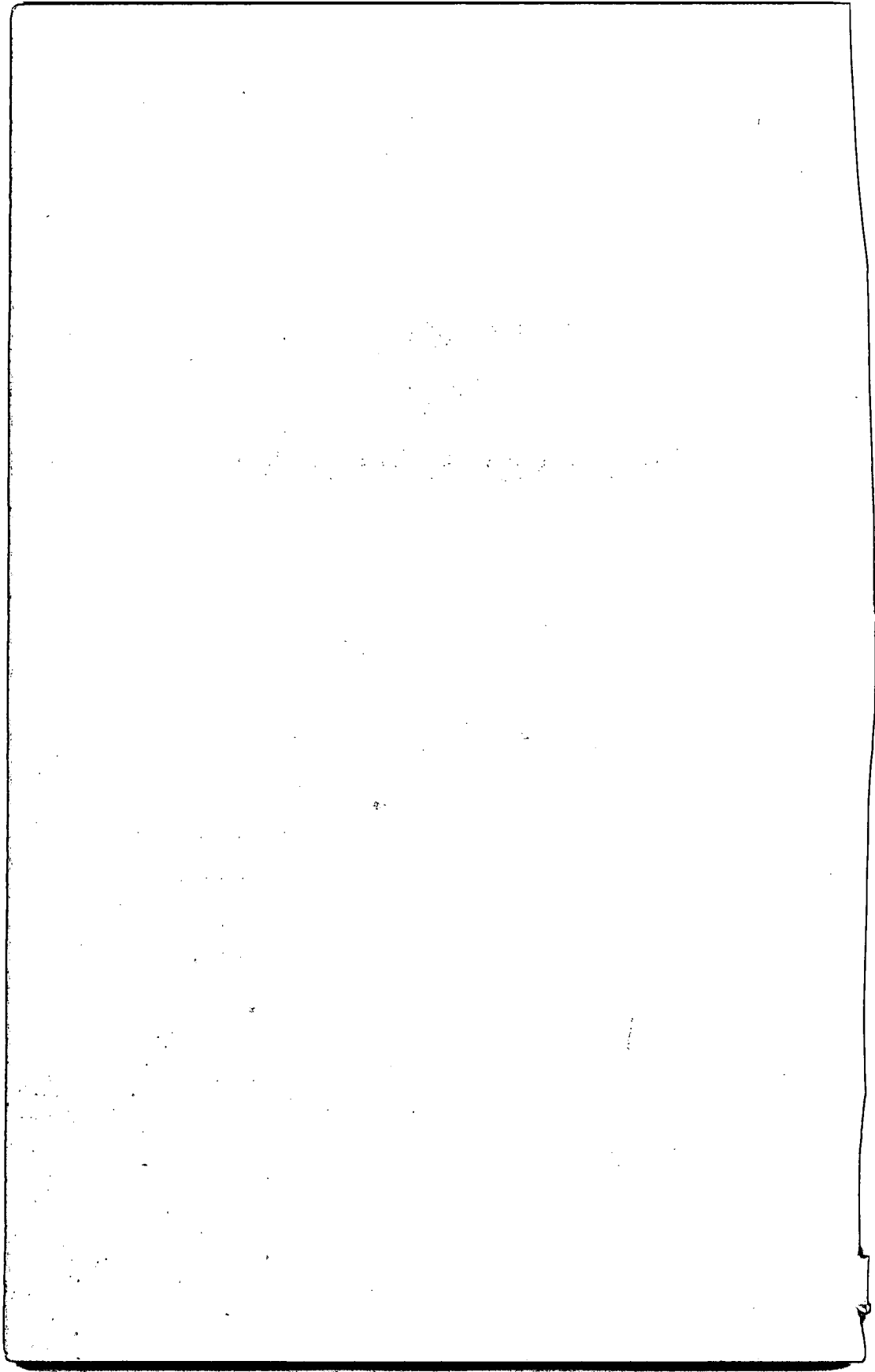
SCHOOL
OF
FINE AND APPLIED ARTS

Departments

Commercial Art

Music

Speech



School of Fine and Applied Arts

DEPARTMENT OF COMMERCIAL ART

Professor Boughton. Associate Professors Kerr, Rogan.
Assistant Professors Hock, Madden, O'Neill. Instructors Howard, Newman.

Bachelor of Science—Commercial Art

This program prepares the student for a professional career in Commercial Art and requires a total of 132-136 semester hours including four semesters of physical education.**

Program of Study

First Year		Second Year	
CA 131, 132—Sketching.....	6	CA 231, 232—Figure.....	6
CA 133, 134— Design and Comp.....	6	CA 233, 234—Advert Art.....	6
CA 137, 138—Lang of Art.....	6	CA 235, 236—Art Concepts.....	6
MLt 130—Appr Fine Arts.....	3	His 231, 232—United States.....	6
Eng 131, 132—Composition.....	6	*Eng—Literature.....	6
HPE—Activity.....	2	HPE—Activity.....	2
Electives (CA).....	3		32
	32		
Third Year		Fourth Year	
CA 237, 238—Watercolor.....	6	CA 335, 336—Silk Screen.....	6
CA 331, 332—Illustration.....	6	CA 431, 432—Oil Painting.....	6
CA 333, 334—Adv Advert.....	6	CA 433, 434—Prob in Advert.....	6
Gov 231, 232—State & Natl....	6	CA 435, 436—Exper in Form....	6
Science or Math.....	6-8**	Science or Mth.....	6-8
Elective (Gen Edu).....	3	Elective (Gen Edu).....	5
	33		35

*Speech 131 may be substituted for 3 hrs. English Literature.

**A student may choose two different sciences or 12 semester hours of mathematics. The total hours required for the science choice are 136 and for mathematics choice are 132.

Teacher Certification—Commercial Art (Plan I)

Students wishing to secure the Bachelor of Science Degree in Commercial Art and at the same time certify for a Provisional Certificate—Secondary Level—with a teaching field in Commercial Art, must include in their degree program the following:

1. An approved twenty-four hour additional teaching field (see Department of Education section of this catalog for a list of approved teaching fields.)

2. CA 137, 138, 235, 236, 337, 338, 437, 438 and 6 hours of CA electives are required in place of the Commercial Art courses listed in the above degree program.
3. Education courses: 331, 332, 338, 438, 462.
4. Sufficient approved electives to complete a total of 132 sem. hrs.

Commercial Art (CA)

130—Appreciation of the Fine Arts. (Same as Spc 130 and MLt 130.) A survey course covering the areas of a. art, b. music, c. theatre. To be taught by representatives of the art, music and speech faculties. Class: 3 hours. Credit: 3 semester hours.

131, 132—Drawing and Painting; Sketching. Drawing with pencil, pen and brush to train the eye and hand in visual recording. These sketches will be developed into opaque watercolor paintings. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

133, 134—Design and Composition. The organization and arrangement of art elements and principles to express best the artist's purpose. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

135—American Art. The development of painting, sculpture and architecture in the United States, from colonial times to the present: Class: 3 hours. Credit: 3 semester hours.

136—Contemporary Art. A historical and critical analysis of painting, sculpture and architecture in Europe and the Americas from 1900 to the present. Class: 3 hours. Credit: 3 semester hours.

137, 138—The Language of Art. An introduction to the visual arts. An analysis of art form: Line, value, texture, volume, color and their application to the production of art. Class: 3 hours. Credit: 3 semester hours per course.

231, 232—Drawing and Painting: Figure. Drawing the human figure in pencil, pen and ink, charcoal, pastel. Painting in water color. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

233, 234—Advertising Art. Basic lettering: rough layout work: in pencil, pen and brush. Finished layout in black and white and color. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

235, 236—Art Concepts. An explanation of art history in terms of form, subject matter, ideology, related to the cultural periods. How the great art of the past expressed its various attitudes. Class: 3 hours. Credit: 3 semester hours per course.

237, 238—Drawing and Painting. Watercolor. Study and practice in the

planning and execution of paintings in transparent and opaque watercolors. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

331, 332—Drawing and Painting: Illustration. The visual illustration of subject matter for books, magazines, and advertising in black and white and full color. Technique for transparent water color and color separation for commercial art reproduction. Prerequisite: CA 231-232. Class and laboratory: 6 hours. Credit: 3 semester hours.

333, 334—Advanced Advertising Art. The study of layout and techniques of spatter work, zip-a-tone, craft and air-brush and their use in advertising (newspaper, house organs, catalogues). Prerequisite: CA 233, 234. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

335, 336—Silk Screen Printing. Study and practice in the various processes of multiple color reproduction by the use of the silk screen. Greeting cards, signs, posters, textiles and prints will be made in quantity. Prerequisite: CA 231, 232. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

337, 338—Public School Art. Teaching devices, techniques and media used in the elementary and secondary schools are studied and used in the laboratory. Special attention is given to skills in correlating art with other subjects in the elementary and secondary fields. Class and laboratory: 6 hours. Credit: 3 semester hours.

431, 432—Drawing and Painting: Oil. The planning and producing of original oil paintings, either as commercial art projects or as fine art paintings. Their presentation for display or exhibition. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

433, 434—Problems in Advertising Art. Study of reproduction techniques and typography and their application to product design and TV. Prerequisite: CA 333-334. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

435, 436—Experiments in Form. Creative experimentation with the art elements and principles in abstract painting. Their modern use in display and layout and creative work. Prerequisite: CA 331-332. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

437, 438—The Psychology of Art. An investigation into the nature of the creative individual and how it is expressed graphically. Class and laboratory: 6 hours. Credit: 3 semester hours per course.

DEPARTMENT OF MUSIC

Professors Parks, Wiley. Associate Professor Kaszynski.
Assistant Professors Barrett, Brooks, Burkart, Collier, Fisher, Holmes,
Moore, Truncala, Wadenpfohl. Instructor Thompson.

The degree of Bachelor of Science—Music Major (voice, piano, theory and composition, or instrumental major) is granted under the following conditions:

1. Meet the basic requirements for all degree programs.
2. Complete one of the programs of study listed below.
3. Pass a department qualifying examination given by the music faculty before the end of the first semester of the senior year.
4. All students must continue to take secondary piano for as many consecutive semesters as are required for the completion of the barrier. This requirement will be without credit after the first year. Application for the piano barrier exam may be made during any semester of the student's enrollment.
5. Participate in student recitals as recommended by the department.
A minimum of ten (10) hours of practice per week in the college practice hall.
7. For graduation all applied majors must present a recital as recommended by the department head, during the senior year. Those students who do not choose the applied program of study must present an acceptable research paper during the senior year of study. The topic of this study will be decided by the student, his advisor, and department head.
8. All students, transfers or otherwise, must reach a certain proficiency before graduating. The music faculty will determine this proficiency.
9. Majors in theory and composition, in order to fill their applied music requirement, need to complete 4 semesters of secondary piano, 2 semesters of secondary voice, 2 semesters of secondary violin, 2 semesters of a selected secondary brass instrument, and 2 semesters of a selected woodwind instrument.

All students must take a placement examination during their first semester. Any student who makes a D in either semester of freshman theory must repeat that semester for a grade of C or better.

Programs of Study**Bachelor of Science—Music Major**

Plan I (Qualifies for teacher certification—music, all levels)

Instrument Major**First Year**

First Semester		Second Semester	
Eng 131—Composition	3	Eng 132—Composition	3
Mth 131—Finite	3	Mth 132—Finite	3
MA—Major Instru	2	MA—Major Instru	2
Mty 211—Strings	1	Mty 212—Strings	1
Mty 111—Woodwinds	1	Mty 112—Woodwinds	1
MLt 111—Mus Prin	1	MLt 112—Mus Prin	1
MTy 132—Elem Harmony	3	MTy 133—Elem Harmony	3
MA 1143—Piano	1	Spc 130—Appr Fine Arts	3
MLb 114—Band or		MLb 115—Band or	
*MLb 112—Orchestra	1	MLb 112—Orchestra	1
	16		18

*If choice is other than MLb 114, student must take HPE activity each semester.

Second Year

First Semester		Second Semester	
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
Science (laboratory)	4	Science (laboratory)	4
MA—Major Instrument	2	MA—Major Instrument	2
Mty 115—Brass	1	Mty 116—Brass	1
Mty 113—Woodwinds	1	Mty 114—Woodwinds	1
MTy 232—Adv Harmony	3	MTy 233—Adv Harmony	3
MLb 114—Band or		MLb 115—Band or	
*MLb 112—Orchestra	1	MLb 112—Orchestra	1
	18		18

*If other than MLb 114 is chosen then student must take HPE activity which adds 1 hour each semester.

Third Year

First Semester		Second Semester	
Edu 331-332	6	Edu 334	3
Gov 231—State	3	Gov 232—National	3
MA—Major Instru	2	MA—Major Instru	2
Mty 117—Brass	1	Mty 118—Brass	1
MTy 326—Inst Mus	2	MTy 328—Instru Cond	2
MLt 323—Mus Hist	2	MLt 331—Children's Mus	3
MTy 321—Counterpoint	2	MTy 322—Counterpoint	2
MLb 114—Band or		MLb 115—Band or	
MLb 112—Orchestra	1	MLb 112—Orchestra	1
	19	MLt 324—Music Hist	2
			19

Fourth Year

First Semester		Second Semester	
MTy 213—Percussion	1	Edu 464	6
Edu 338-432	6	MTy 325—Chrl Mus	2
MLt 410—Seminar	1	MLb 115—Band or	
Mty 425—Band Arrng	2	MLb 112—Orchestra	1
MLb 114—Band or		Electives	3
MLb 112—Orchestra	1		
MTy 317—March Theory	1		
Electives	3		
MA—Voice	1		
	16		12

Piano Major

First Year

First Semester		Second Semester	
Eng 131—Composition	3	Eng 132—Composition	3
Mth 131—Finite	3	Mth 132—Finite	3
MA 1241—Piano	2	Spc 130—Appr Fine Arts	3
MTy—Woodwinds and		MA 1242—Piano	2
MTy—Brass	2	MTy—Strings or	
MLt 111—Mus Prin	1	MTy—Percussion	2
MTy 132—Elem Harmony	3	MLt 112—Mus Prin	1
MLb 111—Chorus	1	MTy 133—Elem Harmony	3
MA—Voice	1	MLb 111—Chorus	1
HPE—Activity	1	HPE—Activity	1
	17		19

Second Year

First Semester		Second Semester	
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
Science (laboratory)	4	Science (laboratory)	4
MA 2241—Piano	2	MA 2242—Piano	2
MLt 213—Piano Lit	1	MA—Voice	1
Mty 232—Adv Harmony	3	MTy 233—Adv. Harmony	3
MLb 111—Chorus	1	MLb 111—Chorus	1
HPE—Activity	1	HPE—Activity	1
	18	MLb 210—Opera	1
			19

Third Year	
First Semester	Second Semester
Edu	Edu
Gov 231—State	Gov 232—National
MA 3241—Piano	MA 3242—Piano
MTy 325—Choral Mus	MTy 327—Choral Cond.
MLt 323—Mus Hist	MLt 331—Children's Mus
MTy 321—Counterpoint	MLt 324—Mus Hist
MLb 111—Chorus	MTy 322—Counterpoint
	MLb 111—Chorus
18	18

Fourth Year	
First Semester	Second Semester
Edu	MLb 210—Opera
MLt 410—Seminar	Edu
Mty 326 or 328	Electives
Electives	MLb 111—Chorus
MLb 111—Chorus	MA—Voice
MA—Voice	
14	12

Vocal Major

First Year	
First Semester	Second Semester
Eng 131—Composition	Eng 132—Composition
Mth 131—Finite	Mth 132—Finite
MA 1281—Voice	Spc 130—Appr Fine Arts
MTy—Woodwinds—Brass	MA 1282—Voice
MLt 111—Mus Prin	MTy—Strings and Percussion
MTy 132—Elem Harmony	MLt 112—Mus Prin
MLb 111—Chorus	MTy 133—Elem Harmony
HPE—Activity	MLb 111—Chorus
	HPE—Activity
16	19

Second Year	
First Semester	Second Semester
Eng—Literature	Eng—Literature
His 231—United States	His 232—United States
Science (laboratory)	Science (laboratory)
MA 2281—Voice	MA 2282—Voice
MTy 232—Adv Harmony	MTy 233—Adv Harmony
MLb 111—Chorus	MLb 111—Chorus
HPE—Activity	HPE—Activity
17	17

Third Year

First Semester		Second Semester	
Edu	6	Edu	3
MA 3281—Voice	2	MA 3282—Voice	2
MTy 325—Choral Mus.	2	MTy 327—Choral Cond.	2
MLt 323—Mus Hist.	2	MTy 322—Counterpoint	2
MTy 321—Counterpoint.	2	MLt 324—Mus Hist.	2
MLt 331—Children's Mus.	3	MLb 210—Opra Wrkshp.	1
MLb 111—Chorus	1	MLb 111—Chorus	1
—	18	Mty 326 or 328	2
		Electives	3
			18

Fourth Year

First Semester		Second Semester	
Edu	3	Edu	6
Gov 231—State	3	Gov 232—National.	3
MLt 410—Seminar	1	MLb 111—Chorus	1
MLb 210—Opra Wrkshp.	1	Electives	4
MLb 111—Chorus	1		14
Electives	6		
	15		

PLAN II

BS—Music plus Performance Certificate

Meet all of the specifications and requirements for the Bachelor of Science Degree—music major, with the following additional requirements: two semesters of advanced Theory and two additional semesters of the Majors applied instrument. The education hours for Plan I may be regarded as elective hours for Plan II with the permission of the head of the department.

The Performance Certificate will be issued only after a junior recital before the faculty. This recital may qualify a student for a senior recital for the Performance Certificate.

Applied Music (MA)

1101—Beginning Band or Orchestral Instruments. Basic fundamentals of articulation and tone production. Scales and arpeggios. Elementary methods and easy solo materials. Freshman students must audition before registering for placement in MA. Class: One one-half-hour lesson per week. Credit: One semester hour per course.

1203, 1204, 2203, 2204, 3203, 3204, 4203, 4204—Bassoon. Practical Studies, Weissenborn; scale studies, Pare; Reveirie, Jancourt; Romanze, Klakhardt; The Carnaval, Hume. Two one-half-hour lessons per week. Credit: 2 semester hours per course.

1211, 1212, 2211, 2212, 3211, 3212, 4211, 4212—Cello. An approach to the left and right hand technique using materials and literature suitable to the level of the individual student. Auditions will determine the level of proficiency of each new student. Two half-hour lessons per week. Credit: 2 semester hours per course.

1215, 1216, 2215, 2216, 3215, 3216, 4215, 4216—Clarinet. Scales and arpeggios from Baermann Langenus Vol. III. Rose Forty Studies Canzonetta, Pierne, Concertino, Tartini-Jacob, Adagio-Tarantella, Cavallini; Fantasy Pieces, Schumann. Last 6 semesters will include Voxman, Polastchek, Perier Etudes; Advanced Solos and Orchestra Studies. Class: Two one-half hour lessons per week. Credit: 2 semester hours per course.

1217, 1218, 2217, 2218, 3217, 3218, 4217, 4218—Cornet-Trumpet. Basic fundamentals of articulation and tone production. Major and minor scales and arpeggios. Transposition. Methods: St. Jacome, Arban, Hering, Sachse, Schlossberg. Representative solos: Ropartz, Andante and Allegro; Balay, Petite Piece Concertante. Performance on student recital once a semester. Prerequisite: Audition. Class: Two one-half hour lessons per week. Credit: 2 semester hours per course.

1221, 1222, 2221, 2222, 3221, 3222, 4221, 4222—Flute. Modern Method of Boehm Flute, Book; Sonata No. 3; Handel; 24 Caprices, Boehm; Fourth Sonata, Bach; Orchestral studies, Minuet in D, Mozart; Concertino, Chaminade. Two one-half hour lessons per week. Credit: 2 semester hours per course.

1223, 1224, 2223, 2224, 3223, 3224, 4223, 4224—French Horn. Basic fundamentals of articulation and tone production. Major and minor scales and arpeggios. Transposition. Band and orchestral repertoire. Methods: Alphonse, Koprash, Sansone. Representative solos. Performance on student recital once a semester. Prerequisite: Audition. Class: Two one-half hour lessons per week. Credit: 2 semester hours per course.

1231, 1232, 2231, 2232, 3231, 3232, 4231, 4232—Oboe. Complete method for Oboe, Barrett, scales studies, Pare; three Romanances, Schumann; Niemann; 16 daily exercise, Labate; Orchestral Studies, Reed making; Pastorale, Labate; Niedell's Sonata No. 1. Two one-half hour lessons per week. Credit: 2 semester hours per course.

1233, 1234, 2233, 2234, 3233, 3234, 4233, 4234—Organ, Organ instruction includes a study of the techniques needed to prepare and project publicly the literature of the keyboard representing organ literature of all periods in both small and large forms. Particular emphasis will be placed on manual and pedal technique, analysis of literature, thorough knowledge of registration, ability to adapt piano accompaniments, hymn playing, and

proficiency in accompanying, ensemble, chamber music and solo recital playing. Two one-half hour lessons per week. Credit: 2 semester hours per course.

1143, 1144—Secondary Piano. Study of scale systems and application, intervals, chord structure, harmonization of melody, and other elements of keyboard harmony. Two octave scales and cadences. Maximum of four students per class. Class: 1 hour. Credit: 1 semester hour.

1241, 1242, 2241, 2242, 3241, 3242, 4241, 4242—Piano. To develop musicianship, through technical proficiency and ability to assimilate music without guidance. A study of the various techniques needed to prepare and project publicly the literature of the keyboard representing piano literature of all periods in both small and large forms. Particular emphasis will be placed on scale and arpeggio playing, formal exercises, use of the pedals, analysis of the literature, programming, ability to employ and develop creative technique for individual requirements, and proficiency in accompanying, ensemble, chamber music and solo recital playing. Two one-half hour lessons per week. Credit: 2 semester hours per course.

1251, 1252, 2251, 2252, 3251, 3252, 4251, 4252—Saxophone. Method for Saxophone by DeVille. Air from Suite in D by Bach-Leeson. Jota by Gurewicz. Two one-half hour lessons per week. Credit: 2 semester hours per course.

1257, 1258, 2257, 2258, 3257, 3258, 4257, 4258—String Bass. Through the use of appropriate methods e.g. Simandl, the technique of the student will be developed. Scales and arpeggios will also form a vital part of this study. Two half-hour lessons per week. Credit: 2 semester hours per course.

1261, 1262, 2261, 2262, 3261, 3262, 4261, 4262—Trombone or Baritone. Basic fundamentals of articulation and tone production. Major and minor scales and arpeggios. Methods. Mueller, Rochut, Clarke, Vobaron, Kopprasch. Representative solos. Performance on student recital once a semester. Prerequisite: Audition. Class: Two one-half hour lessons per week. Credit: 2 semester hours per course.

1263, 1264, 2263, 2264, 3263, 3264, 4263, 4264—Tuba. Basic fundamentals of articulation and tone production. Major and minor scales and arpeggios. Band and orchestral repertoire. Methods: Eby, Bell, Slama, Solos. Prerequisite: Audition. Class: Two one-half hour lessons per week. Credit: 2 semester hours per course.

1253, 1254, 2253, 2254, 3253, 3254, 4253, 4254—Percussion. Garner, Goodman, Harr, and Rubank Methods, standard solos, band and orchestra repertoire. Performance on student recital once a semester. Two half-hour lessons per week. Credit: 2 semester hours.

1271, 1272, 2271, 2272, 3271, 3272, 4271, 4272—Viola. Scales and arpeggios. Studies and exercises selected according to the individual needs of the student. Sonata, concertos and short solo pieces. Minimum practice: two hours daily. Two half-hour lessons per week. Credit: 2 semester hours per course.

1273, 1274, 2273, 2274, 3273, 3274, 4273, 4274—Violin. Scales and arpeggios. Studies and exercises selected according to individual needs of the student. Sonatas and concerts selected for technical and musical advancement. Minimum practice: 2 hours daily. Two half-hour lessons per week. Credit: 2 semester hours per course.

1281, 1282, 2281, 2282, 3281, 3282, 4281, 4282—Voice. Study of breathing and vocalization. A balanced repertoire of songs will be studied each semester. Course offered to both music and non-music majors. Prerequisite: Ability to read music, and some knowledge of the keyboard. Two private half-hour lessons per week. Credit: 2 semester hours per course.

1183, 1184, 2183, 2184—Secondary Voice. Music majors not majoring in voice will learn to use the singing voice. Study of breathing and vocalization. Songs will be studied. Prerequisite: Ability to read music, and some knowledge of the keyboard. One lesson per week. Credit: one semester hour per course.

3283, 3284, 4283, 4284—Composition. Creative writing ranging from solo and small ensemble works to more extended composition for orchestra, band or chorus. Prerequisite: MTy 233. Two half-hour lessons a week. Credit: 2 semester hours.

Music Laboratory (MLb)*

111—Chorus. A course in choral singing, organized to furnish training in the more important works of vocal ensemble literature. Presentation of selections in public throughout the year. Required of all voice majors. Open to students from other departments who can qualify. Laboratory: 3 hours. Credit: 1 semester hour per course.

112—Orchestra. A performing ensemble open to all college students who can qualify. Required of any student majoring in a string instrument. Laboratory: 3 hours. Credit: 1 semester hour per course.

113—Chamber Music Ensemble. String ensemble, woodwind ensemble, brass ensemble. A course designed to give the student an opportunity to study and perform music written for the smaller instrumental ensembles. These groups will participate in various recital programs throughout the year. Open to any student upon recommendation of the instructor. Laboratory: 2 hours per week. Credit: 1 semester hour.

114—Marching Band. The study and performance of march music and military drill. Open to any student who can qualify. Four semesters completes P. E. requirement. Laboratory: 6 hours per week. Credit: 1 semester hour.

115—Symphonic Band. Performs symphonic wind ensemble and band repertoire. Tryout required for admittance. Laboratory: 5 hours. Credit: 1 semester hour per course.

117—Dance Band. Organized to furnish training in all styles of dance band performance. Open to any student who can qualify. Laboratory: 3 hours. Credit: 1 semester hour per course.

210—Opera. A laboratory class for advanced voice students providing study of operatic excerpts of standard and contemporary roles and scenes for presentation in the opera-theatre. Laboratory: 2 hours. Credit: 1 semester hour per course.

*Courses in Music Laboratory may be repeated for credit. Total credit not to exceed eight semester hours for any one course.

Music Literature (MLt)

111, 112—Music Principles. An appraisal of the important events in Music History with emphasis upon those aspects of music associated with style, form, and performance. Familiarization of the student with music terminology and a thorough briefing on score reading through the use of recordings from the significant periods of Music History. Class: 2 hours. Credit: 1 semester hour per course.

130—Appreciation of Fine Arts. (Same as Spc 130 and CA 130). A survey course covering the areas of a. art, b. music, c. theatre. To be taught by any representatives of the art, music, and speech faculties. Class: 3 hours. Credit: 3 semester hours.

213—Piano Literature. A brief, chronological survey and analysis of the styles and forms of compositions in relation to keyboard instruments. Minimum knowledge of all keyboard instruments will be required. Special emphasis will be placed on the contribution of the performers, composers, and compositions in the field of piano literature. Class: 2 hours. Credit: 1 semester hour per course.

323—Music History. A survey of the literature and advances made in music from ancient times to 1800. Three hours of listening required per week in addition to class lecture. Prerequisite: MLt 111-112. Class: 3 hours. Credit: 2 semester hours.

324—Music History. A survey of the literature and advances made in music from 1800 through early 20th century. Three hours of listening required per week in addition to class lecture. Prerequisite: Music History 323. Class: 3 hours. Credit: 2 semester hours.

331—Children's Music. Techniques and materials in teaching of music in the elementary school. The child's voice; rote singing, rhythmic; introduction of notation; creative music activities. Prerequisite: MTy 131 or equivalent. Class: 3 hours. Credit: 3 semester hours.

410—Seminar. A general study of the problems encountered in music. Class: 1 hour. Credit: 1 semester hour.

Music Theory (MTy)

111, 112, 113, 114—**Woodwinds.** Materials for the woodwinds instruments. Performance on all woodwind instruments. Class: 1 hour. Lab: 1 hour. Credit: 1 semester hour each.

115, 116, 118—**Brass.** Materials for brass instruments. Performance on all brass instruments. Class: 1 hour. Lab: 1 hour. Credit: 1 semester hour each.

131—**Elements of Music.** A study of scales, chords, musical terminology, signatures, sight singing and rhythms. Designed to prepare students for advanced study in music theory or to familiarize non-music majors with the meaning of musical notation and the harmonic, melodic, and rhythmic structure of music. Class: 3 hours. Credit: 3 semester hours.

132, 133—**Elementary Harmony.** Elementary keyboard and written harmony; sight singing; ear training. Prerequisite: MTy 131 or by advanced standing exam. Class: 5 hours. Credit: 3 semester hours.

211, 212—**Strings.** Materials for violin, cello and string bass. Performance on all instruments. Class: 1 hour. Lab: 1 hour. Credit: 1 semester hour each.

213—**Percussion.** Materials for the percussion instruments. Performance on all percussion instruments. Class: 1 hour. Lab: 1 hour. Credit: 1 semester hour.

232, 233—**Advanced Harmony.** Advanced keyboard and written harmony; sight singing; ear training. Prerequisite: MTy 133. Class: 5 hours. Credit: 3 semester hours.

317—**Band Theory.** Basic marching maneuvers. Charting various types of half-time shows for football games, such as the pageant type and the precision drill, and arranging the music for these shows. Term project: A completely charted half-time show with music. Class: 2 hours per week. Credit: 1 semester hour.

321, 322—**Counterpoint.** 16th and 18th century contrapuntal techniques through analysis and creative writing. Prerequisite: MTy 233. Class: 2 hours. Credit: 2 semester hours.

325—**Choral Music.** Vocal problems encountered in the choral music fields of the high school. A detailed study of the organization and administration of chorus, glee club, ensembles, etc. Class: 2 hours. Laboratory: 1 hour. Credit: 2 semester hours.

326—**Instrumental Music.** Materials, and problems encountered in the instrumental music field of the high school. A detailed study of the organization and administration of bands, orchestras, etc. Class: 2 hours. Lab: 1 hour. Credit: 2 semester hours.

327—**Choral Conducting.** The techniques of the baton; basic patterns and rudiments of conducting, phrasing, interpretation, and choral tech-

niques. Prerequisite: Some vocal study, piano keyboard, two years of vocal laboratory and music theory. Two class hours per week. Credit: 2 semester hours.

328—Instrumental Conducting. The rudiments of conducting, phrasing interpretation, etc., of the instrumental field, both band and orchestra. Class: 2 hours per week. Lab: 1 hour. Credit: 2 semester hours.

421—Form and Analysis. Analytical study of musical forms and styles. Prerequisite: MTy 321, 322. Class: 2 hours. Credit: 2 semester hours.

422—Orchestration. Techniques of writing and arranging for orchestral instruments in small combinations and for full orchestras. Prerequisite: MTy 321, 322. Class: 2 hours. Credit: 2 semester hours.

425—Band Arranging. Techniques of writing, transcribing from orchestra score and arranging for the instrumentation of the military and concert bands. Class: 2 hours. Credit: 2 semester hours.

DEPARTMENT OF SPEECH

Professor Skinner. Associate Professors Achilles, Anderson, Blanton,
Canon, Hulsopple, Schuman.

Instructors Gilchrist, Henderson, Popofsky.

Bachelor of Science—Speech Major

Program of Study

Plan I (For those who wish to qualify for a teacher's certificate).

First Year		Second Year	
CA 130—Appr of Fine Arts	3	Eng—Literature	6
Eng 131, 132—Composition	6	His 231, 232—United States	6
HPE—Activity	2	HPE—Activity	2
Lab Science	8	Spc 233—Intro to Theatre	3
Mth	6	Spc 234—Intro to Radio & TV	3
Spc 131—Fundamentals	3	Spc 238—Arg & Debate	3
Spc 133—Voice Science	3	Electives	9
Spc 134—Spc Cor Survey	3		
	34		32
Third Year		Fourth Year	
Edu 331—Foundations	3	Edu 438—Classroom Mgmt	3
Edu 332—Edu Psy	3	Edu 462—Student Teaching	6
Edu 338—Cur & Mat	3	Spc 335—Directing	3
Gov 231, 232—State & Natl	6	Teaching Field Two and/or	
Spc 337—Adv Interpretation	3	Elec	12
Spc—Adv Electives	6	Electives	6
Teaching Field Two and/or			30
Electives	12		
	36	Total	132

Plan II (For those who wish to qualify for a teacher's certificate in speech
and hearing therapy—all level).

First Year	Second Year
Same as Plan I except Bio 141, 142 is the lab science.	Eng—Literature
	His 231, 232—United States
	HPE—Activity
	Spc 230—Spc
	Cor Pathology
	Spc 232—Psy of Speech
	Spc 332—Audiology
	Electives
	32

Third Year		Fourth Year	
Edu 3310—Edu Excpt Child.....	3	Edu 434—Classroom Mgmt.....	3
Edu 331—Foundations	3	Edu 465—Student Teaching	6
Edu 332—Edu Psy	3	Psy 431—Normal	3
Edu 334—Cur Mat Elem	3	Spc 433—Adv Clinical Practice..	3
Gov 231, 232—State & National..	6	Spc 435—Spc & Lang Disorders...	3
Psy 231—General.....	3	Electives	12
Psy 232—Human Development ..	3		
Spc 339—Beg Clinical Practice..	3		
Spc 432—Stuttering			
Theories & Thrpy.....	3		
Electives	6		30
	36	Total	132

Plan III (For those not wishing the teacher's certificate).

First Year		Second Year	
Same as Plan I.		Same as Plan I.	
Third Year		Fourth Year	
Fine Arts (non-Spc).....	6	Liberal Arts	6
Gov 231, 232—State & National	6	Phl	6
Psy	6	*Spc Electives	9
*Spc Electives	9	Electives	9
Electives	9		30
	36	Total	132

*12 hours must be advanced.

30 hours of total program must be advanced.

Bachelor of Arts—Speech Major

Same as any of the above programs except for the substitution of 12 hours of the same foreign language for electives.

Speech (Spc)

130—Appreciation of the Fine Arts. (Same as M.Lit. 130 and Art 130). A survey course covering the areas of a. art, b. music, c. theatre. To be taught by representatives of the art, music, and speech faculties. Class: 3 hours. Credit: 3 semester hours.

131—Fundamentals of Effective Speech. Instruction in the theory of the voice, articulation, pronunciation, bodily activity, language, and the elements of speech preparation. Practice in the presentation of speeches and printed material with emphasis on the use of the fundamentals of speech production. Class: 3 hours. Credit: 3 semester hours.

132—Fundamentals of Effective Speech. Continuation of Speech 131. A study of speech construction, including the use of outlining and support-

ing material. Practice is given in outlining, preparing, and presenting special types of speeches with emphasis placed on extemporaneous speaking. Prerequisite: Speech 131, Class: 3 hours. Credit: 3 semester hours.

133—Voice Science. Phonetic transcription, regional and foreign dialects, the application of phonetic study to speech correction. Class: 3 hours. Credit: 3 semester hours.

134—Speech Correction: A Survey. An introduction to the study of speech correction. A survey of the defects of speech with particular emphasis on articulation defects and voice problems. Class: 3 hours. Credit: 3 semester hours.

230—Speech Correction: Pathology and Therapy. A technical and professional course in the causes, nature, symptoms, and rehabilitation of disordered speech. Class: 3 hours. Credit: 3 semester hours.

231—Discussion Methods. Instruction in the types, principles, and methods of oral discussion. Practice in all forms of parliamentary procedure and various forms of group discussion. Class: 3 hours. Credit: 3 semester hours.

232—The Psychology of Speech. The study of the nature and origin of speech in terms of its psychological and neurological aspects. Class: 3 hours. Credit: 3 semester hours.

233—Introduction to Theatre. A general survey of the major fields of theatre art. For students who have a limited theatrical experience or knowledge. Emphasis on the various types and styles of plays, elementary theory and practice of acting and directing, basic principles of voice development, movement, and interpretation for the stage. An introduction of technical production: methods of construction and handling of scenery, elementary problems in scene design, stage lighting, costume and costume design. Participation in major productions. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

234—Introduction to Radio and Television. A general survey of the principles involved in radio broadcasting and television, including a study of station and network organization and control. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

235—Oral Interpretation of Literature. Instruction and practice in the principles of speech applied to performance in the interpretation of prose and poetry. Class: 3 hours. Credit: 3 semester hours.

237—Acting. Detailed study of characterization and styles of acting through class assignments of individuals and group scenes. Class: 2 hours. Laboratory: 3 hours and participation in department production. Credit: 3 semester hours.

238—Argumentation and Debate. The principles of argument, analysis, evidence, reasoning, fallacies, briefing, and delivery, as well as their applications in speech situations. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

315—Parliamentary Procedure. Drafting of a constitution and by-laws; election and duties of officers; function of committees; rules governing presentation and disposal of motions. Class: 3 hours first six weeks. Credit: 1 semester hour.

330—Rhetoric and Public Address. A study and analysis of some of the world's great speeches with application of these principles of original speeches of special types. Class: 3 hours. Credit: 3 semester hours.

331—Business and Professional Speech. Application of the fundamentals of speech production to the needs of the professional man or woman. Practice in gathering and organizing material for speeches for special occasions. Emphasis is given to extemporaneous speaking, conferences and discussion group speaking, and report presentations. Class: 3 hours. Credit: 3 semester hours.

332—Audiology. Study of the human ear and its abnormalities. Administration and interpretation of hearing tests; clinical observation. Class: 3 hours. Credit: 3 semester hours.

333—Storytelling. Study of stories for different ages of children; study of sources of stories; practice in adapting story material from various sources; building story-hour programs; practice in telling stories in laboratory and in nearby schools, hospitals, and homes; practice in writing stories for children. Class: 3 hours. Credit: 3 semester hours.

334—Stagecraft. To give the student a theoretical and working knowledge of the crafts of the theatre; designing, building, and handling of scenery; technical plotting of scenery; lighting the stage; physical requirements of a theatre; nomenclature of the crafts of theatre. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

335—Directing. To give the student a background knowledge in directing from the viewpoint of the interpreter, the planner, the organizer, and the business man, the technician, the actor, the psychologist, and the artist with specific problems in directing scenes from plays. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

336—Creative Dramatics. Instruction in the methods of introducing creative dramatics into the elementary and junior high schools, and the presentation of projects related to the development of creative play-making in the home, community, and school. Class: 3 hours. Credit: 3 semester hours.

337—Advanced Oral Interpretation of Literature. Instruction and practice in the principles of speech applied to performance in the interpretation of dramatic literature. Class: 3 hours. Credit: 3 semester hours.

338—Radio and Television Production. Activities in writing, acting, directing, producing, announcing, and engineering various types of radio and television programs. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

339—Beginning Clinical Practice in Speech and Hearing Therapy. Diagnostic and therapeutic procedures in speech and hearing therapy. One hour of clinical practice per week per credit hour. Class: 3 hours. Credit: 3 semester hours.

430—Problems and Projects in Speech. These problems are discussed and analyzed through discussion and research. Each student selects a project or problem on which he does extensive research and presents a report to the department faculty. Class: 3 hours. Credit: 3 semester hours.

431—Problems and Projects in Speech. Projects for which the student has done research in Speech 430 are to be executed. Students will perform activities in one of the following areas: acting, directing, producing, designing and constructing costumes and stage settings for the school theatre; announcing, directing, and producing for radio and television; teaching. Class: 3 hours. Credit: 3 semester hours.

432—Stuttering, Theories and Therapies. A comparative study of the various therapies proposed for stutterers. Class: 3 hours. Credit: 3 semester hours.

433—Advanced Clinical Practice in Speech and Hearing Therapy. Diagnostic and therapeutic procedures in speech and hearing therapy. One hour of clinical practice per week per credit hour. Class: 3 hours. Credit: 3 semester hours.

434—Persuasion. The psychological and emotional principles involved in influencing individuals and groups. An analysis and practice with the speech devices and techniques in effectively motivating audience reaction. Class: 3 hours. Credit: 3 semester hours.

435—Organic Speech and Language Disorders. A study of the speech and language problems resulting from aphasia, cerebral palsy, and mental retardation. Investigation of speech therapy methods applicable to these disorders. Class: 3 hours. Credit: 3 semester hours.

438—Directing Secondary School Speech Activities. Principles involved in extra-curricular activities such as plays, debate, extemporaneous speaking, declamation, interpretation, radio and television. Practical experience with workshop students constitutes a part of this course. (Offered in summer terms only.) Class: 15 hours per week for 3 weeks, plus laboratory as arranged. Credit: 3 hours.

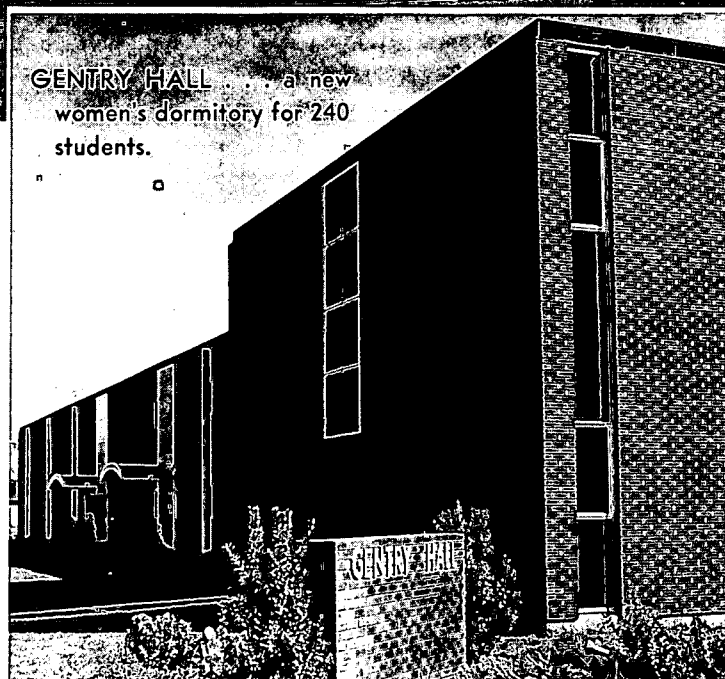
439—Seminar in Fine Arts. A study of the areas of art, music, and theatre. Class: 3 hours. Credit: 3 semester hours.



PLUMMER HALL . . . a new men's dormitory opened last Fall



CARDINAL STADIUM . . . a new 17,150-seat football plant opened last Fall.



GENTRY HALL . . . a new women's dormitory for 240 students.

GRADUATE SCHOOL

Departments

Business Administration

Chemistry

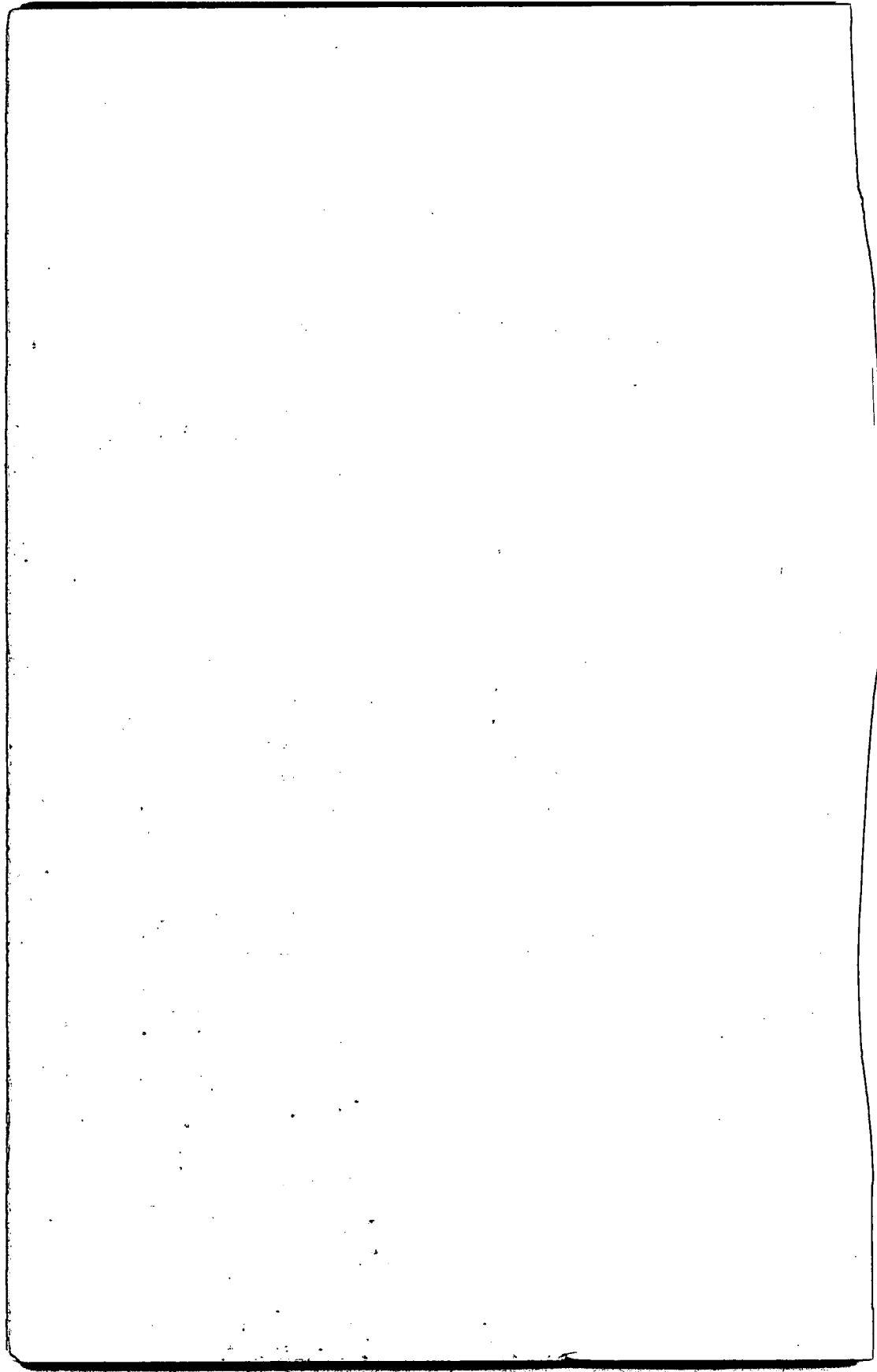
Education

Engineering

English

History

Mathematics



The Graduate School

The Graduate Council

The Graduate Program is administered by the Graduate Council. The membership of the Council consists of representatives from each department offering graduate degrees, with the Dean of the Graduate School acting as chairman. The Council determines the academic policies of the Graduate School.

Degrees Offered

The Master of Arts degree is offered in the fields of English and history.

The Master of Business Administration is granted by the School of Business.

The Master of Science degree is available in the fields of chemistry and mathematics.

The Master of Engineering Science is offered in the School of Engineering and combines graduate work in engineering with courses in science and mathematics.

The Master of Education degree is available in Elementary Education and Special Education through the Department of Education.

For specific degree requirements, the student should consult the Graduate Bulletin.

The Graduate Bulletin

The Graduate Bulletin contains a complete listing of courses, admission requirements, and other information of value to graduate students. Requests for copies should be directed to the Office of the Dean of the Graduate School, Lamar State College of Technology, Beaumont, Texas.

Admission

Applicants seeking admission to the Graduate School must present evidence that their academic record and personal attributes indicate the ability to pursue graduate work successfully. Admission to the Graduate School is administered by the Graduate Council. In general, the policies set forth by this Council for admission are as follows:

1. An applicant must hold a bachelor's degree or its equivalent from an institution approved by a recognized accrediting agency.
2. The following official credentials should be filed with the Dean of the Graduate School at least four weeks before registration.
 - A. An official transcript sent directly from each college previously attended.

B. Two completed copies of the application for admission to the Graduate School.

C. Scores on the aptitude and the appropriate subject matter area of the Graduate Record Examination (sent directly to the Dean of the Graduate School by the Educational Testing Service). The College Testing and Placement Center, located in Room 102 in the Liberal Arts Building, administers the Graduate Record Examination.

Application forms and information about the Graduate Record Examination are available at this Center.

3. The applicant's undergraduate grade point average and Graduate Record Examination scores must be above the minimum standard established by the Graduate School. These standards are:

A. For regular admission the applicant must have a grade point average of 2.0 (3 point scale) and a satisfactory score on the aptitude section of the Graduate Record Examination.

B. Upon recommendation by the major department, an applicant with a grade point average below 2.0 and a satisfactory score on the Graduate Record Examination may be admitted on probation. This probation may be removed after the student completes nine semester hours of graduate work with grades of B or better.

4. A student who wishes to pursue graduate work in any area for which he has not had the prerequisites will be required to make up deficiencies as prescribed by the Graduate Council. In general, the student is required to have a minimum of twenty-four semester hours (twelve of which must be on the junior-senior level) of undergraduate work in the subject chosen as the graduate major. For a minor, twelve semester hours of undergraduate work are required.

5. Admission to the Graduate School does not imply candidacy for a master's degree.

6. The Dean of the Graduate School will notify the applicant of his admission to the Graduate School. All transcripts, certificates, etc., become the property of the Graduate School and are not returnable.

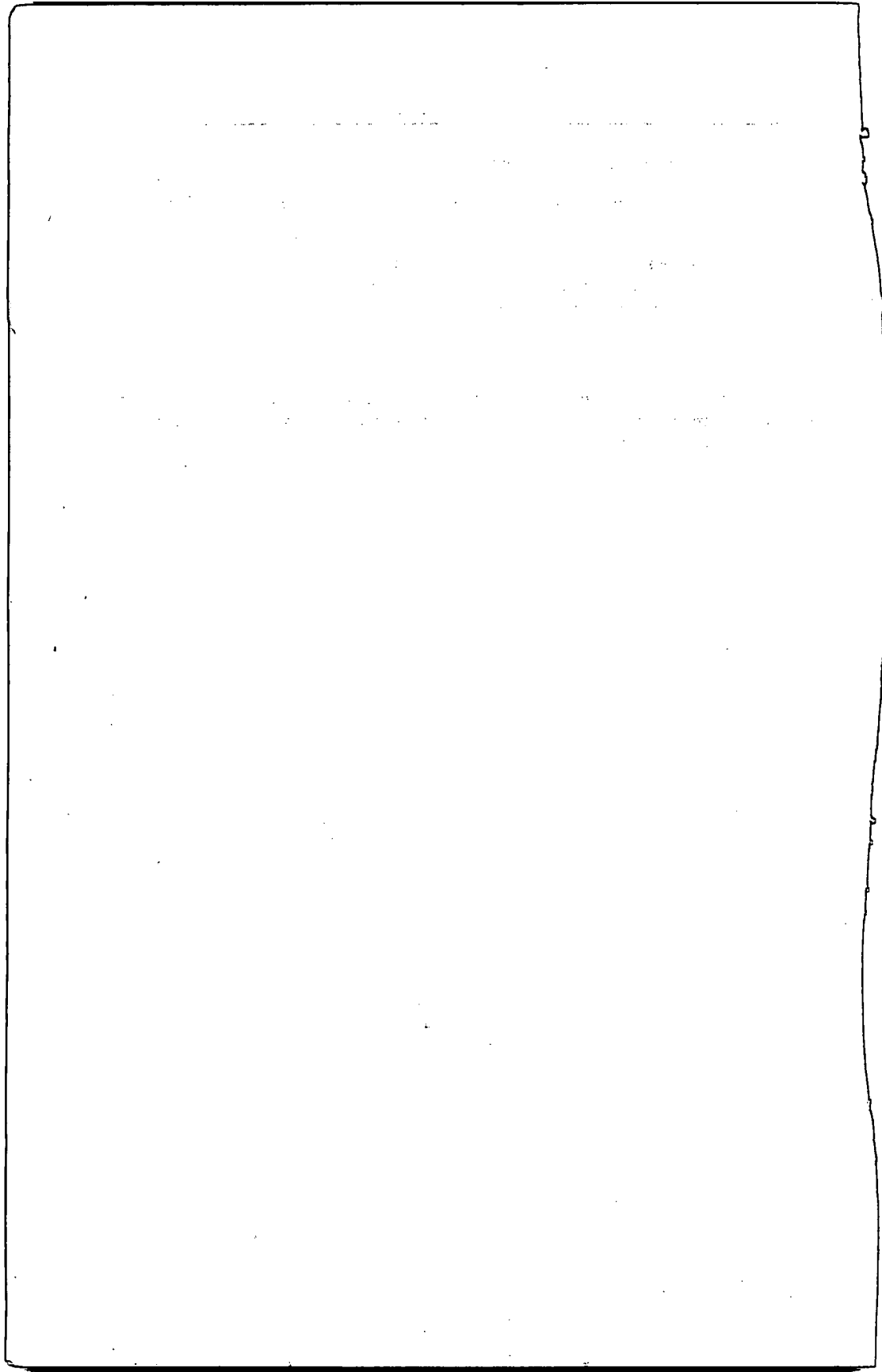
Special Students

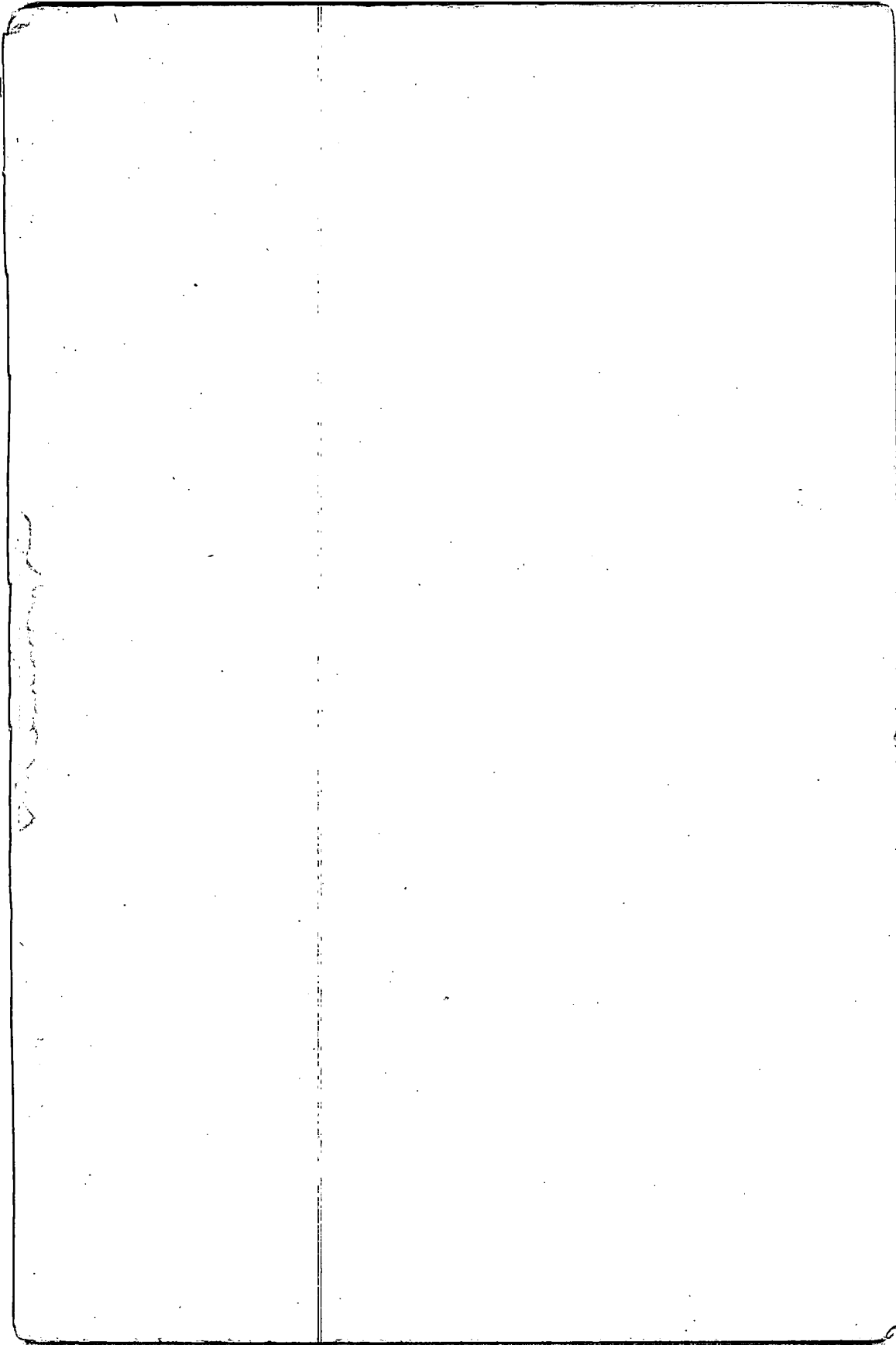
An applicant who wishes to enroll in a graduate course without receiving credit toward any graduate degree may do so under the following conditions:

1. He must hold a bachelor's degree.
2. He must have the written consent of the Dean of the Graduate School.
3. An individual may not pursue more than two graduate courses under this agreement and only one such course in any semester or summer term.

Registration

Students who have been admitted to the Graduate School may register in September or February, for the long sessions; or in June or July for the summer terms.





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Government	102	Scholarships	40-41
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Home Economics	212	Student Activities	57-59
Industrial Engineering	174	Student Government	57
Mathematics	184		
Mechanical Engineering	178	Student Loans	40-41
Modern Languages	112		
Music	232	Student Organizations	58-59
Physical & Health Edu. (M)	217		
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