

BULLETIN OF

**LAMAR STATE COLLEGE
OF TECHNOLOGY**



BEAUMONT, TEXAS

1970-1971



BULLETIN
of
LAMAR STATE COLLEGE OF TECHNOLOGY

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NINETEENTH ANNUAL CATALOG ISSUE

With Announcements for 1970-71

Member:

Association of Texas Colleges and Universities
American Council on Education
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Texas Association of Music Schools
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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 Engineers' Council
for Professional Development
Department of Chemistry accredited
by American Chemical Society



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

Lamar State College of Technology is an equal educational opportunity institution; its students, faculty, and staff members are selected without regard to their race, color, creed, sex, or national origin, consistent with the Assurance of Compliance with Title VI of the Civil Rights Act of 1964.

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 OF TECHNOLOGY

High School Graduates

When to Apply

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

Where to Apply

All required admission forms should be addressed to the Dean of Admissions, Lamar State College, Lamar Tech Station, Box 10009, Beaumont, Texas 77705.

How to Apply (Details Pages 74 of this catalog)

1. File official 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 (November, December, January, test dates preferred).
3. Submit the official 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.
5. Students desiring dormitory space should file an application for room reservations with the Assistant Dean of Students for Housing, Box 10041, Lamar State College. A \$20 room deposit is required (reservation blank attached back of this catalog).

Requirements for Admission (Details pages 72-76 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 (algebra and geometry).
 - 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 mathematics scores on CEEB aptitude test (SAT) must be 700 or above for Texas residents. Out-of-state students must rank in the upper three-fourths of their graduating class and have a minimum SAT score of 900.

Transfer Students

Students seeking admission as transfer students from other institutions see Page 76 of this catalog for procedures.

*Applicants for admission to the School of Engineering—see special requirements Page 73 of this catalog.

DIRECTORY FOR CORRESPONDENCE

All campus telephones may be reached through the central switchboard, Area Code 713, 838-6671. All correspondence should be directed to Lamar Tech Station, Beaumont, Texas 77705.

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

Academic Program	Andrew J. Johnson, Vice President, P. O. Box 10002
Admissions	Norris H. Kelton, Dean, P. O. Box 10009
Athletics	J. B. Higgins, Director, P. O. Box 10038
Books/Supplies	O. J. Wilkerson, Bookstore Manager, P. O. Box 10019
Extended Day Classes	Joseph D. Reho, Director, P. O. Box 10008
Extension/Special Services	Thomas T. Salter, Dean, P. O. Box 10051
Financial Affairs	H. C. Galloway, Vice President, P. O. Box 10003
Financial Aid/Awards	Jess R. Davis, Director, P. O. Box 10042
Information/Publications	Russell DeVillier, Acting Director, P. O. Box 10011
Library	Maxine Johnston, Acting Director, P. O. Box 10021
Records/Transcripts	Celeste Kitchen, Registrar, P. O. Box 10010
Research Center	Robert A. McAllister, Director, P. O. Box 10053
Student Activities	Talmadge Armstrong, Director, P. O. Box 10018
Student Affairs	David L. Bost, Vice President, P. O. Box 10006
Student Health	Mrs. Ola Saunders, R.N., P. O. Box 10015
Student Housing	John C. Shirley, Director, P. O. Box 10041
Teacher Certification	Howard W. Adams, Director, P. O. Box 10034
Traffic/Security	Gene Carpenter, Director, P. O. Box 10013
Tuition/Fees/Expenses	Finance Office, P. O. Box 10003
Veterans' Affairs	Joe B. Thrash, Director, P. O. Box 10012
School of Business	J. D. Landes, Dean, P. O. Box 10059
School of Education	M. L. McLaughlin, Dean, P. O. Box 10034
School of Engineering	Lloyd B. Cherry, Dean, P. O. Box 10057
School of Fine/Applied Arts	W. Brock Brentlinger, Dean, P. O. Box 10050
School of Liberal Arts	Preston B. Williams, Dean, P. O. Box 10058
School of Sciences	Edwin S. Hayes, Dean, P. O. Box 10037
Graduate School	E. B. Blackburn, Dean, P. O. Box 10004
School of Vocations	Elroy Otte, Director, P. O. Box 10043

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LAMAR STATE COLLEGE OF TECHNOLOGY

Fall Semester for 1970

Aug	24	Monday	8:00 a.m.	Orientation for freshmen.
			8:30 a.m.	Meeting for new faculty.
			10:00 a.m.	General faculty meeting.
	25	Tuesday	8:00 a.m.	Departmental Counseling.
				Orientation for freshmen.
			12:00 noon	Dormitories open.
	26	Wednesday	6:30 a.m.	Dining halls open.
			8:00 a.m.	Orientation for college transfers.
			9:00 a.m.	Registration of students who have completed entrance procedures.
			6:00 p.m.	Registration of extended day students.
	27	Thursday	8:00 a.m.	Continued registration.
			6:00 p.m.	Continued registration of extended day students.
	28	Friday	8:00 a.m.	Continued registration.
	31	Monday	8:00 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.

Sept.	2	Wednesday	8:00 p.m.	Last date for registration or for adding courses.
	15	Tuesday		Twelfth class day.
	16-Nov. 13			Period of application for December graduation.
Oct.	19-23	Mon.-Fri.		Mid-semester week.
	26	Monday		Mid-semester grades due in Registrar's office.
Nov.	6	Friday	8:00 p.m.	Last date for dropping courses or for withdrawing without penalty.
Nov.	9	Monday		Open counseling period for regular registration application.
	20	Friday	5:00 p.m.	Last date for approval of December graduation.
	25	Wednesday	6:30 p.m.	Dining halls close.
			10:00 p.m.	Dormitories close.
			10:00 p.m.	Thanksgiving holidays begin.
	29	Sunday	12:00 noon	Dormitories open.
	30	Monday	6:30 a.m.	Dining halls open.
			8:00 a.m.	Classes resume.

Dec.	4	Friday		End of counseling period for all academic schools.
Dec.	7-Feb.	26		Period of application for May graduation.
Dec.	7	Monday	8:00 p.m.	Last date for dropping courses or withdrawing.
	9-11	Wed-Fri.		Restricted social activities.
	14-18	Mon.-Fri.		Final exams—fall semester.
	18	Friday	6:30 p.m.	Dining Halls close.
			10:00 p.m.	Dormitories close.
	19	Saturday	12:00 noon	Final date for submitting semester grades for graduating seniors to Registrar's office.
	22	Tuesday	10:00 a.m.	Commencement exercises.
			12:00 noon	Final date for submitting semester grades other than for graduating seniors to Registrar's office.

Spring Semester for 1971

Jan.	12	Tuesday	12:00 noon	Dormitories open.
			2:00 p.m.	Orientation for new students.
	13	Wednesday	6:30 a.m.	Dining halls open.
			8:00 a.m.	Registration for students who have completed entrance procedures.
			6:00 p.m.	Registration of extended day students.
	14	Thursday	8:00 a.m.	Continued registration.
			6:00 p.m.	Continued registration of extended day students.
	15	Friday	8:00 a.m.	Continued registration.
	18	Monday	8:00 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.

	20	Wednesday	8:00 p.m.	Last date for registration or for adding courses.
Feb.	2	Tuesday		Twelfth class day.
March	5	Friday	5:00 p.m.	Last date for approval of May graduation.
	8-21	Mon.-Fri.		Mid-semester week.
	15	Monday		Mid-semester grades due in Registrar's office.
	26	Friday	8:00 p.m.	Last day for dropping or withdrawing without penalty.

CALENDAR

April	2	Friday	6:30 p.m.	Dining halls close.
			10:00 p.m.	Dormitories close.
			10:00 p.m.	Spring holidays begin.
	11	Sunday	12:00 noon	Dormitories open.
	12	Monday	6:30 a.m.	Dining halls open.
				Open counseling period for regular registration application.
	30	Friday	8:00 a.m.	End counseling period for Summer I. Classes resume.
May 3-June 18				Period of application for August graduation.
May	4	Tuesday	8:00 p.m.	Last date for dropping courses or withdrawing.
	5-7	Wed.-Fri.		Restricted social activities.
	10-18	Mon.-Tues.		Final exams—spring semester.
	18	Thursday	6:30 p.m.	Dining halls close.
			10:00 p.m.	Dormitories close.
	20	Thursday	5:00 p.m.	Final date for submitting semester grades for graduating seniors to Registrar's office.
	21	Friday	5:00 p.m.	Final date for submitting semester grades other than for graduating seniors to Registrar's office.
	22	Saturday	8:00 p.m.	Commencement exercises.

Summer Session, 1971

First Term

May	30	Sunday	12:00 noon	Limited operation of dormitories.
	31	Monday	6:30 a.m.	Dining halls open.
			8:00 a.m.	Registration.
			6:00 p.m.	Registration—extended day students.
June	1	Tuesday	8:00 a.m.	Classes begin.

Registration after this date limited to available classes

Late registration (penalty fee charged). Payment of fees is part of registration.

	2	Wednesday	7:00 p.m.	Last date for registration or for adding courses.
	5	Monday		Fourth class day.
←	22	Tuesday	7:00 p.m.	Last date for dropping courses or withdrawing without penalty.
	25	Friday	4:00 p.m.	Last day for approval of August graduation.
				End counseling period for Summer II.

July	2	Friday		Independence Day holiday.
	6	Tuesday		Last date for dropping courses or withdrawing.
	9	Friday		Last class day.
	10	Saturday	12:00 noon	Term grades due in Registrar's office.
Second Term				
July	12	Monday	8:00 a.m.	Registration.
			6:00 p.m.	Registration—extended day students.
	13	Tuesday	8:00 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.
	15	Thursday	7:00 p.m.	Last date for registration or for adding courses.
	16	Friday		Fourth class day.
August	3	Tuesday	7:00 p.m.	Last date for dropping courses or withdrawing without penalty.
August	6	Friday		End of counseling period for fall term.
	16	Monday	7:00 p.m.	Last date for dropping courses or withdrawing.
	20	Friday		Last class day.
			12:00 noon	Final date for submitting term grades for graduating seniors to Registrar's office.
			6:30 p.m.	Dining halls close.
			10:00 p.m.	Dormitories close.
	21	Saturday	10:00 a.m.	Commencement exercises.
			12:00 noon	Term grades other than for graduating seniors due in Registrar's office.

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Administration Building

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Maintenance Building

KENNETH KOCH, Horticulturist
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B.M., M.M., The University of Wisconsin

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Pathology, 1963, 1968
B.S., McPherson College
M.A., Ph.D., Wichita State University

HOWARD W. ADAMS, Professor of Education, Director of Certification,
1956, 1962
B.A., Wayne State Teachers College
M.A., Ed.D., University of Nebraska

A. M. ALI, Associate Professor of Industrial Engineering, 1966, 1967
B.S., Alexandria University
M.S., Ph.D., Oklahoma State University

HENRY E. ALLEE, Instructor of Government, 1969
B.A., M.A., University of Houston

ISABELLE VIRGINIA ALLEN, Associate Professor of English, 1939, 1951
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JOEL L. ALLEN, Assistant Professor of Economics, 1960, 1963
B.S., Arkansas A&M College
M.S., Baylor University

- ADRIAN N. ANDERSON, Assistant Professor of History, 1967
B.S., M.A., Ph.D., Texas Technological College
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B.S., Northern State Teachers College
M.A., University of South Dakota
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B.A., Brooklyn College
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Ph.D., The University of Wisconsin
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B.S., Lamar State College of Technology
M.S., Trinity University
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tion for Men, Head Track Coach, 1968
B.A., Hendrix College
M.A., University of Iowa
- LOUIS RANDOLPH BABIN, Instructor of Music, 1968
B.M.Ed., M.M.Ed., Louisiana State University
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B.A., Kent State University
M.A., The University of Texas
- MRS. DIANNE M. BAKER, Associate Professor of Health and Physical
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B.S., M.S., Texas Woman's University
- HAROLD T. BAKER, Professor of Chemistry—Head, Department of Chem-
istry, 1962
B.S., The University of Minnesota
Ph.D., Iowa State University
- MARY ALICE BAKER, Assistant Professor of Speech, Director of
Forensics, 1969
B.S., M.A., University of Oklahoma
- H. A. BARLOW, Associate Professor of Accounting, 1951- 1968
B.S., Louisiana Polytechnic Institute
M.B.A., Louisiana State University
Certified Public Accountant
- ROBERT J. BARNES, Professor of English, 1960
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
- BILLY RAY BARRINGTON, Associate Professor of Psychology, 1967
B.S., Southwest Texas State College
M.Ed., Sam Houston State College
Ph.D., University of Houston

- ROSS G. BASS, Instructor of English, 1969
B.A., Tarleton State College
M.A., Midwestern University
- LUTHER A. BEALE, Professor of Civil Engineering—Head, Department
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B.S., M.S., The Georgia Institute of Technology
Ph.D., The University of Texas
Registered Professional Engineer
- WENDELL C. BEAN, Professor of Electrical Engineering—Head, Department
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B.A., B.S., Lamar State College of Technology
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Registered Professional Engineer
- ROBERT BECKLEY, Instructor of Sociology, 1968
B.A., M.A., Baylor University
- WENDELL BEDICHEK, Assistant Professor of Government, 1965
B.A., Abilene Christian College
M.P.A., The University of Texas
- LAWRENCE D. BELL, Assistant Professor of Mathematics, 1956
B.E., C.E., North Carolina State College
LL.B., Saint John's University
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- MRS. MARY KATHERINE BELL, Professor of Mathematics, 1962
B.S., Florida State University
M.A., University of Cincinnati
- MYRTLE LEE BELL, Professor of Psychology, 1963, 1967
B.S., M.S., Texas College of Arts and Industries
Ed.D., The University of Texas
- SAMUEL E. BELL, Instructor of History, 1969
B.A., M.A., Texas Tech University
- RICHMOND O. BENNETT, Professor of Business Administration—Head,
Department of Business Administration, 1957, 1967
B.S., M.S., Texas A&M University
Ph.D., The University of Texas
- WALTER W. BENNETT, Professor of Business Administration, 1967
B.S., The University of Maryland
M.B.A., The George Washington University
Ph.D., University of Florida
- GEORGE BERZYENYI, Assistant Professor of Mathematics, 1969
B.A., University of Dallas
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M.S., The University of Michigan
- E. B. BLACKBURN, JR., Professor of Education, Dean, The Graduate
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B.S., North Texas State University
M.Ed., Hardin-Simmons University
Ed.D., University of Colorado
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 B.A., Texas Christian University
 M.A., Northwestern University
- JAY P. BLUMENFELD**, Associate Professor of English, 1966
 B.A., The University of Tennessee
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- LYLE E. BOHRER**, Assistant Professor of Electrical Engineering, 1946, 1954
 B.S., William Marsh Rice University
 M.S., University of Colorado
- CLAUDE B. BOREN**, Professor 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., The University of Iowa
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 M.A., The University of Texas
- JOAN E. BRENIZER**, Associate Professor of Mathematics, 1957, 1967
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- JAMES J. BRENNAN**, Associate Professor of Industrial Engineering, 1968
 B.S.E.E., Iowa State College
 M.S.I.E., University of Arkansas
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 B.A., Greenville College
 M.A., Indiana State University
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 B.S., M.Ed., Ed.D., North Texas State University
- EDNA M. BROOKS**, Associate Professor of Music, 1963, 1965
 B.M., Louisiana State University
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- *OTTO GEORGE BROWN**, Professor of Mechanical Engineering—Head, Department of Mechanical Engineering, 1962
 B.S., The University of Oklahoma
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 Registered Professional Engineer
- JOHN ALAN BRUYERE**, Associate Professor of Mechanical Engineering, 1957, 1961
 B.S., M.S., The University of Texas
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*On leave.

- GEORGE A. BRYAN, JR., Assistant Professor of Biology, 1964
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- HENRY P. BULLER, Assistant Professor of Psychology, 1961
A.A., B.A., Bethel College
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- DENNIS R. BUTLER, Instructor of English, 1967
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M.A., Midwestern University
- MARGARET D. CAMERON, Professor of Chemistry, 1956, 1958
B.A., Texas Woman's University
M.S., University of Houston
Ph.D., Tulane University
- VERA H. CAMPBELL, Assistant Professor of Speech, 1966
B.A., Morningside College
M.A., Colorado State College
- CRYSTAL CANON, Associate Professor of Speech, 1950, 1955
B.A., Texas Woman's University
M.A., Northwestern University
- *DEWEY R. CARLIN, JR., Assistant Professor of Electrical Engineering,
1958, 1965
B.S., Lamar State College of Technology
M.S., The University of Texas
- CARL CARRUTH, Assistant Professor of Industrial Engineering, 1966
B.S.I.E., Lamar State College of Technology
M.S.I.E., University of Houston
Registered Professional Engineer
- CLAUDE W. CHEEK, Assistant Professor of Education, 1965
B.A., M.A., Wichita State University
- GRADY CHERRY, Instructor of English, 1967
B.A., M.A., Stephen F. Austin State College
- LLOYD B. CHERRY, Professor of Electrical Engineering—Dean, School
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B.A., M.A., The University of Texas
B.S., E.E., Oklahoma State University
Registered Professional Engineer
- RICHARD T. CHERRY, Professor of Business Administration, 1966
B.A., Texas A&M University
M.A., Ph.D., The University of Texas
- MRS. RUTH S. COFFEY, Assistant Professor of Government, 1956, 1962
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B.A., Southwestern University
M.A., Ph.D., Duke University
- E. LEE SELF, Professor of Education—Director, Student Teaching, 1959,
1967
B.S., M.S., Northwestern State College of Louisiana
Ph.D., Louisiana State University
- JOAN SETZER, Instructor of English, 1969
A.B., Duke University
M.A., George Peabody College for Teachers
- MARCUS W. SEVIER, Instructor of English, 1967
B.A., M.A., University of Houston
- R. JOE SEWELL, Assistant Professor of Civil Engineering, 1966
B.S., M.S., Southern Methodist University
- J. G. SHEPHERD, Associate Professor of Physics, 1957, 1967
B.S., M.A., North Texas State University
- DORIS R. SIMPSON, Instructor of Psychology, 1969
B.S., Mary Washington College of University of Virginia
M.A., Texas Christian University
- ELEANOR S. SLADCZYK, Assistant Professor of Secretarial Science,
1957, 1961
B.B.A., The University of Texas
M.B.A., University of Houston
- GENEVIEVE Z. SMITH, Assistant Professor of Modern Languages, 1959,
1963
B.A., Milton College
M.A., Instituto Tecnologico de Monterrey
- W. RUSSELL SMITH, Professor of Biology, 1946, 1958
B.S., M.S., North Texas State University
Ph.D., The University of Texas
- J. M. STARK, Professor of Mathematics—Head, Department of Mathe-
matics, 1956
B.S., United States Coast Guard Academy
B.S., North Texas State University
S.M., Ph.D., Massachusetts Institute of Technology
- A. F. STEIERT, Assistant Professor of Business Administration, 1966
B.S., M.B.A., University of Florida

*On leave.

- ARTHUR F. STELLEY**, Associate Professor of Business Administration, 1954, 1965
L.L.B., J.D., Baylor University
- ***C. DON STEPHENS**, Assistant Professor of Government, 1966
B.A., M.A., University of Houston
- MANFRED STEVENS**, Professor of Government, 1960, 1966
B.A., M.A., University of Oklahoma
Ph.D., The University of Michigan
- JoANN K. STILES**, Instructor of History, 1966
B.A., M.A., The University of Texas
- JOHN W. STOREY**, Assistant Professor of History, 1968
B.A., Lamar State College of Technology
M.A., Baylor University
Ph.D., University of Kentucky
- ARNEY L. STRICKLAND**, Assistant Professor of English, 1969
B.A., M.A., Lamar State College of Technology
- WALTER A. SUTTON**, Assistant Professor of History, 1963
B.A., William Marsh Rice University
M.A., Ph.D., The University of Texas
- ***ERNEST C. TANZER**, Assistant Professor of Biology, 1963, 1966
B.S., M.S., Texas A&M University
- DAVID G. TAYLOR**, Associate Professor of Business Administration, 1955, 1957
B.A., M.A., Baylor University
- ANTHONY C. TENNISSEN**, Associate Professor of Geology, 1963, 1965
B.S., The University of Tulsa
M.S., Syracuse University
Ph.D., University of Missouri—School of Mines
- MARTHA RODGERS THOMAS**, Professor of Education, 1968
B.S., Texas Woman's University
M.A., University of Denver
Ph.D., The University of Texas
- ***ROBERT BLAINE THOMAS**, Associate Professor of English, 1960, 1966
B.S., Virginia Polytechnic Institute
M.A., Ph.D., Louisiana State University
- GEORGE B. TIMS, JR.**, Professor of Industrial Engineering—Associate Dean, School of Engineering, 1951, 1966
B.S., M.S., Oklahoma State University
Registered Professional Engineer
- LESTER B. TIPTON**, Assistant Professor of Health and Physical Education for Men, Director of Intramural Sports, 1959
B.S., Southern Methodist University
M.Ed., University of Houston
- JOSEPH TRUNCALE**, Associate Professor of Music, 1947, 1965
B.M., North Texas State University
M.L., University of Houston

*On leave.

- KOUN TSUJIMOTO**, Instructor of Music, 1967
B.M., Ohio State University
M.M., Oklahoma State University
- BILLY D. TUBBS**, Assistant Professor of Health and Physical Education for Men, Assistant to Athletic Director, Assistant Basketball Coach, 1960, 1962
B.S., Lamar State College of Technology
M.Ed., Stephen F. Austin State College
- WILLIAM R. TUCKER**, Professor of Government, 1956, 1963
B.A., M.A., The University of Oklahoma
Ph.D., The University of Geneva
- CHARLES P. TURCO**, Associate Professor of Biology, 1965, 1969
B.S., Saint John's College
M.S., M.S.Ed., Saint John's University
Ph.D., A&M University
- LOUISE P. TURNER**, Associate Professor of Home Economics, 1969
B.S., M.A., Ph.D., Texas Woman's University
- VICTORIA EUGENIA URBANO**, Associate Professor of Modern Languages, 1966, 1969
B.A., Colegio Superior
M.A., Ph.D., Universidad de Madrid
- GLENN H. UTTER**, Instructor of Government, 1969
B.A., Harpur College
M.A., University of Buffalo
- D. GENE VALENTINI**, Instructor of Sociology, 1969
B.A., Chico State College
M.A., University of Tulsa
- HOWARD C. VANZANT**, Professor of Mathematics, 1966
B.S., Texas Western College
M.S., Ph.D., University of Florida
- JEANNETTE W. VAUGHN**, Assistant Professor of Secretarial Science, 1954, 1957
B.A., Texas Woman's University
M.B.A., The University of Texas
- WILLIAM H. VINCENT**, Instructor of Health and Physical Education for Men, Assistant Football Coach, Baseball Coach, 1968
B.S., M.Ed., Lamar State College of Technology
- EDWARD A. VINSON**, Instructor of Sociology, 1967
B.S., Centenary College of Louisiana
M.A., Stephen F. Austin State College
- JOHN A. VOSS**, Instructor of Sociology, 1969
B.S., State College of Arkansas
M.S., University of Arkansas
- HENRY T. WADDELL**, Professor of Biology, 1963, 1965
B.S., M.A., George Peabody College for Teachers
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
- JAMES L. WALKER, JR.**, Assistant Professor of Psychology, 1969
B.A., Baylor University
- RICHARD E. WALKER**, Professor of Chemical Engineering, 1963
B.S., Purdue University
M.S., Bucknell University
Ph.D., State College of Iowa
Registered Professional Engineer
- WILLIAM T. WALKER**, Instructor of English, 1967
B.A., M.A., University of Virginia
- GEORGE B. WALL**, Associate Professor of Philosophy, 1965, 1967
B.A., Occidental College
B.D., Fuller Theological Seminary
Ph.D., University of Southern California
- JULIA M. WALTHER**, Instructor of Commercial Art, 1966
B.F.A., M.F.A., University of Colorado
- E. MARION WARE**, Assistant Professor of History, 1960
B.A., Hendrix College
M.A., Louisiana State University
- MICHAEL E. WARREN**, Assistant Professor of Biology, Director of Freshman Biology, 1966, 1969
B.A., M.A., Ph.D., The University of Texas
- JOSEPH T. WATT, JR.**, Associate Professor of Electrical Engineering, 1965, 1967
B.A., B.S.E.E., William Marsh Rice University
M.S., Ph.D., The University of Texas
Registered Professional Engineer
- NORMAN L. WEED**, Associate Professor of Economics, 1969
B.S., University of Nebraska
Ph.D., Tulane University
- RUTH V. WERNER**, Assistant Professor of Commercial Art, 1967
B.A., University of North Dakota
M.F.A., University of Colorado
- ROBERT R. WHEELER**, Assistant Professor of Geology, 1967
A.B., Johns Hopkins University
Ph.D., Harvard University
- JOHN A. WHITTLE**, Assistant Professor of Chemistry, 1969
B.S., University of Glasgow
Ph.D., University of London
- CHARLES H. WILBANKS**, Associate Professor of Education, 1946, 1951
B.S., Sam Houston State Teachers College
M.A., University of Houston

*On leave.

- CHARLES A. WILEY**, Professor of Music—Band Director, 1952, 1962
B.S., Texas Technological College
M.M., The University of Texas
Ed.D., University of Colorado
- ROBERT H. WILKERSON**, Assistant Professor of Journalism, 1964, 1969
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
- GLENN BILL WILLIAMS**, Assistant Professor of Commercial Art, 1966
B.S., M.Ed., Sam Houston State College
- MARTIN R. WILLIAMS**, Instructor of Music, 1969
B.M.E., M.M., Indiana University
- PRESTON B. WILLIAMS**, Professor of History—Dean, School of Liberal
Arts, 1950, 1966
B.A., M.A., North Texas State University
Ph.D., The University of Texas
- ROBERT M. WILLIS**, Instructor of Commercial Art, 1967
B.F.A., M.A., New Mexico State University
- LOIS J. WILSON**, Assistant Professor of Health and Physical Education
for Women, 1955, 1960
B.S., M.A., Texas Woman's University
- BETTY WINNEY**, Instructor of Speech and Hearing, 1968
B.S., M.S., Lamar State College of Technology
Certificate in Audiology
- JACOB A. WOLKEAU**, Associate Professor of Mathematics, 1957, 1961
B.A., University of Pennsylvania
M.S., University of Pittsburgh
- SAM M. WOOD, JR.**, Associate Professor of Mathematics, 1958, 1965
B.A., The University of Texas
M.S., Texas A&M University
- NAAMAN J. WOODLAND, JR.**, Associate Professor of History, 1957, 1959
B.A., B.S., Louisiana State University
M.A., Northwestern University
- MARCELLA D. WOODS**, Associate Professor of Health and Physical
Education for Women, 1966, 1967
B.S., Illinois State University
M.Ed., The University of North Carolina
Ph.D., The Ohio State University
- GEORGE A. WOODWARD**, Associate Professor of Sociology, 1967
B.S., M.A., University of Houston
Ph.D., The University of Oklahoma
- RALPH A. WOOSTER**, Professor of History—Head, Department of His-
tory, 1955, 1966
B.A., M.A., University of Houston
Ph.D., The University of Texas

FRANK D. WRIGHT, Instructor of History, 1968

B.A., M.A., University of Alabama

A. W. Yeats, Professor of English, 1961, 1966

B.A., McMurry College

M.A., Ph.D., The University of Texas

LEONARD A. YATES, Associate Professor of Health and Physical Education, Tennis Coach, 1966

B.S., M.S., Louisiana State University

Ed.D., University of Houston

ROGER E. YERICK, Professor of Chemistry, Director of Freshman Chemistry, 1958, 1969

B.S., Texas College of Arts and Industries

Ph.D., Iowa State University

FRED MICHAEL YOUNG, Associate Professor of Mechanical Engineering, 1967, 1969

B.S., M.S., Ph.D., Southern Methodist University

***DOROTHY STINE ZELLNER**, Professor of Modern Languages, Fulbright Advisor, 1942, 1955

B.A., M.A., The University of Texas

Ed.D., University of Houston

DAVID D. ZINK, Associate Professor of English, 1965

B.A., The University of Texas

M.A., Ph.D., University of Colorado

PART-TIME FACULTY

CHARLES J. ADAMS, Teaching Fellow of English, 1969

B.A., Lamar State College of Technology

PEGGY BAILLIO, Teaching Fellow of Business Administration, 1969

B.B.A., Lamar State College of Technology

LARRY G. BEAUMONT, Teaching Fellow of Accounting, 1969

B.B.A., Lamar State College of Technology

HAROLD R. BEESON, Teaching Fellow of English, 1969

B.A., Lamar State College of Technology

C. T. BENNETT, Teaching Fellow of Business Administration, 1969

B.B.A., Lamar State College of Technology

WALTER W. BOLTON, Teaching Fellow of Mathematics, 1969

B.S., William Marsh Rice University

GERALD BRADY, Instructor of Business Administration, 1969

B.B.A., Lamar State College of Technology

M.B.A., Louisiana State University

RALPH J. BROOKNER, Associate Professor of Mathematics, 1962

B.A., William Marsh Rice University

M.A., The University of Michigan

Ph.D., Columbia University

*On leave.

- JERRY BRYANT**, Teaching Fellow of Health and Physical Education for Men, 1969
B.S., Lamar State College of Technology
- DON CARAWAY**, Teaching Fellow of Education, 1969
B.A., The University of Texas
- C. W. CONN**, Instructor of Business Administration, 1969
B.B.A., The University of Texas
M.B.A., Lamar State College of Technology
- JOHN COOLEY**, Teaching Fellow of Business Administration, 1969
B.S., McNeese State College
- R. A. DRAPEAU**, Teaching Fellow of Business Administration, 1969
B.S., Arkansas State University
- PATRICK DUGAS**, Teaching Fellow of Accounting, 1969
B.B.A., Lamar State College of Technology
- ESTHER M. DUNCAN**, Teaching Fellow of English, 1968
B.A., Lamar State College of Technology
- RAMESH C. DWIVEDI**, Teaching Fellow of Electrical Engineering, 1968
B.T., Indian Institute of Technology
- MARTHA FORD**, Teaching Fellow of Health and Physical Education for Women, 1969
B.S., Michigan State College for Women
- HENRY B. FUNCHESS, III**, Instructor of Accounting, 1968
B.B.A., Texas A&M University
M.B.A., University of Houston
Certified Public Accountant
- JOHN L. GERIK**, Teaching Fellow of English, 1969
B.A., Lamar State College of Technology
- JAMES P. GILLIGAN**, Teaching Fellow of Health and Physical Education for Men, 1969
B.S., Lamar State College of Technology
- JUDITH M. GRAVES**, Teaching Fellow of Health and Physical Education for Women, 1969
B.S., University of New Mexico
- ARTHUR GREENSPAN**, Instructor of Accounting, 1969
B.B.A., M.B.A., The University of Texas
Certified Public Accountant
- JEAN MARIE HAYS**, Teaching Fellow of Mathematics, 1969
B.A., The University of Texas
- RICHARD H. HEAD**, Teaching Fellow of History, 1968
B.A., Lamar State College of Technology
- MAXIE D. HIGGS**, Teaching Fellow of Government, 1969
B.A., Lamar State College of Technology
- JACK HILL**, Assistant Professor of Business Administration, 1955
B.B.A., Sam Houston State Teachers College
M.B.A., University of Houston
-

- DAVID S. HOOKER, Teaching Fellow of English, 1969
B.A., Lamar State College of Technology
- BERTIN E. HOWARD, Teaching Fellow of Business Administration, 1969
B.B.A., Lamar State College of Technology
- ARUN KARLE, Teaching Fellow of Mechanical Engineering, 1969
M.E.S., Lamar State College of Technology
- MARY J. KINNEGREW, Teaching Fellow of English, 1969
B.A., William Marsh Rice University
- MARILYN A. KRAUSE, Teaching Fellow of Health and Physical Education for Women, 1968
B.S., University of New Mexico
- LILLIE M. KREISHER, Teaching Fellow of English, 1968
B.A., Lamar State College of Technology
- EMILE C. KRIMMEL, III, Teaching Fellow of History, 1969
B.A., Lamar State College of Technology
- DUSHYANT LALL, Teaching Fellow of Industrial Engineering, 1969
M.E.S., Lamar State College of Technology
- RICHARD B. LEONARD, Teaching Fellow of English, 1969
B.F.A., University of New Mexico
- EDMON D. MARCONTELL, Teaching Fellow of Health and Physical Education for Men, 1969
B.S., Lamar State College of Technology
- WILLIAM F. McBRIDE, Teaching Fellow of Economics, 1969
B.A., Lamar State College of Technology
- LEE McGOWN, Teaching Fellow of Business Administration, 1969
B.S., Lamar State College of Technology
- J. PAUL McNEILL, Instructor of Business Administration, 1967
B.A., Elon College
M.A., Southern Methodist University
- KAREN R. OLSON, Instructor of Biology, 1966
B.A., William Marsh Rice University
M.Ed., Lamar State College of Technology
- NAGINDAS A. PATEL, Teaching Fellow of Chemistry, 1969
B.S., Gujarat University
- JOHN PARKER, Teaching Fellow of History, 1969
B.A., Lamar State College of Technology
- MICHAEL W. PARTIN, Teaching Fellow of History, 1969
B.A., Lamar State College of Technology
- DALE PERRY, Teaching Fellow of Chemistry, 1969
B.S., Midwestern University
- BANKER PHARES, Instructor of Government, 1969
B.S., Lamar State College of Technology
L.L.B., Southern Methodist University

- PIKE POWERS, JR., Instructor of Government, 1969
B.A., Lamar State College of Technology
L.L.B., The University of Texas
- RAJARATJNAM MOHAN, Teaching Fellow of Civil Engineering, 1969
B.E., M.S., University of Madras
- MARILYN LWELLEN READ, Teaching Fellow of Mathematics, 1968
B.A., Lamar State College of Technology
- DONALD A. RICKETT, Instructor of Mathematics, 1966
B.S., M.S., Lamar State College of Technology
- CHARLES O. RIGGS, Teaching Fellow of English, 1969
B.A., Lamar State College of Technology
- YVONNE J. RITTER, Teaching Fellow of English, 1967
B.A., Lamar State College of Technology
- THOMAS RYAN, Teaching Fellow of Business Administration, 1969
B.B.A., Lamar State College of Technology
- LEON WAYNE SANDERS, Teaching Fellow of Civil Engineering, 1969
B.S., Texas A&M University
- HARSHVADAN A. SHAH, Teaching Fellow of Economics, 1969
B.A., Gujarat University
M.A., University of Bavoda
- DEANNA KAY STAHL, Teaching Fellow of Mathematics, 1969
B.A., Lamar State College of Technology
- DOROTHY M. SUMMERLIN, Teaching Fellow of English, 1969
B.A., Lamar State College of Technology
- GABRIEL TAN, Teaching Fellow of Industrial Engineering, 1969
B.S., Lamar State College of Technology
- JOAN ALICE TERRELL, Teaching Fellow of Mathematics, 1969
B.S., Lamar State College of Technology
- WILLIAM P. TEW, Teaching Fellow of Chemistry, 1969
B.S., Lamar State College of Technology
- D. FAYE THAMES, Assistant Professor of Mathematics, 1957, 1960
A.B., Birmingham Southern College
M.A., George Peabody College for Teachers
- JOHN THOMPSON, Teaching Fellow of Business Administration, 1969
B.B.A., Lamar State College of Technology
- MICHAEL A. TRAHAN, Teaching Fellow of Economics, 1969
B.B.A., Lamar State College of Technology
- JOHN WASSER, Teaching Fellow of Business Administration, 1969
B.B.A., Lamar State College of Technology
- DOROTHY WEATHERLY, Instructor of English, 1961
B.A., M.A., Stephen F. Austin State Teachers College
- RONALD L. WESBROOKS, Teaching Fellow of Health and Psychical Education for Men, 1969
B.S., Eastern New Mexico University
- BARBARA LEE WHATLEY, Teaching Fellow of Mathematics, 1968
B.A., Lamar State College of Technology

ORANGE EXTENSION CENTER

Full-Time

- SHARON D. CHIASSON, Instructor of English, 1969
B.A., M.A., Lamar State College of Technology
- THOMAS J. CROW, Instructor of History, 1969
B.A., M.A., Lamar State College of Technology
- JAMES R. HARVEY, Instructor of Economics—Director of Orange Extension Center, 1969
B.B.A., M.B.A., Lamar State College of Technology
- JOE BEN WELCH, Instructor of Mathematics, 1969
B.S., Louisiana Polytechnic Institute
M.Ed., Lamar State College of Technology

LIBRARY

- MRS. ESTHER CHURAN, Acquisitions Librarian (Instructor), 1961
B.A., University of Chicago
B.S., in Library Science, Columbia University
- CARL FROMMHERZ, Technical Services Division Head (Assistant Professor), 1967
A.B., University of Chicago
B.S., in Library Science, Columbia University
- MAXINE JOHNSTON, Acting Director of Library Services, Public Services Division Head (Assistant Professor), 1955, 1969
B.S., Sam Houston State College
M.L.S., The University of Texas
- MRS. GEORGE ANNE MONGER, Government Documents Librarian, 1959
B.A., Baylor University
B.S., in Library Science, Western Reserve University
- ALOUISIA MOORE, Science-Technology Reference Librarian (Assistant Professor), 1955, 1959
B.A., The University of Texas
B.S., in Library Science, University of Denver
- ANDRES JOSE ORDONO, Catalog Librarian (Instructor), 1969
B.A., Belen College
M.L.S., Kansas State Teachers College
Ph.D., Madrid University, Havana University
- JULIA PLUMMER, Bibliographer, 1936, 1967
B.A., Southwestern University
B.S., in Library Science, Western Reserve University
- ROSA MAE SYLER, Associate Librarian (Assistant Professor), 1946, 1968
B.S., George Peabody College for Teachers
B.S., in Library Science, Louisiana State University

CAMPUS MINISTERS

- JOSEPH GOSS, Chaplain, Newman Center
- ALLEN HUDGENS, Director, Church of Christ Bible Chair
- MAURICE JOHNSTON, Chaplain, Newman Center
- DON ROBERTSON, Director, United Christian Fellowship Center
- RALPH A. SHUFFLER, II, Director, Episcopal Church Center
- RANDY WILLIAMS, Director, Rothwell Methodist Center
- JAMES A. WRAY, Director, Baptist Student Center

STUDENT HEALTH CENTER

R. V. HITT, M.D., College Physician
B. L. SARGENT, M.D., College Physician
JACK THOMPSON, M.D., College Physician
MRS. OLA SAUNDERS, R.N., Director of Center
MRS. RUTH BECK, L.V.N.
MRS. GRACE GRAHAM, L.V.N.
MRS. LUDIE RICHARDS, L.V.N.
MRS. OPAL WELLS, L.V.N.

COLLEGE BOOKSTORE

O. J. WILKERSON, Manager
PETE PLOTTS, Assistant Manager
MRS. EDITH MINTER, Storekeeper II

DORMITORY SUPERVISORS

MRS. GEORGIA AVANT, Campbell Hall
MRS. MARY BRUNS, Brooks Hall
MRS. LILLIE MAE CAIN, Plummer Hall
MRS. FRANCES CHIONSINI, Morris Hall
MR. AND MRS. ED MARCONTELL, Plummer Hall
MRS. GLYNN HANCOCK, Gentry Hall
MRS. MARGARET HEAD, Gray Hall
MR. AND MRS. BARRY LUSSIER, Shivers Hall
MRS. ETHEL WHITAKER, Plummer Hall

FOOD SERVICES

MRS. JOANN BOURGEOIS, B.S., Dietitian, Director of Food Services
THELMA JO SMITH, Manager, Main Dining Hall
GRACE HOFSTAD, Manager, Gentry Hall
MARION TRAVILLO, Manager, Brooks & Shivers Halls
MRS. OLIA BEARD, Manager, Plummer Hall

PRINT SHOP

EDWIN PEARSON, B.B.A., Printer II
WELDON McBRIDE, Printer II
M. P. SKINNER, Printer II
VIOLA RICHARDS, Clerk-Typist

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 is adjacent to the Beaumont-Port Arthur Highway in southeastern Beaumont. With a population of approximately 130,000, Beaumont has modern schools, churches, and shopping districts to serve the thriving industrial community.

In the metropolitan Beaumont area are the cities of Port Arthur, Orange, Vidor, Port Neches, Nederland and Groves, all within 25 miles and forming the heart of the Gulf Coast area with an estimated population of more than 350,000.

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 more than 10,000 students enrolled.

The College offered graduate work in specified fields beginning in the academic year of 1960-61. Extension work as an integral part of the Lamar State College of Technology program began in 1964.

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 scientific, technical, pre-professional, professional and liberal arts 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 who are admitted.
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 and terminal programs.
5. Maintain, in all areas of the College, on the main campus and in extension work, a joint quest by faculty and students for truth through creative study and research.
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 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.

The Department of Chemistry is accredited by the American Chemical Society.

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, Environmental Science, Geology, Home Economics, Mathematics, Music, Medical Technology, Oceanographic Technology, Health and Physical Education, Physics, Psychology, 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, Government, and History.

Master of Business Administration (undifferentiated).

Master of Education in Elementary Education, Secondary Education, Guidance and Counseling, and Special Education.

Master of Engineering.

Master of Engineering Science in Engineering.

Master of Science in Biology, Chemistry, Mathematics, Speech (Pathology or Audiology), and Health and Physical Education.

Organization

The college is organized into seven schools. Each school is administered by an academic dean.

Schools

Liberal Arts	Education
Sciences	Engineering
Business	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, August 20, and January 10. The current College Calendar contains information regarding registration periods and exact entering dates.

FACILITIES

Building and Grounds

Located on a campus of approximately 200 acres and valued in excess of \$35,000,000, the Lamar State College plant includes many new and functional buildings of modern design. These structures include:

Administration Building, Art Building, Biology Building, Bookstore, Business Building, Chemistry Buildings, Dining Halls A and B, Education Building, Educational Services Center, Engineering Buildings, Geology Building, Health Center, Home Economics Building, Theatre-Gallery, Liberal Arts Building, Library, McDonald Gymnasium, Music-Speech Building, Physics Building, Post Office Building, Science Lecture Auditorium, Student Center, School of Vocations Buildings, Student Affairs Building, and Women's Health and Physical Education Building.

Nine of these buildings have been constructed within the past two years. Expansion programs for the Home Economics Building and Men's Health and Physical Education Building (McDonald Gymnasium) were completed in the Spring of 1970, providing needed classroom and laboratory space.

Scheduled for opening in the Fall of 1970 is the Ricnard W. Setzer Student Center, representing an investment of almost \$3,000,000 in expansion, renovation, and furnishing of the former Student Union Building.

Almost \$500,000 will be spent by 1971 for the renovation and refinishing of the Student Affairs Building (formerly Liberal Arts) and Engineering Buildings 1 and 2.

On-campus dormitories include Brooks Hall, Gentry Hall and Gray Hall for women; Campbell Hall, Combs Hall, Morris Hall, Plummer Hall, and Shivers Hall for men. Also, three apartment buildings for upper class students and married couples are included in the residence hall system.

The President, Associate Dean of Students, and Director of the Physical Plant have homes on the campus.

A football stadium seating 17,150 and arranged to eventually accommodate 38,500; an athletic field house, athletic practice fields, Olympic swimming pool, indoor swimming pool, 14 tennis courts, track and field stadium, and a four-building maintenance complex are also located on the campus.

The Library

A new addition to the Library was occupied in the Fall, 1966. This addition more than doubled the space of the Library, providing the student body and faculty with additional seating capacity, reference rooms, individual carrels, study rooms, etc. The Library has holdings of over 185,000 volumes and receives more than 3,000 periodicals. With these holdings and a budget of sufficient size to increase the number of volumes by thousands per year, the Library provides excellent services to both students and faculty.

Library hours are 7:45 to 11 p.m. Monday through Thursday, 7:45 a.m. to 5 p.m. Friday and Saturday, and 1 p.m. to 11 p.m. Sunday. The Library is closed on 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 services 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 treatments. 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 Halls

The College owns and operates two dining halls located on the Main Campus (see map inside back cover). Also dining halls are maintained in Brooks-Shivers, Gentry, and Plummer Halls for their residents.

All dining halls maintain the following serving hours on MONDAY through FRIDAY:

- 6:30 a.m.-8:30 a.m.—Regular Breakfast
- 8:30 a.m.-9:30 a.m.—Continental Breakfast
- 10:30 a.m.-2:30 p.m.—Lunch
- 4:30 p.m.-6:30 p.m.—Dinner

Only the main dining halls remain open Saturdays and Sundays with the following serving hours:

- 7:00 a.m.-8:30 a.m.—Regular Breakfast
- 8:30 a.m.-9:00 a.m.—Continental Breakfast
- 11:00 a.m.-1:30 p.m.—Lunch
- 4:30 p.m.-6:30 p.m.—Dinner (No evening meal served on Sunday)

Provision is made for special diets and work or class schedules that conflict with serving hours.

Two snack bars are located in the Student Center where sandwiches, soft drinks, and light lunches are available.

Housing

Eight modern dormitories for women and men are located on the campus. The College also owns and operates three apartment buildings for upper class students and married couples. For complete information regarding housing, see the Fees and Expenses section of this Bulletin.

Computer Center

The College operates a computer center as a service to faculty, administration, students, researchers, and others. The computer center has modern, high-speed digital and analog equipment valued in excess of three-quarters of a million dollars.

Research Center

The Research Center was formally organized in 1956. It is administered by a director who serves as the chairman of the faculty research committee. All state financed research projects are awarded through the research committee.

The Center also provides means for industrial organizations to obtain faculty assistance in solving their research needs.

SERVICES

Advisors and Counselors

At or soon after registration each student is assigned, by his major department, a faculty advisor who is available for educational guidance. All students are expected to make appointments with advisors during each semester. Such arrangements are the responsibility of the student.

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

A counseling and guidance center for students is located in the Student Affairs Building, where services are designed to assist students who may be encountering temporary problems of a personal, social, or vocational nature. The program supplies and maintains an up-to-date occupations section in the college library, available to students undecided about careers.

The Counseling Center is under the supervision of the Vice President of Student Affairs.

Testing and Placement Service

The Testing and Placement Center is located in the Student Affairs 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. Non-students desiring this service pay a fee dependent upon the program used.

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 Director of Student Financial Aid. Applicants for off-campus, part-time employment should also register with his office in the Student Affairs 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 Student Affairs. The fee is approximately \$25.00 per year and is payable upon enrollment.

Medical care insurance is required of all foreign students.

Teacher Certification

The College 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.

Campus Post Office

The campus post office, a contract facility operated by the College, is officially designated as Lamar Tech Station 77705.

Each student can make application for a box at the post office by completing necessary forms. The charge is \$3 per semester and \$1.50 per Summer Session. Three students are allowed to share the same box.

For those students who do not choose to reserve boxes at the post office, mail may be picked up at the general delivery window. Full postal services are offered.

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.

Ex-Students Association

An association of former students of Lamar, whether graduates or not, is active on a year-around basis. The Executive Secretary of the Alumni Association maintains an office on the campus.

Extended Day Classes

For administrative purposes, classes offered after 4:45 p.m. are re-

ferred to as Extended Day Classes. With few exceptions both day and Extended Day classes are taught by the regular faculty and all educational facilities are the same. A person employed during the hours of regular classes may attend classes in the evening and work toward a degree or to 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 a degree 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: drafting, electronic data processing, diesel engines, industrial electricity, machine shop practice, refrigeration and air conditioning, 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, P. O. Box 10043, Beaumont, Texas 77705.

Veterans Education

Lamar is approved for educational training under all of the Veterans Educational Assistance programs.

Veterans and their dependents, who are interested in attending Lamar under federal laws which provide educational assistance, are directed to secure information and aid in planning their college work by consulting the Office for Veteran's Education, Student Affairs Building.

AWARDS

Outstanding students in academic schools of the College and student leaders who have made significant contributions to the college community and student welfare are recognized by a number of awards which are presented each spring at the annual Awards Program.

A description of awards, including donors, purpose of the awards, and criteria for selection of recipients is published in the Bulletin of Awards and Financial Aids. Copies of this publication may be obtained from the Office of College Information or the Director of Student Financial Aids.

FINANCIAL AIDS

Financial assistance in the form of scholarships, loans and employment is available to a limited number of qualified students. Complete information about financial aids is published in the annual Bulletin of Awards and Financial Aids, copies of which are available from the Office of College Information or the Director of Student Financial Aids. The following is a summary of the student aid program at Lamar.

When to apply. Applications are accepted only in the month of April for the following school year. Announcements of awards usually are made in early summer.

Uniform applications. Students in need of financial aid submit a single application for assistance. After considering the student's academic record or potential and his need for assistance, the Student Aid Committee will determine whether the student will receive assistance, whether it will be in the form of a scholarship, loan, employment (or a combination of these), and in what amount.

Minimum qualifications. The applicant's record on the Scholastic Aptitude Test (SAT) and his rank in his high school class are used to determine scholastic eligibility for entering freshmen. The student's college grade-point average serves as the determinant for upperclassmen. Applicants must have scored 450 or higher on both the Math and Verbal sections of the SAT or must have a 2.50 or higher grade-point average to be eligible for a scholarship. The applicant's need for assistance must be established by submission of a Parents' Confidential Statement (PCS) through the College Scholarship Service, or the Family Financial Statement (FFS) through the American College Testing Service.

It should be noted that both the SAT and the PCS are required on all applicants for financial assistance. Information and application forms to meet these requirements may be obtained from high school counselors. Students already enrolled in Lamar may contact the office of the Vice-President of Student Affairs for application information.

Standard application for financial aid forms may be obtained from the Director of Student Financial Aids.

Loans are available for short-term emergency borrowing and for long-term loans with repayment after graduation under such programs as the National Defense Student Loan Program (NDEA), Federally Insured Loan Program, and the Hinson-Hazelwood College Student Loan Act. A number of students finance college expenses through loans from foundations and private agencies. A complete description of loans, including repayment and interest provisions, is contained in the Bulletin of Awards and Financial Aids.

Scholarships are outright gifts to cover a portion of the student's expenses and generally fall into two types: those administered solely by the College, including the selection of recipients, and those administered by the

College at the request of donors who choose students who will receive them. The scholarship program at Lamar is financed solely by public donation. The average award is valued at about \$200 per year.

Valedictorians from affiliated high schools of Texas are entitled to an exemption from payment of tuition for one year, provided the student enters Lamar in the year immediately following graduation. This scholarship is valued at \$50 per semester or \$100 for the year (2 semesters).

Valedictorians should present a statement signed by their principal or superintendent certifying their academic rank at graduation when they are ready to pay tuition and fees.

Employment. Employment opportunities, under the College Work Study Program and other employment programs of the College, are available to Lamar students as part of the financial aids program. The College also will assist students seeking employment in the community. Application for employment should be made to the Director of Student Financial Aids.

Educational Opportunity Grants. Outstanding students with exceptional financial need may qualify for assistance from this program, under which any aid the student may receive from college-related funds is matched by Federal funds, up to the minimum needs of the student which his family is unable to provide. All students who qualify for financial assistance are considered for Educational Opportunity Grant assistance also and no additional application is required.

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, 612 Littlefield Building, Austin, Texas 78711. The Beaumont office is located at 1110 Goodhue Building.

ACADEMIC REGULATIONS

Course Numbering

Each course has an individual alpha-numeric code. The alpha part indicates the subject area. 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. Two or more 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	W—Withdrawn
B—Good	Q—Course was dropped
C—Satisfactory	S—Credit
D—Passing	U—Unsatisfactory, no credit
F—Failure	NG—No grade
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.

The instructor may record the grade of **F** for a student who is absent from the final examination and is not passing.

Semester grades are filed with the Registrar. A grade may not be recorded for a student not regularly enrolled in a course during the semester covered. A grade may not be corrected or changed without the written authorization of the instructor giving the grade. The written instruction for a grade change should be accompanied by a statement explaining the reason for the change.

For incomplete work not completed during the next long semester, the registrar is directed to change the **I** grade to the grade of **F**. The course must then be repeated if credit is desired.

Registration for No Grade

A student desiring to register for a course to receive a grade of **NG** must have the written approval of the academic dean and the department head prior to the twelfth class day.

Repetition of a Course

If a student repeats a course, his official grade is the last one made although the original grade remains on his record as a course taken.

Grade Points

For the purpose of computing grade averages, grade points are assigned as follows; To the grade **A**, 4 points; to **B**, 3 points, to **C**, 2 points; to **D**, 1 point, 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.

Credit for a course in which the grade of **S** is given is not included in computation of the grade-point average. A student is not given credit for the grades **NG** or **U** nor are the semester hours used in computing the grade-point average

Reports

Reports on grades are mailed at the end of each semester or summer term. Reports on student work are sent at mid-semester. Upon written request to the Registrar, married students 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 undergraduate students (those enrolled for twelve or more semester hours) who have no grades below **B**. This list is known as the Honors 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 prade 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 gradepoints, 21 semester hours. Course loads of 20 or 21 semester hours must be approved by the academic dean.

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 preceding 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 semester 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. Course loads of more than seven semester hours must be approved by the academic dean.
5. The maximum course load for Extended Day students is 7 semester hours. Superior students may be allowed to enroll for up to 9 semester hours with permission of his academic dean.

Correspondence Work

Lamar does not offer correspondence credit. However, a maximum of 18 semester hours of correspondence work from an accredited institution may be applied toward a baccalaureate degree.

No correspondence course may be carried while a student is in residence without the permission of his department head. A permit signed by the

department head must be filed in the Registrar's office prior to registration for the course.

No student may: (1) register for, carry, or complete a correspondence course during the last semester or summer session before graduation, nor (2) receive credit for any junior or senior course taken by correspondence, except in the following circumstances:

- (a) A course required for graduation is not offered by Lamar.
- (b) The student has a schedule conflict between required courses.
- (c) A non-resident senior who is six semester hours or less short of graduation and who has filed a statement of intent to complete his work by correspondence. This statement of intent must be approved by his department head and filed in the Registrar's office no later than the last date for approval for graduation.

Seniors must file correspondence transcript fourteen days before graduation.

Credit by correspondence for a course failed in residence will not be accepted toward graduation.

Postponed Examinations

Arrangements for taking postponed examinations are made with the instructor concerned, but must be approved by the instructor's department head. 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

Regular and punctual attendance in classes and laboratories is expected of all students. Students who accumulate excessive unexcused absences, as determined by the instructor, may be referred to the office of the Dean of Students for counseling.

For the information of instructors, names of students whose absences result from participation in college-sponsored activities will be published by the Vice-President of Academic Affairs. Such names will be submitted by the staff or faculty sponsor to the Vice-President of Academic Affairs and must be approved by him. However, it is the responsibility of each student involved to notify his instructors of such approved absences.

Inability to attend class for illness or other reasons should be reported to the Office of the Dean of Students immediately. The Dean of Students will notify instructors concerned.

Transfer from One Department to Another

Students wishing to change their majors must have the approval of the head of the department of their former major area and approval of the head of the new department. These approvals must be in writing on the registrar's form entitled "Change of Major."

Transfer Students

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

Excess grade points or credits 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).

Dropping Course

A student may drop a course without penalty during the first ten weeks (three weeks of the summer session) of the semester. The last date is published in the official college calendar.

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 the last three class days prior to the beginning of the final examinations.

A full-time student (defined as a student enrolled for 12 or more semester hours as of the twelfth class day) cannot reduce his academic load below 12 semester hours during the semester without special permission from his academic dean.

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 Director of Library Services, and an Associate Dean of Students, 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 schedule 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 tenth week (third week 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 Vice-President of Student Affairs 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 register for English 131, 132, 133, or 135, unless credit has been received. This policy 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 Vice-President of Finance of the College.

A fee of \$5.00 must be paid to the Finance 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:
 - (a) 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.
 - (b) a grade-point average of at least 2.0 on all courses in the major field and on all courses which may be counted for the degree. See "Transfer Student." Each registration in a course so used, whether passed or failed, will be counted in the grade-point calculation.
 - (c) 124 semester hours.
 - (d) A major of 24 semester hours, 12 of which must be in advanced courses.
 - (e) 6 semester hours in Government (231-232).
 - (f) 6 semester hours in United States History (231-232).
 - (g) 6 semester hours of freshman English.
 - (h) 3 semester hours of literature and an additional 3 semester hours of literature, speech, or technical report writing.

- (i) 4 semester hours of physical activity or marching band credit. (4 semesters).
- (j) 21 semester hours from the following with no more than 6 (8 in sciences) semester hours in any one discipline listed:
- | | | |
|---------------------|-------------|--------------|
| foreign language | biology | economics |
| music (not applied) | chemistry | psychology |
| speech | geology | anthropology |
| art (not applied) | physics | sociology |
| journalism | mathematics | philosophy |
| | | geography |
- (k) 4 courses in math or laboratory science, with no more than 3 courses in math or 3 in science.
3. A maximum of 66 semester hours from the area of concentration may be counted toward a degree. In the professional programs the area of concentration is composed of the professional courses (i.e., engineering, commercial art, education, home economics, and business). In the non-professional programs, the area of concentration is composed of the combined major and minor.
 4. Complete the program of study as listed in the Catalog.
 5. No more than a total of 50 semester hours or correspondence and extension credit may be applied toward baccalaureate degree. (Eighteen semester hours is the maximum for correspondence work only.)
 6. Make final application for graduation as required and pay the designated fee.
 7. 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. Complete the course numbered 232 in a foreign language.
3. Complete 6 semester hours of literature.
4. Complete a minor of 18 semester hours, 6 of which must be in advanced courses.
5. Meet the specific requirements of the selected program of study as listed in the department concerned.

Bachelor of Science 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.

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.

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. Work transferred may not exceed six semester hours.
5. No extension work may be applied toward a graduate degree.
6. 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 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 degree 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 May 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.

Scholastic Probation and Suspension

All students with a grade-point deficiency at the end of any regular semester shall be placed on scholastic probation and continued on probation as long as a deficiency exists.

All students with a grade-point deficiency of 25 or more grade-points at the end of any regular semester shall be suspended. A student returning from an academic suspension must continue to reduce his grade-point deficiency every semester of enrollment until the deficiency is eliminated. Should he fail to reduce his deficiency in any one semester, he will be suspended.

The first academic suspension shall be for one long semester; the second for two long semesters; and the third for four long semesters and readmission only with special permission of the Vice-President of Academic Affairs.

Removal of 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 first term suspension may attend summer school.
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 2.0 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 2.0 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 condition 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 is accepted as a major by a department.

The catalog year shall be considered to begin with the long session in August. 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 3.45 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 course 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 section in 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 Dean of Admissions.

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 official 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 Students. Students maintaining households of their own and those living with parents or guardians are exempted from this rule.

Any student who moves during a semester must immediately register his change of address in the office of the Vice-President of Student Affairs 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 2.0 for both the total of his college work completed at Lamar State College 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.

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 State College is a charter 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 Student Affairs Building, 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. 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 Students will take appropriate action.

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

Each student who pays the necessary fee is issued a car decal which permits parking on the campus. This decal is numbered and is to be displayed as instructed in official parking and traffic regulations, which are issued when automobiles are registered. Strict observance of traffic and parking regulations is necessary for the safe, orderly flow of vehicles in the campus area.

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

Students of Lamar State College of Technology are expected to conduct themselves in a mature manner, conforming to values and moral standards of good society. They are expected to obey the laws of the land and the regulations of the College. They are further expected to assume full responsibility for the consequences of their actions. Students should be aware of these expectations when they choose to enroll at Lamar State College of Technology.

Disciplinary procedures, specific college rules and regulations, and statements of student rights and responsibilities are published each year in the Student Handbook, available from the office of the Vice-President of Student Affairs.

Disciplinary Probation

A student may be placed on disciplinary probation for unacceptable behavior at any time or place. The Dean of Students 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 Vice-President of Student Affairs.

STUDENT ACTIVITIES**Student Government**

All full-time students are automatically members of the Student Association at 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 a faculty sponsor. 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 yearbook 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.

Pulse, a student literary magazine, is published each semester by a student staff supervised by a faculty sponsor from the English Department. Any currently enrolled student may submit manuscripts for possible publication.

Artist and Drama Series

The Artist and Drama 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 Center

The Student Center provides facilities for recreation and leisure and is the campus center of extracurricular activities. A major addition and renovation program, costing approximately \$2,500,000, is scheduled for completion in the fall, 1970. The new building will provide several types of lounges, snack bars, recreation areas, meeting rooms, facilities for student organizations, bookstore, ballrooms, barbershop, and offices for Student Government, activities program counselors, and the center's director.

Student Organizations

The 105 student organizations currently active on the campus offer

students membership in one or more service, professional, religious, social, and mutual interest clubs.

Professional

American Chemical Society
American Institute of Chemical Engineers
American Institute of Industrial Engineers
American Institute of Physics
American Marketing Association
American Society of Civil Engineers
American Society of Mechanical Engineers
Association for Childhood Education
Beta Beta Beta
Blotter Press
Cardinal Singers
Cardinal Theatre
Chancery Club
Concert Choir
Grand Choir
Institute of Electrical and Electronic Engineers
Lamar Tech Chemical Engineering Society
Lamar Tech Economics Club
Lamar Tech Forensic Club
Lamar Tech French Club (Le Cercle Francais)
Lamar Tech Geological Society
Lamar Tech German Club (Deutscher Verein)
Lamar Tech Home Economics Chapter
Lamar Tech Mathematics Club
Madrigal Singers
Music Educators National Conference
Physical Education Professionals
Secretarial Science Club
Sigma Alpha Eta
Sociological Club
Society for Advancement of Management
Society of Accountancy
Student Education Association
Student Council for Exceptional Children
Texas Society of Professional Engineers
Vocations Club

Religious

Baptist Student Union
Canterbury House (Episcopal)
Church of Christ Bible Chair (Koinonia)
Gamma Delta (Lutheran-Synodical Conference)
Newman Club (Catholic)
Rothwell Bible Chair (Methodist)
United Christian Fellowship (Presbyterian and Christian)

Service

Alpha Phi Omega
Circle K
Lambda Tau
The Cards
The Techsans

Sororities

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

Fraternities

Alpha Phi Alpha
Alpha Tau Omega
Apollos
Beta Tau Colony of Zeta Beta Tau
Kappa Alpha Order
Phi Delta Theta
Pi Kappa Theta
Pi Kappa Alpha
Sigma Chi
Sigma Nu
Sigma Phi Epsilon
Zeta Chi Delta

Mutual Interest

Association of Women Students
Chi Gamma Iota
Independent Student Organization
International Club
Lamar Tech Amateur Radio Club
Lamar Tech Bridge Club
Lamar Tech Chess Club
Lamar Tech Fencing Club
Lamar Tech Flying Club
Quest Manuscript
Student Action Committee
United Arab Students
Young Democrats of Lamar Tech
Young Republicans of Lamar Tech

Honor Societies

Alpha Lambda Delta—women's freshman honor society
Alpha Pi Epsilon—secretarial science
Alpha Pi Mu—industrial engineers
Alpha Psi Omega—fraternity for Cardinal Theatre
Blue Key—senior and junior men's honor fraternity
Cap and Gown—senior women's honor society
Chi Epsilon—civil engineering honor society
Delta Omicron—women's participants in music
Delta Psi Kappa—physical education sorority
Delta Sigma Pi—business and commerce fraternity
Eta Kappa Nu—electrical engineering honor society
Kappa Kappa Psi—fraternity for college bandsmen
Kappa Omicron Phi—home economics
Kappa Pi—art fraternity for men and women
Omega Chi Epsilon—chemical engineering honor society
Phi Alpha Theta—history honor society
Phi Eta Sigma—freshman men's honor society
Phi Kappa Phi—all college scholastic honor society
Phi Mu Alpha Sinfonia—fraternity for men in music
Pi Delta Phi—honor society for French majors
Pi Kappa Delta—national forensic fraternity
Pi Mu Epsilon—mathematics honor society
Pi Tau Sigma—fraternity for mechanical engineers
Sigma Pi Sigma—physics honor society
Tau Beta Pi—engineering honor society
Tau Beta Sigma—sorority for bandswomen

ADMISSIONS

Applicants for admission to the College are required to be of good moral character and to meet the academic requirements outlined in this Catalog or other applicable publications of the College. Supporting documents, an official Health Data Form and social security number are required.

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, Lamar Tech Station, Box 10009, Beaumont, Texas 77705.

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. Equivalency diplomas granted on the basis of GED scores will not fulfill entrance requirements. 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 Examination Requirement

The Scholastic Aptitude Test (SAT) of the College Entrance Examination Board is required of applicants entering from high school. This requirement is waived for graduates prior to 1960 if high school preparation includes all units required for admission as listed on Page 73.

Residents of Texas applying for admission are required to have a minimum combined (verbal and mathematics) score of 700 on the SAT. Residents who score below the 700 requirement may be admitted on a provisional basis as explained on Page 74. Non-residents of Texas must have a minimum score of 900 on the SAT and must also rank in the upper three-fourths of their graduating class. Non-resident students are not eligible to participate in the provisional program.

The Scholastic Aptitude Test is administered by CEEB at test centers throughout the United States and in many foreign countries in November, December, January, March, May, and July. It is recommended that applicants take the test no later than the January 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—College Board Admissions Tests*. The Bulletin may be obtained without charge from

high school counselors, or by writing directly to the College Entrance Examination Board, Box 1025, Berkeley, California 94701. Secure a booklet EARLY so that a convenient test date and site can be selected.

The Level I Mathematics Test must be taken by all students entering the School of Engineering and is strongly recommended for students planning to major in any of the physical sciences. Otherwise, achievement tests are not required but in many cases are recommended. Students whose high school records are outstanding should consider taking achievement tests for advanced placement (see Page 76).

Unit Requirement

Minimum unit requirement for admission to the Schools of Liberal Arts, Sciences, Business, Education, Fine and Applied Arts:

English ¹	4
Mathematics	
Algebra	1
Geometry	1
Social Sciences.....	} 2 units from each of 2 of these }
Natural Sciences ²	
Foreign Language.....	
Electives ³	6
<hr/>	
Total	16

Units required for admission to the School of Engineering:

English ¹	4
Mathematics	
Algebra	2
Geometry	1
Trigonometry ⁴	½
Natural Sciences	
Chemistry ⁴	1
Physics ⁴	1
Social Sciences.....	2
Electives ⁴	4½
<hr/>	
Total	16

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

²One unit of home economics or agriculture may be used in fulfilling this requirement; additional units of either are classified as vocational units.

³May 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 General Music). Courses classified as vocational include agriculture, home economics, business courses, drafting, shop, applied mathematics, and chorus unless offered as curricular subjects rather than activities, and with prerequisite prescribed by the Division of Professional Standards of the Texas Education Agency.

⁴Students not presenting this unit will be required to take an additional college level course.

Conditional 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.

Provisional Admission Program

Residents of Texas whose scores fall below the required SAT score of 700 may be admitted on a provisional basis to either the summer session or the spring semester. Eligibility for regular admission may be established by making the proper grades during the trial period.

Summer provisional students must pass nine semester hours and earn twelve grade points. Students enrolling for the spring semester on a provisional basis must pass twelve hours and make twelve grade points.

Courses must be selected from those specified in the curriculum of the student's major field. Provisional admission is not open to out-of-state residents or to students who have attended college previously.

The program is not available during the fall semester.

It is permissible for an applicant to retake the SAT on a regularly scheduled test date and supply new scores for consideration.

How to Apply for Admission

1. Submit application for admission on the official form. Inclusion of social security number is required on this form.
2. Submit a completed Health Data Form properly executed by a physician. This requirement applies only to students entering day classes for the first time.
3. At the end of the first semester of the senior year, have the high school send the College a copy of your record including work in progress. Immediately after graduation, a supplementary transcript covering the final semester and certifying graduation must be sent.
4. Take the Scholastic Aptitude Test (November, December, or January dates preferred) and designate this college to receive score reports.

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 ordinarily be submitted before the other required credentials. Submission of partial transcripts upon the completion of the first semester of the senior year is requested. Supplementary transcripts should be sent immediately after graduation.

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 pend-

ing the receipt of the transcript. Students on temporary admission who are subsequently found to be ineligible for admission will be withdrawn from college.

Acceptance Notices

Letters of acceptance are normally issued shortly after the required admission credentials are received. 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.

Advanced Placement

Two optional testing programs are offered to enable applicants to qualify for advanced standing and/or college credit. Tests must be taken prior to enrolling in college.

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 Examinations. Examinations are given annually in May, and arrangements are made through high school. Application is made directly to CEEB. Subject matter areas and the basis of granting credits are listed below:

Subject Area	Required Score	Credit Granted
Chemistry	Score of 3 or above	Chemistry 141
English	Score of 3 or above	Eng. 131-132 (6 sem. hours)
	Score of 2	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
Calculus		
AB Test	Score of 3 or above	Math 133, 134, 1381, 1391
BC Test	Score of 3 or above	Math 133, 134, 1381, 1391, 2311
Physics	Score of 3 or above	Physics 141

2. **Achievement Tests (Optional)**

Students who have outstanding high school records or who have

participated in accelerated programs 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 are set by the College and students who qualify are notified. 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	Chem. 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 1381 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.

*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.

REQUIREMENTS OF STUDENTS ENTERING FROM OTHER COLLEGES

To be eligible for unconditional admission, a transfer student must (1) be eligible to re-enter all colleges previously attended, and (2) to have an overall grade-point average of C (2.0). The average is computed on all college work the student has undertaken, whether passed, failed, or repeated; and in the computation four grade-points are counted for each semester hour completed with a grade of A, three for B, two for C, one for D, and none for F.

The records of transfer applicants who meet requirement (1) above but who are deficient in grade-points are evaluated for admission purposes on the same basis as if the work had been taken at Lamar Tech. A student admitted on probation must remove deficiencies in accordance

with the provisions of the section on academic probation and suspension on Page 62.

Transfer students who have earned less than 18 semester hours of transferable credit must also submit SAT scores, meet the same score requirement (see Page 72), and meet the same unit requirement as a student entering directly from high school. The College reserves the right to require tests of any student if it appears that scores would be helpful in making the admission decision or would be beneficial for counseling purposes.

College transfer students are not eligible to participate in the provisional program shown on Page 74.

Transfer of Credit

Credit earned at another accredited institution is acceptable for transfer and may be used to meet degree requirements provided the courses are applicable to the curriculum in which the student enrolls. An overall grade-point average of C (2.0) is the acceptable academic standard of performance. If a student who has accumulated a grade-point deficiency at another institution(s) is admitted on probation, he will be required to make up the deficiencies at Lamar Tech. In order to graduate, he must have a 2.0 grade-point average on all work attempted, on all work attempted at Lamar Tech, on all courses in his major, and on all courses which may be counted for the degree.

Students transferring from a junior college are limited to the transfer of 66 semester hours or to the number of hours required by this college during the freshman and sophomore years in the curriculum under which the student enrolls. Once this maximum has been earned at any college (junior or senior), no additional hours earned at a junior college will transfer.

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.

1. Submit application for admission on the official form. Inclusion of social security number is required on this 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 official 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.

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 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.

FORMER STUDENTS RETURNING FROM ANOTHER INSTITUTION

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 academic requirements for other transfer students outlined on Page 76 of this Catalog.

SUMMER TRANSIENTS

Students in attendance at another college during the spring semester and 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 submit the regular application for admission. A Letter of Standing or transcript from your college will NOT be required. Transient students who later apply for regular long term admission must meet all entrance requirements and supply all necessary admission credentials.

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.

Applicants are required (1) to take the entrance examination (see Page 72), (2) to submit a record of the high school work which was completed and, (3) to appear for a personal interview. Educational records and test scores must be on file well in advance of the proposed registration date. Arrangements for the interview should be made after records and scores are received by the college but well in advance of registration. Individual approval applications cannot be considered during the registration period.

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 23 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. The Test of English as a foreign Language (TOEFL) is required if the applicant's native language is one other than English. Both the SAT and TOEFL are given several times a year at test centers throughout the world. Information on the tests can be secured by writing to the College Entrance Examination Board, Box 592, Princeton, New Jersey, U.S.A. Application forms, test scores, and complete educational records must be on file three months in advance of the proposed registration date.

Special application forms and details on the procedure to follow in making application for admission to Lamar State College can be secured by writing to the Dean of Admissions.

FEES 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. Effective September 1, 1967, checks and drafts deposited with Federal Reserve banks cannot be handled through regular bank collection channels if received without the magnetic ink (MICR) transit number. The new electronic processing demands such magnetic ink encoding. The college will not accept counter checks or "changed" checks.

Fees Summary

Resident Students (Texas)			Total	
Semester			Bldg. Use	+
Hours	Tuition	S.S. Fee	Fee	Laboratory Fees
12 or more	\$50.00	\$22.00	\$26.00	\$98.00 + Lab Fee
11	47.00	22.00	26.00	95.00 " " "
10	43.00	22.00	26.00	91.00 " " "
9	39.00	22.00	26.00	87.00 " " "
8	35.00	22.00	26.00	83.00 " " "
7	31.00	8.00	13.00	52.00 " " "
6	27.00	8.00	13.00	48.00 " " "
5	23.00	8.00	13.00	44.00 " " "
4	19.00	8.00	13.00	40.00 " " "
3 or less	15.00	8.00	13.00	36.00 " " "

Non-Resident Student (out of Texas)			Total	
Semester			Bldg. Use	+
Hours	Tuition	S.S. Fee	Fee	Laboratory Fees
12 or more	\$200.00	\$22.00	\$26.00	\$248.00 + Lab Fee
11	183.00	22.00	26.00	232.00 " " "
10	167.00	22.00	26.00	215.00 " " "
9	150.00	22.00	26.00	198.00 " " "
8	133.00	22.00	26.00	181.00 " " "
7	117.00	8.00	13.00	138.00 " " "
6	100.00	8.00	13.00	121.00 " " "
5	83.00	8.00	13.00	104.00 " " "
4	66.00	8.00	13.00	87.00 " " "
3 or less	50.00	8.00	13.00	71.00 " " "

For summer session students the student service fee is \$6.00 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 classifica-

tion is that of the student, and if there is any possible question of his right of 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 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.

Private Lessons in Voice and Instrumental Music

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

Laboratory Fee

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 parking on campus are made at the time a student is registered. In each instance, a student's parking fee is honored up to the end of the current fiscal year, which is August 31.

Registration of an automobile in September is \$10.00. The February fee is \$6.00. A student registering for the first Summer Session is charged \$4.00, and for the second Summer Session the fee is \$2.00.

Only one registration is 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	5.00
Returned Checks	2.00
Re-entry Fee	5.00
Transcript Fee50
Advanced Standing Examination	5.00 per course
Photo Identification	1.00
Swimming Pools (suits and towels)	2.00

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 \$25.00 (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	\$ 98.00
	+ lab fees
Books and incidentals (estimated)	35.00
Health Insurance (if desired)	25.00
Parking fee (if desired)	10.00
Total (estimated)	\$168.00
	+ lab fees

Part-time Student (6 semester hours):

Tuition, matriculation, building use, and laboratory fees	\$ 48.00
	+ lab fees
Books and incidentals (estimated)	12.00
Parking fee (if desired)	10.00
Total (estimated)	\$ 70.00
	+ 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 Vice-President of Finance after the student has officially withdrawn, but not later than the end of the current semester or summer session.

It takes about 30 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

Student housing enterprises at Lamar are an integral part of the educational program. The aim is to support the broader educational and cultural purposes of the College. At the same time the residence hall program is geared to pay particular attention to the individual student and his development as a whole person. The housing units are more than merely places in which students eat and sleep; they are living units in the true sense of the word.

Essentially, each student is expected to regulate his own life in accordance with the accepted standards of good taste. Good citizenship here is comparable to good citizenship in any other group. Students entering college are well on the way to accepting the responsibilities of mature adults. Lamar students are given the opportunity to enhance this development by participating in the drafting of self-governing rules and regulations in their residence community.

Lamar has adopted a program of housing designed to meet the needs of students whose homes are beyond a convenient commuting distance of the campus. A variety of accommodations are available. Room and board costs are determined by the type of facility and meal service chosen and the cost of maintenance and operation of the housing program. Rates are set as low as possible so the cost to the student will remain reasonable and at the same time sufficient income will be provided to meet operational and financial obligations.

The College is able to fund residence hall construction only through revenue bonds, and by law must assure the bonding agents reasonable occupancy in order to retire the indebtedness against the buildings. In order to meet this legal requirement, it is necessary for the College to require all full-time students who do not live with their parents or guardians to live in college housing and to take their meals in the college dining halls. Exceptions to this policy are outlined as follows:

1. Exemptions from campus residency.
 - a. Permission may be granted for students to live with immediate relatives other than parents or guardians, upon verification of relationship by the Assistant Dean of Students for housing.
 - b. The following students may choose their place of residency, subject to verification and authorization of the Assistant Dean of Students for housing:
 1. Married students.
 2. Graduate students.
 3. Students who have reached 23 years of age before July 1, 1970.
 4. Students who have served more than one year of continuous active duty in the military service.
 5. Students living in approved student living groups under the supervision and control of the College.

Direct inquiries regarding all housing (accommodations, charges, room reservations, board, etc.) to: Housing Office, Lamar State College of Technology, P. O. Box 10041, Lamar Tech Station, Beaumont, Texas 77705.

- c. If college housing is not available, upperclassmen will be permitted to live in approved off-campus housing until such time as they can be accommodated in a dormitory.
2. Exemptions from meals.
 - a. Students with dietetic problems so serious that the College cannot satisfactorily help the student may be excused from part or all of their meals. Application for an excuse must be

accompanied by a written request from a physician and a copy of the special diet required.

- b. Students whose employment or class schedule conflicts with normal food service may be excused from part or all of their meals. This approval will be granted only upon recommendation of the manager of dining halls.

Students who need special consideration as provided by the policy must submit requests in the Housing Office prior to registration.

FACILITIES

Dormitories

Lamar dormitories offer the latest features in student housing. They are designed for maximum comfort and are conducive to enrichment through community living. The dormitories are organized into units for purposes of self-government, intramural athletics, and social life, offering opportunities for student growth and development. Television, game areas, and lounges are available for leisure-time activities. Each dormitory room has telephone service through the campus switchboard for intra-campus and Beaumont exchange calls. Free, self-service laundry facilities are provided for each dormitory. Bedding, linens, and personal items are not provided by the College.

Brooks (women), Gentry (women), Plummer (men), and Shivers (men) are the newest additions to campus housing. These four dormitories are centrally heated and air conditioned. Rooms are shared by two students, and each room has its own dressing mirror and lavatory. Students take their meals in the dormitory dining hall, except on weekends when all residents eat in the main dining hall.

Campbell (men), Combs (men), Morris (men), and Gray (women), house three students to each room. Suites of two rooms share a common bath and lavatory facilities. These dormitories are not centrally air conditioned, but a limited number of rooms in Morris and Gray Halls have window units that may be used by students who desire this type of accommodation. An extra charge is necessary for this service. Students living in these dormitories take their meals in the College Main Dining Hall located conveniently to them.

* * * * *

The dates for the opening and closing of dormitories and dining halls during the school year are listed in the College Calendar in the front of this catalog.

Direct inquiries regarding all housing (accommodations, charges, room reservations, board, etc.) to: Housing Office, Lamar State College of Technology, P. O. Box 10041, Lamar Tech Station, Beaumont, Texas 77705.

Men's Apartments

The College maintains an apartment complex consisting of three units for male upperclassmen who desire this type of housing facility. These apartments are shared by two students and are completely furnished. Each consists of private bath, built-in closets, and combination living room-bedroom area. Apartments are available with or without kitchenettes and air conditioning. A central laundry room is available at no extra cost.

Married Students' Apartments

A limited number of accommodations for married students 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.

Each apartment consists of kitchenette, bath, two clothes closets, and combination living room-bedroom, and are completely furnished with double beds, living room furniture, dinette set, kitchen stove, refrigerator, and window fan. Some of these apartments are air conditioned. There is also a central laundry with automatic washers and dryers available at no additional charge.

* * * * *

The rental fee for both men's and married students' apartments includes all utilities except telephones. Renters may make direct arrangements with the local telephone company if they desire telephone service.

EXPENSES

Dormitories

Room and board charges are prorated to the actual number of days in each month that these facilities are in use by the students. Charges for a full semester may be paid at the beginning of each semester, but for the convenience of those who desire, board payments may be made on a monthly basis (according to one of the plans listed below). If the monthly board payment plan is elected, the semester's rent and the first board payment are due when the student checks into the dormitory and on the first day of registration for subsequent semesters. Board paid by the month is due before the first day of each month. A \$5.00 late fine will be charged for payments made after the fifth of each month unless a delay of payment is approved by the Student Housing Officer prior to the deadline.

Dormitory residents are required to purchase meal tickets for campus dining halls, but may select one of the two plans offered. The Seven Day Plan gives the student food service in his resident dormitory (Gentry, Plummer, and Brooks-Shivers) from Monday through Friday with meals on Saturday and Sunday served in the Main Dining Hall. The Five Day Plan also provides the student with Monday through Friday food service in his resident dormitory, but he does not purchase week-end service.

Students may select either plan, but cannot change plans in the middle of the month. (Dining hall serving hours are listed in the General Information section of this Catalog.)

When students move into a dormitory, they automatically enter into a contract for room and board for the fall and spring semesters unless they officially withdraw from College or obtain special permission from the Student Housing Office to live elsewhere.

Rates for Brooks (women), Gentry (women), Plummer (men), and Shivers (men) Halls:

(BOARD CHARGES CURRENTLY SUBJECT TO 4¼% SALES TAX)

(Board rates including current sales tax may be obtained in the Housing Office)

7 Day Plan

FALL SEMESTER

August	\$200.00	(semester room rent)
	82.90 + tax	(first board payment—includes September)
	<hr/>	
	\$282.90 + tax	(paid at check-in time)
October (board payment)	71.38 + tax	
November (board payment)	59.87 + tax	
December (board payment)	41.45 + tax	
	<hr/>	
	\$455.60 + tax	(total charge for fall semester)

SPRING SEMESTER

January	\$200.00	(semester room rent)
	43.75 + tax	(January board payment)
	<hr/>	
	\$243.75 + tax	(paid at check-in time)
February (board payment)	64.47 + tax	
March (board payment)	71.38 + tax	
April (board payment)	48.35 + tax	
May (board payment)	41.45 + tax	
	<hr/>	
	\$469.40 + tax	(total charge for spring semester)

TOTAL (Fall and Spring Semesters) \$925.00 + tax

5 Day Plan**FALL SEMESTER**

August	\$200.00	(semester room rent)
	75.17 + tax	(first board payment—includes September)
	<hr/>	
	\$275.17 + tax	(paid at check-in time)
October (board payment)...	63.61 + tax	
November (board payment)...	54.94 + tax	
December (board payment)...	40.49 + tax	
	<hr/>	
	\$434.21 + tax	(total charge for fall semester)

SPRING SEMESTER

January	\$200.00	(semester room rent)
	37.60 + tax	(January board payment)
	<hr/>	
	\$237.60 + tax	(paid at check-in time)
February (board payment)...	57.83 + tax	
March (board payment)....	66.50 + tax	
April (board payment).....	49.16 + tax	
May (board payment).....	34.70 + tax	
	<hr/>	
	\$445.79 + tax	(total charge for spring semester)

TOTAL (Fall and Spring

Semesters) \$880.00 + tax

Direct inquiries regarding all housing (accommodations, charges, room reservations, board, etc.) to: Housing Office, Lamar State College of Technology, P. O. Box 10041, Lamar Tech Station, Beaumont, Texas 77705.

Rates for Campbell (men), Combs (men), Gray (women), and Morris (Men) Halls:

(Board Charges Currently Subject to 4¼% Sales Tax)

(Board rates including current sales tax may be obtained in the Housing Office)

7 Day Plan**FALL SEMESTER**

August	\$145.00 *	(semester room rent)
	82.90 + tax	(first board payment— includes September)
	<hr/>	
	\$227.90 + tax	(paid at check-in time)
October (board payment)...	71.38 + tax	
November (board payment)...	59.87 + tax	
December (board payment)...	41.45 + tax	
	<hr/>	
	\$400.60 + tax	(total charge for fall semester)

SPRING SEMESTER

January	\$145.00 *	(semester room rent)
	43.75 + tax	(January board payment)
	<hr/>	
	\$188.75 + tax	(paid at check-in time)
February (board payment)...	64.47 + tax	
March (board payment).....	71.38 + tax	
April (board payment).....	48.35 + tax	
May (board payment).....	41.45 + tax	
	<hr/>	
	\$414.40* + tax	(total charge for spring semester)

TOTAL (fall and spring semesters)

\$815.00* + tax

*Add \$10.00 per semester per student for air conditioning when available)

5 Day Plan

FALL SEMESTER

August	\$145.00 *	(semester room rent)
	75.17 + tax	(first board payment—includes September)
	<hr/>	
	\$220.17 + tax	(paid at check-in time)
October (board payment)...	63.61 + tax	
November (board payment)...	54.94 + tax	
December (board payment)...	40.49 + tax	
	<hr/>	
	\$379.21* + tax	(total charge for fall semester)

SPRING SEMESTER

January	\$145.00*	(semester room rent)
	37.60 + tax	(January board payment)
	<hr/>	
	\$182.60 + tax	(paid at check-in time)
February (board payment)...	57.83 + tax	
March (board payment).....	66.50 + tax	
April (board payment).....	49.16 + tax	
May (board payment).....	34.70 + tax	
	<hr/>	
	\$390.79* + tax	(total charge for spring semester)

TOTAL (fall and spring semesters)

\$770.00* + tax

*Add \$10.00 per semester per student for air conditioning when available)

Several rooms in Gray and Morris Halls are equipped with window unit air conditioners. The cost for air conditioning is an additional \$10.00 per student per semester.

Men's Apartments

	No Air Cond.	With Air Cond.
Fall Semester (per student).....	\$175.00	\$195.00
Spring Semester (per student).....	175.00	195.00
	<hr/>	<hr/>
TOTAL (fall and spring semesters)...	\$350.00	\$395.00

Married Students' Apartments

	No Air Cond.	With Air Cond.
Monthly	\$ 70.00	\$ 80.00

Seven Day, and Five Day meal ticket plans are available to apartment residents. The board charges as shown under dormitory rates are applicable as board rates for students in college-owned apartments.

SUMMER SCHOOL HOUSING**Dormitories**

Brooks Hall (women) and Shivers Hall (men) are utilized by the College for the two summer sessions. Room and board charges (to be paid at the beginning of each session) are as follows:

7 Day Plan		5 Day Plan	
Room rent.....	\$ 67.50	Room rent.....	\$67.50
Board	94.42 + tax	Board	86.70 + tax
	<hr/>		<hr/>
TOTAL (each summer session)	\$161.92 + tax	TOTAL (each summer session).....	\$154.20 + tax

(Board Charges Currently Subject to 4¼% Sales Tax)

(Board rates including current sales tax may be obtained in the Housing Office.) During the summer session, meals are served in the main dining hall only.

Apartments

A limited number of apartments for men and married students are available in the summer. Charges are as follows:

	No Air Cond.	With Air Cond.
Men (per student each summer session).....	\$ 62.00	\$ 77.00
Married students (per month).....	70.00	80.00

Optional board plans and rates as listed above apply to apartment residents.

RESERVATIONS, ASSIGNMENTS AND REFUNDS

Reservations

To reserve a room in the dormitories or an apartment, direct a request to the Housing Office, Lamar State College of Technology, P. O. Box 10041, Lamar Tech Station, Beaumont, Texas 77705. A check or money order for \$20.00 must accompany the reservation request. Reservations may be cancelled with full refund until three weeks prior to the first day of classes. No refunds will be issued on cancellations received after this date.

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 Student Housing Office written instructions to hold the room for a longer period. Residents will be refunded deposits, less any breakage or cleaning charges, at the end of a semester on proper withdrawal from the housing unit. The deposit will not be refunded if the student moves from the housing system prior to the end of a semester.

Assignments

Permanent assignments cannot be made until the student reports for check-in. The College reserves the right to assign students to specific apartments, dormitories, and rooms as it deems necessary. Students may request certain apartments, dormitories, and rooms, and all possible consideration will be given each request. Students already living in College-owned housing units have the first choice of rooms and apartments the following semester.

Refunds for Room and Board

A resident student may obtain a refund for board under the conditions listed below:

1. Written approval must be obtained from the Student Housing Office.
 2. The student must have been absent for approved cause in excess of ten consecutive days. The amount of the board refund will be on a pro rata basis beginning with the eleventh day of absence.
 3. A student who withdraws from a residence hall two weeks prior to the end of the semester will be refunded board charges on a pro rata basis for all meals paid for in advance.
 4. No board refunds will be made for absence from the campus other than those explained above since deductions for these were considered in determining the semester charge.
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No refund will be issued for rent when a student withdraws from a residence hall except when illness necessitates withdrawal from all classes. Except for fractional parts of a month, rent refunds will be made to occupants moving from the married students apartments.

Direct inquiries regarding all housing (accommodations, charges, room reservations, board, etc.) to: Housing Office, Lamar State College of Technology, P. O. Box 10041, Lamar Tech Station, Beaumont, Texas 77705.

**SCHOOL
OF
LIBERAL ARTS**

Departments

English

Government

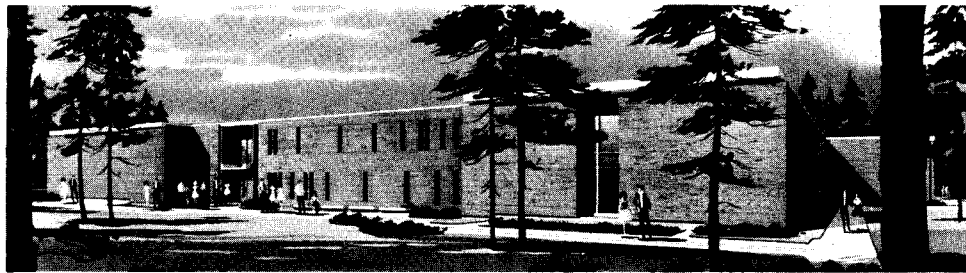
History

Modern Languages

Sociology

(Bible)

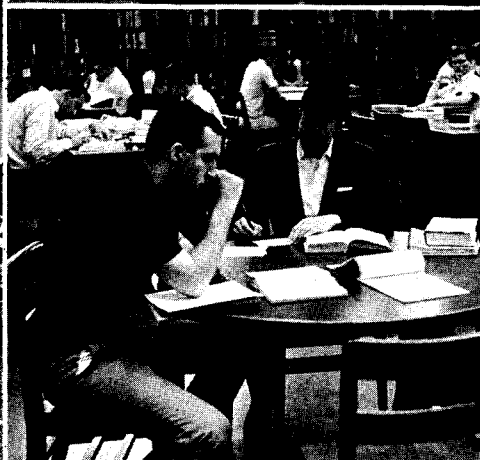
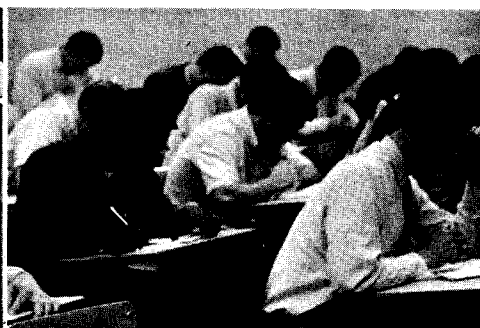
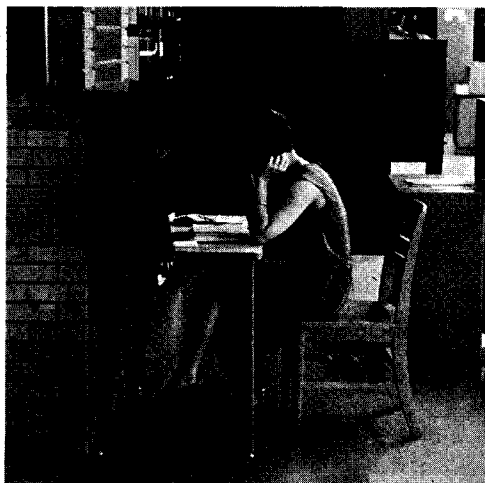
(Economics)



New Liberal Arts Building



Campus Quadrangle



School of Liberal Arts

Preston B. Williams, Ph.D., Dean

Degree Offerings

Bachelor of Arts with majors in the following fields:

English	History
French	Sociology
Government	Spanish

Master of Arts with majors in the following fields:

English	Government	History
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The Liberal Arts

Lamar State College of Technology accepts the philosophy that higher education involves the whole mind of man and thus should not be limited merely to job preparation. Thus, every student in the College takes a substantial portion of his first two years of work in courses offered by the School of Liberal Arts.

The liberal arts are those fields which "liberate" the mind and give the student an opportunity to learn about and to criticize the various facts and assumptions about man, his society, and the relationship between the individual and that society. Broadly speaking, the area may be divided into the Humanities (English, History, Journalism, Modern Languages and Philosophy) and the Social Sciences (Government, Sociology, Geography, Anthropology, Economics, and Psychology).

Specialization in one or more of these disciplines provides an excellent liberal education and the best possible pre-professional preparation.

Bachelor of Arts—Pre-Law Program

The Bachelor of Arts 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 Baylor University Law School is the only Texas law school which does not require a bachelor's degree for admission.)
- II. By completing three years of work, 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. The completion of the 232 course in a foreign language.
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 Liberal 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.

DEPARTMENT OF ENGLISH

Department Head—Harry L. Frissell. *Director of Freshman English*—Nora B. Leitch. *Professors*—Robert J. Barnes, George W. deSchweinitz, Winfred S. Emmons, Robert C. Olson, Henry B. Rule, A. W. Yeats. *Associate Professors*—Isabelle Allen, Jay P. Blumenfeld, Clarine Branom, Elizabeth Meeks, Jack N. Renfrow, R. Blaine Thomas, David D. Zink. *Assistant Professors*—James M. DeGeorge, Elizabeth Eikel, Marilyn D. Georgas, Olga D. Harvill, Henry Hutchings III, Arney L. Strickland, Robert H. Wilkerson. *Instructors*—Royce G. Bass, Dennis R. Butler, Grady Cherry, Gordon D. Cole, Dalton C. DeHart, Eldin C. Fender, David S. Gallant, Flonelle B. Greer, *Sue Hetherington, Richard F. Horaney, John W. Johnson, Mary Kerr, Jerome W. Keys, *Janet McClendon, Charles J. Olson, Annette E. Platt, Lynda A. Riess, Jack W. Schneider, Joan B. Setzer, Marcus W. Sevier, William T. Walker, Jr. *Departmental Secretary*—Mrs. Audrey Wynn. (* On leave.)

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, English 430, and nine 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. 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, journalism, mathematics, philosophy, psychology, sciences, sociology, and speech.

A minor in English consists of six hours of sophomore literature, 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—141-142	8	Gov 231-232—State and National . . .	6
*Mth	6	Foreign Languages—231-232	6
Electives	6	Electives	6
HPE—Activity	2	HPE—Activity	2
	—		—
	34		32

Third Year		Fourth Year	
Eng 331-332—American Literature	6	Eng 430—History of the	
Eng	3	English Language	3
*Laboratory Science	8	Eng	6
Minor	9	Minor	9
Electives	6	Electives	12
	32		30

*Students may follow general degree requirement in regard to science and mathematics.

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: 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. Class: 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 upper-classmen 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. 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. 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. 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. Prerequisite for any sophomore course is completion of Eng 131 and 132, or completion of Eng 135.)

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 poetry, fiction, and drama. 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 scientific reports according to standard usage recommended by scientific and engineering societies. May not be counted for English major credit. 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. 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 frequently referred to in the literature of the western world. Class: 3 hours. Credit: 3 semester hours.

3316—Poetic Analysis. A study of the forms and techniques and the critical evaluation of poetry. Class: 3 hours. Credit: 3 semester hours.

430—History of the English Language. Theory and nature of language. Studies in the growth of English 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.

4322—Russian Literature. Selected works from nineteenth and twentieth century Russian literature in translation, Pushkin to Sholokov. Class: 3 hours. Credit: 3 semester hours.

4123, 4223, 4323, 4423, 4523, 4623—Institute in English. The theory and practice of traditional, structural, and generative grammar; the theory

and practice of composition; and the critical analysis of literature. Class: 1-4 hours. Laboratory: 2-4 hours. Credit: 1-6 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.

4326—Expository Writing. The practical application of the techniques of mature exposition; classification, explanation, evaluation. Class: 3 hours. 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. Prerequisite: Admission to candidacy for the master's degree. Credit: 6 semester hours.

Journalism (Jou)

131—Introduction to Mass Communications. A study of mass communication and the media involved in the dissemination of news. Emphasis is given to methods of gathering, writing, and presenting the news by newspapers, magazines, and other media. Class: 3 hours. Credit: 3 semester hours.

132—Introduction to Mass Communications. A continuation of Journalism 131, with detailed study of newspapers, television and radio, magazines, book publishing, motion pictures, advertising, public relations and mass communications research. Class: 3 hours. Credit: 3 semester hours.

231—News Reporting. A basic course in gathering material and writing news stories for publication. Proficiency in typewriting is required. Course may be repeated for a maximum of six semester hours credit. Class: 3 hours. Credit: 3 semester hours.

232—Editing and Copyreading. The development and use of printing. type recognition, type harmony, preparing editorial material, writing headlines and correcting copy. Prerequisite: Journalism 231. Class: 3 hours. Credit: 3 semester hours.

331—Laws and Ethics of the Mass Media. A study of the responsibilities of the media, including ethical responsibilities to news sources, persons in the news, readers and employers, and legal rights and restrictions. Class: 3 hours. Credit: 3 semester hours.

332—History and Principles of American Journalism. The growth of modern newspapers, with emphasis on important persons in American journalism and the influence of their publications on the history of the United States. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF GOVERNMENT

Department Head—Irving O. Dawson. *Professors*—Manfred Stevens, William R. Tucker. *Associate Professors*—Wendell M. Bedichek, Ruth S. Coffey, William Pearson, C. Don Stephens.* *Instructors*—Henry E. Allee, James D. Fairbanks, John W. Pickering, Carl F. Pinkele, John S. Pipkin, Glenn H. Utter. (* On leave.) *Departmental Secretary*—Janet Foster.

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 political science but a minimum of one course is required from each of the following six specialized areas: American government and politics, Political philosophy, Empirical political theory, International politics, Comparative government and politics, Public administration. Acceptable courses under each heading are: American government and politics—334, 335, 337, 339, 436, 437, 3301, 3311, 3312, 3313, 3315. Political philosophy—431, 432, 433; Empirical political theory—131, 330, 438; International politics—332, 336, 435; Comparative government and politics—331, 333, 338, 3317, 3318; Public administration—3316, 430, 434, 439.

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 thirty hours in government including 231, 232, and eighteen hours in a minor from the fields of history, English, sociology, psychology, economics, business, speech, foreign language, or journalism. Students must also complete Psychology 241.

Bachelor of Arts—Government

First Year		Second Year	
Eng 131, 132—Composition	6	Eng 231, 232—Lit.	6
Mth*	6	Science	8
Language**	8	Gov. 231, 232—St and Nat	6
Electives***	6	Hist 231, 232—United States	6
HPE—Activity	2	Language	6
Gov 131—Ele of Pol Anal	3	HPE—Activity	2
	31		34

Third Year		Fourth Year	
Gov	12	Gov	12
Minor	9	Minor	9
Electives	6	Electives	9
Psy 241	4		
	31		30

*This requirement may be met by taking 4 courses in mathematics or laboratory science, with no more than 3 courses in mathematics or 3 in science.

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

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

Teacher Certification—Government

Students wishing to secure the Bachelor of Arts degree in government are 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, 3312, three 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.

111—Current Issues. A lecture-discussion course on a current issue or issues of great significance. Class: 1 hour. Credit: 1 semester hour.

131—Elements of Political Analysis. History of political institutions and ideas; powers and cultural setting of modern governments; approaches to the study of political science. Class: 3 hours. Credit: 3 semester hours.

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.

✓ **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—Political Systems of Western Europe. An analysis of the political systems of Great Britain, France, and Germany emphasizing their political culture, socio-economic conditions, recruitment of leadership, pressure groups, political parties and decision-making process. Class: 3 hours. Credit: 3 semester hours.

332—Studies in 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—Government and Politics of the Soviet Union. A study of the origin, development, structures, functions and behavior of the Soviet decision-making organs. 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 Institutions. An analysis of the political and legal foundations of international organizations with emphasis on the procedure and machinery for the peaceful settlement of international disputes. The League of Nations, the United Nations, specialized agencies, disarmament, and regional arrangements will be considered. Class: 3 hours. Credit: 3 semester hours.

337—The Politics of American Foreign Policy. An analytical and historical view of United States foreign policy; its domestic sources; the instruments of American diplomacy; United States involvement in world politics; and the limitations and potentials of American foreign policy. Class: 3 hours. Credit: 3 semester hours.

338—Latin American Political Systems. An intensive comparative analysis of the political systems of Latin America with special emphasis on political culture, constitutional development, authoritative decision-making activities and agencies, interest identification, leadership selection, political socialization, and conflict resolution. Class: 3 hours. Credit: 3 semester hours.

339—Urban Politics. 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—American 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—American State Politics. A survey of American state political patterns, with special reference to Texas. Class: 3 hours. Credit: 3 semester hours.

3313—Elementary Jurisprudence and the Judicial Process. A survey of the major schools of legal thought; the structure, processes, and personnel of American courts; judicial opinions and vote as a guide to the predictability of decisional behavior. Class: 3 hours. Credit: 3 semester hours.

3315—Ethnic Politics in the United States. Analysis and appraisal of ethnic political action in the American political process; political socialization and voting behavior; techniques of participatory democracy and resulting problems of public policy. Class: 3 hours. Credit: 3 semester hours.

3316—Introduction to Public Administration. A survey of American public administration, with emphasis upon modern problems and trends. Class: 3 hours. Credit: 3 semester hours.

3317—Politics of Developing Areas. An analysis of the political systems of Latin America, Africa, the Middle East, and Asia, focusing on ideologies, interest groups, political parties, elites, and problems in political development. Class: 3 hours. Credit: 3 semester hours.

3318—East Asian Governments and Politics. An introduction to the political ideas, institutions, and processes of China and Japan considered against their social and economic development with special emphasis on the political problems of the contemporary scene. Class: 3 hours. Credit: 3 semester hours..

430—Organizational Theory and Behavior. A study of the structural and management aspects of public administration, theory and practice; policy formation processes and techniques. 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—Formulation of Public Policy. The demands for public action on policy issues, organization and nature of political support; processes and problems of decision-making in the formulation of public policy at the national, state, and local levels. The subject will vary from semester to semester. Class: 3 hours. Credit: 3 semester hours.

435—The International System. The study of the legal bases of the modern international system and the political and legal characteristics of the developing world order. 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, commerce, 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 due process and civil rights. Class: 3 hours. Credit: 3 semester hours.

438—Approaches to the Study of Politics. A systematic introduction to the various methodological approaches and research techniques used by contemporary political scientists, focusing particularly on the integration of research findings and the design of research models. Class: 3 hours. Credit: 3 semester hours.

439—Comparative Public Administration. A study of bureaucratic structures and functions of advanced and developing nations, emphasizing comparison of relationships between environments and administrative processes. Class: 3 hours. Credit: 3 semester hours.

530—Scope and Method of Political Science. The study in depth of selected topics concerning the theoretical foundations underlying a scientific approach to the study of political phenomena and analytical techniques to be applied to a study of political behavior. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

531—Seminar in Political Theory. Selected issues in political thought with emphasis on the classical thinkers and their relationship to contemporary political, economic and social problems. Prerequisites: graduate standing. Class: 3 hours. Credit: 3 semester hours.

534—Seminar in American Government and Politics. A survey of the literature in the field of American government and politics. Classical and contemporary works are examined, with emphasis on the modern approaches to the study of American government and politics. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

535—Seminar in the Theory and Practice of Public Administration. An analytical survey of organization, management and problems in public executive organizations: includes study of organization theory, policy formulation, personnel, finance and administrative leadership. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

536—Seminar in International Politics. The study in depth of selected problems in international relations, both historical and current. Problems of a theoretical and institutional nature as well as specific policies will be dealt with. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

537—Seminar in Comparative Study of Political Systems. Study of the theory and method of comparative political analysis; systematic examination and explanation of the structure and function of Western and non-Western political systems.

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

DEPARTMENT OF HISTORY

Department Head—Ralph A. Wooster. *Professors*—Paul E. Isaac, Howard Mackey, L. Wesley Norton, Preston B. Williams. *Associate Professors*—Howell Gwin, R. Beeler Satterfield, Naaman Woodland. *Assistant Professors*—Adrian N. Anderson, Joseph C. Lambert, William A. MacDonald, William Seale,* J. W. Storey, Walter Sutton, Marion Ware. *Instructors*—Samuel Bell, John R. Rochelle, JoAnn Stiles, Frank Wright. *Departmental Secretary*—Mrs. Karen Farrar. (* On leave.)

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
 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 124 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	8	Foreign Language	6
Mth	6	Science	8
Electives	6	Gov 231-232—St and Nat	6
HPE—Activity	2	HPE—Activity	2
	—		—
	34		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	15-17
Field) and Electives	12-14		—
	—		30-32
	30-32		

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. 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. With the approval of the head of the Department of History six additional hours in history may be substituted for the minor.

History (His)

131—History of World Civilization. Survey of world history to 1660. Class: 3 hours. Credit: 3 semester hours.

132—History of World Civilization. Survey of world history from 1660 to 1865. Prerequisite: sophomore standing. 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 1965. 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.

330—History of Ideas. The Judeo-Christian and Greco-Roman elements in the Western intellectual tradition. Class: 3 hours. Credit: 3 semester hours.

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 of American diplomacy. Class: 3 hours. Credit: 3 semester hours.

338—Urban History of the United States. The origin and development of cities in the United States. 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 1860. Russia, Poland, and the Balkans from the period of the Byzantine Empire to 1860. 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 colonial times to the present. Class: 3 hours. Credit: 3 semester hours.

437—The Old South. The American South from colonial times to the Civil War. Class: 3 hours. Credit: 3 semester hours.

438—The New South. The American South from the Civil War 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 1920. Class: 3 hours. Credit: 3 semester hours.

4317—New Deal and World Leadership: The United States from 1920 to 1940. 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.

4321—The Far East to 1800. Japan, China, Indo-China, and India to 1800. Class: 3 hours. Credit: 3 semester hours.

4322—The Far East Since 1800. Japan, China, Indo-China and India since 1800. 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.

4328—**Contemporary America: The United States Since 1940.** Class: 3 hours. Credit: 3 semester hours.

4329—**Modern European Intellectual History.** An examination of the major European intellectual movements and thinkers from the Renaissance to the present. Class: 3 hours. Credit: 3 semester hours.

4331—**Russia Since 1860.** The development of modern Russia, from 1860 to the present. Class: 3 hours. Credit: 3 semester hours.

4332—**Afro-American History to 1865.** The black experience in Africa and in the Western hemisphere prior to emancipation. Class: 3 hours. Credit: 3 semester hours.

4333—**Afro-American History since 1865.** The black experience toward achieving freedom in the United States. Class: 3 hours. Credit: 3 semester hours.

4101, 4201, 4301, 4401, 4501, 4601—**Institute in History.** Designed to advance the professional competence of participants. For each institute, a description of the particular area of study will be indicated. May be repeated for credit when nature of institute differs sufficiently from one previously taken. Class: 1-6 hours. Credit: 1-6 semester hours.

530—**Classical and European Historiography.** Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

531—**American Historiography.** Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

532—**Readings in American 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.

533—**Readings in European History Before 1815.** 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.

534—**Readings in European History Since 1815.** 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—**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 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.

5311—Seminar in European 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.

5101, 5201, 5301, 5401, 5501, 5601—Institute in History. Designed to advance the professional competence of participants. For each institute, a description of the particular area of study will be indicated. May be repeated for credit when nature of institute differs sufficiently from one previously taken. Class: 1-6 hours. Credit: 1-6 semester hours.

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

DEPARTMENT OF MODERN LANGUAGES

Department Head—M. LeRoy Ellis. *Professor*—Dorothy S. Zellner. *Associate Professors*—John H. Lockhart, Victoria E. Urbano. *Assistant Professors*—Nathan Francis, Llewella J. Lusk, Antonio de Pineda, Genevieve Smith. *Instructor*—Werner Schroeder. *Departmental Secretary*—Mrs. Morfydd Timmerman.

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.

Placement. The 141 courses are for students who have had no high school courses in the language. A student may not receive credit for two units of high school language and the 141 course in the same language without the approval of the department head. Placement of native speakers will be determined by the head of the department.

A student who has studied a foreign language in high school and who desires to continue the study of the same language on the college level will be placed according to his proficiency in the language—the proficiency being objectively determined by either a CEEB language score submitted or by his score made on the Departmental Language Placement Examination which is required of those not submitting a CEEB score. The Departmental Language Placement Examination is given on Monday morning preceding fall registration as well as every day during fall and spring registration. A student should plan to report for testing at least two or three hours before his scheduled time to register to allow sufficient time for the scoring of his test.

Advanced Status. A student submitting a CEEB achievement test score will be placed according to the CEEB language 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 141 course provided he has not had the equivalent course in high school (one semester of college level language being the equivalent to one year of high school language). 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 231-232 course, at least eighteen of which must be advanced level courses. Required courses are 333, 334,* 335, 336

*332 in Spanish.

and at least six hours of senior level courses. The 235 course may be included in the twenty-four semester hours required.

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, journalism, 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 141-142—Elementary	8	Maj Lang 231, 232—Intermediate	6
Eng 131-132—Composition	6	Maj Lang (235 Conv)	3
Mth	6	Eng Lit	6
His 131-132—World History	6	His 231-232—United States	6
**Spc, Art, or Music	3	Sci	8
**Phl, Soc, or Ant	3	HPE—Activity	2
HPE—Activity	2	Elec	3
	34		34
Third Year		Fourth Year	
***Maj Lang 333-334—Literature	6	Maj Lang—Literature	6
Maj Lang 335—Adv Comp	3	Elec (incl. minor)	24
Maj Lang 336—Adv Comp Conv	3		30
Maj Lang	3		
Gov. 231-232—St and Nat	6		
Elec (incl. minor)	10	Total degree hours	129
	31		

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

**French majors must take Phl 131 and Spc 133.

***Spanish 332 instead of Spanish 334.

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 333, 334 (Spanish 332 instead of 334), 335, 336 courses and twelve additional hours above the 142 course in the language chosen.

French (Fre)

141—Elementary French. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

142—Elementary French. Prerequisite: French 141 or equivalent determined by examination. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

231, 232—Reading, Composition, Conversation. Prerequisite for French 231; French 142 or equivalent. Class: 3 hours. Credit: 3 semester hours per course.

235—French Conversation. Recommended for majors in French and for students desiring teacher certification in French. Not open to native speakers. When topic is different and with approval of department head, the course may be repeated for credit. Prerequisite: completion of French 231 or 232 with a grade of "A" or "B." Class: 3 hours. Credit: 3 semester hours.

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.

433—Survey of Seventeenth Century French Literature. A study of representative prose and poetry of the period with secondary stress on the dramatic literature. Prerequisite: 6 hours advanced courses in French. Class: 3 hours. Credit: 3 semester hours.

434—Survey of Eighteenth Century French Literature. Primarily a study of the Philosophes with secondary stress on the purely literary genres. Prerequisite: 6 hours advanced courses in French. Class: 3 hours. Credit: 3 semester hours.

German (Ger)

141—Elementary German. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

142—Elementary German. Prerequisite: German 141 or equivalent determined by examination. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

231, 232—Reading, Composition, Conversation. Prerequisite for German 231: German 142 or equivalent. 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.

235—German Conversation. Recommended for students desiring teacher certification in German. Not open to native speakers. When topic is different and with approval of department head, the course may be repeated for credit. Prerequisite: completion of German 231 or 232 with a grade of "A" or "B." 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)

141—Elementary Spanish. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

142—Elementary Spanish. Prerequisite: Spanish 141 or equivalent determined by examination. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

231, 232—Reading, Composition, Conversation. Prerequisite for Spanish 231: Spanish 142 or equivalent. Class: 3 hours. Credit: 3 semester hours per course.

235—Spanish Conversation. Recommended for majors in Spanish and for students desiring teacher certification in Spanish. Not open to native speakers. When topic is different and with approval of department head, the course may be repeated for credit. Prerequisite: completion of Spanish 231 or 232 with a grade of "A" or "B." Class: 3 hours. Credit: 3 semester hours.

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.

432—Development of Spanish Novel. 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.

437—Drama and Poetry of Spanish America. Prerequisite: 6 hours of advanced Spanish. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF SOCIOLOGY

Department Head—Delbert L. Gibson. *Professors*—Claude B. Boren, John M. Ellis. *Associate Professors*—George B. Wall, George A. Woodward. *Assistant Professors*—Raymond L. Drenan, Bernard J. Giarratano, David E. Gibson. *Instructors*—David M. Ashworth, Robert E. Beckley, Paul E. Joubert, Kenneth L. Minor, D. Gene Valentini, Edward A. Vinson, John A. Voss.

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	8	Language	6
Mth	6	Science	8
Soc 131—Introduction	3	Soc	3
Soc 132—Social Problems	3	Elective or minor field	3
HPE—Activity	2	HPE—Activity	2
	—		—
	34		34
Third Year		Fourth Year	
Gov 231, 232—St and Nat	6	Soc 438—Research Methods	3
Soc.	6-9	Soc 439—Social Theory	3
Minor field	6-9	Minor field	6-12
Electives	6-9	Electives	3-9
	—	Soc	6-9
	30		—
		Total—126 semester hours	30

Sociology Major

The major consists of thirty semester hours of sociology courses, including Soc 131, Soc 132, Soc 438, and Soc 439.

Anthropology (Ant)

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

233—Ethnology. Analysis of culture and its development. Class: 3 hours. Credit: 3 semester hours.

330—Peoples and Cultures. Intensive analysis of designated peoples and their cultures. Prerequisite: Ant 231 or Ant 233. Class: 3 hours. Credit: 3 semester hours. The course may be repeated for credit when the designated topics are varied.

331—Culture and Personality. The influences of culture upon individual behavior and personality. Prerequisite: Ant 231 or 233 or Soc 131. Class: 3 hours. Credit: 3 semester hours.

Philosophy (Phl)

131—Introduction to Philosophy. 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 the 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.

330—Philosophy of Science. A critical analysis of the basic concepts and procedures of science. Prerequisite: Phl 231. 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.

332—Problems in Philosophy. Study in depth of a specialized field of philosophical inquiry. Prerequisite: Phl 231. Class: 3 hours. Credit: 3 semester hours. The course may be repeated for credit when the designated topics are varied.

Social Work (Swk)

331—Introduction to Social Work. History and philosophy of social welfare and social work. Class: 3 hours. Credit: 3 semester hours.

332—The Behavioral Sciences. Understandings of human behavior and development as derived from the several sciences of man. Class: 3 hours. Credit: 3 semester hours.

333—The Social Work Profession. Characteristics of and methods employed by the social work profession. Class: 3 hours. Credit: 3 semester hours.

334—Social Welfare. Programs of social welfare within American society. Class: 3 hours. Credit: 3 semester hours.

431—Social Work Practice. Supervised work experience in a community agency. Class: 4 hours daily for three days a week. Credit: 3 semester hours. (May be repeated once, for credit.)

432—Seminar. Current topics in social work. Class: 3 hours. Credit: 3 semester hours. (May be repeated for credit when the topic is varied.)

Sociology (Soc)

131—Introduction to Sociology. Sociology as a field of knowledge. Basic terms, concepts, 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.

230—Urban Problems. The study of contemporary urban problems in America. Attention is given to problems of poverty, transportation, disorganization, and city planning and reconstruction. Class: 3 hours. Credit: 3 semester hours.

231—Deviant Behavior. The study of the major areas of social maladjustment from the standpoint of the processes underlying social and individual disorganization, such as alcoholism, illegitimacy, suicide, drug addiction and other personal deviations. Class: 3 hours. Credit: 3 semester hours.

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.

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.

335—The Family. Structural and functional characteristics of the family as a basic institution. 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 relationship between minority and dominant groups. Class: 3 hours. Credit: 3 semester hours.

338—Criminology. Extent of and explanation 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 selected topics. Class: 3 hours. Credit: 3 semester hours. The course may be repeated for credit when the designated topics are varied.

431—Population Problems. The growth and composition of population with emphasis on social, economic, and political problems. 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.

438—Research Methods. Techniques of scientific research in sociology. Class: 3 hours. Credit: 3 semester hours.

439—Social Theory. A survey of major social and sociological theories. Class: 3 hours. Credit: 3 semester hours.

531—Seminar in Sociology. Basic concepts and principles of sociology as applied to the study of selected topics. Prerequisite: graduate standing in the School of Education. Class: 3 hours. Credit: 3 semester hours.

532—Group Work. The structures and processes of groups—both formal and informal—as sources of support and of modification of the behavior of group members. Prerequisite: graduate standing in the School of Education. Class: 3 hours. Credit: 3 semester hours.

COURSES IN BIBLE AND RELIGIOUS EDUCATION

Instructors—Williams, Goss, Hudgens, Robertson, Shuffler, Wray.

These courses are provided by church related sources. If credit is desired, the fees are payable to the college. A maximum of 12 semester hours is allowed with the approval of the student's academic dean.

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 Teaching 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, and some emphasis on major contemporary religions. Class: 3 hours. Credit: 3 semester hours.

332—Great Ideas of the Bible. Planned to present Biblical concepts of God, man, history, covenant, prophecy, vocation, and related ideas. Class: 3 hours. Credit: 3 semester hours.

333—The Twentieth Century Church. Designed to explore the purpose and task of the church in today's world and the kind of church needed to fulfill that goal. Areas of concern are: the Biblical basis for the Christian mission, the ecumenical movement, the new theology of the laity, the secular relevance of the Gospel, and the continuing renewal of the church. Class: 3 hours. Credit: 3 semester hours. Prerequisite: Bible 132 or 133.

DEPARTMENT OF ECONOMICS

Department Head—Charles A. Partin. *Professors*—Sam F. Parigi. *Associate Professors*—Hi K. Kim, Mietzl Miller, James M. Pearson, Norman L. Weed. *Assistant Professors*—Joel L. Allen, Charles F. Hawkins.

The Department of Economics offers both the Bachelor of Arts and Bachelor of Business Administration degrees in the field of economics. See programs of study, Department of Economics, School of Business.

SCHOOL OF BUSINESS

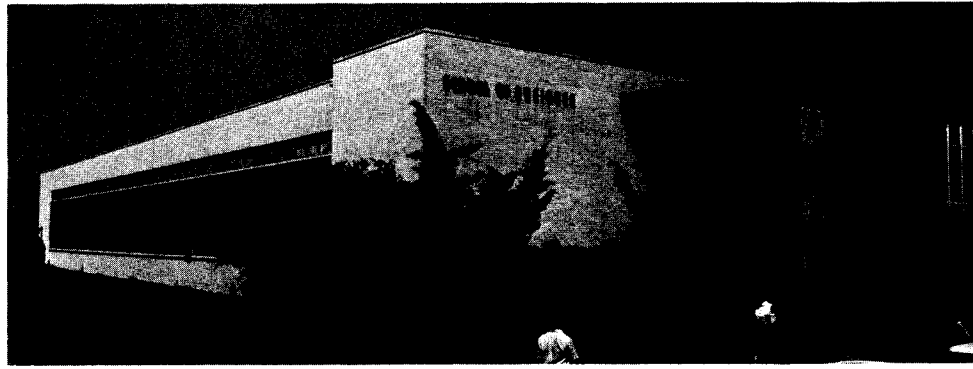
Departments

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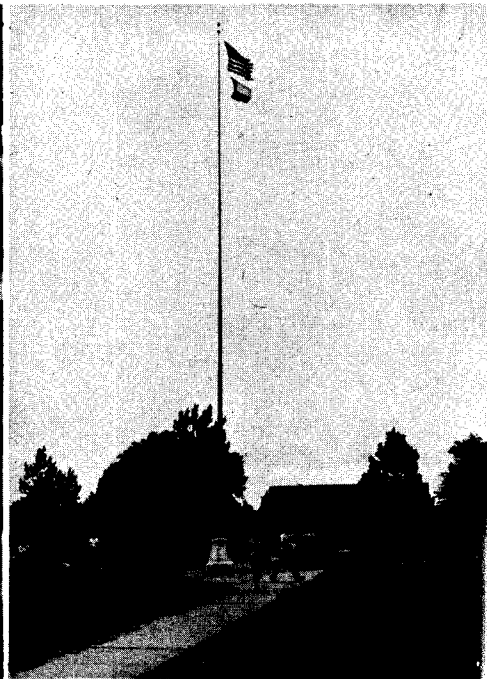
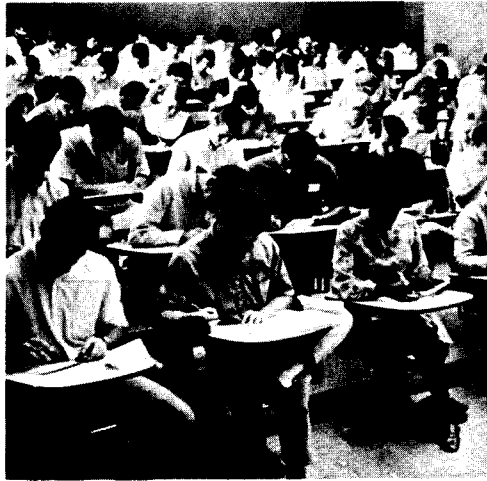
Business Administration

Economics

Secretarial Science



School of Business Building



School of Business

J. D. Landes, Ph.,D., Dean

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.

The degree of Master of Business Administration is also offered. Details may be found in the Graduate Bulletin.

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 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 operation. The development of such basic business understanding is the objective of the core course 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 presenta-

tion, the School utilizes many approaches including lecture, discussion, case method, including research, projects, etc. Lower level courses are presented primarily from historic and descriptive points 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 131, 132—Principles of Economics

Eng 131, 132—Composition

Gov 231, 232—State and National

His 231, 232—United States

Literature—six semester hours

Mth 134, 1341—Algebra and Elements of Analysis

Physical Education or Band—four semester hours

Science—eight semester hours (in same science)

Soc, Phil, or Ant—three semester hours

Spc 131—Fundamentals of Speech

Approved Non-professional education electives—twelve semester hours—not to exceed six semester hours in any subject area

B. Pre-professional course (three semester hours)

BA 120—Introduction to Computer Programming

BA 210—Computer Programming (Fortran)

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—Principles of Management

BA 431, 432—Business Statistics

Eco 238—Macro Economics

Eco 339—Economics of the Firm

SS 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 (21-24 semester hours)

Acc Major (21 sem. hours)

Acc 331, 332—Inter Acc
 Acc 334—Cost Acc
 Acc 338—Tax Acc
 Acc 339—Tax Acc
 Acc 430—Auditing
 Acc 431—Adv Acc

Economics Major

See Department of Economics in this catalog for specific requirements in this area of specialization.

Gen Bus Major (21 sem. hours)

BA 333—Insurance
 BA 336—Per Management
 BA 4314—Admn Policies
 Eco 237—Inter Theory
 Eco 433—Hist of Eco Tht
 6 semester hours of advanced courses in Acc, BA, or Eco

Management Major (21 sem. hours)

Acc 334—Cost Acc
 BA 336—Per Management
 BA 3311—Labor Law or Eco 336
 BA 4310—Mkt Mgmt
 BA 4314—Admin Policies
 BA 4315—Budgetary Control
 BA 436—Production Mgmt

Marketing Major (21 sem. hours)

BA 336—Per Management
 BA 338—Prob in Ret-Whlsg
 BA 339—Sales Promotion
 BA 4310—Mkt Mgmt
 BA 4314—Admin Policies
 BA 4318—Mkt Research
 BA 4319—Adv Mkt Prob

Sec Sci Major (23 sem. hours)

BA 336—Per Management
 BA 437—Investments
 SS 123—Inter Typing
 SS 222—Prod Typing
 SS 332—Dict & Trans
 SS 341—Sec Off Procedures
 SS 363—Adv Shorthand

E. Approved Electives (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 superior 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 133—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

Mth—twelve semester hours (including 6 sem. hours of Calculus)
 Phl 231—Introduction or Phl 232—Logic
 Physical Education or Band—four semester hours
 Psy 231—General
 Science—eight semester hours (in same science)
 Soc 330—American Society
 Spc 331—Professional Speech

One year of science may be substituted for the second year of foreign language if a student has completed two years of the same language on the high school level.

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 335—Prin of Mgmt
 BA 431, 432—Business Statistics
 SS 344—Business Communications

C. Professional Specialization (18 semester hours)

Acc 331, 332—Inter Acc
 BA 336—Per Management
 BA 4314—Admin Policy
 Eco 237—Inter Theory
 Eco 433—Hist of Eco Thought

D. Approved Electives (11 semester hours—upper level courses including six hours of economics)

To complete a total of 132 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.

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 128 semester hours exclusive of physical education and band.
 - V. A minimum of 30 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.

Requirements for the **Master of Business Administration** degree are given in detail in the Graduate Bulletin.

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

Department Head—J. D. Landes. *Associate Professors*—H. A. Barlow, Elvis C. Davis, W. Fred Farrar. *Assistant Professors*—Howard V. Galliher, George C. Sculley.

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 120—Int to Comp Prog	2	Acc 231, 232—Prin.	6
Eco 131, 132—Prin.	6	BA 210—Comp Prog-Fortran	1
Eng 131, 132—Comp.	6	Eng—Literature	6
Mth 134, 1341—Alg & Analysis	6	Gov 231, 232—State & Natl.	6
Science	8	His 231, 232—United States.	6
Spc	3	HPE—Activity	2
HPE—Activity	2	Soc, Ant, or Phl.	3
	—	Electives	3
	33		—
			33
Third Year		Fourth Year	
Acc 331, 332—Interm.	6	Acc 430—Auditing	3
Acc 338, 339—Tax Acc.	6	Acc 431—Advanced	3
BA 331—Bus Law.	3	Acc 334—Elem Cost.	3
BA 332—Prin of Finance.	3	BA 334—Marketing	3
BA 431, 432—Bus Statcs.	6	BA 335—Prin of Mgmt.	3
Eco 339—Eco of Firm.	3	Eco 238—Macro Eco.	3
Electives	6	SS 344—Bus Commun.	4
	—	Electives	11
	33		—
			33

Accounting (Acc)

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.

338—Taxation Accounting: Provisions of the income tax code as applied to individuals. Taxable income; gains and losses; capital gains; dividends; expenses; itemized deductions; depreciation; losses; standard deduction. Prerequisite: Acc 232. Class: 3 hours. Credit: 3 semester hours.

339—Taxation Accounting. Provisions of the income tax code as applied to proprietorships, partnerships, estates, trusts, and corporations. Withholding; inventory; installment sales; reorganizations; filing returns; refunds; social security taxes; estate taxes; gift taxes. Prerequisite: Acc 338. 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. Analysis of special problems and theories relative to partnership operations; receivership; compound interest and annuities; estates and trusts; branch operations; consolidated statements. Prerequisite: Acc 332. 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.

434—Advanced Cost Accounting. Standard costs, budgeting and control of manufacturing costs, reporting for managerial evaluation. Prerequisite: Acc 334. Class: 3 hours. Credit: 3 semester hours.

435—Accounting Systems. Analysis of theoretical models illustrating structure, design, and installation of specific accounting systems with emphasis on computer application. Prerequisite: Acc 232. Class: 3 hours. Credit: 3 semester hours.

437—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.

534—Seminar in Accounting. A course designed to broaden the student's concepts of current accounting theory and problems. Class: 3 hours. Credit: 3 semester hours.

536—Advanced Accounting Problems. An intensive study of accounting techniques and problems with emphasis placed on the concepts of income determination, asset valuation, and cost analysis. Contemporary developments are reflected through a study of research material and professional publications. Class: 3 hours. Credit: 3 semester hours.

537—Managerial Accounting. Application of accounting data in decision-making; cost analysis as applied in the development of budgets and standards; accounting as a tool for cost control and pricing; case problems. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF BUSINESS ADMINISTRATION

Department Head—Richmond O. Bennett. *Professors*—Walter W. Bennett, Richard T. Cherry, C. D. Kirksey. *Associate Professors*—Arthur F. Stelley, David G. Taylor, Donald E. Williams. *Assistant Professors*—George R. Goetz, Jack Hill, Ann D. Jones, Royce W. Plyler, Don R. Robinson, Alfred F. Steiert.

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 the 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 personal 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 Liberal Arts.

Programs of Study

Bachelor of Business Administration—General Business Major (Plan I)

First Year		Second Year	
BA 120—Intro to Comp Prog	2	Acc 231, 232—Prin	6
BA 210—Comp Prog-Fortran	1	Eco 131, 132—Prin	6
Eng 131, 132—Comp	6	Eng—Literature	6
Mth 134, 1341	6	Gov 231, 232—State & Natl	6
Science	8	His 231, 232—United States	6
Soc, Phl, Ant, or Psy	3	HPE—Activity	2
Spc	3	Elective	3
HPE—Activity	2		—
Elective	3		35
	—		
	34		

Third Year		Fourth Year	
BA 331—Bus Law	3	BA 333—Insurance	3
BA 332—Prin of Finance	3	BA 335—Prin of Mgmt	3
BA 334—Prin of Marketing	3	BA 336—Per Mgmt	3
BA 431, 432—Bus Ststes	6	BA 4314—Admin Policy	3
Eco 237—Interm Theory	3	Eco 339—Eco of Firm	3
Eco 238—Macro Econ	3	Eco 433—His of Eco Tht	3
SS 344—Bus Commun	4	Electives (Bus or Eco 300 or 400 Level)	14
	—		—
	31		32

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 133—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—Prin of Marketing.....	3	BA 336—Personnel Mgmt.....	3
Eco 237—Interm Theory.....	3	BA 335—Prin of Mgmt.....	3
Eng—Literature.....	6	BA 4314—Adm Policy.....	3
Gov 231, 232—State & Natl.....	6	Eco 433—Hist Eco Tht.....	3
Sp 331—Professional.....	3	SS 344—Bus Commun.....	4
Electives*	3	Electives*	8
	33		33

*Approved Electives—Must be upper level courses and include six hours of Economics.

Bachelor of Business Administration—Management Major

First Year		Second Year	
BA 120—Intro to Comp Prog....	2	Acc 231, 232—Prin.....	6
BA 210—Comp Prog-Fortran....	1	Eco 131, 132—Prin.....	6
Eng 131, 132—Comp.....	6	Eng—Literature.....	6
Mth 134, 1341.....	6	Gov 231, 232—State & Natl.....	6
Science.....	8	Hist 231, 232—United States....	6
Soc, Phl, Ant, or Psy.....	3	HPE—Activity.....	2
Spe.....	3	Elective (non-business).....	3
HPE—Activity.....	2		35
Electives (non-business).....	3		
	34		

Third Year		Fourth Year	
BA 331—Bus Law.....	3	Acc 334—Cost Acc.....	3
BA 332—Prin of Finance.....	3	BA 336—Personnel Mgmt.....	3
BA 334—Prin of Marketing.....	3	BA 3311—Labor Law or Eco 336	3
BA 335—Prin of Mgmt.....	3	BA 436—Production Mgmt.....	3
BA 431, 432—Bus Ststes.....	6	BA 4314—Admin Policy.....	3
Eco 238—Macro Eco.....	3	BA 4310—Mktg Mgmt.....	3
SS 344—Bus Commun.....	4	BA 4315—Budgetary Control....	3
Electives (non-business).....	6	Eco 339—Eco of Firm.....	3
	31	Electives (Bus or Eco 300 or 400 Level).....	8
			32

 Program of Study

Bachelor of Business Administration—Marketing Major

First Year		Second Year	
BA 120—Intro to Comp Prog...	2	Acc 231, 232—Prin.....	6
BA 210—Comp Prog—Fortran...	1	Eco 131, 132—Prin.....	6
Eng 131, 132—Comp.....	6	Eng—Literature.....	6
Mth 134, 1341.....	6	Gov 231, 232—State and Natl....	6
Science.....	8	His 231, 232—United States....	6
Soc, Phl, Psy or Ant.....	3	HPE—Activity.....	2
Spc.....	3	Elective (non-business).....	3
HPE—Activity.....	2		—
Elective (non-business).....	3		35
	—		
	34		

Third Year		Fourth Year	
BA 331—Bus Law.....	3	BA 338—Prob in Ret & Whl....	3
BA 332—Prin of Finance.....	3	BA 336—Personnel Mgmt.....	3
BA 334—Prin of Marketing.....	3	BA 339—Sales Promotion.....	3
BA 335—Prin of Mgmt.....	3	BA 4310—Mktg-Mgmt.....	3
BA 431, 432—Bus States.....	6	BA 4314—Adm Policy.....	3
Eco 238—Macro Eco.....	3	BA 4318—Mkt Research.....	3
SS 344—Bus Commun.....	4	BA 4319—Adv Mktg Problems....	3
Electives (non-business).....	6	Eco 339—Eco of Firm.....	3
	—	Electives (Bus or Eco 300 or	
	31	400 Level).....	8
			—
			32

 Program of Study

Bachelor of Business Administration—Pre-Law

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 120—Intro to Comp Prog 2	Acc 231, 232—Prin 6
BA 210—Comp Prog—Fortran 1	Eco 131, 232—Prin 6
Bio 141, 142—General 8	Eng—Literature 6
Eng 131, 132—Comp 6	Gov 231, 232—State and Natl 6
Mth 133—Trigonometry 3	His 231, 232—United States 6
Mth 134—Algebra 3	HPE—Activity 2
Phl 3	Elective (non-business) 3
Soc 131 3	—
Spc 131 3	35
HPE—Activity 2	
—	
34	
Third Year	
Acc 331, 332—Interm 6	
BA 332—Prin of Finance 3	
BA 334—Prin of Marketing 3	
BA 335—Prin of Mgmt 3	
BA 431, 432—Bus States 6	
Eco 339—Eco of Firm 3	
Eco 238—Macro Eco 3	
SS 344—Bus Commun 4	
Electives (Bus or Eco 300 or 400 Level) 6	
—	
37	

*Advanced courses in Business Administration with the exclusion of Business Law.

Business Administration (BA)

120—Introduction to Computer Programming, (COBOL). An introduction to computers and the COBOL language to familiarize the students with computer approaches for various types of statistical and mathematical problems. Each student prepares programs in the COBOL language. Class: 1 hours. Laboratory: 2 hours. Credit: 2 semester hours.

210—Computer Programming (FORTRAN). To familiarize the student with the FORTRAN language application to solving business problems. Problems involve inventory, production, taxes, compound-interest, and stock turnover rates. Class: 1 hour. Credit: 1 semester hour.

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—Principles of Management. A general theory of management presented within the framework of the traditional managerial functions. Stress is placed upon the universality and practicality of casual propositions in the practice of management in all of business. A basic course for the study of more advanced and specialized aspects of business administration. Prerequisites: Eco 132 and Acc 232. Class: 3 hours. Credit: 3 semester hours.

336—Personnel Management. A behavioral approach to the management of the human resource in business enterprise. The fundamentals of human relations and organizational behavior will be used to structure an understanding of the managerial problems of recruitment, selection, training, promotion, and termination of personnel. Supervision of the work force will be considered as an examination of theories of motivation, communication, and leadership. Prerequisites: BA 335. Class: 3 hours. Credit: 3 semester hours.

338—Problems in Retailing and Wholesaling. A study of the concepts and practices in retailing and wholesaling with both small and large scale applications. Prerequisite: BA 334. Class: 3 hours. Credit: 3 semester hours.

339—Sales Promotion. The three basic forms of selling are studied: advertising (paid, nonpersonal presentation of goods, services, or ideas through print or electronic media); salesmanship (personal selling through oral presentation with one or more prospective purchasers); and sales appeals (activities other than advertising and salesmanship which stimulate consumer purchasing and dealer effectiveness). 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.

434—Advanced Legal Principles. Dealing in detail with the applicable statutes governing sales, real property, bank deposits and collections, letters of credit, bulk transfers, documents of title, and secured transactions, with particular emphasis given to the effect of the Uniform Commercial Code. Prerequisite: BA 331. Class: 3 hours. Credit: 3 semester hours.

436—Production Management. Planning and controlling of industrial production processes. Quantitative and qualitative control; 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.

4310—Marketing Management. The planning and execution of various marketing activities from the managerial viewpoint are presented, viz.: determining the basic product (or service) market analysis, price policies, product promotion, management of the sales force, and sales analysis and physical distribution with the logistics system concept. 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; reapraisals. Prerequisites: Senior standing in Business Administration. 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: 2 hours. Laboratory: 2 hours. Credit: 3 semester hours.

4318—Marketing Research. The importance and use of marketing research in U.S. business is stressed. A detailed analysis is made of each marketing research step from the formulation of the problem to the preparation of the research report and follow-up. The basic research methods (survey, observational, and experimental) are presented. Class: 3 hours. Credit: 3 semester hours.

4319—Advanced Marketing Problems. Oral and written cases in the area of marketing management and marketing strategy are utilized (organization, product lines, pricing, channels of distribution, selling, etc.). Emphasis is placed on simulated problem solving and decision making in the marketing environment. Class: 3 hours. Credit: 3 semester hours.

530—Seminar in Management. A course designed to give students an integrated theory of management which incorporates the significant contributions of the various approaches. Research papers are presented by each student as an inquiry in depth of certain sub-theories. Prerequisite: approval of professor. Class: 3 hours. Credit: 3 semester hours.

531—Seminar in Marketing. An intensive study of specific marketing problems with emphasis on research methodology; a critical evaluation of research procedures and utilization of research findings; promotional programs. Prerequisite: approval of professor. Class: 3 hours. Credit: 3 semester hours.

532—Problems in Business Finance. A comprehensive study of how financial problems affect all areas of business management. The case study approach is utilized in order to stimulate analysis and discussion of forms of organization, promotion of new firms, short-term and long-term sources of funds and financing, dividend policies, mergers, refinancing and recapitalization, reorganization, and comprehensive financial planning. Class: 3 hours. Credit: 3 semester hours.

538—Advanced Business Problems. Managerial decision-making in the areas of marketing, finance, production, and labor-management relations. General management perspectives are stressed in determining objectives, establishing policies, and planning and organizing the use of facilities, materials, and manpower; motivation of individuals and groups. The case-study approach is utilized. Class: 3 hours. Credit: 3 semester hours.

539—Quantitative Analysis Control. A course designed to cover the interrelationships of production, distribution, and finance. The problems and situations confronting top and middle management are critically examined. Quantitative tools and techniques of accounting, statistics, and mathematics are employed to provide a framework for analysis and decision-making. Prerequisite: approval of professor. Class: 3 hours. Credit: 3 semester hours.

5310—Advanced Statistical Analysis. Further development of the application of statistical methods to the process of making decisions in the face of uncertainty. The use of quantitative methods and models for man-

agement is emphasized. Topics include multiple correlation, sampling theory, queing theory, and statistical quality control. Prerequisite: BA 432 and mathematical competence. Class: 3 hours. Credit: 3 semester hours.

5311—Seminar in Financial Management. A study of selected topics in financial management, including capital budgeting and optimum financial structure. Research papers are presented by each student for critical analysis and discussion. Class: 3 hours. Credit: 3 semester hours.

5312—Business Research. The student will design and carry out an individual research project under the supervision of a faculty member. Emphasis will be placed on research design and methodology, sources of business and economic data, and the use of quantitative techniques to achieve substantive research results.

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

DEPARTMENT OF ECONOMICS

Department Head—Charles A. Partin. *Professors*—Sam F. Parigi. *Associate Professors*—Hi K. Kim, Mietzl Miller, James M. Pearson, Norman L. Weed. *Assistant Professors*—Joel L. Allen, Charles F. Hawkins.

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.

Program of Study

Bachelor of Arts—Economics Major

Requirements:

1. Complete 128 semester hours exclusive of HPE and Band.
2. Complete 30 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	Eng—Literature 6
Foreign Language..... 6	Foreign Language..... 6
Mth 134, 1341—Alg & Elems.... 6	Eco 237—Interm Theory..... 3
Eco 131, 132—Prin..... 6	Eco 238—Macro Eco..... 3
Science 8	Gov 231, 232—State & Natl.... 6
HPE—Activity 2	His 231, 232—United States.... 6
	— HPE—Activity 2
	BA 120—Intro to Comp Prog... 2
34	—
	34
Third Year	Fourth Year
Eco 339—Eco of Firm..... 3	Eco 432—Mon & Bkg..... 3
BA 431, 432—Bus States..... 6	Eco 433—Hist Eco Thot..... 3
SS 344—Bus Commun..... 4	**Electives 25
**Electives 19	BA 210 Comp Prog..... 1
—	—
32	32

Bachelor of Business Administration—Economics Major

Requirement: Complete 30 semester hours in the field of Economics.

**Electives must include six semester hours of advanced courses in Economics.

First Year		Second Year	
Eng 131, 132—Comp.....	6	Acc 231, 232—Prin.....	6
Mth 134, 1341—Alg & Elems....	6	Eng—Literature	6
Science	8	Eco 237—Interm Theory	3
Eco 131, 132—Prin.....	6	Soc, Phl, or Ant.....	3
BA 120—Intro to Comp Prog....	2	Gov 231, 232—State & Natl.....	6
Spc	3	His 231, 232—United States....	6
HPE—Activity	2	BA 210—Computer Prog.....	1
	—	HPE—Activity	2
	33		—
			33
Third Year		Fourth Year	
BA 331—Bus Law.....	3	Eco 432—Mon & Bkg.....	3
BA 332—Prin of Finance.....	3	BA 335—Prin of Mgmt.....	3
BA 334—Marketing	3	SS 344—Bus Commun.....	4
BA 336—Per Mgmt.....	3	**Electives	23
BA 431, 432—Bus States.....	6		—
Eco 238—Macro.....	3		33
Eco 339—Eco of Firm.....	3		
**Electives	9		
	—		
	33		

**Electives must include 15 semester hours of advanced courses in Economics.

Economics (Eco)

131—Principles. Introduction to economic principles. Emphasizes monetary theory; national income analysis; fluctuations and growth; public finance; international trade; and current economic problems. Class: 3 hours. Credit: 3 semester hours.

132—Principles. Continuation of Eco 131. Allocation of resources; determination of output and prices; distribution; and managerial economics. Class: 3 hours. Credit: 3 semester hours.

133—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.

237—Intermediate Theory. Economic analysis and methodology. Distribution theory; price theory; pure and imperfect competition. Class: 3 hours. Credit: 3 semester hours.

238—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.

331—Econometrics. Introduction to econometrics; scope, techniques and methods, survey of classical econometric models, application of techniques to such problems as production functions, cost functions, input-output models, etc. Prerequisite: Eco 131, 132, college algebra. Class: 3 hours. Credit: 3 semester hours.

332—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.

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.

337—Public Finance I. Investigation of the constitutional, administrative, and economic aspects of government fiscal activities, the important trends in intergovernmental fiscal relations, and the nature of government debt. Class: 3 hours. Credit: 3 semester hours.

338—Public Finance II. Study of the administration, fiscal importance, and economic effects of federal, state, and local taxes. 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.

4111, 4211, 4311, 4411. Special problems in economics. Investigation into special areas in economics under the direction of a faculty member. This course may be repeated for credit when topics of investigation differ. Credit: 1-4 semester hours.

431—Monetary Theory. An analytical, institutional, historical, and empirical analysis of monetary theory, and its interrelations with the generally accepted economic goals. Class: 3 hours. Credit: 3 semester hours.

4314—Industrial Organization and Countervailance. A systematic study of industrial organizations; market structures, conduct, and performance; sociopolitical environment and interplay between the firm and society;

public policies as social counterpoint. Class: 3 hours. Credit: 3 semester hours.

431—Social Control of Business. Problems in business-government relations; business and other power group influences on the formation and implementation of public policy; the dynamics of legislative and administrative processes as they relate to business; and the concept of social responsibility. 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.

434—Economic Development. Introduction to the theories and history of economic growth and development applicable to advanced and emerging economies; analysis of processes of growth including cultural, technological, and economic factors; identification of problem areas with policy implications. 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.

439—Mathematical Economics. A formulation of economic theory in mathematical terms. Special attention is given to general equilibrium analysis, interindustry economics and activity analysis. Prerequisites: Eco 131, 132, Mth 1341 or differential and integral calculus. Class: 3 hours. Credit: 3 semester hours.

4101, 4201, 4301, 4401, 4501, 4601—Institute in Economics. Institutes are designed to advance the professional competence of participants. The description of the area of study of each institute will appear on the printed semester schedule. When courses are conducted in sufficiently different areas and with the approval of the department head, a participant may repeat the course for credit. Class: 1 to 6 hours. Laboratory: 2 to 4 hours. Credit: 1 to 6 semester hours.

530—Seminar in Monetary and Fiscal Policy. A study of the theory and practice of monetary management and the taxing-borrowing-spending programs of the government as they affect growth, output, employment, prices and resource allocation. Prerequisites: Principles of Economics—6 semester hours and graduate standing. Class: 3 hours. Credit: 3 semester hours.

531—Advanced Macroeconomics. A study in depth of the dynamic forces reacting to determine the aggregate level of economic activity; em-

ployment, output, and income; prices, cycles, and growth. Prerequisites: Macroeconomics—3 semester hours and graduate standing. Class: 3 hours. Credit: 3 semester hours.

532—Advanced Economic Theory. Advanced economic analysis and methodology; price and distribution theory; perfect and imperfect competition and allied subjects. Prerequisites: Eco 237 and graduate standing. Class: 3 hours. Credit: 3 semester hours.

533—Contemporary Literature and Thought. Readings, special projects, studies, and research in the current professional literature. The student will become acquainted with learned journals, economists, their current thinking, present issues and emphases in the field. Class: 3 hours. Credit: 3 semester hours.

534—Seminar in Labor Economics. Lectures, readings and research projects on contemporary labor issues and theory: manpower development programs, collective bargaining, productivity, composition of the labor force, and labor legislation. Class: 3 hours. Credit: 3 semester hours.

535—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.

536—American Economic Growth and Development. An advanced level study and analysis of the major forces which contributed to American economic development; regional development theory and actual growth patterns; theories of growth applied to America's economic development, past, present, and potential. Prerequisites: graduate standing. Class: 3 hours. Credit: 3 semester hours.

537—Managerial Economics. A study in depth of the principles and techniques of economic analysis applicable to the problems of business management. Prerequisite: Graduate standing. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF SECRETARIAL SCIENCE

Department Head—Norma S. Hall. *Assistant Professors*—Nancy S. Darsey, Jean Dorrell, Nelda C. Garcia, Eleanor S. Sladczyk, Jeannette Vaughn.

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.

A major in Secretarial Science may be combined with courses in Education. This plan will qualify a graduate for a professional teacher's certificate.

The Department also offers a two-year program for students who do not desire to follow any degree plan. The two-year curriculum is 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.

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. Many successful men in positions of leadership began their business careers as secretaries.

Program of Study

First Year		Second Year	
BA 120—Int to Comp Prog	2	Acc 231, 232—Prin	6
Eco 131, 132—Prin	6	BA 210—Comp Prog Fortran	1
Eng 131, 132—Comp	6	Eng—Literature	6
Mth 134, 1341—Algebra & Elems	6	Gov 231—Const & State	3
SS 123—Interm Typing	2	His 231, 232—United States	6
Science	8	HPE—Activity	2
HPE—Activity	2	Soc, Phl, or Ant	3
		Spc	3
		Elective	3
	32		32

Third Year		Fourth Year	
BA 331—Bus Law	3	BA 335—Ind Mgmt	3
BA 332—Prin of Finance	3	BA 336—Pers Mgmt	3
BA 334—Marketing	3	BA 437—Investments	3
BA 431, 432—Bus Stats	6	SS 222—Prod Typing	2
Gov 232—Natl	3	Eco 339—Eco of Firm	3
SS 363—Adv Shorthand	6	Eco 238—Macro Eco	3
SS 344—Bus Commun	4	SS 341—Sec. Off Proc	4
Electives	6	SS 332—Diet & Trans	3
		Electives	9
	34		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 SS 438.
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	
BA 120—Int to Comp Prog	2	Acc 231, 232—Prin	6
Eng 131, 132—Comp	6	BA 210—Comp Prog Portran	1
Mth 134, 1341—Algebra & Elems	6	Eco 131, 132—Prin	6
SS 123—Interm Typing	2	Eng—Literature	6
SS 125—Records	2	SS 222—Prod Typing	2
SS 363—Adv Shorthand	6	SS 344—Bus Commun	4
Spc 131—Fund	3	SS 341—Sec. Off Proc	4
Electives	5	SS 332—Diet & Trans	3
HPE—Activity	2		
	34		32

Secretarial Science (SS)

121—Typewriting (Short Course). Introduction to 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 SS 121 with emphasis on speed and accuracy in preparation of production units. Letters; rough drafts; manuscript; tabulations. Class: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

125—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: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

123—Intermediate Typewriting. 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: 2 hours. Credit: 2 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 Diamond Jubilee Shorthand. Reading, writing; theory principles; brief forms. Class: 2 hours. Laboratory: 2 hours. Credit: 2 semester hours.

234—Beginning Shorthand (Short Course). Continuation of SS 233 with intensification of shorthand reading and writing skills. (SS 233 with SS 234 equivalent to SS 261.) Brief form review; previewed dictation; pretranscription practice. Class: 2 hours. Laboratory: 2 hours. Credit: 3 semester hours.

261—Beginning Shorthand. Intensive introduction to Gregg Diamond Jubilee Shorthand. Reading; writing; theory principles; brief forms; previewed dictation; pretranscription practice. Class: 4 hours. Laboratory: 4 hours. Credit: 6 semester hours.

341—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. Laboratory: 2 hours. Credit: 4 semester hours.

332—Dictation and Transcription. Continuation of SS 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. Prerequisite: touch system of typewriting. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

363—Advanced Shorthand. Continuation of SS 261 with improvement of ability to take dictation and transcribe mailable copy. Theory prin-

principles; brief form derivatives; vocabulary development; speed building; mailable transcriptions; office-style dictation. Class: 4 hours. Laboratory: 4 hours. Credit: 6 semester hours.

438—Business Education in the Secondary School. Theories, methods, and materials in business education with emphasis on motor-skill subjects. Practices; procedures; evaluation; facilities; literature; research problems. Class: 3 hours. Credit: 3 semester hours.

SCHOOL OF ENGINEERING

Departments

Chemical

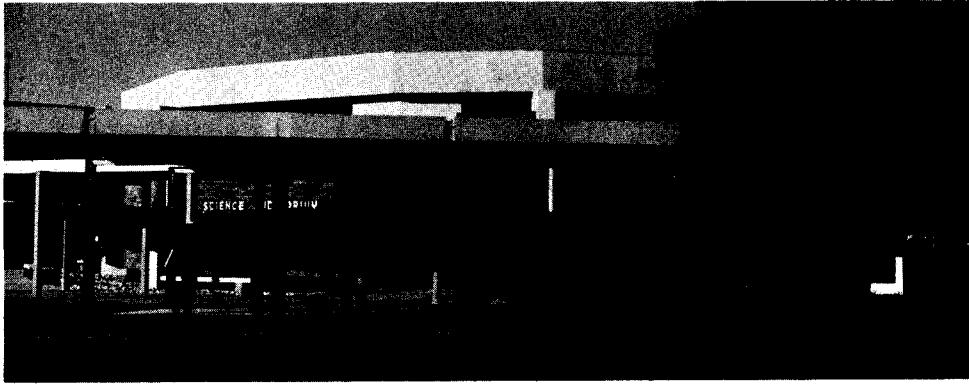
Civil

Electrical

Industrial

Mechanical

Mathematics



Science Lecture Auditorium



New Engineering Building



Engineering Building # 1



Chemistry Building # 2

School of Engineering

Lloyd B. Cherry, P.E., Dean
George B. Tims, Jr., P.E., Associate Dean
Dorothy Nichols, School Secretary

The School of Engineering offers five undergraduate curricula in engineering and two in mathematics as well as graduate curricula at the master level in both engineering and mathematics. These curricula are designed to prepare graduating students for positions of leadership as they become professional engineers, administrators, investigators, applied mathematicians or teachers; yet, the basic knowledge and mental discipline gained from these educational programs is sufficiently broad and fundamental to constitute excellent preparation for other careers.

The Texas Engineering Practice Act of 1965 contains the following:

“. . . In recognition of the vital impact which the rapid advance of knowledge of the mathematical, physical and engineering science as applied in the practice of engineering is having upon the lives, property, economy and security of our people and the national defense, it is the intent of the Legislature, in order to protect the public health, safety and welfare, that the privilege of practicing engineering be entrusted only to those persons duly licensed, registered and practicing under the provisions of this Act . . .

“. . . In furtherance of such intent and purpose of the Legislature, the practice of engineering is hereby declared a learned profession to be practiced and regulated as such, and its practitioners in this state shall be held accountable to the state and members of the public by high professional standards in keeping with the ethics and practices of the other learned professions in this state. . . .

“The term ‘Professional Engineer’ when construed by the Board shall mean a person who, by reason of his knowledge of mathematics, the physical sciences, and the principles of Engineering acquired by professional education and practical experience, is qualified to engage in Engineering practice.

“The term ‘Professional Engineering’ when construed by the Board shall mean professional service which may include consultation, investigation, evaluation, planning, designing, or responsible supervision of construction, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works or projects wherein the public welfare, or the safeguarding of life, health and property is concerned or involved, when such professional service requires the application of Engineering principles and the interpretation of Engineering data. . . .”

The law specifically states the qualities of engineering practice and thus defines the general scope of engineering education. Thus, 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 engineering curricula and, to some extent, the mathematics curricula leading to the bachelor of science degree with an engineering minor, have been designed upon a common core of subjects rich in mathematics and science which appear throughout each curriculum. The first two years of study are common for all engineering curricula, thus until the engineering student completes the first two years of work, he will be classed as an engineering student without departmental designation. Because of the variety of mathematics programs, all mathematics majors are admitted directly to the mathematics department upon matriculation.

Each student in the School of Engineering is assigned to a member of the faculty who serves as his counselor. Through his counselor, the student will be able to determine his ultimate professional interests as well as obtain help and guidance in his academic life.

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	½	unit
3. Natural Sciences		
Chemistry	1	unit
Physics	1	unit
4. Social Sciences	2	units
5. Electives	4½	units
Total	16	units

Students who meet the general entrance requirements of the College, but lack in specific requirements for the engineering curricula may, upon consultation with the Dean, 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 should 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, developments 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 programs, 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 2.5 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.

Core Program

First Year

First Semester			Second Semester		
Chm 141—Gen Chem	3- 3- 4		Chm 142—Gen Chem	3- 3- 4	
Eng 131—Rhet & Comp	3- 0- 3		Eng 132—Rhet & Comp	3- 0- 3	
Egr 121—Graphics	0- 6- 2		Egr 122—Int Data Proc	2- 0- 2	
Gov 231—Constitutions	3- 0- 3		Egr 132—Mechanics I	3- 0- 3	
Mth 1381—Anal Geom	3- 0- 3		Mth 1391—Calculus I	3- 0- 3	
HPE 111—Activity	0- 3- 1		HPE 112—Activity	0- 3- 1	
	12-12-16			14- 6-16	

(Students planning to major in the Environmental Engineering Option should refer to the Department of Civil Engineering section of this catalog for their second year program. All other majors take the regular second year of the Core Program.)

Second Year

First Semester		Second Semester	
Egr 231—Mechanics II	3- 0- 3	Eng—Literature	3- 0- 3
Gov 232—Amer & State	3- 0- 3	Egr 233—Elec Circ, Fields	3- 0- 3
Mth 2311—Calculus II	3- 0- 3	Egr 234—Thermodynamics	3- 0- 3
Mth 234—Prob & Stat	3- 0- 3	Mth 2321—Calculus III	3- 0- 3
Phy 241—Ht, Elec, Mag	3- 3- 4	Phy 242—Lt, Snd, Qua	3- 0- 4
HPE 211—Activity	0- 3- 1	HPE 212—Activity	0- 3- 1
	15- 6-17		15- 6-17

Three and one-half units of high school mathematics and the Level I Mathematics Achievement Test are required for registration in Mth 1381. 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.

One unit of high school physics as well as completion of or enrollment in Mth 1391 are required for enrolling in Egr 132. Students deficient in high school physics are required to take Phy 141.

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 programs for a digital computer. Class: 2 hours. Credit: 2 semester hours.

132—Mechanics I. Utilizes vectors in the study of particle mechanics. Energy methods. Prerequisite: Mth 1391 or concurrent. Class: 3 hours. Credit: 3 semester hours.

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.

214—Industrial Projects. Special assignments in the major areas of engineering under guidance of a faculty member. Presentation of oral and written reports. May be repeated for credit. Prerequisite: Approval of academic dean. Credit: 1 semester hour.

231—Mechanics II. Kinematics of rigid bodies, kinetics of rigid bodies, work and energy, impulse and momentum. Prerequisite: Egr 132; Mth 2311 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 2321. 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; ferromagnetic circuits; inductance and capacitance; principles of energy conversion and measurements. Prerequisite: Phy 241; Mth 2321 or concurrent. Class: 3 hours. Credit: 3 semester hours.

234—Thermodynamics. The fundamental laws of thermodynamics, properties of systems, gases, vapors, and thermodynamics tables. Prerequisite: Chm 142 Phy 241; Mth 2321 and Mth 234 or concurrent; Egr 122. Class: 3 hours. Credit: 3 semester hours.

235—Digital Computation. Continuation of Egr 122. Problem theory, flow charting, solution of advanced problems from the various engineering disciplines. Class: 3 hours. Credit: 3 semester hours.

331—Momentum Transfer. Fluid-flow concepts are presented through the derivation of the basic equations of continuity, energy, and momentum. Engineering aspects of flow measurement, pressure-drop calculations, and pumping requirements are considered. Prerequisite: Egr 234. Class: 3 hours. Credit: 3 semester hours.

333—Electronics. A study of charged particles; metals and semiconductors; vacuum tube and transistor characteristics; gaseous conduction; rectifiers and power supplies. Prerequisite: Egr 233 and Mth 2321. 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 232. Class: 3 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4101, 4201, 4301, 4401—Special Problems. An investigation into specialized areas of engineering under the guidance of a faculty member. This course may be repeated for credit when topics of investigation differ. Credit: 1-4 semester hours.

Egr 421—Data Processing. A study of AM, FM, and pulse width modulation for telemetry of data and use of analog and digital computers for storing and analyzing the data. Class: 1 hour. Laboratory: 3 hours. Credit: 2 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.

532—Kinetics. The theory of absolute reaction rates will be discussed and applied to the calculation of reaction rate constants. The experimental

evaluation of kinetic data will be considered. The design of industrial reactors will be briefly discussed. Course credit in chemistry is optional. Class: 3 hours. Credit: 3 semester hours.

533—Computer Methods in Engineering Analysis. Computer techniques will be introduced and employed. Numerical methods for solving transcendental equations, polynomials, simultaneous linear algebraic equations, linear and nonlinear ordinary differential equations. Monte Carlo method, random numbers and simulation of Engineering system will be introduced. Class: 3 hours. Credit: 3 semester hours.

534—Nonlinear Analysis. Various methods of solving non-linear differential equations are studied. Analytical, graphical, and computer solutions are included. Class: 3 hours. Credit: 3 semester hours.

535—Control Theory. Introduction to state variables; multiple-input-multiple-output systems; controllability; performance criteria; choice of control strategy. Class: 3 hours. Credit: 3 semester hours.

536—Thermodynamics. Process Industry. Thermodynamic laws are derived and applied to physical and chemical phenomena. Ideal and non-ideal gas, liquid, and solid solution behavior are developed for physical and chemical equilibria. Statistical and irreversible Thermodynamics are introduced. Course credit in chemistry is optional. Class: 3 hours. Credit: 3 semester hours.

537—Thermodynamics-Energy Conversion. The basic laws of Thermodynamics are derived and applied to the analysis of power cycles, energy conversion, and specific processes. Basic principles of irreversible thermodynamics and phenomenological relations are presented. An elementary statistical approach is presented with simple examples of the calculation of the transport properties of gases, liquids, and solids. Class: 3 hours. Credit: 3 semester hours.

538—Sampled-Data Control Systems. Principles of digital and sampled-data control systems, analysis of response, stability, and compensation by transforms and other methods; special topics as time permits. Prerequisite: Mth 4301. Class: 3 hours. Credit: 3 semester hours.

539—Seminar. Investigation of current engineering practices, research, and literature. The course may be repeated for credit where the subject matter differs. Class: 3 hours. Credit: 3 semester hours.

5311—Heat Transfer Analysis. Fundamental principles of heat transfer by conduction, convection and radiation. Emphasis will be given to the analysis of problems combining the various heat transfer mechanisms. Class: 3 hours. Credit: 3 semester hours.

5312—Heat Transfer Mechanism. This course will be concerned with individual mechanisms of heat transfer. The mechanisms studied will be conduction, radiation, convection, or boiling. The course may be repeated for credit as the mechanism studied varies. Class: 3 hours. Credit: 3 semester hours.

5313—Fluid Mechanics. Fluid statics, fundamentals of fluid motion, systems and control volumes, basic laws, irrotational flow, similitude and dimensional analysis, incompressible viscous flow, boundary layer theory, and an introduction to compressible flow. Vector methods will be employed. Class: 3 hours. Credit: 3 semester hours.

5314—Distillation. Modern methods are surveyed for distillation-column calculations. Material and energy balance relationships are reviewed for multicomponent fraction equipment and for batch stills. Various plate designs are presented including hydraulic factors of pressure drop and flooding, and plate efficiency is treated in detail. Class: 3 hours. Credit: 3 semester hours.

5315—Theory of Elasticity. 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.

5316—Operations Research I. The use of advanced mathematical models for optimizing engineering problems with emphasis on management decisions. Includes special techniques based on systems analysis, design of experiments, linear programming, queing, simulation, and probabilistic analysis. Class: 3 hours. Credit: 3 semester hours.

5317—Micromeritics. Shape and size-distribution of particles. Theories of sieving, grading and grinding. Surface properties. Chemical properties. Pacing mechanics of particulate matter (statics, dynamics, behavior under stress, thermodynamics). Electrical, optical and sonic properties. Diffusion, transport, collection and separation of small particles. Class: 3 hours. Credit: 3 semester hours.

5318—Stress Analysis. 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 gauges. Investigation of dynamic loading with oscilloscopes and other recording apparatus. Class: 3 hours. Credit: 3 semester hours.

5319—Design of Experiments. Experimental design and analysis of experiments are developed as tools of the manufacturing and process industries. Exploratory and evolutionary (EVOP) designs, analysis of variance (ANOVA), error, and regression are treated to some detail. Prerequisite: Course in statistics or equivalent. Class: 3 hours. Credit: 3 semester hours.

5321—Quality Control Systems. Application of statistical methods to industrial problems; regression and correlation theory; analysis of variance; use of control charts for control of manufacturing operations. Class: 3 hours. Credit: 3 semester hours.

5322—Rheology. A study of non-Newtonian liquids with emphasis on principles and fundamentals. Methods of measuring rheological properties

of non-elastic and elastic liquids and prediction of laminar and turbulent flow. Class: 3 hours. Credit: 3 semester hours.

5323—Catalysis and Reactor Design. The mechanisms of catalytic processes will be considered in detail. The evaluation of catalyst effectiveness and selection of catalysts will be discussed. The design of catalytic and non-catalytic reactors will be considered. Class: 3 hours. Credit: 2 semester hours.

5324—Wave Mechanics in Particulate Matter. Propagation of elastic waves in semi-infinite media. Surface waves and body waves. Behavior of particulate masses under the effect of dynamic loading, impact and transient phenomena. Effect on sub-structures of waves from industrial, seismic and nuclear courses. Mechanical and electronic recording. Class: 3 hours. Credit: 3 semester hours.

5325—Information Theory. Aspects applicable to all fields of engineering. Entropy as a measure of information, signal processing, channel capacity and coding theory. Class: 3 hours. Credit: 3 semester hours.

5326—Waves and Coastal Processes. Hydrodynamics of waves, wave generation, reflection, energy transmission and dissipation. Coastal phenomena, harbors and breakwaters. Analysis of tides and tidal currents. Salt water, fresh water interaction and diffusion in estuaries; erosion and shoaling in tidal waters. Class: 3 hours. Credit: 3 semester hours.

5327—Marine Structures. Analysis of wind and wave forces acting on marine structures. Consideration of design techniques and design requirements for offshore structures. Application of computer methods. Class: 3 hours. Credit: 3 semester hours..

5328—Inelastic Theory of Structures. Investigation of structural behavior under conditions of overload. Design of structures using principles of ultimate strength and plastic design theories. Consideration of load and safety factors, stress redistribution, and shakedown. 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.

5332—Operations Research II. Advanced topics in operations research—linear programming, non-linear programming, advanced topics in queing and inventory theories, sensitivity analysis, and dynamic programming. Prerequisite Egr 5316 or equivalent. Class: 3 hours. Credit: 3 semester hours.

5333—Production Control. Advanced topics in technique employed in different types of manufacture for planning and controlling production. Class: 3 hours. Credit: 3 semester hours.

5334—Salary Administration for Engineers and Scientists. A study of salary incentives, job evaluation, and merit rating for engineering and scientific personnel, executive and managerial compensation. Class: 3 hours. Credit: 3 semester hours.

5335—Engineering Administration. The qualitative and quantitative responsibilities of the engineer as an administrator. The planning organization and control of engineering functions. Class: 3 hours. Credit: 3 semester hours.

5342—Special Topics. The course is designed to meet special needs of students. Each topic is offered on an irregular schedule as the demand requires. The course may be repeated for credit when the subject differs. Class: 3 hours. Credit: 3 semester hours.

5391—Work Systems Engineering. Study of current research in methods engineering and work measurement; work design; work systems, systems of standard data and predetermined motion time data, statistical treatment of work measurement. Class: 3 hours. Credit: 3 semester hours.

5101, 5201, 5301, 5401, 5501, 5601—Institute in Engineering. Designed to advance the professional competence of participants. For each institute, a description of the particular area of study will be indicated. May be repeated for credit when nature of institute differs sufficiently from one previously taken. Class: 1-6 hours. Credit: 1-6 semester hours.

5343—Industrial Waste Treatment. Procedures for analysis of the industrial waste problem, methods of collecting experimental data, and process design for required treatment. Case studies and special laboratory problems for translating experimental data to prototype design. Class: 3 hours. Credit: 3 semester hours.

5344—Unit Operations and Processes of Sanitary Engineering. Theory of fluid and slurry movement under gravity and pressure systems, mixing processes, coagulation and flocculation of chemical treatment, separatory processes including flotation and sedimentation, and gas transfer and absorption of the biological systems. Selected laboratory assignments for model studies of these unit operations. Class: 3 hours. Credit: 3 semester hours.

5345—Materials Technology. Study of materials specifications, standards, and their evaluation. A critical review of current specifications, how they were developed, and how they should be applied in engineering practice. Discussion of the proper use of mill reports, independent testing laboratories, and consultants. Class: 3 hours. Credit: 3 semester hours.

5351, 5352—Electric Power Systems Analysis I, II. A two semester sequence of topics, depending upon class interest, selected from: sym-

metrical components, impedance and fault current calculations, load flow studies, economic operation, stability and control. Both analytical and digital-computer methods may be employed as appropriate. Class: 3 hours. Credit 3 or 6 semester hours.

5354—Nuclear Power Plants. Nuclear reactor neutron kinetics; core reactivity effects of control poisons, coolant and fuel temperatures, fission product poisons; self regulation, automatic control; startup and shutdown; types of nuclear plants foreseen in electric power generation; special problems and benefits of nuclear power plants. Class: 3 hours. Credit: 3 semester hours.

5356—Modern Control Theory. Review of state variables; determining mathematical models from input-output data; on-off control systems; optional control. Class: 3 hours. Credit: 3 semester hours.

5357—Electromagnetic Fields and Waves. Brief review of basic field theory; solutions of the wave equations in several coordinate systems with various boundary conditions; study of plane waves in various media; study of transmission systems including transmission lines and waveguides. Class: 3 hours. Credit: 3 semester hours.

5358—Scientific Writing and Editing. Supervised presentation of technical and scientific projects for students proficient in exposition. Projects subject to department's and instructor's approval. Prerequisite: instructor's consent and departmental approval. Class: 3 hours. Credit: 3 semester hours.

5361—Microelectronic Integrated Circuits. A basic study of the synthesis of semiconductor and thin film integrated circuits using passive and active elements. The application of such devices to computers, signal processors and instruments. Class: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis. Prerequisite: admission to candidacy. Credit: 6 semester hours.

631—Design Project. Prerequisite: admission to candidacy. Credit: 3 semester hours.

DEPARTMENT OF CHEMICAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Department Head—Robert A. McAllister. *Professors*—Frederic C. Jelen, Richard E. Walker. *Associate Professor*—Edwin O. Eisen. *Assistant Professor*—Jack R. Hopper. *Laboratory Technician*—John Read. *Departmental Secretary*—Mrs. Katy Rankin.

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)

Third Year

First Semester		Second Semester	
ChE 342—Chm Proc Prin I	3-3- 4	ChE 313—Laboratory I	0-3- 1
ChE 435—Exptl Design	3-0- 3	ChE 332—Chm Proc Prin III	3-0- 3
Chm 341—Organic Chem	3-3- 4	ChE 333—Thermo II	3-0- 4
Egr 331—Mom Transfer	3-0- 3	Chm 342—Organic Chem	3-3- 4
Humanities	3-0- 3	Chm 432—Phys Chem	3-0- 3
		Egr 333—Electronics	3-0- 3
	17		17

Fourth Year			
First Semester		Second Semester	
ChE 414—Seminar	1-0- 1	ChE 423—Laboratory III	0-6- 2
ChE 431—Laboratory II	1-6- 3	ChE 433—Process Dynam	3-0- 3
ChE 432—Kinetics	3-0- 3	ChE 434—Design	1-6- 3
ChE 442—Chm Proc Prin IV	3-3- 4	Humanities ¹ or Chm	
Chm Elective ² or		Elective ²	3-0- 3
Humanities ¹	3-0- 3	Humanities ¹	3-0- 3
Elective	3-0- 3	Elective	3-0- 3
	17		17

¹Humanities

One of the following: Spc 331 (or Spc 131 or Eng 3311), His 231, His 232.

²Chm Elective

In certain cases the chemistry elective will be 4 hours instead of 3.

Chemical Engineering (ChE)

313—Laboratory I. Laboratory work based on ChE 342 and Engineering Core courses. Laboratory: 3 hours. Credit: 1 semester hour.

331—Chemical Process Principles II. General approach to fluid flow. Flow through porous materials, non-Newtonian flow, boundary-layer properties, metering, mixing, and other topics of special interest. Prerequisite: Egr 234. Class: 3 hours. Credit: 3 semester hours.

332—Chemical Process Principles III. Generalized approach to heat transfer, conduction, convection, and radiation will be considered. An introduction to mass transfer will be made. Prerequisite: Egr 331. Class: 3 hours. Credit: 3 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: ChE 342. Class: 3 hours. Credit: 3 semester hours.

342—Chemical Process Principles I. The application of mathematics, chemistry, and physics to solution of problems in industrial chemistry. Included are topics on mass and energy balance, phase equilibria, and economic evaluations. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours. Prerequisite: Egr 234.

414—Seminar: An oral and written presentation of selected topics in chemical engineering from recent technical publications. Class: 1 hour. Credit: 1 semester hour.

423—Chemical Engineering Laboratory III. Laboratory work based on Egr 331, ChE 332, and ChE 442. Prerequisite: ChE 442 or concurrent. Laboratory: 6 hours. Credit: 2 semester hours.

431—Chemical Engineering Laboratory II. Laboratory work based on Egr 331 and ChE 332. Prerequisite: Egr 331 and ChE 332 or concurrent. Class: 1 hour. Laboratory: 6 hours. Credit: 3 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—Process Dynamics and Control. 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.

434—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: 1 hour. Laboratory: 6 hours. Credit: 3 semester hours.

435—Experimental Design. Advanced statistical methods, including analysis of variance and experimental design. Prerequisite: Mth 234. Class: 3 hours. Credit: 3 semester hours.

442—Chemical Process Principles IV. A continuation of ChE 332. Includes Stagewise Processing—humidification, extraction, binary distillation, and multicomponent distillation. Prerequisite: ChE 332. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

4111—Seminar. Oral presentation of advanced topics or research work in chemical engineering. Class: 1 hour. Credit: 1 semester hour.

4316—Stagewise Processes. Graphical and analytical solutions of difference equations, and applications to the stagewise processes of engineering. 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. Course may be repeated for credit when subject matter varies. 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. Interaction of neutrons with matter, nuclear properties of materials, shielding and control of reactors, production of neutrons by nuclear fission, discussion of the various types of reactors and introduction to reactor theory and design. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF CIVIL ENGINEERING

Accredited by Engineers' Council for Professional Development

Department Head—Luther A. Beale. *Professors*—Andre P. Delflache, Bruce G. Rogers. *Associate Professors*—Bill R. Henry. *Assistant Professors*—Joseph V. Dust,* R. Joe Sewell. *Laboratory Technician*—Charles C. Cowart. *Departmental Secretary*—Donnie McKusker. (* On leave).

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

BASIC PROGRAM

First and Second Year

(See Core Program)

Note: Core Students planning to major in CE should take Egr 232 in lieu of Eng Lit. (See Page 160.)

Third Year

First Semester		Second Semester	
CE 313—Egr Meas	0-3- 1	CE 314—Surveying	0-3- 1
CE 334—Struc Mech	3-0- 3	CE 315—Ex Fld Mech I	0-3- 1
CE 337—Wtr Util Sys	3-0- 3	CE 326—Soil Science	2-0- 2
CE 338—Egr Spec & Law	3-0- 3	CE 328—Hydrology	2-0- 2
Egr 331—Mom Transfer	3-0- 3	CE 331 Environ Sc.	2-3- 3
Egr 334—Mechanics IV	2-3- 3	CE 439—Struc Stl Des	3-0- 3
Geo 220	1-3- 2	Eco 133—Prin & Pol	3-0- 3

Fourth Year

First Semester		Second Semester	
CE 410—Thesis Research . . .	1-0- 1	CE 316—Ex Fld Mech II . . .	0-3- 1
CE 413—Photogrammetry . . .	0-3- 1	CE 411—Seminar	1-0- 1
CE 434—Soil Egr	2-3- 4	CE 437—Trans Egr	3-0- 3
CE 438—Re Con Des	3-0- 3	CE 4312—Adv Struc Des	3-0- 3
His 231—United States	3-0- 3	Eng Lit	3-0- 3
Spc 331—Prof Spc	3-0- 3	His 232—United States	3-0- 3
Free Elective	3	*Technical Elective	3
	17		17

Total 133 Semester Hours

*Departmental approval required.

Environmental Engineering Option

First Year

(See Core Program)

Second Year

First Semester		Second Semester	
Bio 141—Gen Biology	3-3- 4	Bio 142—Gen Biology	3-3- 4
Egr 231—Mechanics II	3-0- 3	Egr 232—Mechanics III	3-0- 3
Mth 234—Prob & Stat	3-0- 3	Egr 233—Elec Cir & Fld	3-0- 3
Mth 2311—Calculus II	3-0- 3	Mth 2321—Calculus III	3-0- 3
Phy 241—Ht, Elec, Mag	3-3- 4	Phy 242—Snd, Lt, Quanta	3-3- 4
HPE—Activity	1	HPE—Activity	1
	18		18

Third Year

First Semester		Second Semester	
CE 313—Egr Meas	0-3- 1	Bio 243—Microbiology	3-3- 4
CE 334—Struc Mech	3-0- 3	CE 315—Ex Fld Mech I	0-3- 1
CE 337—Wtr Util Sys	3-0- 3	CE 328—Hydrology	2-0- 2
CE 338—Egr Specs & Law	3-0- 3	CE 331—Environ Sc	2-3- 3
Chm 243—Organic	3-3- 4	Chm 244—Physiological	3-3- 4
Egr 331—Mom Transfer	3-0- 3	Eco 133—Prin & Pol	3-0- 3
	17		17

		Fourth Year	
		First Semester	Second Semester
CE 410—Thesis Research . . .	1-0- 1	CE 316—Ex Fld Mech	0-3- 1
CE 433—Environ Hth Egr . . .	3-0- 3	CE 411—Seminar	1-0- 1
Chm 334—Air Analysis	2-3- 3	CE 435—Wtr Sup Egr	3-0- 3
His 231—United States	3-0- 3	Gov 232—State & Nat	3-0- 3
Spc 331—Prof Spc	3-0- 3	His 232—United States	3-0- 3
Elective	3	Eng Lit—Elective	3-0- 3
		Elective	3
	16		17

Total 135 Semester Hours

Electives

Bio 443—Limnology
 Bio 445—Marine Biology
 Chm 241—Quantitative Analysis
 Chm 333—Inorganic
 Chm 434—Air Pollution Control
 Geo 141—Physical Geology
 Geo 220—Geology for Engineers

Civil Engineering (CE)

313—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 utilize rotary and digital computers. Laboratory: 3 hours. Credit: 1 semester hour.

314—Surveying. Applications of measurement principles to civil engineering layout problems. Prerequisite: Egr 213. Laboratory: 3 hours. Credit: 1 semester hour.

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. Prerequisite: Egr 331. Laboratory: 3 hours. Credit: 1 semester hour.

316—Experimental Fluid Mechanics II. Boundary layer studies. Advanced problems in fluid flow. Flow nets. Prerequisite: CE 315. Laboratory: 3 hours. Credit: 1 semester hour.

326—Soil Science. Study of physical properties of soil—classification—hydraulics applied to soil mechanics. Prerequisite: Geo 220. Class: 3 hours. Credit: 2 semester hours.

328—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: 2 hours. Credit: 2 semester hours.

331—Environmental Science. Introduction to the hydrologic cycle and the chemistry and microbiology of the natural aquatic environment, with emphasis on the physical, chemical, and biological aspects of water and waste water systems in relation to man's environment. Laboratory work in the physical, chemical, and biological analysis of water and waste water. Prerequisite: Chm 142. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

334—Structural Mechanics. Analysis of loadings for bridges and buildings. Dynamics effects of moving loads. Influence lines. Shear and moment diagrams. Analysis of indeterminate structures. Model analysis. Introduction to structural design, investigation of frames, girders, and bents. Prerequisite: Egr 232. Class: 3 hours. Credit: 3 semester hours.

337—Water Utility Systems. The ecosystem of man as influenced by the water utility. Population evaluation and forecasting; factors influencing water demand and waste water flow; application of fluid mechanics to pressure and open channel flow of water systems and storage requirements. Design considerations of fluid transportation facilities including hydraulic, structural, and environmental elements. Class: 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.

410—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.

411—Seminar. Discussion of professional topics. Study of technical journals and transactions. Presentation of oral and written reports. Completed thesis required. Prerequisite: CE 410. Class: 1 hour. Credit: 1 semester hour.

413—Photogrammetry. Principles of aerial photography applied to map making, route locations and ground control. Introduction to use of photogrammetry equipment, including stereoscopes and plotters. Prerequisite: CE 314. Class: 1 hour. Credit: 1 semester hour.

422—Advanced Surveying. Geodesy and Cartography. Advanced Measurement science and theory of error adjustment. Prerequisite: CE 314. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

430—Indeterminate Structures. Basic principles of structural analysis and design, 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. Digital computer methods stressed. Prerequisite: CE 334. Class: 3 hours. Credit: 3 semester hours.

433—Environmental Health Engineering. Problems of public health in rural, urban, and industrial centers with water, housing, heating, cooling, ventilation, milk food insects and rodents. Bio-statistics and public health laws, ordinances, and regulations. Prerequisite: Chm 244 and Bio 243, or CE 331. Class: 3 hours. Credit: 3 semester hours.

434—Soil Engineering. Compressibility and strength characteristics. Stress distribution. Shallow and deep foundations, earth pressure theories, retaining walls, stability of slopes. Prerequisite: CE 326. Class: 3 hours. Laboratory: 3 hours. Credit: 3 semester hours.

435—Water Supply Engineering. Water resources, analysis, planning, and design of the processes required for the supply of potable water to urban centers and optimization processes for selection of most economical and reliable system. Special problems and application of model studies for treatment process design. Prerequisite: CE 337. Class: 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: 3 hours. Credit: 3 semester hours.

438—Reinforced Concrete Design. The design of structural concrete members based upon elastic and plastic theory. Study of standard specifications. Introduction to prestressed concrete. Prerequisite: CE 439. Class: 3 hours. Credit: 3 semester hours.

439—Structural Steel Design. The elastic design of buildings and bridge components according to standard specifications. Plastic design of steel structures. Prerequisite: CE 334. Class: 3 hours. Credit: 3 semester hours.

4310—Soil-Structure Interaction. Analysis of the mechanical behavior of soil-structure systems under the effect of static and dynamic loading, impact and stress wave propagation. Applications to structures supported by shallow and deep substructure, and underground structures. Computer techniques are employed. Prerequisite: CE 434. Class: 3 hours. Credit: 3 semester hours.

4312—Advanced Structural Design. Design principles associated with plastic design of steel, pre-stressed concrete, composite structures, hybrid girders and thin shell concrete. Computer methods of analysis utilized. Prerequisite: CE 430. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF ELECTRICAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Department Head—Wendell C. Bean. *Professors*—Lloyd B. Cherry, James L. Cooke, Floyd M. Crum. *Associate Professor*—Joseph T. Watt, Jr. *Assistant Professors*—Lyle E. Bohrer, D. Robert Carlin,* Ramon S. Satterwhite. *Laboratory Technician*—Nicholas Accardo. *Departmental Secretary*—Deborah Fuchs. (* On leave).

Electrical engineering is a rapidly changing profession which promises to bring significant changes to our society within the next decade. Electrical engineers are involved in research, development, design, manufacturing and applications in areas as varied as microelectronic devices, information science, appliances, computers, and learning systems.

In each of the electrical engineering courses emphasis is placed upon creative thinking and an analytical approach. The specified curriculum lays a broad foundation in the relevant electrical sciences, and electives allow pursuit of the student's special interests. In-depth specialization is possible in graduate school, industry, or research.

Program of Study

Bachelor of Science in Electrical Engineering

First and Second Year

(See Core Program)

Third Year

First Semester		Second Semester	
EE 317—Jr EE Lab	0-3- 1	EE 318—Jr EE Lab	0-3- 1
EE 331—Circuits I	3-0- 3	EE 332—Circuits II	3-0- 3
EE Elective (EE 335)	3-0- 3	EE 336—Energy Convers II	3-0- 3
Egr 331—Momentum		EE 337—Elec & Mag Fields	3-0- 3
Transfer	3-0- 3	Phy 335—Atomic	3-0- 3
Egr 333—Electronics	3-0- 3	Spc 331—Bus and Prof or	
Eco Economics	3-0- 3	Spc 131—Fund	3-0- 3
	15-3-16		15-3-16

Fourth Year

First Semester		Second Semester	
EE 411—Seminar	1-0- 1	EE 412—Seminar	1-0- 1
EE 415—Proj Lab	0-3- 1	EE 416—Proj Lab	0-3- 1
EE 417—Proj Lab	0-3- 1	EE 418—Proj Lab	0-3- 1
EE 431—Electronics II	3-0- 3	EE 432—Electronics II	3-0- 3
EE 433—Net Anal	3-0- 3	EE 436—Control Engr	3-0- 3
EE Elective	3-0- 3	EE Elective	3-0- 3
His 231	3-0- 3	His 232	3-0- 3
Elective	3-0- 3	Elective (non-engineering)	3-0- 3
	16-6-18		16-6-18

Total 134 Semester Hours

Electrical Engineering (EE)

317—Junior EE Laboratory. To be taken in parallel with EE 331. Laboratory: 3 hours per week. Credit: 1 semester hour.

318—Junior EE Laboratory. To be taken in parallel with EE 332 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. Prerequisites: Egr 233, Mth 232. 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. Prerequisite: EE 331. Class: 3 hours. Credit: 3 semester hours.

335—Energy Conversion I (Direct). An introductory study of direct heat to electrical energy conversion methods such as those employed by thermoelectric devices, thermionic converters, magnetohydrodynamic engines, solar and fuel cells. Prerequisites: Egr 233 and 234; parallel: Egr 333. Class: 3 hours. Credit: 3 semester hours.

336—Energy Conversion II (Electromechanical). A study of electro-mechanical energy conversion principles. Lagrange's equations; incremental motion transducers; rotating machines. Prerequisite: EE 331. 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, and time-varying fields. Prerequisites: Egr 233, Mth 232. Class: 3 hours. Credit: 3 semester hours.

411—Electrical Engineering Seminar I. A study of the literature of electrical and related engineering fields; preparation and presentation of papers on electrical subjects. Parallel: EE 431. Class: 1 hour. Credit: 1 semester hour.

412—Electrical Engineering Seminar II. Preparation, presentation, and discussion of material on the engineering profession, the interface between technology and society, and new areas of engineering involvement. Class: 1 hour. Credit: 1 semester hour.

415-417—Projects Laboratory. An integrated laboratory study of machines, vacuum-tube and semi-conductor electronics; and networks covered in EE 431, EE 433, EE 4302, and EE 4303. Laboratory: 3 hours. Credit: 1 semester hour for each course.

416-418—Projects Laboratory. An integrated laboratory study of auto-

matic control systems, computers, vacuum-tube and semiconductor electronics, and networks covered in EE 432, EE 434, EE 436, and EE 437. Laboratory: 3 hours. Credit: 1 semester hour for each course.

431—Electronics II. Vacuum tubes and semi-conductors as circuit elements, untuned voltage and power amplifiers, and electronic computing circuits. Prerequisite: Egr 333, EE 331. Class: 3 hours. Credit: 3 semester hours.

432—Electronics III. A study of bipolar; field effect transistor and tunnel diode devices as circuit elements in integrated circuits. Applications to digital systems, high frequency analog systems and measuring instruments are analyzed. Discrete elements in electronic circuits as signal processing devices are also studied. Prerequisite: EE 431. Class: 3 hours. Credit: 3 semester hours.

433—Network Analysis. The analysis of generalized four terminal networks, filters and transmission lines. Prerequisite: EE 332. Class: 3 hours. Credit: 3 semester hours.

434—Network Synthesis. Impedance synthesis, network synthesis using image parameters, modern realization methods for two-terminal-pair networks, rational-fraction approximation. Prerequisite: EE 433. Class: 3 hours. Credit: 3 semester hours.

436—Control Engineering. Transfer functions; state variables; time response; frequency response; stability; observability and controllability; special topics. Prerequisite: EE 332. Class: 3 hours. Credit: 3 semester hours.

438—Instrumentation. A study of analog and digital electronic instruments in making measurements. Instruments studied are oscilloscopes, strip recorders, oscillators, frequency counters, PDR's, PGR's, digital (voltsmeters, ohmmeters) and transducers. Class: 2 hours. Laboratory: 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 to measurements and measuring devices at these frequencies. Prerequisite: EE 337. Parallel: EE 431, and EE 433. Class: 3 hours. Credit: 3 semester hours.

4302—Communications Theory. Principles of modulation; random signal theory and network analysis; basic information theory; and analysis of noise. Prerequisite: EE 332. Class: 3 hours. Credit: 3 semester hours.

4303—Logical Design of Switching Systems. Switching algebra necessary for formulating and manipulating switching functions. Circuit realization using relay logic, diode logic, transistor gates and core gates. Derivation and simplification of state tables for sequential circuits. State assignments for the design of computing systems. Asynchronous circuits. Prerequisite: Egr 333. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF INDUSTRIAL ENGINEERING

Accredited by Engineers' Council for Professional Development

Department Head—David G. Gates. *Professor*—George B. Tims, Jr. *Associate Professors*—Ali M. Ali, James J. Brennan. *Assistant Professor*—Carl Carruth. *Laboratory Technician*—Herbert W. Deaton. *Departmental Secretary*—Velma Wisenbaker.

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 economical and effective operation of organization is stressed in the industrial engineering curriculum. Courses in manufacturing processes, work measurement, management, engineering economy, factory systems design, statistics and the industrial application of statistics, and operations research are offered.

The graduate is prepared to engage in technical and managerial activities in any type of organization—industrial, commercial, military, charitable, educational, and others. He is prepared to advance to positions of responsibility in technical sales, purchasing, operations or production planning and control, cost planning and control, economic design and location of facilities, product and process design, maintenance operations and the administration and management of organizations.

The successful industrial engineer must possess special interests and abilities in the analysis of human, technical, and economic problems. 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 his organization.

Program of Study**Bachelor of Science in Industrial Engineering****First and Second Year**

(See Core Program)

Third Year	
First Semester	Second Semester
IE 311—Seminar I..... 1-0- 1	IE 333—Egr Eco..... 3-0- 3
IE 330—Principles of IE.... 3-0- 3	IE 334—Ind Rel..... 3-0- 3
IE 335—Acct for Engrs.... 3-0- 3	IE 338—Meth Egr..... 2-3- 3
IE 339—Mfg Processes.... 3-0- 3	Egr 333—Electronics..... 3-0- 3
Egr 212—Prod and Fab Proc 0-3- 1	Humanities—His 231..... 3-0- 3
Egr 235—Dig Comp..... 3-0- 3	Free Elective..... 3-0- 3
Egr 331—Ht Mass Mom Trans 3-0- 3	
17	18

Fourth Year	
First Semester	Second Semester
IE 411—Seminar II..... 1-0- 1	IE 432—Ind Statistics..... 3-0- 3
IE 430—Stat Qual Cont.... 2-3- 3	IE 436—Prod Syst Des.... 1-6- 3
IE 435—Prod and Inv Cont.. 3-0- 3	IE 437—Oper Res..... 3-0- 3
Humanities ¹ 3-0- 3	IE 4315—Org and Mgt.... 3-0- 3
Humanities—His 232..... 3-0- 3	Approved Elect ² 3-0- 3
Approved Elect ² 3-0- 3	
16	15

¹Spc 131, Spc 331 or Eng 3311

²Approved Science or Technical Elective

³Approved Humanistic-Social Elective

Systems Engineering Option

First Year

(See Core Program)

Second Year	
First Semester	Second Semester
Egr 231—Mechanics II..... 3-0- 3	Eng 233—Elec Cir Fields... 3-0- 3
Mth 234—Prob & Stat..... 3-0- 3	Egr 235—Dig Comp I..... 3-0- 3
Mth 2311—Calculus II..... 3-0- 3	Mth 233—Linear Algebra... 3-0- 3
Phy 241—Ht Elec Mag..... 3-3- 4	Mth 2321—Calculus III.... 3-0- 3
Gov 232—Amer & State.... 3-0- 3	Phy 242—Snd Lt Quanta... 3-3- 4
HPE 211—Activity..... 0-3- 1	HPE 212—Activity..... 0-3- 1
17	17

Third Year	
First Semester	Second Semester
Egr 234—Thermodynamics.. 3-0- 3	Egr 333—Electronics..... 3-0- 3
IE 321—Dig Comp II Lab... 0-3- 1	IE 321—Dig Comp III..... 1-3- 2
IE 3302—Dig Comp II..... 3-0- 3	IE 333—Egr Econ..... 3-0- 3
Mth 331—Diff Equa..... 3-0- 3	IE 338—Mth Egr..... 2-3- 3
Approved Elect ¹ 3-0- 3	Mth 4315—Number Anal.... 3-0- 3
His 231—United States.... 3-0- 3	Eng Lit—Elective..... 3-0- 3
16	17

Fourth Year	
First Semester	Second Semester
IE 422—Dig Comp IV..... 2-0- 2	IE 432—Ind Statistics..... 3-0- 3
IE 430—Stat Qual Cont.... 2-3- 3	IE 437—Oper Res..... 3-0- 3
IE 435—Prod & Inv Cont.... 3-0- 3	IE 4315—Org & Mgt..... 3-0- 3
His 232—United States.... 3-0- 3	IE 441—Dig Comp V..... 4-0- 4
Approved Elective ² 3-0- 3	Humanity ³ 3-0- 3
Free Elective..... 3-0- 3	
17	16

¹Approved Science or Technical Elective

²Approved Humanistics—Social Elective

³Spc 131, Spc 331 or Eng 3311

Industrial Engineering (IE)

311—Seminar. Current problems related to industrial engineering. Class: 1 hour. Credit: 1 semester hour.

312—Digital Computation II Laboratory. Solution of problems through the use of digital computer. Prerequisite: Mth 2311, 233, 234, Egr 235. Laboratory: 3 hours. Credit: 1 semester hour.

321—Digital Computation III. Storage systems; symbol tables; searching techniques; data management systems. Prerequisite: IE 342, Mth 234 or equivalent. Class: 2 hours. Credit: 2 semester hours.

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. Prerequisite: Mth 1391. 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 application. Class: 3 hours. Credit: 3 semester hours.

338—Methods Engineering 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.

3302—Digital Computation II. Machine languages; algebraic structures; systems of computer logic; numerical algorithms; interpolation, errors. Prerequisite: Mth 2311, 233, 234, Egr 235. 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.

422—Digital Computation IV. Simulation, data structure; grouping; subroutines; management systems engineering; laboratory problems utilizing systems, concepts, numerical algorithms. Prerequisite: Mth 233, 331, IE 321, 430 or concurrent, 435 or concurrent. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

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.

432—Industrial Statistics. Significant tests, confidence intervals, tests of hypotheses, correlation, experimental design. Prerequisite: Mth 234. Class: 3 hours. Credit: 3 semester hours.

434—Manufacturing Engineering. The design of products for quantity production, the design of tools, gauges, 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, IE 330. Class: 3 hours. Credit: 3 semester hours.

436—Production Systems Design. 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, and 339. 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, IE 333. Class: 3 hours. Credit: 3 semester hours.

441—Digital Computation V. Multiprogramming; Multiprocessing and real time systems; batch process systems; core management system accounting; interfacing; compiling; numerical analysis; generalized sequential machines; operations research; management systems. Prerequisite: Mth 4315, IE 422, 432 or concurrent, 437 or concurrent. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

4313—Human Engineering. The specialized adaptation of engineering designs to meet human physiological and psychological needs. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester 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

Department Head—Otto G. Brown.* *Professor*—Harry T. Mei. *Associate Professors*—John A. Bruyere, Thomas J. Greene, Eugene P. Martinez, Fred M. Young. *Assistant Professor*—John M. Kramer. *Laboratory Technician*—George E. Hundley, Jr. *Secretary*—Mrs. Linda Crum. (* On leave.)

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. 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 virtually every phase of industry. They are engaged in professional engineering, research, management, and public services. 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, space vehicles, computers, and complex systems.

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

(See Core Program)

Third Year

First Semester	Second Semester
Egr 212—Prod and Fab Proc 0-3- 1	Egr 333—Electronics 3-0- 3
Egr 232—Mech III 3-0- 3	Eng 3311—Tech Report Writing 3-0- 3
Egr 331—Momentum Transfer 3-0- 3	ME 321—Instrmt and Test Lab 0-6- 2
ME 334—Engr Anal I 3-0- 3	ME 331—Transport Theory I 3-0- 3
ME 338—Thermo II 3-0- 3	ME 332—Elem Mech Des I 2-3- 3
Spc 331—Prof Spc or Spc 131—Fund 3-0- 3	Phy 335—Atomic Phy 3-0- 3
15-3-16	14-9-17

		Fourth Year			
First Semester				Second Semester	
His 231—U.S. Hist.....	3-0- 3	His 232—U.S. Hist.....	3-0- 3	ME 411—Seminar.....	1-0- 1
ME 4313—Trans Theo II...	3-0- 3	ME 431—Egr Sys Des.....	2-3- 3	ME 4319—Adv Mat Sci	2-3- 3
ME 4316—Engineering Project.....	1-6- 3	Options	6		
ME 4323—Elem Mech Des II.....	2-3- 3				
Options	6				16
		18			

Total 133 Semester Hours

Suggested ME Options

(12 Semester Hours Minimum)

Aero-Space

(Thermal)

(Design)

A block of a minimum of twelve hours of approved electives with at least nine in the specialty area.

A block of a minimum of twelve hours of approved electives with at least nine in the specialty area.

Professional

A block of a minimum of twelve hours of approved electives with at least nine in the major field.

Graduate School

Preparatory

A block of a minimum of twelve hours of approved electives with at least six in the major field.

Mechanical Engineering (ME)

321—Instrumentation and Testing Laboratory. Various instruments with mechanical engineering applications are studied and tests are made. Emphasis is on pressure, temperature, speed, power, torque, frequency, and various types of flow measurements. Prerequisites: Egr 331 and ME 338; ME 331 in parallel. Laboratory: 6 hours. Credit: 2 semester hours.

331—Transport Theory I. Theory of conduction and potential flow, radiation, and convection with engineering techniques and applications. Prerequisites: Egr 331, ME 334 in parallel. Class: 3 hours. Credit: 3 semester hours.

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. 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. Mathematical methods of engineering analysis are presented and applied. Prerequisites: Mth 3221; Egr 331 in parallel. Class: 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 234. 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.

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 334 and senior standing. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

432—Mechanical Vibrations. The theory of vibrating systems, including kinematics or 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 332 and ME 334. 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 rotation is used. Prerequisite: ME 331. 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 331 and ME 338. Class: 2 hours. Laboratory: 3 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. Prerequisites: ME 331 and ME 338. Class: 3 hours. Credit: 3 semester hours.

436—Dynamics of Machinery. Kinematics of mechanisms, gears, and epicyclic gear trains. Synthesis of linkages. Calculation of inertia forces and shaking forces on machines. Multicylinder engine balancing. Graphical and analytical methods are employed. Prerequisite: ME 332. Class: 2 hours. Laboratory: 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 4323. 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: ME 4313 or parallel. Class: 2 hours. Laboratory: 3 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 foundations, plates, shells, and cylinders. Study of torsion of bars and cylinders. Prerequisite: Egr 232. Class: 3 hours. Credit: 3 semester hours.

4311—Controls Engineering. The theory of integrated automatic controls systems with application to combustion, temperature, pressure, flow and humidity control. Industrial control systems are considered. Prerequisites: ME 331 and ME 334. 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: ME 4313 or parallel. Class: 3 hours. Credit: 3 semester hours.

4313—Transport Theory II. Transport processes in incompressible boundary layers. Transport with change of phase. Compressible flow in nozzles, ducts, and turbomachines. High speed compressible boundary layer flow. Slip and free molecule flow. Prerequisite: ME 331. 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. Prerequisites: ME 338 and ME 334. Class: 3 hours. Credit: 3 semester hours.

4316—Engineering Project. Individual student professional or research projects are planned, scheduled, designed, and evaluated. Experience is gained in the execution of an engineering project and a formal technical report is required. Prerequisites: ME 321 and senior standing. Class: 1 hour. Laboratory: 6 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.

4319—Advanced Materials Science. Properties of materials. Aspects of elastic behavior, as well as stress and strain measurement, yield phenomena, tensions, torsion, hardness, and assorted effects are considered. Criteria for selecting proper engineering materials are discussed. Prerequisite: Phy 335 in parallel. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

4320—Propulsion Systems. Space mission parameters. Basic elements of propulsion systems and propulsion system parameters. Selected problems of thermochemical systems and electro-magneto-thermal systems. Prerequisites: ME 338 and ME 331. 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: ME 4313 or parallel. Class: 3 hours. Credit: 3 semester hours.

4323—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.

DEPARTMENT OF MATHEMATICS

Department Head—Jeremiah M. Stark. *Director of Freshman Mathematics*—Philip W. Latimer. *Professors*—Russell W. Cowan, Sterling C. Crim, Sterling W. McGuire, Howard E. Vanzant. *Associate Professors*—Joseph A. Baj, II, Ralph J. Brookner, Joan E. Brenizer, Robert L. Dingle, Jacob A. Wolkeau, Sam M. Wood, Jr. *Assistant Professors*—Mary Katherine Bell, Lawrence D. Bell, George Berzsenyi, Dock B. DeMent, Claude F. Gilson,* Annie Sue Green, John F. Harvill, Jean Marie Hudson, Charles H. Lauffer, Reta G. Parrish, Billy D. Read, David R. Read. *Instructors*—Michael A. Laidacker, John W. Mades, Jana W. McNeill. *Departmental Secretary*—Mrs. Alma I. Baize. (* On leave.)

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, the Bachelor of Science degree with major in mathematics and minor in physics, the Bachelor of Science degree with major in mathematics and a computer concentration, and the Bachelor of Science degree in mathematics with minor unspecified. In the list of courses found below, graduate courses are distinguished by the fact that their course numbers begin with the digit 5.

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).

Bachelor of Arts—Mathematics Major

First Year			
First Semester		Second Semester	
Mth 1381—Anal Geom	3	Mth 1391—Cal I	3
Eng 131—Comp	3	Eng 132—Comp	3
Science	4	Science	4
Minor	3	Minor	3
*Elective	3	*Elective	3
HPE—Activity	1	HPE—Activity	1
	—		—
	17		17
Second Year			
First Semester		Second Semester	
Mth 2311—Cal II	3	Mth 2321—Cal III	3
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
For Lang 131	3	For Lang 132	3
*Elective	3	*Elective	3
HPE—Activity	1	HPE—Activity	1
	—		—
	16		16

Third Year			
First Semester		Second Semester	
Mth 331—Diff Equa.....	3	Mth—(Adv.)	3
Mth—(Adv.)	3	Gov 232—St and Ntl.....	3
Gov 231—St and Ntl.....	3	For Lang 232.....	3
For Lang 231.....	3	Minor	3
Minor	3	*Elective	3
—		—	
15		15	

Fourth Year			
First Semester		Second Semester	
Mth—(Adv.)	3	Mth—(Adv.)	3
Minor	3	Minor	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—Department of Education.)
- (3) 12 hours of advanced mathematics as follows:
Mth 330, 3301, 333 or 334, 335 or 336 or 337.
- (4) Approved electives sufficient to make a total of 132 semester hours.

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
Mth 1381—Anal Geom.....	3	Mth 1391—Cal I.....	3
Egr 121—Graphics	2	Egr 122—Intro Comp.....	2
Gov 231—St and Natl.....	3	Egr 132—Mech I.....	3
HPE—Activity	1	HPE—Activity	1
—		—	
16		16	

		Second Year	
First Semester		Second Semester	
Mth 2311—Cal II	3	Mth 2321—Cal III	3
Mth 233—Linear Algebra	3	Mth 234—Prob and Stat	3
Egr 231—Mech II	3	Phy 242—Snd Lt Qua	4
Phy 241—Heat El Mag	4	Egr 233—Elet Cit and Fld	3
Gov 232—St and Natl	3	*Liberal Arts Elect	3
HPE—Activity	1	HPE—Activity	1
	—		—
	17		17

Third Year			
First Semester		Second Semester	
Mth 331—Diff Equa	3	Mth 3311—Set Theo	3
Mth 338—Adv Cal	3	Mth 339—Adv Cal	3
Egr Elec (Adv)	3	Eng-Literature	3
Eng-Literature	3	His 232—U.S.	3
His 231—U.S.	3	Eng Elec (Adv)	3
	—		—
	15		15

Fourth Year			
First Semester		Second Semester	
Mth 431—Complex Var	3	Mth 432—Complex Var	3
Mth Elective (Adv)	3	Mth Elective (Adv)	3
*Liberal Arts Elect	6	*Electives	9
*Electives	6		
	—		—
	18		15

*Approved by department head.

Program II—Physics Minor

First Year			
First Semester		Second Semester	
Chm 141—Gen	4	Chm 142—Gen	4
Eng 131—Comp	3	Eng 132—Comp	3
Mth 1381—Analy Geom	3	Mth 1391—Cal I	3
*Liberal Arts Elective	3	Phy 140—Intro Mech	4
HPE 111—Activity	1	HPE 112—Activity	1
	—		—
	14		15

Second Year			
First Semester		Second Semester	
Eng Lit	3	Eng Lit	3
His 231—U.S.	3	His 232—U.S.	3
Mth 2311—Cal II	3	Mth 2321—Cal III	3
Mth 233—Linear Alg.	3	Mth 234—Prob and Stat.	3
Phy 241—Heat El Mag.	4	Phy 242—Snd Lt Qua.	4
HPE 211—Activity	1	HPE 212—Activity	1
	—		—
	17		17

Third Year			
First Semester		Second Semester	
Gov 231—St and Natl.	3	Gov 232—St and Natl.	3
Mth 331—Diff Equations.	3	Mth 3311—Set Theory.	3
Mth 338—Adv Cal.	3	Mth 339—Adv Cal.	3
Phy 335—Atomics	3	Phy Elective (Adv)	3
*Liberal Arts Elective.	3	*Liberal Arts Elective.	3
*Elective	3		
	—		—
	18		15

Fourth Year			
First Semester		Second Semester	
Mth 431—Complex Var.	3	Mth 432—Complex Var.	3
Phy Elective (Adv)	3	Mth Elective (Adv)	3
Mth Elective (Adv)	3	*Electives	9
*Electives	9		
	—		—
	18		15

*Approved by the Mathematics Department.

Program III—Computer Concentration

First Year			
First Semester		Second Semester	
Eng 131—Comp	3	Eng 132—Comp	3
Lab Science	4	Lab Science	4
Mth 1381—Anal Geom.	3	Mth 1391—Cal I	3
Egr 122—Intro Comp.	2	*Liberal Arts Elective.	3
*Liberal Arts Elective.	3	*Elective	3
HPE—Activity	1	HPE—Activity	1
	—		—
	16		17

		Second Year	
First Semester		Second Semester	
Mth 2311—Cal II.....	3	Mth 2321—Cal III.....	3
Mth 233—Linear Alg.....	3	Mth 234—Prob and Stat.....	3
Eng Lit.....	3	Eng Lit.....	3
His 231—U.S.....	3	His 232—U.S.....	3
*Liberal Arts Elective.....	3	Egr 235—Dig Comp I.....	3
HPE—Activity.....	1	HPE—Activity.....	1
	16		16

		Third Year	
First Semester		Second Semester	
Mth 331—Diff Equa.....	3	Mth 3311—Set Theory.....	3
Mth 338—Adv Cal.....	3	Mth 339—Adv Cal.....	3
Gov 231—St and Natl.....	3	Mth 4315—Numer Analy.....	3
IE 3302—Dig Comp II.....	4	Gov 232—St and Natl.....	3
*Elective.....	3	IE 321—Dig Comp III.....	2
		*Elective.....	3
	16		17

		Fourth Year	
First Semester		Second Semester	
Mth 431—Complex Var.....	3	Mth 432—Complex Var.....	3
Mth 437 or 438—Stat.....	3	Mth Elective (Adv).....	3
IE 422—Dig Comp IV.....	2	IE 441—Dig Comp V.....	4
*Electives.....	7	*Electives.....	6
	15		16

*Approved by the Mathematics Department.

Program IV—Other Minors

		First Year	
First Semester		Second Semester	
Eng 131—Comp.....	3	Eng 132—Comp.....	3
Science.....	4	Science.....	4
Mth 1381—Anal Geom.....	3	Mth 1391—Cal I.....	3
*Liberal Arts Elect.....	3	Minor.....	3
Minor.....	3	*Liberal Arts Elect.....	3
HPE—Activity.....	1	HPE—Activity.....	1
	17		17

Second Year			
First Semester		Second Semester	
Mth 2311—Cal II.....	3	Mth 2321—Cal III.....	3
Mth 233—Linear Alg.....	3	Mth 234—Prob and Stat.....	3
Eng Lit.....	3	Eng Lit.....	3
Minor.....	3	Minor.....	3
*Elective.....	3	*Elective.....	3
HPE—Activity.....	1	HPE—Activity.....	1
—		—	
16		16	

Third Year			
First Semester		Second Semester	
Mth 331—Diff Equa.....	3	Mth 3311—Set Theory.....	3
Mth 338—Adv Cal.....	3	Mth 339—Adv Cal.....	3
Gov 231—St and Natl.....	3	Gov 232—St and Natl.....	3
Minor.....	3	Minor.....	3
*Electives.....	6	*Liberal Arts Elect.....	3
—		—	
18		15	

Fourth Year			
First Semester		Second Semester	
Mth 431—Complex Var.....	3	Mth 432—Complex Var.....	3
Mth Elective (Adv).....	3	Mth Elective (Adv).....	3
His 231—U.S.....	3	His 232—U.S.....	3
*Electives.....	6	*Electives.....	6
—		—	
15		15	

*Approved by the Mathematics Department.

It should be noted that no Mth course below 1381 may be counted toward any mathematics degree even as an elective.

Mathematics (Mth)

131—Finite Mathematics I. Linear and quadratic equations, logarithms, inequalities, compound interest, geometric progressions and annuities, and statistics. Prerequisite: 2 units of high school mathematics. Class: 3 hours. Credit: 3 semester hours.

132—Finite Mathematics II. Selected topics in modern finite mathematics. Class: 3 hours. Credit: 3 semester hours.

133—Analytical 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. Linear equations, linear systems, linear inequalities, linear programming, vectors, matrices, and logarithms. Class: 3 hours. Credit: 3 semester hours.

1341—Elements of Analysis. Linear programming, differential and integral calculus. Prerequisite: Mth 134. Class: 3 hours. Credit: 3 semester hours.

135—Contemporary Mathematics I. Sets, counting numbers, numeration systems, and integers. CUPM for Education majors only. Class: 3 hours. Credit: 3 semester hours.

136—Contemporary Mathematics II. Elementary number theory, rational numbers, decimals, real numbers and finite number systems. CUPM for Education majors only. Prerequisite: Mth 135. Class: 3 hours. Credit: 3 semester hours.

137—Contemporary Mathematics III. Experimental and informal geometry. The structure of geometry in terms of sets with some elementary theorems and proofs. Measurements and construction. CUPM for Education majors only. Prerequisite: Mth 136. Class: 3 hours. Credit: 3 semester hours.

1381—Analytic Geometry. Straight lines, conic sections, transformation of coordinates, polar coordinates, and solid analytic geometry. Prerequisite: Mth 133 or high school trigonometry. Class: 3 hours. Credit: 3 semester hours.

1391—Calculus I. Limits, derivatives, applications of derivatives, integration with applications, and transcendental functions. Prerequisite: Mth 1381. Class: 3 hours. Credit: 3 semester hours.

2311—Calculus II. Methods of integration, hyperbolic functions, vectors and parametric equations, and solid geometry and vectors. Prerequisite, Mth 1391. Class: 3 hours. Credit: 3 semester hours.

2321—Calculus III. Partial differentiation, multiple integrals, infinite series, differential equations. Prerequisite: Mth 2311. 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: Mth 1391 or concurrently. Class: 3 hours. Credit: 3 semester hours.

234—Probability and Statistics. Empirical, frequency distributions, probability theoretical distributions, sampling distributions, and statistical applications. Prerequisite: Mth 1391 or concurrently. Class: 3 hours. Credit: 3 semester hours.

235—Mathematics of Investments. The mathematics of interest, insurance, probability theory, and statistics are covered from a mathematical point of view, with practical applications. Prerequisite: 6 hours of college mathematics. 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 2311. 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 2321. Class: 2 hours. Laboratory: 2 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. Prerequisite: Mth 2321. Class: 3 hours. Credit: 3 semester hours.

3311—Set Theory. Set theory. Infinite sets, cardinal and ordinal arithmetic. Axiom of choice. Transfinite induction. Applications in the topology of the real line, complex plane, and simple closed curves. 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 2311. 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 2311. 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 2311. 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 2311. 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 2321. 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. Prerequisite: Mth 2321. 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 3311. 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: 2 hours. Laboratory: 2 hours. Credit: 3 semester hours.

4315—Numerical Analysis. Approximations, interpolations, finite differences, numerical integration, curve fitting. Prerequisite: Mth 3301 or IE 3302. Class: 2 hours. Laboratory: 2 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 2321. 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. Prerequisite: Mth 3311. 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. Class: 3 hours. Credit: 3 semester hours for each course.

5301—Operational Mathematics. Ordinary differential equations, the Laplace Transform, elementary properties; Inverse Transforms, applications of the Laplace Transform to ordinary differential equations. Class: 3 hours. Credit: 3 semester hours.

5302—Operational Mathematics. Application of Laplace Transform to partial differential equations, boundary-value problems and characteristics, function representation. Class: 3 hours. Credit: 3 semester hours.

5303—Theory of Linear Models. Review of regression analysis; theory of least squares; multivariate analysis; theory of the general linear hypothesis model. Class: 3 hours. Credit: 3 semester hours.

5304—Theory of Mathematical Programming. Theory of linear and nonlinear programming; the Lambda and Delta-form of the approximating problem; quadratic programming; gradient methods. Class: 3 hours. Credit: 3 semester hours.

5305—Statistical Methods in Reliability. Statistical theories pertinent to solution of engineering problems in reliability; distribution and failure theory including failure rate and mean time to failure for the exponential, log normal, gamma, and Weibull distribution. 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, groups, 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.

5331—Special Topics for Graduate Students. Advanced topics in mathematics to suit the needs of individual classes of graduate students. Course may be repeated for a maximum of six semester hours credit when the topic varies. 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 equations. 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. 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.

MATHEMATICS — EDUCATION

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.

5311—Foundations of Geometry. Foundations of geometry, transformations, basic concepts, and selected Euclidean topics. Class: 3 hours. Credit: 3 semester hours.

5312—Linear Algebra. Systems of equations, vector spaces, linear transformations and matrices. Class: 3 hours. Credit: 3 semester hours.

5313—Abstract Algebra. Sets, groups, rings, integral domains, and fields. Class: 3 hours. Credit: 3 semester hours.

5314—History of Mathematics: Primitive man's mathematics, Babylonian and Egyptian Mathematics, Pre and Post Euclid Greek Mathematics, Hindu-Arabic Mathematics, and Mathematics from 500 A.D. to the present. Class: 3 hours. Credit: 3 semester hours.

5315—Probability and Statistics. Permutation and factorials, elementary principles of probability, mathematical expectations, averages, curve fitting, application. Class: 3 hours. Credit: 3 semester hours.

5316—Data Processing. A survey of higher level languages and an assembly language with application to advanced programming techniques. Syntax, semantics, and numerical techniques as applied to programming applications. Class: 3 hours. Credit: 3 semester hours.

5317—Number Theory. A development of the theory of numbers with applications. Class: 3 hours. Credit: 3 semester hours.

SCHOOL OF EDUCATION

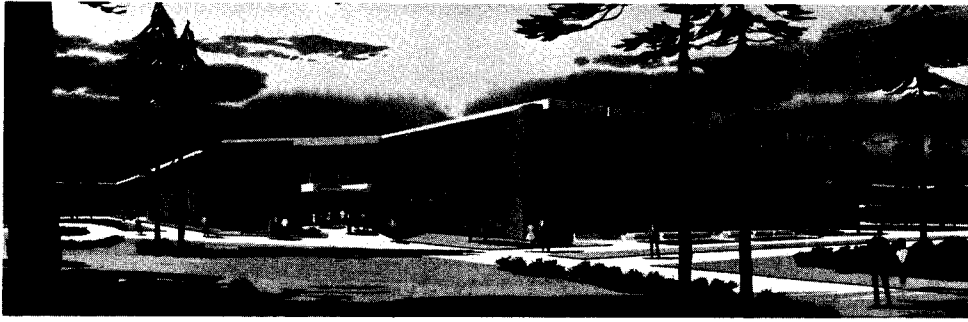
Departments

Elementary Education

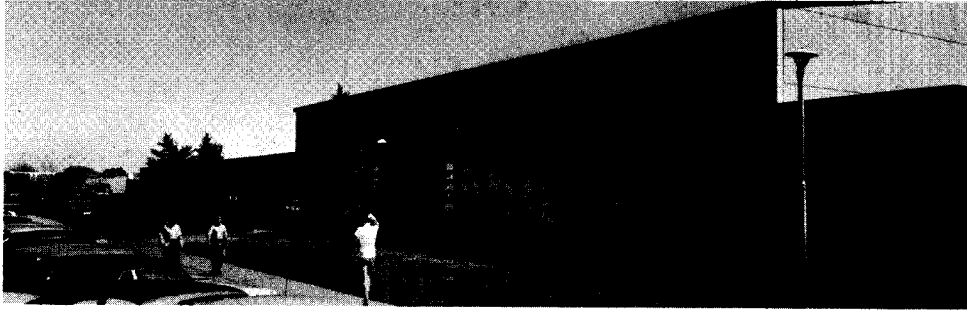
Home Economics

Health and Physical Education

Secondary Education



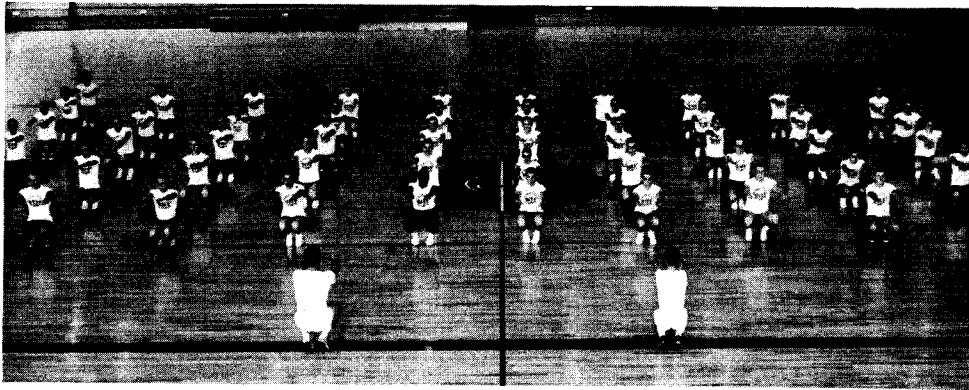
School of Education Building



McDonald Gymnasium



Home Economics Building



Health/Physical Education Class

School of Education

M. L. McLaughlin, Ed.D., Dean

Separate departments of Elementary and Secondary Education were authorized during the fall of 1969, too late for a complete explanation to be included in this catalog. Dr. Conrad D. Mang was named Head of the Department of Elementary Education, and Dr. Oliver P. Monk was named Head of the Department of Secondary Education.

DEPARTMENT OF EDUCATION

Department Head—M. L. McLaughlin. *Professors*—Howard W. Adams, E. B. Blackburn, Richard Hargrove, Bradley B. Hogue, Joseph Ilika, Conrad D. Mang, Oliver P. Monk, Thomas T. Salter, E. Lee Self, Martha E. Thomas. *Associate Professors*—Kenneth R. Briggs, Betty Coody, Walter Dezelle, Jr., D. L. Hybarger, Gloria Massey, Charles H. Wilbanks. *Assistant Professors*—Claude W. Cheek, Billy F. Payne, Genevieve Harlan Pearce, Marianella Permenter, Margaret B. Rodgers. *Instructor*—James E. Lane. *Departmental Secretary*—Mrs. Nelda Castleman.

Providing education for those who would teach has been a tradition of the College, even from its beginning as a junior college. Non-teaching specialties in Home Economics and Health and Physical Education are more recent offerings representing diversification and growth of the School of Education.

The School of Education is composed of four departments: Education, Home Economics, Health and Physical Education for Men, and Health and Physical 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 Health and Physical Education; the Master of Education—Elementary; the Master of Education—Secondary; the Master of Education—Special Education; the Master of Education—Guidance and Counseling, and the Master of Science—Health and Physical Education.

Objectives

The faculty of the School of Education believes that graduates of its various curricula should be characterized by a unifying well-rounded academic foundation. General education should provide an understanding of the natural environment, the cultural heritage of mankind, and the social forces which invigorate contemporary life. Only when such understanding can be assumed from meeting the two-year requirement of general studies is the faculty willing to immerse students into a depth of career specialization.

Even with the beginning of professional study, importance is given to the legal, governmental and economic context in which teachers and other specialists work. Professionalization is not confined to mere techniques, which might become outdated. The various programs have been built on a

broad base of theory and basic principles which will not only survive but which will lend proper perspective to new technological developments.

There is no place today for practitioners who subsist on the basis of professional lore. Efforts of the faculty are dedicated to the proposition that graduates will practice their arts while employing the insights deriving from a sound undergirding of the applicable sciences. The jargon of the sophist must not be allowed to substitute for carefully generated ideas communicated in understandable language.

The attainment of these objectives requires knowledge, skills, ethics, and humane attitudes. The required coursework includes the cognitive possibilities of lectures and discussions, to be sure. But also importance is given to observation of children in the teaching-learning process, utilization of the best available equipment and materials, and supervised practice teaching.

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 persons who major 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 nonthesis 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 methods and materials; (2) The student must have completed a course in supervised student teaching or have taught a minimum of one year.

To fulfill requirements for this degree, the graduate students 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 Secondary Education

The Master of Education degree in Secondary Education may be designed to fulfill the curriculum requirements of the Professional Certificate for secondary teachers. The choice of a thesis or nonthesis 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 eighteen semester hours in education, including 12 semester hours of junior-senior courses in secondary education; (2) The student must have completed twenty-four semester hours in the discipline to be pursued at the graduate level, including a minimum of 9 semester hours at the junior-senior level; (3) The student must have completed a course in supervised student teaching or have taught a minimum of 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 Professional Certificate for teachers of the mentally retarded or the physically handicapped. The choice of a thesis or nonthesis 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 (12) 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 Guidance and Counseling

The Master of Education degree in Guidance and Counseling is designed to fulfill the curriculum requirements of the Professional Certificate. A practicum of one semester in the public schools is required. A thesis is not optional in this program.

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 a minimum of 18 semester hours in education and (2) The applicant must hold a provisional level teaching certificate.

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. Prior to completion of this program, the student must have completed a minimum of two years successful teaching at the public school level.

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 Council. This Council 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

Application for admission to the teacher education program is made at the beginning of the junior year. Applications are made during the time students are enrolled in Education 331 or 332 (transfer students who have had one or more courses in Education must apply directly to the chairman of the selection committee). To be eligible for Education 331 or 332, (or the first course in Education taken at Lamar State College of Technology, in the case of transfer students) the student must present a 1.0 (C) overall grade point average in courses taken at Lamar Tech. The student must also have successfully completed 60 hours, including the required 100 level courses in English and mathematics listed in Academic Foundations.

Prior to admission, students must demonstrate ability to write clear and correct English. Students may, at the discretion of the teacher education selection and retention committee, be required to pass examinations in speech, hearing, and general physical health. Additional admission standards are set by the selection and retention committee, as approved by the Teacher Education Council.

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 Physically Handicapped, Education of the Deaf, 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, Special Education, and Guidance and Counseling.

General Certification Policies

1. To be recommended for a teacher's certificate, the applicant must present a grade point average of 1.0 (C) in all work undertaken at Lamar State College of Technology, 1.0 average in elementary school specialization or in each teaching field, and 1.0 in the professional educational courses relevant to the certificate.
2. To be recommended for a teacher's certificate, the applicant must have completed successfully a minimum of six hours, in residence at Lamar State College of Technology, in professional education courses.
3. To be recommended for a teacher's certificate, the applicant in secondary education must have completed successfully a minimum of six hours in residence at Lamar State College of Technology, in each teaching field (unless this requirement is waived in writing by the head of the department concerned). The applicant in elementary education must have completed successfully a minimum of six hours in residence in the area of specialization (unless this requirement is waived in writing by the Coordinator of Elementary Education).
4. To be recommended for a teacher's certificate, the applicant must have completed successfully the National Teachers Examination.

Provisional Certificate Sequences

Academic Foundations (60 semester hours)

The Academic Foundation 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 gov-

erned 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
- English 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 sources 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 Foundations program, the students must fulfill the requirements in the Area of Specialization, Professional Education, and elective courses. This plan allows 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. A listing of the course sequences is available.

B. Work in a Combination of subjects (18 semester hours). Specific requirements are:

- Geo 237—Physical Geography or Geo 238—Cultural Geography
- CA 337—Art in the Elementary School
- Spc 333—Directing Elementary Speech Activities
- HPE 233—Physical Education in the Elementary School
- MEd 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—Child Development and Evaluation
- Edu 335—Arithmetic in the Elementary School
- Edu 339—Reading in the Elementary School
- Edu 434—Classroom Management
- 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 certification 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 135, 136—Con Mth	6	Gov 231-232—St & Natl	6
Med 131—Ele of Music	3	Science	3
His 134—Texas	3	Geo 237 or 238	3
HPE—Activity	2	HPE—Activity	2
Acad Found—Elect	6	Acad Found—Elect	3
	—	Mth 137—Con Mth	3
	34		—
			32
Third Year		Fourth Year	
CA 337—Art in the 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	3
Edu 334—Child Dev and Eval...	3	Edu 465—Student Teaching ...	6
HPE 233—PE in Elem.....	3	Area of Specialization—(Adv) ..	6
Spc 333—Directing Elem Spc	3	Free Electives	6
Act	3		—
Area of Specialization	12		30
(3 hrs. advanced)			
Acad Found—Elect	3		
	—		
	36		

Special Education Certificate Requirements

Certification in Elementary Education and certification in Special Education—Mental Retardation and/or Physically 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—Identification and Habilitation of the Mentally Retarded
 Edu 430—Education of the Mentally Retarded
 Edu 431—Psychology of Exceptional Children

Physically Handicapped/Minimal Brain Injury*

Edu 3301—Survey in the Education of Exceptional Children
 Edu 3312—Education of the Physically Handicapped
 Edu 439—Methods and Materials for Learning Disabilities
 Edu 431—Psychology of Exceptional Children

Note that the addition of 6 hours from either the certification program for Mentally Retarded or Physically 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	Business
Chemistry	Earth Science
Earth Science	English
French	French
General Science	Government
German	Health and Physical Education (Men)
Government	Health and Physical Education (Women)
Health and Physical Education (Men)	History
Health and Physical Education (Women)	Home Economics
History	Mathematics
Mathematics	Speech
Physics	
Spanish	
Speech	

*The requirements to certify as a teacher of Minimally Brain Injured children are the same as those required to teach Physically Handicapped children. This is also true of the professional certificate.

Academic Specialization (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, All Levels Art, 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. 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.)

Biology

Specialization: (24 semester hours) Bio 141, 142, 345, 347, plus 8 hours to be selected from Bio 245, 346, 440, 441, 442, 443, 444, 445, 446, 447, 449. Also required: Chm 141-142 or 143-144.

(When selected as area of greatest interest program must also include 8 additional hours of biology.)

Business (Plan II—Composite Field)

Specialization: (48 semester hours) Acc 231, 232, BA 120, 210, 331, 332, 334, 335, 431, Sec 123, 222, 341, 332, 344, 363, 438.

(Academic Foundations must include Eco 131-132, Spc 131, plus 3 hours Sociology, Philosophy, or Anthropology.)

Chemistry

Specialization: (24 semester hours) Chm 141, 142, 241, 333, 341, plus 5 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 Phy 141, 142 or equivalent, Spc 131 and Soc 131, Phl 131, or Ant 231.)

Drama (See Theatre)**Earth Science**

Specialization: (24 semester hours) Geo 141, 142, 237, 335, 336, 337, 338, 418.

(When selected as area of greatest interest program must include Phy 137.)

English

Specialization: (24 semester hours) Eng 231, 232, 331, 332, 334, plus 9 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 a Foreign Language through 232.)

French

Specialization: (24 semester hours) Fre 231, 232, 333, 334, 335, 336, and 6 additional hours of French beyond 132.

(When selected as area of greatest interest program must include Spc 133, Phl 131, and His 131-132.)

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 231, 232, 333, 334, 335, 336, and 6 additional hours of German beyond 132. (When selected as area of greatest interest, program must include Spc, Art, or Music, Phl 131, and His 131-132.)

Government

Specialization: (24 semester hours) Gov 331, 332, 334, 3312, 3313, 436 or 437, plus 3 hours to be selected from Gov 431, 432, 433, 3315. Also required: 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.)

Health and Physical Education (Men)

Specialization: (24 semester hours) HPE 132M, 235, 236M, 331 or 332, 336, 436, plus 6 hours from 333, 435 and 431, 237, and 335. (Foundations Program must include Bio 141, 142.)

(When selected as area of greatest interest program must include Bio 330 and Spc 131.)

Health and Physical Education (Women)

Specialization: (24 semester hours) HPE 132, 133, 236, 237, 332, 333, 433; and three advanced elective hours in HPE-W (Foundations program must include Bio 141, 142.)

(When selected as area of greatest interest program must include four additional hours of HPE activity courses, Bio 330, and Spc 131.)

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 131, 132, 133, 134, 137, 231, 232, 235, 330, 331, 332, 333, 334, 335, 433, 444. General Home Economics must also include HEc 437.

(Academic Foundations Program must include Spc 131, Eco 233, Chm 143, Chm 144 or Bio 141, Bio 142.)

Mathematics

Specialization: (24 semester hours) Mth 1381, 1391, 2311, 2321, 330, 3301, 333 or 334; 335, 336 or 337.

Physics

Specialization: (24 semester hours) Phy (141, 142, 448) 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 1381, 1391, 2311, 2321, 331, Chm 141, 142.

Spanish

Specialization: (24 semester hours) Spa 231, 232, 332, 333, 335, 336, and 6 additional hours of Spanish beyond 132.

(When selected as area of greatest interest, program must include Spc, Art, or Music; 3 hours from Phl, Soc, or Ant; and His 131-132.)

Speech

Specialization: (24 semester hours) Spc 131, 132, 234, 238, 330, 434, plus 6 advanced hours of Speech from 332, 338, 430, 438.

(When selected as area of greatest interest program must include Spc 233 or 237, 335, and CA 130.)

Theatre (Drama)

Specialization: (24 semester hours) Spc 133, 233, 235, 237, 334, 335, plus 6 advanced hours of Drama, from Spc 336, 337, 431, 436, 437.

(When selected as area of greatest interest, program must include Spc 131, 238, and 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		30
	—		
	33		

All-Levels Art and Music Degrees and Certificate Requirements

The completion of one of these programs leads to certification to teach art or music at all levels of the public schools in Texas. An outline of the plan for art may be found in the section of the catalogue devoted to the Department of Commercial Art. The "Music" section of the catalogue outlines the all-level music certificate plan. Additional information can be obtained from the Heads of the respective departments.

Education of the Deaf and Speech and Hearing Therapy Degree and Certificate Requirements

The plans leading to certification are 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 Frst Aid
- HPE 334—Driver Education
- HPE 416—Student Teaching in Driver Education.

Professional Teaching 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 Biology, Chemistry, English, Health and Physical Education, History, Mathematics, and Physics. 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 college 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 selected 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 Teaching 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 subject 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.

- (8) Have completed six hours in each teaching field (secondary), or in the area of specialization (elementary), at this college prior to Student Teaching (unless this requirement has been waived in writing by each of the concerned department heads).
- (9) Have achieved a grade of "C" or better in English 131. If a grade less than this was earned, the student shall be required to complete English 137 with a grade of "C" or better, prior to being enrolled in Student Teaching.

Education (Edu)

330—Teaching Media and Programmed Instruction. Observation, demonstration and practice in utilizing modern teaching media, including teaching machines and programming. 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. Principles and psychological problems involved in education and the practical application of psychological principles to teaching. 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—Child Development and Evaluation. Principles of growth and development. Measurement and evaluation of learning. Prerequisite: Edu 331. 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.

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. 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 excep-

tional—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—Identification and Habilitation 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. Includes 24 hours field experience in observing the behavior of mentally retarded children. Class: 3 hours. Credit: 3 semester hours.

3312—Education of the Physically Handicapped. Description and characteristics of children with physical disabilities. Consideration of etiological factors and limitations in regular and special classes, hospital and home-bound instruction. Includes 18-hour field experience in observing the behavior of physically handicapped children. Class: 3 hours. Credit: 3 semester hours.

430—Education of the Mentally Retarded. Problems of the selection, preparation, development, and use of curriculum materials. Use of resource, selection of equipment, employment opportunities, and a review of recent research. Includes 24-hour field experience in observing and modifying the behavior of mentally retarded children. 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.

434—Classroom Management and Evaluation—Elementary. A study of problems relating to classroom management and curriculum. Prerequisite: Edu 334 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—Methods and Materials for Learning Disabilities. Classroom management and teaching procedures for children with learning disabilities due to possible minimal brain injury. Discussion of behavioral characteristics and problems in diagnosis. Includes 18-hour field experience in observing the behavior of children with learning disabilities. Class: 3 hours. Credit: 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.

463—Student Teaching—Special. Special student teaching situations designed for students working toward all-level certificates, special education, and speech and hearing. Prerequisite: Edu 434 or 438. Class: the number of hours, equivalent to 15 hours 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 hours. Credit: 6 semester hours.

4101, 4201, 4301, 4601—Institute or Workshop in Education. A number of institutes or workshops are designed to advance the professional competence of teachers. For each, a description of the particular area of study will be indicated. May be repeated for credit when nature of workshop or institute differs sufficiently from one previously taken. Class: 1 to 6 hours. Credit: 1 to 6 semester hours.

4302—Early Childhood Development. Study of psychological development of children from birth to age six, with recognition given to their basic needs. Includes a study of the appropriate educational experiences needed to meet the basic needs of these early years. Class: 3 hours. Credit: 3 semester hours.

4303—Instruction in Early Childhood. Instructional methods and materials for pre-school and kindergarten age children. Focus on oral language experience, science and mathematics concepts, and creative expression. Class: 3 hours. Credit: 3 semester hours.

4337—Tests and Measurements: Principles of human measurement and evaluation. Familiarity with most used tests and evaluation procedures in educational settings. Prerequisite: approval of head of department or graduate standing. Class: 3 hours. Credit: 3 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. Familiarity with significant research in education. Emphasis on terminology, methodology, and spirit of systemic 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 Human Development. A study of the development and nature of the human personality, especially as it affects the teaching-learning process. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

535—The Learning Process. Dynamics, processes, and systems of learning. Theoretical emphasis. 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.

5101, 5201, 5401, 5501, 5601—Institute in Education. Designed to advance the professional competence of participants. For each institute, a description of the particular area of study will be indicated. May be repeated for credit when nature of institute differs sufficiently from one previously taken. Class: 1-6 hours. Credit: 1 to 6 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 children's literature. Prerequisite: graduate standing. Class: 3 hours. Credit: 2 semester hours.

5311—Prescriptive Teaching with the Mentally Retarded. Extrapolate psychological and sociological data into individual teaching prescriptions for mentally retarded children; applied experience. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5312—Learning Potentials in the Neurologically Involved. Determining the degree of modifiability of pupil behavior, identifying functioning

levels, and devising appropriate teaching strategies; individual projects. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5313—Learning Potentials in Mentally Retarded Children. Determining the degree of modifiability of pupil behavior, identifying functioning levels, and devising appropriate teaching strategies; individual projects. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5314—Instructional Processes with the Mentally Retarded. Translating the behaviors of mentally retarded children into child development categories and applied behavior modification processes in child study projects. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5315—Problems and Issues in Mental Retardation. 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. Analysis of the functions of special education in the administrative structure of the school; the principles and practices in administration and supervision in special education. Project: A school survey. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5317—Secondary School Curriculum. Analysis of the objectives, organization and content of the different areas of the secondary school curriculum. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5319—Problems in Secondary School Instruction. Consideration of the instructional problems encountered by experienced teachers in the secondary schools. Prerequisite: graduate standing and two years of teaching experience. Class: 3 hours. Credit: 3 semester hours.

5321—Technology. Application of present technology to the production of educational materials and to direct instruction. Simulation, response devices, and filming techniques will be featured. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5322—Organization and Administration of the Guidance Program. Essential services and management functions of guidance and counseling services for schools. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5323—Occupational and Vocational Guidance. Survey of occupational fields, requirements, and rewards. Concepts of vocational guidance. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5324—Individual and Group Counseling. Processes of individual study. Counseling procedures and techniques for individuals and groups. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5325—Instructional Processes in Learning Disabilities. Investigation of current remedial techniques and their application to individual differences in learning processes. Consideration of various programs and their benefit in altering behavioral characteristics. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5326—Problems and Issues in Education of the Physically Handicapped. 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.

5327—College Teaching. Designed for graduate students with little or no pedagogical training or experience. Application of learning principles and pedagogical procedures in college classes. Prerequisite: permission of instructor. Class: 3 hours. Credit: 3 semester hours.

5328—Practicum in Guidance and Counseling. Supervised observation and practice of guidance and counseling in a school setting. Prerequisite: approval of department head. Class: the number of hours equivalent to 8 hours per week for 16 weeks. Credit: 3 semester hours.

5329—Corrective Reading. Causes of reading disability, methods of diagnosis, and remedial instruction. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5331—Curriculum Development for the Physically Handicapped. Lectures, reports, discussion, and practicum in special areas of interest dealing with learning processes of the orthopedically handicapped, and neurologically involved. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis: Prerequisite: admission to candidacy for the Master of Education degree. Credit: 4 semester hours.

DEPARTMENT OF HOME ECONOMICS

Department Head—Mary Wanda Harp. *Professor*—Rosa Jean Robertson. *Associate Professor*—Louise Turner. *Assistant Professors*—Virginia Anderson, Marsha L. Daggett, Doris Davis, LeBland McAdams.

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—Marriage and Family Relationships

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 Constuction

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—5 semester hours.

HEc 124—Foundations in Home Economics

HEc 437—Seminar in Home Economics—General Home Economics Only

Program of Study

General Home Economics

This curriculum qualifies for home economics in Business and in Extension Service.

First Year		Second Year	
Eng 131-132—Comp	6	Eng—Literature	6
Chem 143-144—Intro or		Gov 231-232—State and Natl.	6
Bio 141-142—Gen Biology	8	Psy 234—Human Dev.	3
HEc 124—Found in HEc	2	HEc 231—Textiles	3
HEc 131—Food Prep.	3	HEc 232—Dress Design	3
HEc 132—Beg Clothing	3	HEc 235—Meal Mgt.	3
HEc 133—Art in HEc	3	Science or Math.	8-6
HEc 137—Family Rel.	3	HPE—Activity	2
Spc 131—Fundamentals	3		—
HPE—Activity	2		34-32
	—		
	33		
Third Year		Fourth Year	
Eco 233—Principles and 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		31
HEc 334—Nursery School	3		
HEc 335—Home Furn.	3		
Electives	3-5		
	—		
	33-35		

Home Economics Education

This plan qualifies for the Provisional Vocation Homemaking Certificate, coded 164.

First Year		Second Year	
Eng 131-132—Comp	6	Eng—Literature	6
Chm 143-144—Intro or		Gov 231-232—State and Natl.	6
Bio 141-142—Gen Biology	8	Psy 234—Human Dev.	3
HEc 124—Fnd in HEc	2	HEc 231—Textiles	3
HEc 131—Food Prep.	3	HEc 232—Dress Design	3
HEc 132—Beg Clothing	3	HEc 235—Meal Mgt.	3
HEc 133—Art in HEc	3	Mth	6
HEc 137—Family Rel.	3	Eco 233—Principles and Pol.	3
Spc 131—Fundamentals	3	HPE—Activity	2
HPE—Activity	2		—
	—		
	33		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 and Mtls..	3
HEc 330—Consumer Eco.....	3	HEc 444—Home Mgt.....	4
HEc 331—Clothing Const.....	3	HEc 462—Std Tchng in HEc....	6
HEc 332—Nutrition.....	3	Electives	12
HEc 333—Child Dev.....	3		—
HEc 334—Nursery School.....	3		28
HEc 335—Home Furn.....	3		
HEc 338—Phil Prin Voc.....	3		
His 231-232—United States....	6		
Electives	3		
	—		
	36		

Home Economics (HEc)

124—Foundations in Home Economics. An overview of the total profession of Home Economics. Class: 2 hours. Credit: 2 semester hours.

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.

137—Marriage and Family Relationships. A study of the individual in the family and the family as the fundamental unit in society. Special emphasis on preparation for and adjustments in marriage, including courtship, sexuality and tasks of beginning marriage with an overview of the entire family life cycle. 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. 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. Laboratory arranged. Credit: 3 semester hours.

335—Housing and Home Furnishings. A study based on an understanding of historical design in architecture and furniture; application of design principles in choice of home and furnishings and wise acquisition of home and furnishings to meet individual needs. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

336—Therapeutic Nutrition. Concepts of abnormal nutrition and disease treated by dietary modifications. Prerequisite: HEc 332; Bio 141 and 142 or Chm 143 and 144. Class: 3 hours. Laboratory: 1 hour. 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.

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. Prerequisite: HEc 438.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR MEN

Department Head—J. B. Higgins. *Associate Professors*—Vernon M. Glass, Jack T. Martin, Leonard A. Yates. *Assistant Professors*—F. Carl Babcock, Vernon R. Crowder, Bobby L. Frederick, Robert H. Gunn, Fred M. Jacob, Dan W. Rogas, Lester B. Tipton, Billy D. Tubbs. *Instructor*—William H. Vincent. *Departmental Secretary*—Mrs. Linda Sue Fortenberry.

Program of Study

The following degree program certifies students for the provisional teaching certificate—secondary—in the State of Texas.

Bachelor of Science in Health and Physical 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—Activity	2
HPE 236M—PE—Sec Sch.....	3	*Electives	9
HPE—Activity	2		—
*Electives	3		32
	—		
	34		
Third Year		Fourth Year	
Bio 330—App Anat and Kinesiol	3	Edu 438—Classroom Mgt Sec...	3
Edu 331—Foundation.....	3	Edu 462—Stu Tchng Sec Sch...	6
Edu 332—Edu Psy.....	3	HPE 435—Adapted PE.....	3
Edu 338—Curr Mat—Sec Sch...	3	HPE 436—Org and Admin.....	3
HPE 331—Coaching—Major Spt		*Electives	18
or			—
HPE 332—Coaching—Major Spt	3		33
HPE 333—Physiology of Exer...	3		
HPE 336—Tests and Msrments.	3		
*Electives	12		
	—		
	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. Twelve 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		

Master of Science in Health and Physical Education

The Degree Master of Science in Health and Physical Education requires the completion of thirty semester hours of graduate work: eighteen in Health and Physical Education, six in Thesis, and six in an approved minor or six additional hours in Health and Physical Education. At least twelve semester hours, exclusive of Thesis, must be in Health and Physical Education courses numbered 500 or above. The minor must be approved by the head of the Department of Health and Physical Education; such approval will be given on the basis of the support the minor can give to the major.

Master of Education. Secondary Education students pursuing a Master of Education degree in Secondary Education may select Health and Physical Education as their major teaching area.

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 students 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.

237M—Athletic Training and Conditioning. A study of training and conditioning methods for the individual and team; arrangement and care of training room; care and prevention of athletic injuries. Prerequisite: Bio 141-142. 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.

331M—Coaching Major Sports—Football and Basketball. The fundamentals, theory, history, development, and modern techniques of football and basketball. Lectures and demonstrations in coaching methods and techniques. Prerequisite: 9 semester hours in physical education. Class: 3 hours. Credit: 3 semester hours.

332M—Coaching Major Sports—Baseball and Track. The fundamentals, theory, history, development, and modern techniques in baseball and track. Lectures and demonstrations in coaching methods and techniques. Prerequisite: 9 semester hours in physical education. 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 330. 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.

335M—Organization and Administration of Intramural Sports. Theory and practice of organizing and administering the intramural sports program. Includes problems in scheduling, financing, promotion, activities, officiating, classification of students, and evaluation of the program. Class: 3 hours. Credit: 3 semester hours.

336—Tests and Measurements. Use, interpretation, evaluation and administration of tests peculiar to health and physical education; application of elementary statistical procedures. Prerequisite: junior standing. 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. Includes 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. 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 330. 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.

531—Cultural Foundations of Physical Education. A study of the historical and cultural foundations of sport and physical education activities, their origin and influence upon modern man. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

532—Seminar in Professional Literature and Research. Designed to develop abilities in locating and evaluating literature and research in physical education and in allied fields. Prerequisite: graduate standing; HPE 336, or 438W, or equivalent. Class: 3 hours. Credit: 3 semester hours.

533—Organization and Administration of the School Health Program. Administrative relationships and procedure in conduct of school health programs. General policies, state responsibilities, annual health examinations, classes for handicapped, sanitation of school plant, duties of personnel services of outside agencies and community relationships. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

534M—Scientific Basis of Exercise. A study of the role of physical activities and their effects on the human organism through the use of professional literature and laboratory experimentation. Prerequisite: graduate standing; Bio 330 and HPE 333 or their equivalent. Class: 3 hours. Credit: 3 semester hours.

535—Trends and Issues in Health and Physical Education. Designed to assist the student to become knowledgeable on current trends and issues in the area of health and physical education. Study will include historical, analytical, and projective approaches. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

536—Research Methods in Health and Physical Education. The student will be introduced to the types of research in health and physical education with emphasis on tools and techniques of research and research design. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5301—Graduate Workshop in Health and Physical Education. This workshop is designed to advance the professional competence of graduate

students in health and physical education. Topic will vary. A description of the particular area of study will be indicated. May repeat for credit when nature of workshop differs sufficiently from one previously taken. Class: 3 hours. Credit: 3 semester hours.

669A-669B—Thesis. Prerequisite: Admission to candidacy for the Master of Science degree. Credit: 6 semester hours.

**DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION
FOR WOMEN**

Department Head—Belle M. Holm. *Associate Professors*—Dianne Baker, Mary Jane Haskins, Marcella Woods. *Assistant Professors*—Rae R. Gremillion, Rebecca M. Hill, Lois J. Wilson. *Instructors*—Marilyn A. Krause, Patricia A. Park, Claudia K. Perry.

Program of Study

**Bachelor of Science in Health and Physical 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
Mth 6	HPE 236—P Edu—Sec Sch 3
HPE 132—Principles 3	HPE 237—Hlth Edu—Sec Sch 3
HPE 133—Personal Health 3	HPE—Activity 2
HPE—Activity 2	*Electives 6
*Electives 3	—
34	32
Third Year	Fourth Year
Bio 330—Anatomy 3	HPE 433—Sport Theory 3
HPE 332W—Meas Eval P Edu 3	HPE—W—Adv Elective 3
HPE 333W—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 15
HPE—Activity 2	—
*Electives 14	32
34	

*Electives must include the following:

1. Additional teaching field of 24 semester hours
(See Department of Education in this catalog for requirements for additional teaching fields)
2. Twelve semester hours of electives must be in academic foundation courses selected from English, Foreign Language, Philosophy, Bible, History, Government, Economics, Geology, Sociology, Anthropology, or Psychology

Master of Science in Health and Physical Education

The degree of Master of Science in Health and Physical Education requires the completion of 30 semester hours of graduate work: 18 in Health and Physical Education, 6 in Thesis, and six in an approved minor or 6

additional hours in Health and Physical Education. At least 12 semester hours, exclusive of Thesis, must be in Health and Physical Education courses numbered 500 or above. The minor must be approved by the head of the Department of Health and Physical Education; such approval will be given on the basis of the support the minor can give to the major.

Master of Education. Secondary Education students pursuing a Master of Education degree in Secondary Education may select Health and Physical Education as their major teaching area.

Theory Courses

123—Basic Movement Fundamentals. Mechanical analysis of motor skills. Class: 3 hours. Credit: 2 semester hours.

131—Emergency Care, Safety, and Survival. Standard and advanced American Red Cross First Aid Certification course, plus the Public Health Service Office of Civil Defense Medical Self-Help course and Safety Education. Class: 3 hours. Credit: 3 semester hours.

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.

133—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.

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.

234—Public and Consumer Health. Traditional and modern methods of meeting public and consumer health needs; investigation and analysis of public and consumer health problems; functions and organization of consumer health services at the local, state, regional, and national levels. 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—Health and Education in the Secondary School. Historical development of school health programs, health education, and school health services, with the evolution of principles and objectives of health education. Emphasis on methods and techniques of presentation. Class: 3 hours. Credit: 3 semester hours.

331—Measurement and Evaluation in Health Education. Analysis and interpretation of various kinds of tests and testing instruments used in school health programs. Experience is offered in the administration of tests, in test construction, and in the use of elementary statistics to interpret scores. Class: 3 hours. Credit: 3 semester hours.

332W—Measurement and Evaluation Procedures in Physical Education. An analysis of various kinds of tests used in the field of physical education. Experience is offered in the administration of tests and in the use of elementary statistics to interpret scores. Class: 3 hours. Credit: 3 semester hours.

333W—Physiology of Exercise. Muscular, nervous, circulatory, and respiratory systems as related to exercise. Experiments on human subjects are used. Prerequisite: Bio 141, 142, and 330. Class: 3 hours. Credit: 3 semester hours.

335—Physical Education and Recreation for the Atypical Child. The physical, mental, emotional and social traits of atypical children as they relate to motor learning. The effects of traits on motor learning. The objectives, programs, and techniques and activities of instruction. Lectures, laboratory and observation. Class: 3 hours. Credit: 3 semester hours.

337—Contemporary Health Problems. Problems associated with the personal, social, and sexual adjustment, with emphasis on social and psychological factors which promote successful interpersonal and family relations. Class: 3 hours. Credit: 3 semester hours.

338—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.

4101, 4201, 4301—Workshop in Health and Physical Education. A number of workshops are designed to advance the professional competence of teachers. For each, a description of the particular area of study will be indicated. May be repeated for credit when nature of workshop differs sufficiently from one previously taken. Class: 1 to 3 hours. Credit: 1 to 3 semester hours.

430—Problems in Physical Education. Biological, physiological, social, psychological, and other purposes and outcomes; selection and distribution of activities; teaching methods; facilities; teacher preparation; literature; research problems. Prerequisite: senior standing and consent of department head. Class: by consultation. Credit: 3 semester hours.

431—Practicum in Recreational Leadership. Discussion and laboratory practice in various forms of recreational activities, skills and crafts; study of issues in areas of public school and community recreation. Class: 3 hours. Credit: 3 semester hours.

433—Theory and Techniques of Sports. Lectures, demonstrations, and practice in techniques of teaching individual and team sports. Also study of the rules, their interpretation, and techniques of interpretation. Class: 3 hours. Credit: 3 semester hours.

434—Health and Human Ecology. Emphasis on the interaction of the human organism with the many aspects of environment and the implications in each area with regard to health. Class: 3 hours. Credit: 3 semester hours.

435—Health Science and Epidemiology. A study of infectious and non-infectious diseases. Class: 3 hours. Credit: 3 semester hours.

439—History and Theory of Dance. Chronological summary of characteristics and forms of dance from primitive rites to contemporary art forms; origins and evaluation of classic and contemporary dance forms. Class: 3 hours. Credit: 3 semester hours.

531—Cultural Foundations of Physical Education. A study of history and cultural foundations of sport and physical education activities, their origin and influence upon modern man. Class: 3 hours. Credit: 3 semester hours.

532—Seminar in Physical Education. Designed to develop abilities in locating and evaluating literature and research in physical education and in allied fields. Class: 3 hours. Credit: 3 semester hours.

533—Organization and Administration of the School Health Program. Administrative relationships and procedures in conducting school health programs. Class: 3 hours. Credit: 3 semester hours.

ACTIVITY COURSES FOR THE MAJOR STUDENT

Students majoring in Health and Physical Education are required to take 8 semester hours of activity courses. The selection of activity courses should include 117, 118, 210, 213, 214, 215 and 2 hours from 115, 217, 111, 112, 211, 212.

Activity Courses for Women

The following are activity courses from which 4 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 designed to enlarge the educational experience of the student by developing skills and understandings associated with sport, dance and aquatics.

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.

218, 2110—Modified Activity. Modified or special exercise programs for individuals with physical limitations. Class: 3 hours. Credit: 1 semester hour.

Aquatics:

120—Swimming. Demonstrations, lectures and practice in the basic techniques of swimming and water safety skills. Class: 3 hours. Credit: 2 semester hours.

121—Swimming and Diving. Demonstrations, lectures and practice in the techniques and analysis of selected swimming strokes and dives. Class: 3 hours. Credit: 2 semester hours.

HPE 220—Advanced Aquatic Sports. Lecture, demonstration, and practice in swimming, diving, synchronized swimming and water games. Class: 3 hours. Credit: 2 semester hours.

HPE 225—Lifesaving. Prerequisite: intermediate swimming skills. Development of proficiency in lifesaving and water safety skills and techniques. Completion of course also includes American Red Cross Senior Lifesaving Certificate. Lecture: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

HPE 226—Water Safety Instruction. Prerequisite: current Red Cross Certificate in Senior Lifesaving. The theory and study for teaching water safety techniques and procedures. Completion of course also includes meeting the proficiency requirements for American Red Cross water safety certification. Lecture: 1 hour. Laboratory: 2 hours. Credit: 2 semester hours.

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—Tennis.

213—Basketball and Volleyball.

214—Flag Football and Softball.

215—Tumbling and Gymnastics.

217—Badminton.

SCHOOL OF SCIENCES

Departments

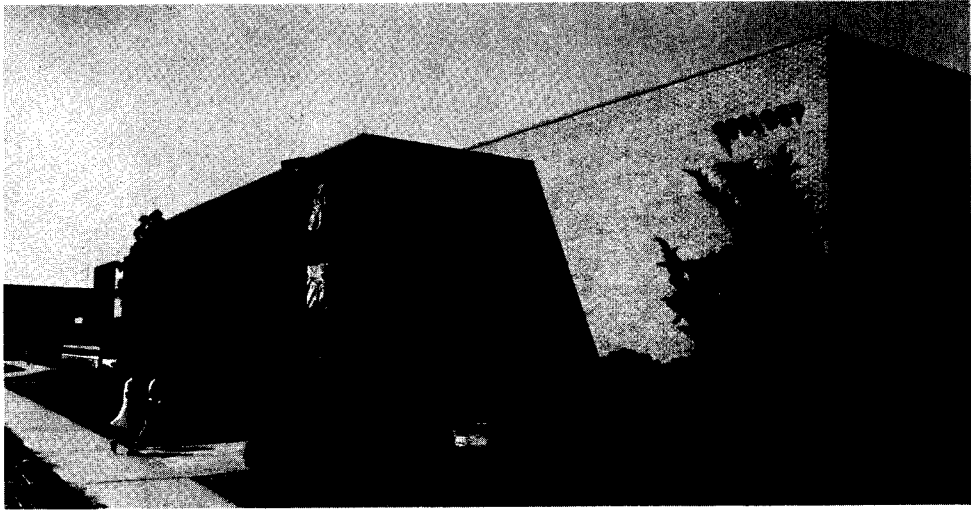
Biology

Chemistry

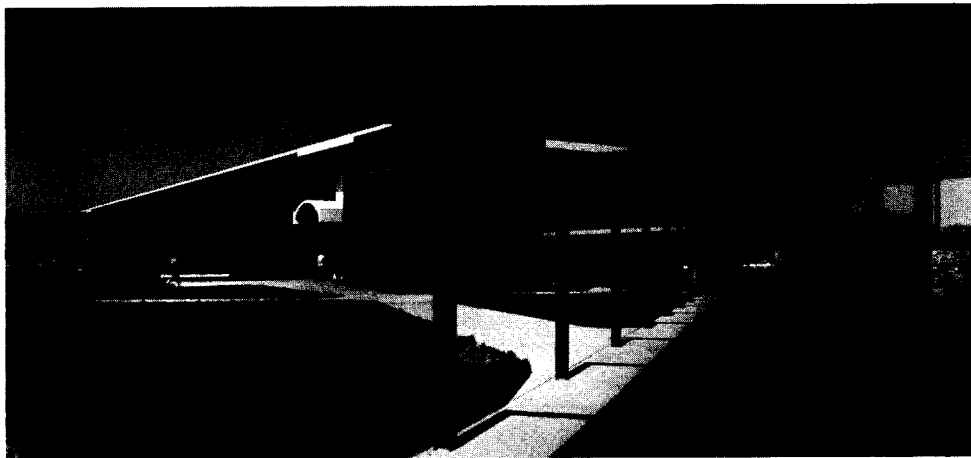
Geology

Physics

Psychology



Geology Building



New Biology Building



Physics Building

School of Sciences

Edwin S. Hayes, Ph.D., Dean

The School of Sciences, established by the college in 1966, comprises the departments of Biology, Chemistry, Geology, Physics and Psychology. Prior to this reorganization, degrees had been granted in these areas by the School of Arts and Sciences, formed in 1952.

The Bachelor of Science degree is granted in Biology, Chemistry, Geology, Physics, Psychology, Medical Technology, Oceanographic Technology, and Environmental Science. The Bachelor of Arts degree is offered in Biology, Chemistry, Geology, and Psychology.

The Master of Science degree is offered in Biology and Chemistry.

General Statement

Success in scientific pursuits requires an inquiring mind, thorough grounding in fundamental theory, and manipulative skill. The ultimate of success is attained when these qualities are developed against a broad background of liberal education.

Through a specialized curriculum, the student prepares himself for a career in business or industry, government service, teaching, research, advanced study, and other professional fields.

Pre-professional training, geared to the biological sciences curriculum, prepares the student for careers in nursing, medical technology, medicine, dentistry, pharmacy, physical therapy, and veterinary medicine.

The pre-medical and pre-dental curricula have been programmed to satisfy requirements for admission to medical and dental schools. Completion of suggested curriculum leads to the Bachelor of Science in Biology degree from Lamar State College after successful completion of one year in such a professional college.

Degree Offerings

Bachelor of Arts with majors in the following fields:

Biology	Geology
Chemistry	Psychology

Bachelor of Science with majors in the following fields:

Biology	Oceanographic Technology
Chemistry	Medical Technology
Environmental Science	Physics
Geology	Psychology

Master of Science with major in the following field:

Biology
Chemistry

DEPARTMENT OF BIOLOGY

Department Head—Edwin S. Hayes. *Professors*—Russell J. Long, W. Russell Smith, Henry T. Waddell. *Associate Professors*—William T. Fitzgerald, Milton L. Forbes, Jed A. Ramsey, Charles P. Turco. *Assistant Professors*—George A. Bryan, Jr., Gilbert Gatlin, Richard Harrel, J. Leon McGraw, William C. Runnels, Ernest C. Tanzer,* Michael E. Warren. *Instructor*—Mrs. Karen Olson. (*On leave.)

Program of Study

Bachelor of Science—Biology Major

First Semester		Second Semester	
Eng 131—Composition	3	Eng 132—Composition	3
Bio 141—General	4	Bio 142—General	4
Chm 141—General	4	Chm 142—General	4
Mth 134—Algebra	3	Mth 133—Trigonometry	3
Elective	3	Elective	3
HPE—Activity	2	HPE—Activity	1
	—		—
	18		18
Second Year		Third Year	
Eng—Literature	6	Bio—Electives	16
Bio—Elective	8	Chm 241—Quantative	4
Chm 341, 342—Organic	8	Chm 443—Biological	4
Phy 141, 142—General	8	Gov 231, 232—State and Natl.	6
His 231, 232—American	6	Electives	6
HPE—Activity	2		—
	—		36
	38		
Fourth Year			
Bio 416, 417—Bio Lit.	2		
Bio—Electives	8		
Electives	20		
	—		
	30		

Pre-Medical and Pre-Dental Recommended Program

First Year	Second Year	
Same as for First Year of B.S. in Biology	Eng—Literature	6
	Bio 240—Comp Anatomy	4
	Bio 243, 244—Microbiology	8
	Chm 341, 342—Organic	8
	His 231, 232—American	6
	Bio 347—Genetics	4
	HPE—Activity	2
	—	
	38	

Third Year	Fourth Year
Bio 341—Histology 4	Bio 416, 417—Bio Literature 2
Bio 342—Embryology 4	Bio 441—Parasitology 4
Bio 344—Adv Physiology 4	Bio 441—Cellular 4
Chm 241—Quantitative 4	Electives 22
Chm 443—Biological 4	—
Phy 141, 142—General 8	32
Gov 231, 232—State and Natl. 6	—
—	—
34	

Most medical and dental schools require three years or more of pre-professional 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 (minimum 100 semester hours) 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 to the Registrar by June 15 of the year in which the degree is to be conferred.

Bachelor of Science—Medical Technology

First Year	Second Year
Same as for First Year of B.S. in Biology	Eng—Literature 6
	Bio 243-244—Microbiology 8
	Chm 243—Organic 4
	Chm 244—Physiological 4
	Phy 141—Mechanics 4
	Phy 142—Electricity, etc. 4
	Gov 231-232—State and Natl. 6
	HPE—Activity 2
	—
	38
—	—
30	

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

Two years of training in an approved hospital nursing school preceded by 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 and Physiol.	3	Bio 134—Anat and Physiol.	3
Chm 143—Introductory	4	Bio 245—Microbiology	4
Psy 131—Intr Human Behavior	3	HEc 138—Prin of Nutrition	3
Soc 131—Introduction	3	Psy 234—Child Psychology	3
HPE—Activity	1	HPE—Activity	1
	—		—
	17		17

Bachelor of Science in Nursing Program

The following two years program has been recommended for the student who plans to get a degree in nursing. For specific information consult the catalog of the college where the degree is to be given, and plan work at Lamar accordingly.

First Year		Second Year	
Eng 131, 132—Composition	6	Bio 133, 134—Anat & Physiology	6
Bio 141, 142—General	8	Bio 245—Microbiology	4
Chm 143, 144—Introductory	8	Eng—Literature	6
Soc 131—Introduction	3	His 231, 232—United States	6
Psy 131—Intr Human Behavior	3	Gov 231, 232—State and Natl.	6
Psy 234—Child Psychology	3	Psy 241—Intr Stat Mthds.	4
HEc 138—Prin of Nutrition	3	Soc 234—Industrial	3
HPE—Activity	2	HPE—Activity	2
	—		—
	36		33

Pharmacy

First Year		Second Year	
Bio 141, 142—General	8	*Chm 341, 342—Organic	8
Chm 141, 142—General	8	Eco 133—Principles	3
Eng 131, 132—Composition	6	Eng—Literature	6
His 231, 232—United States	6	Gov 231, 232—State and Natl.	6
Mth 133, 134—Trig, Alg.	6	Phy 141, 142—General	8
HPE—Activity	2	HPE—Activity	2
	—	Elective	3
	36		—
			36

*Taken during the first professional (third) year at The University of Houston College of Pharmacy.

All colleges of pharmacy have a five year program, two pre-professional and three professional years. Students following the plan outlined above will be admitted to the first professional year of many colleges of pharmacy, including those at The University of Texas and The University of Houston. Consult the catalog of school of choice for specific requirements.

Physical Therapy

First Year		Second Year	
Same as for First Year of B.S. in Biology. (Chm 143 and 144 recommended)		Eng 231, 232—Literature.....	6
		Bio 240—Comp Anatomy.....	4
		Bio 347—Genetics.....	4
Third Year		His 231, 232—American.....	6
Gov 231, 232—State and Natl....	6	Psy 131—Intr Human Behavior..	3
Phy 141, 142—General.....	8	Psy 234—Child Psychology.....	3
Soc 132—Social Problems.....	3	Soc 131—Introduction.....	3
Electives.....	15	HPE—Activity.....	2
	—		—
	32		31

The program outlined above will prepare the student for admission in a School of Physical Therapy such as that of The University of Texas Medical Branch at Galveston. Upon completion of the fourth year there, the student is awarded by that institution the B.S. in Physical Therapy and a Certificate of Proficiency. Consult the professional school of your choice for specific admission requirements.

Veterinary Medicine

First Year		Second Year	
Eng 131, 132—Composition.....	6	Eng—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 and 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

Bachelor of Science—Environmental Science

First Year			
Fall Semester		Spring Semester	
Bio 141—General.....	4	Bio 142—General.....	4
Chm 141—General.....	4	Chm 142—General.....	4
Eng 131—Composition.....	3	Eng 132—Composition.....	3
Mth 133 (1381)—Trig (An Geom).....	3	Mth 134 (1391)—Alg (Calc I)..	3
His 231—American.....	3	His 232—American.....	3
HPE—Activity.....	1	HPE—Activity.....	1
	—		—
	18		18

Second Year			
Fall Semester		Spring Semester	
Bio 243—Microbiology.....	4	Bio 244—Microbiology.....	4
Chm 241—Quant Analysis.....	4	Eng—Literature.....	3
Eng—Literature.....	3	Phy 142—General.....	4
Mth 1381 (2311)—An Geom (Calc II).....	3	HPE—Activity.....	1
Phy 141—General.....	4	Electives.....	6
HPE—Activity.....	1		18
	—		
	19		
Third Year			
Fall Semester		Spring Semester	
Bio 446—Terrestrial Ecology... 4		Chm 342 (244)—Organic (Phys) 4	
Chm 341 (243)—Organic..... 4		Chm 334—Air Analysis..... 3	
CE 331—Env Sci..... 3		Gov 232—State and Natl..... 3	
Eng 3311—Tech Writing..... 3		Electives..... 7	
Gov 231—State and Natl..... 3			—
	—		17
	17		
Fourth Year			
Fall Semester		Spring Semester	
Bio 443—Limnology..... 4		Chm 443—Biochemistry..... 4	
Chm 410—Sem Env Sci..... 1		CE 433—Env Hlth Egr..... 4	
Chm 434—Air Poll Surveys..... 3		Electives..... 8	
Electives..... 7			—
	—		16
	15		

Completion of this program will qualify graduates for governmental and industrial positions concerned with the prevention, detection and abatement of pollution detrimental to the quality of the environment. Interdisciplinary by design, the curriculum affords latitude in the selection of electives, thus providing for the enhancement of competence in fields of primary interest.

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: 3 hours. Laboratory: 2 hours. Credit: 3 semester hours for each semester.

141-142—General Biology. A brief survey of living things; a comparison of structural and functional adaptations for fundamental life processes; principles of reproduction, inheritance, development and phylogenetic re-

relationships; interactions of organisms with the environment. Credit for first semester prerequisite for enrollment in second. 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: 3 hours. Credit: 4 semester hours.

243-244—Microbiology. Micro-organisms with emphasis on bacteria in soil, water, milk, and sewage. Laboratory includes the isolation, cultivation, and identification of common bacteria. The last half of the second semester is devoted to the study of bacteria, rickettsiae and viruses in relation to disease; theories of antigen-antibody responses; and the immunization of a laboratory animal. Recommended for biology majors, pre-medical, pre-dental, and medical technology students. Credit for first semester prerequisite for enrollment in second. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours per semester.

245—Introductory Microbiology. 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. 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.

332—Anatomy and Physiology of Speech and Hearing. Human structure and function with special emphasis on respiration and hearing. Designed for majors in speech and hearing pathology. Prerequisite: Bio 141-142. Class: 3 hours. Credit: 3 semester hours.

341—Histology and Histological Technique. Study of normal tissues of vertebrates. Technical phase of the course includes fixation and staining of tissues, paraffin sections, conventional mounting. Designed for biology majors, pre-medical, pre-dental, and medical technology students. Prerequisite: Bio 141-142 and 240 or 243-244. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

342—Embryology. Comparative study of the development of vertebrates, including meiosis, fertilization, cleavage, and early embryology. Detailed organogeny of the chick. Recommended for biology majors, pre-medical and pre-dental students. Prerequisite: Bio 141-142, 240. 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 uri-

nalys. Designed for medical technology students. Prerequisite: Bio 141-142, 243-244. Class: 3 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, 240 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 study of the invertebrate phyla. Classification, natural history, phylogenetic 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: 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: 16 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.

440—Ornithology. Natural history, taxonomy and ecology of birds. Lecture: 3 hours. Laboratory: 3 hours. Credit: 4 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 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

443—Entomology. Physiology, morphology, life history, and control of insects, with emphasis on collection, identification, and classification. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

443—Limnology. Fauna, flora, ecology and productivity of fresh water. Prerequisite: Bio 141-142. 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. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

445—Marine Biology. Ecology of marine plants and animals. Emphasis on habitats and community relationships. Recommended for biology majors. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

446—Terrestrial Ecology. A study of the interrelationships of terrestrial organisms and their environment. Laboratory stresses quantitative approach to both field and experimental studies. Prerequisite: Bio 141-142. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

447—Cellular Biology. Structure and function of the cell and its organelles. Prerequisites: Bio 341, Chm 341-342. Lecture: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

448—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.

449—Protistology. Morphology, taxonomy and ecology of protozoa, algae and fungi. Prerequisite: Bio 141-142. 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.

531—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.

532—Mycology. Isolation, cultivation and identification of fungi with special emphasis on those of economic importance. Lecture: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

533—Ichthyology. Natural history, taxonomy and ecology of freshwater and marine fishes. Lecture: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

534—Herpetology. Natural history, taxonomy and ecology of amphibians and reptiles. Lecture: 3 hours. Laboratory: 3 hours. Credit: 3 semester hours.

535—Ornithology. Natural history, taxonomy and ecology of birds. Lecture: 2 hours. Laboratory: 2 hours. Credit: 3 semester hours.

536—Mammalogy. Natural history, taxonomy and ecology of mammals. Lecture: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF CHEMISTRY

Department Head—Harold T. Baker. *Director of Freshman Chemistry*—Roger E. Yerick. *Director of Environmental Science*—Ewin A. Eads. *Professor*—Margaret D. Cameron. *Associate Professors*—Kenneth L. Dorris, Joe N. Fields, Joe M. Mejia.* *Assistant Professors*—Keith C. Hansen, Anne Harmon, J. Dale Ortego, John A. Whittle. *Stockroom Supervisor*—Horace L. Grayson. *Departmental Secretary*—Miss Patricia Clark. (*On leave.)

The Department of Chemistry has been approved by the Professional Committee of the American Chemical Society. The following B.S. program is recommended as preparatory to graduate work in chemistry:

Bachelor of Science—Chemistry Major

First Year		Second Year	
Chm 141, 142—General	8	Chm 341, 342—Organic	8
Eng 131, 132—Composition	6	Eng 231, 232—Literature	6
Mth 138, 139—Analysis I and II	6	Mth 231, 232—Analysis III & IV	6
Bio 141, 142—General	8	Phy 140—Mechanics	4
HPE—Activity	2	Phy 241—Heat, Elect, Mag	4
	—	Ger 131, 132—First Year	6
	30	HPE—Activity	2
			—
			36

Third Year		Fourth Year	
Chm 241—Quantitative	4	Chm 433—Modern Physical	3
Chm 431, 432—Physical	6	Chm 446—Instrumental	4
Chm 413—Physical Lab	1	Chm 411—Chm Literature	1
Chm 414—Physical Lab	1	Chm 436—Inorganic	3
Phy 242—Sound, Light, Quanta	4	Chm 444—Organic Analysis	4
Ger 231, 233—Second Year	6	Chm 412—Senior Seminar	1
Gov 231, 232—State and Natl	6	His 231, 232—National	6
Electives	4	Electives	10
	—		—
	32		32

Bachelor of Arts—Chemistry Major

First Year		Second Year	
Chm 141, 142—General	8	Chm 241—Quantative	4
Eng 131, 132—Composition	6	Chm 333—Inorganic	3
Mth 138, 139—Analysis I and II	6	Eng 231, 232—Literature	6
Language 131, 132—First Year	6	Mth 231, 232—Analysis III & IV	6
Bio 141, 142—General	8	Language 231, 232—Second Year	6
HPE—Activity	2	Phy 141, 142—General	8
	—	HPE—Activity	2
	36		—
			35

Third Year		Fourth Year	
Chm 341, 342—Organic	8	His 231, 232—National	6
Chm 431, 432—Physical	6	Gov 231, 232—State and Natl.	6
Chm 413—Phys Lab	1	Minor or Electives	18
Chm 414—Phys Lab	1		—
Minor or Electives	14		30
	—		
	30		

For those who plan a pre-medical or pre-dental program in chemistry, a minor in biology is recommended.

Chemistry (Chm)

141—General. General principles, problems, fundamental laws and theories. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

142—General. A continuation of Chm 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: 2 hours. Credit: 4 semester hours.

144—Introductory. For non-science majors. Continuation of Chm 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. Theory and practice of analytical chemistry, utilizing gravimetric and titrimetric techniques. Prerequisite: Chm 142, Mth 133, 134. 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.

321—Inorganic Analysis. Qualitative analysis of cations and anions in aqueous solutions. Prerequisite: Chm 142. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

331—Radiochemistry. Basic concepts of nuclear science. Principles and use of radiation measuring devices. Prerequisite: Chm 141, 142 or equivalent; or Phy 141, 142 or equivalent. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

333—Inorganic. Generalization 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 142. Class: 3 hours. Credit: 3 semester hours.

334—Air Analysis. Theory and practice of chemistry as required in determination of ambient air quality. Prerequisite: Chm 241, Mth 138. Class: 3 hours. Laboratory: 3 hours. Credit: 3 semester hours.

341—Organic. Current theories and chemical principles that relate to the field of organic chemistry. Prerequisite: Chm 142. 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.

410—Seminar in Environmental Science. Reports and assigned reading. Prerequisite: senior standing. Class: 1 hour. Credit: 1 semester hour.

411—Chemical Literature. Lecture and assigned reading in the chemical literature. Chemical literature search on an advanced level. Prerequisite: Chm 342, reading knowledge of German. 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.

413—Physical Laboratory. Laboratory applications of modern theory in physical chemistry. Prerequisite: Chm 241, Chm 431 (or parallel). Laboratory: 4 hours. Credit: 1 semester hour.

414—Physical Laboratory. Continuation of Chm 413. Prerequisite: Chm 413. Laboratory: 4 hours. Credit: 1 semester hour.

431—Physical. Thermodynamic principles; modern chemical theory as applied to gases, liquids and solids. Prerequisites: Chm 142, Phy 142 or 241, Mth 232 (or parallel). Class: 3 hours. Credit: 3 semester hours.

432—Physical. A continuation of Chm 431. Prerequisite: Chm 431. Class: 3 hours. Credit: 3 semester hours.

433—Modern Physical. Selected topics in modern physical chemistry. Prerequisite: Chm 432 (or parallel). Class: 3 hours. Credit: 3 semester hours.

434—Air Pollution Surveys. Chemical, physical, meteorological, biological, bacteriological and epidemiological factors as applied to determine the extent of environmental damage from air pollution. Prerequisites: Chm 334 and senior standing. Class: 3 hours. Laboratory: 3 hours. Credit: 3 semester hours.

436—Inorganic. Study of the quantized atom, periodicity, characteristics of the extra-nuclear structure. Valency and the chemical bond, com-

plex ions and coordination compounds. Prerequisite: Chm 432 (or, parallel). Class: 3 hours. Credit: 3 semester hours.

443—Biochemistry. Principles of biochemistry. Current theories of chemistry as applied to biochemical materials. Prerequisite: Chm 241, 342 (or parallel). Class: 3 hours. Laboratory: 3 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: Chm 341 and 342. Class: 2 hours. Laboratory: 8 hours. Credit: 4 semester hours.

427, 437, 447—Introduction to Research. Junior and senior chemistry students. Problems are on the undergraduate level and emphasize research techniques. With approval of the department head, these courses may be repeated for credit. 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. Prerequisite: Chm 241, 432 (or parallel), Mth 231, Phy 142 or 241. Class: 3 hours. Laboratory: 4 hours. Credit: 4 semester hours.

4101, 4201, 4301, 4401—Special Topics in Chemistry. Topics in undergraduate analytical, inorganic, organic, or physical chemistry. Library and/or laboratory work and conferences with a staff member. The description of the particular area of study will appear on the printed semester schedule. A student may repeat the course for credit when the area of study is different. Credit: 1-4 semester hours.

531—Advanced Analytical. Prerequisites: graduate standing. Class: 3 hours. Credit: 3 semester hours.

532—Kinetics. Rate equations developed by the application of statistical methods to the kinetic theory of gases will be compared with experimental reaction rate determinations. The development and significance of partition functions, the collision theory, and the theory of absolute reaction rates will be presented. May be taken for graduate credit in chemistry or engineering. Class: 3 hours. Credit: 3 semester hours.

533—Advanced Inorganic. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

535—Advanced Organic. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

536—Thermodynamics. The basic laws of Thermodynamics are derived and their applications to physical phenomena presented. The treatment of the thermodynamics of surfaces, and of systems in gravitational, centrifugal, electric, or magnetic fields is given. The course may be taken for credit in engineering or chemistry. Class: 3 hours. Credit: 3 semester hours.

537—Advanced Physical. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

538—History of Chemistry. The development of chemistry as related to the men of science who contributed to its progress. Prerequisite: graduate standing. Class: 3 hours. Credit: 3 semester hours.

5101, 5201, 5301, 5401, 5501, 5601—Chemistry for Teachers. Designed to advance the professional competence of participants. For each course, a description of the particular area of study will appear in the printed schedule. May be repeated for credit when nature of course differs sufficiently from one previously taken. Class: 1-6 hours and/or laboratory 0-6 hours. Credit: 1-6 semester hours.

5311—Selected Topics in Analytical Chemistry. May be repeated for a maximum of 6 semester hours when topic varies. Description of course content will appear in schedule of classes. Prerequisite: Chm 531 or equivalent. Class: 3 hours. Credit: 3 semester hours.

5331—Selected Topics in Inorganic Chemistry. May be repeated for a maximum of 6 semester hours when topic varies. Description of course content will appear in schedule of classes. Prerequisite: Chm 533 or equivalent. Class: 3 hours. Credit: 3 semester hours.

5351—Selected Topics in Organic Chemistry. May be repeated for a maximum of 6 semester hours when topic varies. Description of course content will appear in schedule of classes. Prerequisite: Chm 535 or equivalent. Class: 3 hours. Credit: 3 semester hours.

5371—Selected Topics in Physical Chemistry. May be repeated for a maximum of 6 semester hours when topic varies. Description of course content will appear in schedule of classes. Prerequisite: Chm 537 or equivalent. 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 GEOLOGY

Department Head—H. E. Eveland. *Professors*—Saul Aronow, William H. Matthews. *Associate Professors*—William R. Pampe, Anthony C. Tennesen. *Assistant Professors*—Darrell E. Davis,* T. Wesley Lins, William P. Roberts, Robert R. Wheeler. (*On leave.)

Program of Study

Bachelor of Science—Geology Major

First Year			
First Semester		Second Semester	
Geo 141—Physical	4	Geo 142—Historical.....	4
Chm 141 or 143	4	Chm 142 or 144.....	4
Mth 134—Algebra.....	3	Mth 133—Trigonometry.....	3
Eng 131—Composition.....	3	Eng 132—Composition.....	3
HPE 111—Activity.....	1	HPE 112—Activity.....	1
—		—	
15		15	
Second Year			
First Semester		Second Semester	
Geo 241—Mineralogy.....	4	Geo 242—Petrology.....	4
Bio 141—General.....	4	Bio 142—General.....	4
Mth 1381—Anal Geom.....	3	Mth 1391—Cal I.....	3
Eng 231—Literature.....	3	Spc 131 or 331.....	3
HPE 211—Activity.....	1	Egr 121—Graphics.....	2
—	—	HPE 212—Activity.....	1
—		—	
15		17	
Third Year			
First Semester		Second Semester	
Geo 342—Structure.....	4	Geo 343—Paleontology.....	4
Phy 141—General.....	4	Phy 142—General.....	4
Gov 231—Constitutions.....	3	Gov 232—State and Natl.....	3
Egr 122—Computers.....	2	Psy 241—Statistics.....	4
Elective	3	—	—
—		—	
16		15	
Summer			
Geo 360—Field Camp.....		6	
Fourth Year			
First Semester		Second Semester	
Senior Geology.....	3	Senior Geology.....	3
His 231—United States.....	3	Senior Geology.....	3
Advanced Science*.....	3	Geo 419—Seminar.....	1
Advanced Arts**.....	3	His 232—United States.....	3
Elective	3	Electives	6
—		—	
15		16	

Bachelor of Arts—Geology Major

First Year	
First Semester	Second Semester
Geo 141—Physical..... 4	Geo 142—Historical..... 4
Chm 143—Introductory..... 4	Bio 141—General..... 4
Mth 134—Algebra..... 3	Mth 133—Trigonometry..... 3
Eng 131—Composition..... 3	Eng 132—Composition..... 3
HPE 111—Activity..... 1	HPE 112—Activity..... 1
—	—
15	15
Second Year	
First Semester	Second Semester
Geo 241—Mineralogy..... 4	Geo 242—Petrology..... 4
Phy 137—Astronomy..... 3	Egr 121—Graphics..... 2
Foreign Language..... 3	Foreign Language..... 3
Gov 231—Constitutions..... 3	Gov 232—State and Natl..... 3
Eng 231—Literature..... 3	Eng 232—Literature..... 3
HPE 211—Activity..... 1	HPE 212—Activity..... 1
—	—
17	16
Third Year	
First Semester	Second Semester
Geo 142—Structure..... 4	Geo 343—Paleontology..... 4
Foreign Language..... 3	Foreign Language..... 3
His 231—United States..... 3	His 232—United States..... 3
Electives..... 6	Psy 241—Statistics..... 4
—	Elective..... 3
16	—
	17
Fourth Year	
First Semester	Second Semester
Senior Geology..... 3	Senior Geology..... 3
Advanced Science*..... 3	Senior Geology..... 3
Advanced Arts**..... 3	Geo 419—Seminar..... 1
Advanced Arts**..... 3	Advanced Arts**..... 3
Elective..... 3	Electives..... 6
—	—
15	16

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

The Graduate Record Examination is required of graduating seniors.

*A Junior or Senior course selected from Bio, Chm, Phy, Mth, or Egr.

**A Junior or Senior course selected from Eng, Soc, Gov, His, Phi, Ant, Eco, Spc, or CA.

Bachelor of Science—Oceanographic Technology

First Year

First Semester		Second Semester	
- Chm 141 General	4	-Chm 142 General	4
- Bio 141 General	4	Bio 142 General	4
-Mth 133 Trigonometry	4	-Mth 134 Algebra	4
-Eng 131 Composition	3	-Eng 132 Composition	3
- HPE 111 Activity	1	- HPE 112 Activity	1
	16		16

Second Year

First Semester		Second Semester	
-Phy 141 General	4	- Phy 142 General	4
- Egr 122 Computers	2	- Geo 141 Physical	4
- Mth 1381 Analyt Geom	3	-Egr 121 Graphics	2
-Eng 231 Literature	3	-Mth 1391 Calculus	3
-Spc 131 Fundamentals	3	-His 231 United States	3
- HPE 227 Swimming	1	-HPE 228 Life Saving	1
	16		17

Third Year

First Semester		Second Semester	
Geo 337 Meteorology	3	Bio 445 Marine Bio	4
Egr 233 Circs & Flids	3	CE 326 Soils Sci	2
Geo 344 General Oceanography	4	-Gov 231 Const	3
His 232 United States	3	Electives	6
- Elective	3		15
	16		

SUMMER

Geo 361—Field Course—6

Fourth Year

First Semester		Second Semester	
Geo 419 Ocean Seminar	1	Geo 423 Shipboard Op	2
-Egr 212 Machine Shop	1	Geo 433 Geophysics	3
Eng 3311 Tech Report Writing	3	Geo 421 Physical Oceanography	2
33 Science Electives	8	Egr 421 Data Processing	2
- Gov 232 State and Natl	3	EE 438 Instrumentation	3
	16		12

Geology (Geo)

141—Physical Geology. Earth materials, structures, land forms, mineral resources, and the processes 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 semester hours.

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

232—Cultural Geography. History and distribution of cultural groups with emphasis upon the interaction between geographic environment and human cultures. 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 geologic time, fossils, and prehistoric man. A student may not receive credit for both Geo 239 and Geo 142. 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 or 143. 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.

335—Earth Materials. The identification, classification, occurrence, and economic significance of minerals and rocks. Field trip required. A student may not receive credit for both Geo 335 and Geo 241-242. Prerequisite: Geo 141, Geo 237, or Geo 239. Class: 3 hours. Credit 3 semester hours.

336—Geology of Texas. The topography, physiography, structure, geologic history, and mineral deposits of Texas. Field trip required. Prerequisite: Geo 142 or Geo 239. Class: 3 hours. Credit: 3 semester hours.

337—Meteorology. The structure, properties, and processes of the atmosphere. The role of climate and weather in the total environment. Prerequisite: 6 hours of elementary science. Class: 3 hours. Credit: 3 semester hours.

338—Oceanography. The structure, properties, and processes of the hydrosphere. The role of the seas and oceans in the total environment. Prerequisite: 6 hours of elementary science. Class: 3 hours. Credit: 3 semester hours.

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

343—Paleontology. The classification, morphology, and identification of invertebrate fossils. Field trip required. Prerequisite: Geo 142 or 239. Class: 3 hours. Laboratory: 3 hours. Credit: 3 semester hours.

344—General Oceanography. Introduction to principles of oceanography. The relations between oceanography and other fields of science. Geology of ocean basins and near shore processes, chemical composition and properties of sea water, physics of the sea, and biological aspects of ocean environments. Class: 3 hours. Laboratory: 3 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. Prerequisite: Geo 342 and Egr 121. Class: 5 hours. Laboratory: 40 hours. Credit: 6 semester hours.

361—Field Course in Estuarine and Coastal Oceanography. Instruction in the application of standard sampling devices, involving practical fieldwork along coast and on shore. Collected samples will be analyzed in the laboratory. Studies in near shore geological processes. Small boat handling. Duration: 6 weeks. Class: 5 hours. Laboratory: 40 hours. Credit: 6 semester hours.

418—Earth Science Literature. Reports on current source materials. Not open to geology majors. Prerequisite: 12 hours of Geology. Class: 1 hour. Credit: 1 semester hour.

419—Seminar. Reports on current literature. Prerequisite: 24 hours of Geology. Class: 1 hour. Credit: 1 semester hour. (May be repeated for credit.)

421—Physical Oceanography. Physical processes and properties of oceans; their relationships to atmosphere and solid earth. Dynamics of oceanic current systems. Wind currents, waves, and tides. Prerequisite: Geo. 344. Class: 2 hours. Credit: 2 semester hours.

422—X-ray Crystallography. Use of X-ray diffraction techniques to identify minerals and other crystalline substances. For advanced science and engineering students. Prerequisite: one year of Chemistry or Physics. Laboratory: 6 hours. Credit: 2 semester hours.

423—Shipboard Operations. Designed to familiarize students in technical operations undertaken on oceanographic vessels. Class: 1 hour. Laboratory: 3 hours. Credit: 2 semester hours.

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.

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—Stratigraphy. The history, distribution, and correlation of sedimentary strata. Field trip required. Prerequisite: Geo 343. 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. Prerequisite: Geo 342. Class: 3 hours. Credit: 3 semester hours.

435—Geomorphology. The development and classification of land forms. Field trip required. Prerequisite: Geo 342. Class: 3 hours. Credit: 3 semester hours.

436—Optical Mineralogy. Optical properties of minerals. Use of the polarizing microscope in the identification of minerals and rocks. Prerequisite: Geo 242. Class: 2 hours. Laboratory: 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.

530—Earth Science Seminar. A survey of earth materials and processes, earth history, astronomy, and meteorology. Demonstration of topographic, geologic, and weather maps. Field trip required. Designed for non-science majors. Prerequisite: senior or graduate standing. Class: 3 hours. Credit: 3 semester hours.

5301, 5601—Institute in Earth Science. Summer, in-service or other institute for earth science teachers, with emphasis on Earth Science Curriculum. Project materials and techniques. Class: 3-6 hours. Laboratory: 3-9 hours. Credit: 3 or 6 semester hours.

DEPARTMENT OF PHYSICS

Department Head—Carl J. Rigney. *Professors*—Roy H. Biser. *Associate Professors*—G. F. Landegren, Hugh O. Peebles, Joseph F. Pizzo, J. G. Shepherd. *Assistant Professor*—Oscar T. Goines. *Stockroom Supervisor*—Ira Ferguson. *Departmental Secretary*—Shirley Crowe.

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.

Bachelor of Science—Physics Major

The degree of Bachelor of Science in Physics will be awarded upon the completion of the following requirements:

A. General Requirements

English 131-132—Composition
Literature—6 semester hours
Chemistry 141-142—General
History 231-232—United States History
Government 231-232—State and National
Physical Education or Marching Band—4 semester hours

B. Major

28 semester hours, with at least 16 semester hours in physics at the junior-senior level, including 333, 335, and one of the 3 laboratory courses (324, 346, or 448). Physics majors who plan to go to graduate school should take approximately 9 additional semester hours in Physics.

C. Minor

Math 1381-1391, 2311-2321—Analysis
Math 331—Differential Equations
Math Electives—3 semester hours

D. Foreign Language or Education

German 131-132—First Year German
German 231—Reading, Composition, Conversation
German 233—Technical translation
Substitution of any one or all four education courses required for certification (now numbered Edu 331, 332, 338, and 438) may be made for each semester of German listed.

E. Electives

Sufficient approved electives to complete a total of 128 semester hours.

Suggested Program of Study

First Year		Second Year	
Chm 141-142—General.....	8	Eng—Literature	6
Eng 131-132—Composition.....	6	Ger 231—Read, Comp, Convs....	3
Ger 131-132—Composition.....	6	Ger 233—Technical Trans.....	3
Mth 1381-1391—Analyt and Calc I	6	Mth 2311-2321—Calc II and III..	6
Phy 140—Intro Mchnics.....	4	Phy 241-242—Introductory.....	8
Elective	0-3	Electives	6
HPE—Activity	2	HPE—Activity	2
			34
	32-35		
Third Year		Fourth Year	
Gov 231-232—State and Natl....	6	Phy 448—Optics, or	
His 231-232—United States.....	6	Phy 346—Electrcal Measmnts, or	
Mth 231—Diff Equations.....	3	Phy 324—Modern Physics Lab... 2-4	
Phy 333—Analytical Mchnics... 3		Phy Electives.....	6-8
Phy 335—Modern Physics.....	3	Electives	20-22
Mth Elective.....	3		
Electives	6		
	30		30-32

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: 3 hours. Credit: 3 semester hours.

140—Introductory Mechanics. Emphasis is placed on derivation, units, and problem-solving. Prerequisite: credit for or registration in Mth 1391. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

141—General Physics—Mechanics 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—Sound, Light, Electricity and Magnetism. 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. A student with acceptable credit for Phy 140, 141, 142, 241, or 242 may not receive credit for Phy 143. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours per semester.

233—Modern General Physics. Content will include electronics, the photoelectric effect, atomic structure, X-rays, molecular and crystal structure, radioactivity and nuclear reactions. A student may not receive credit for both Phy 335 and Phy 233. Prerequisite: Phy 142. Class: 3 hours. Credit: 3 semester hours.

241—Introductory 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 2311. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

242—Introductory 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. Prerequisite: Phy 140 or 141-142 and credit for or registration in Mth 331. Class: 3 hours. Credit: 3 semester hours.

335—Modern 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 2311. Class: 3 hours. Credit: 3 semester hours.

338—Electricity and Magnetism. Electrostatic fields; magnetic fields; 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 2321. 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 2311. 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: 2 hours. Credit: 1 semester hour per course.

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 335. 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; solar 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 2311 or Phy 241-242. Class: 3 hours. Laboratory: 3 hours. Credit: 4 semester hours.

5101, 5201, 5301, 5401, 5501, 5601—Institute in Physics. Designed to provide credit for participation in summer, in-service or other institutes. Credit varies with duration. The description of the area of study of each institute will appear on the printed schedule. May be repeated for credit when nature of institute differs sufficiently from those taken previously. Class: 1-6 hours. Laboratory: 2-4 hours. Credit: 1-6 semester hours.

530—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.

531—Theoretical Physics. The application of typical mathematical techniques, with emphasis on field and potential concepts. Class: 3 hours. Credit: 3 semester hours.

532—Relativity. Brief introduction to the special and general theory followed by detailed study of a particular topic. Class: 3 hours. Credit: 3 semester hours.

533—Seminar. Selected topics pertaining to the research reported in contemporary publications. Course may be repeated for a maximum of 6 semester hours credit when the topic varies. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF PSYCHOLOGY

Department Head—James R. Hawker. *Professors*—Myrtle Bell. *Associate Professors*—Billy R. Barrington, Otto R. Flocke. *Assistant Professors*—Henry P. Buller, Robert A. Gay, James L. Walker, Jr. *Instructor*—Doris A. Simpson. *Departmental Secretary*—Marie Meguess.

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—6 semester hours
 Literature—6 semester hours
 Mathematics—6 semester hours
 Biology 141-142—General—8 semester hours
 Foreign Language—14 semester hours (completion of the 232 course in a foreign language)
 Government 231-232—State and National—6 semester hours
 History 231-232—United States—6 semester hours
 Physical Activity—4 semester hours

2. Major

Psychology 231—General Psychology
 Psychology 241—Statistical Methods in Psychology
 Psychology 341—Psychological Tests and Measurements
 Psychology 343—Experimental Psychology
 Psychology—Additional 12 semester hours—a minimum of 9 semester hours must be on the advanced level

3. Minor

An approved minor of 18 semester hours—a minimum of 6 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	8	His 231-232—United States	6
Mth	6	Psy 231—General	3
Electives	3	Psy 241—Intro Stat Methods	4
HPE—Activity	2	Electives	6
	—	HPE—Activity	2
	33		—
			33

Third Year		Fourth Year	
Gov. 231-232—State and Natl.	6	Psy (Advanced)	9
Psy 341—Tests and Msmt.	4	Minor	9
Psy 343—Experimental Phy	4	Electives	12
Minor	9		—
Electives	9		30
	—		
	32		

Total 126 Hours

Bachelor of Science—Psychology Major

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

1. Eight semester hours of physical science and Math 1381-1391 (6 hours) substituted for the foreign language requirement.
2. Thirty semester hours in psychology.
3. Sufficient approved electives to complete a total of 128 semester hours.

Suggested Program of Study

First Year		Second Year	
Bio 141-142—General	8	Eng—Literature	6
Eng 131-132—Composition.	6	Mth 1381-1391.	6
Mth 133-134—Trig and Algebra	6	Physical Science	4
Physical Science	4	Psy 241—Intro Stat Methods	4
Psy 231—General	3	Psy 233—Methods in Psy	3
Electives	3	Minor	3
HPE—Activity	2	Electives	3
	—	HPE—Activity	2
	32		—
			31

Third Year		Fourth Year	
Gov 231-232—State and Natl.	6	His 231-232—United States	6
Psy 341—Tests and Msmt.	4	Psy (Advanced)	6
Psy 343—Experimental.	4	Minor	9
Psy (Advanced)	6	Electives	12
Minor	6		—
Electives	6		33
	—		
	32		

Total 128 Semester Hours

Psychology (Psy)

131—Introduction to Human Behavior. Study of the major characteristics of human behavior, with special emphasis on abilities, motivation, adjustment, mental life, and social behavior. Class: 3 hours. Credit: 3 semester hours.

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

233—Methods in Psychology. A general survey of the experimental methods and techniques used in psychological research. Prerequisite: Psychology 241. 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.

241—Introduction to Statistical Methods. Statistical concepts and techniques used in psychological research. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

330—Psychology of Communication. A study of the theory, structure, and function of communication patterns in various group settings. Prerequisite: Psy 231. 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. 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. 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 241. 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.

337—Psychology of Adjustment. A study of normal adjustment and commonly used defenses against anxieties. Not intended for psychology majors. Class: 3 hours. Credit: 3 semester hours.

338—Individual Psychological Testing. An introduction to individual psychological testing for speech therapy students. Stress will be placed on administering and interpreting the WISC, the Binet and the Vineland. Class: 3 hours. Credit: 3 semester hours.

339—Human Factors. A survey of human functions in man-machine systems with consideration of human abilities and limitations in relation to equipment design and work environments. Prerequisite: Psy 231. Class: 3 hours. Credit: 3 semester hours.

341—Psychological Tests and Measurements. Theory and use of instruments for the measurement of intelligence, interests, aptitude, and attitudes. Prerequisite: Psy 231 and 241. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

342—Statistical Methods. A continuation of Psy 241 with emphasis upon design and analysis of experiments. Includes Chi square, Student's *t*, analysis of variance, and linear regression. Prerequisite: Psy 241. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

343—Experimental Psychology. Techniques to demonstrate and investigate concepts in psychology. Prerequisite: Psy 241. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

410-420-430—Undergraduate Research. Designed to provide an opportunity for advanced psychology students to pursue an individual research project under the direction and supervision of a faculty member. Prerequisite: 9 hours of psychology. Credit: 1, 2, or 3 semester hours.

431—Sensation and Perception. A review of research and theory regarding the structure and function of the basic sensory processes, and sensory perception. Prerequisite: 9 hours in Psy. 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 231. 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 231. Class: 3 hours. Credit: 3 semester hours.

436—Learning. Theories and research concerning learning processes, with a consideration of practical implications. Prerequisite: Psy 231. Class: 3 hours. Credit: 3 semester hours.

437—Quantitative Psychology. Theory and application of psychophysical and psychological scaling methods. Prerequisite: Psy 241. Class: 3 hours. Credit: 3 semester hours.

438—Physiological Psychology. Survey of the physiological bases of behavior with emphasis on the mechanisms in the central nervous system. Prerequisite: 9 hours in Psychology. Class: 3 hours. Credit: 3 semester hours.

439—Contemporary Problems in Psychology. A critical and comprehensive examination of current problems in selected areas of psychology. Topics will vary from semester to semester. Prerequisite: 12 hours in Psychology. Class: 3 hours. Credit: 3 semester hours. May be repeated for credit when topics vary.

SCHOOL
OF
FINE AND APPLIED ARTS

Departments

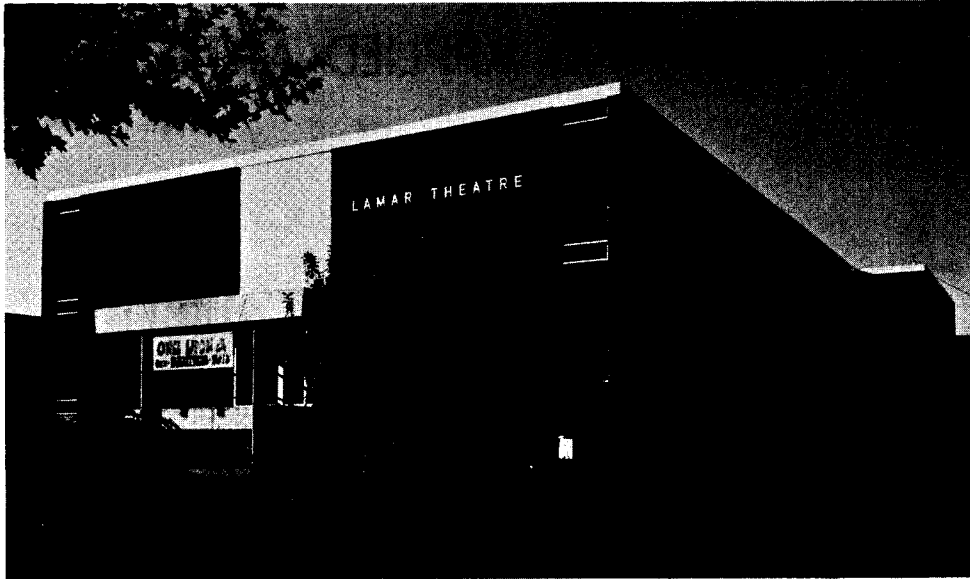
Commercial Art

Music

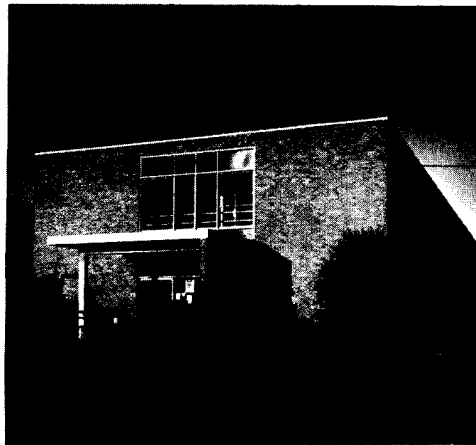
Speech



Typical Religious Center



Theatre/Gallery



Music/Speech Building



New Commercial Art Building

School of Fine and Applied Arts

W. Brock Brentlinger, Ph.D., Dean

Aims and Purposes

In Relation to the College. The School of Fine and Applied Arts is unusual in that an essentially creative discipline exists within the framework of Technological College. With the possible exception of some of the more creative and specialized areas, all courses offered by the School are open to and within the capabilities of most students enrolled in the college. The courses offered to majors outside the Fine Arts Discipline encourage a broader, more aesthetic viewpoint, thereby supplementing and enhancing their technical knowledge and introducing an enriching experience to carry over into their professional lives. In this respect the aims and purposes of the School of Fine and Applied Arts agree with and complement those of Lamar State College of Technology.

In Relation to the Departments. The School of Fine and Applied Arts offers the following basic degree programs:

1. Bachelor of Science—Commercial Art
 - a. Plan I—Commercial Art
 - b. Plan II—Fine Arts
 - c. Plan III—Teacher Certification
2. Bachelor of Science—Music Major, Performance Certificate
 - a. Instrumental Major
 - b. Piano Major
 - c. Vocal Major
3. Bachelor of Science—Music Major, Teacher Certification (all levels)
 - a. Instrumental Major
 - b. Piano Major
 - c. Vocal Major
4. Bachelor of Science—Speech Major
 - a. Plan I—Teacher Certification in Speech or Theatre
 - b. Plan II—Teacher Certification in Speech and Hearing Therapy
 - c. Plan III—Teacher Certification in Deaf Education
 - d. Plan IV—Non-certification program
5. Bachelor of Arts—Speech Major, available in all four plans listed
6. Master of Science
 - a. Plan I—Speech Pathology
 - b. Plan II—Audiology

DEPARTMENT OF SPEECH

Department Head—W. Brock Brentlinger. *Professors*—Robert F. Achilles, S. Walker James. *Associate Professors*—Arnold C. Anderson, Jewel D. Blanton, Crystal Canon. *Assistant Professors*—Mary Alice Baker, Vera Hays Campbell, *Bennie Gilchrist, W. Patrick Harrigan, III, White A. Jacob. *Instructors*—Leonora DeGrasse, Mary Sauer, Betty Winney. *Departmental Secretary*—Kathy Thompson. (* On leave.)

Bachelor of Science—Speech Major

Program of Study

Plan I (For those who wish to qualify for a teacher's certificate)

		First Year	
	First Semester		Second Semester
Eng 131—Composition	3	CA 130—Appr of Fine Arts	3
HPE—Activity	1	Eng 132—Composition	3
Lab Science	4	HPE—Activity	1
Mth	3	Lab Science	4
Spc—Required	6	Mth	3
	—	Spc—Required	3
	17		—
			17

		Second Year	
	First Semester		Second Semester
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
HPE—Activity	1	HPE—Activity	1
Spc—Required	6	Spc—Required	3
Electives	3	Electives	6
	—		—
	16		16

		Third Year	
	First Semester		Second Semester
Edu 331—Foundations	3	Edu 338—Cur and Mat	3
Edu 332—Edu Psy	3	Gov 232	3
Gov 231	3	Spc Adv	6
Spc—Adv	3	Teaching Field Two and/or	
Teaching Field Two and/or		Electives	6
Electives	6		—
	—		18
	18		

Fourth Year	
First Semester	Second Semester
Edu 438—Classroom Mgmt.	Edu 462—Student Teaching
3	6
Spc—Adv	Teaching Field Two and/or
3	Electives
Teaching Field Two and/or	6
Electives	—
6	12
Electives	TOTAL
6	132
—	
18	

Teacher's certificate is available in either Speech or Theatre (Drama) under Plan I.

Courses included under Speech specialization are as follows: 131, 132, 234, 238, 330, 434, plus 6 advanced hours from 332, 338, 430, 438. In addition, 233 or 237 and 335 are degree requirements.

Courses included under Theatre specialization are as follows: 133, 233, 235, 135 or 237, 334, 335, plus 6 advanced hours from 336, 3360, 337, 431, 436, 437. In addition, 131 and 238 are degree requirements.

Plan II (For those who wish to qualify for a teacher's certificate in speech and hearing therapy—all levels)

First Year	
First Semester	Second Semester
Bio 141	Bio 142
4	4
Eng 131—Composition	CA 130—Appr of Fine Arts
3	3
HPE—Activity	Eng 132—Composition
1	3
Mth	HPE—Activity
3	1
Spc 131—Fundamentals	Mth
3	3
Spc 133—Voice and Phonetics	Spc 134—Spc Cor: A Survey
3	3
—	—
17	17

Second Year	
First Semester	Second Semester
Eng—Literature	Eng—Literature
3	3
His 231—United States	His 232—United States
3	3
HPE—Activity	HPE—Activity
1	1
Spc 230—Spc Cor,	Psy 131—Intro to Hum Beh
Pract and Theory I	3
3	3
Spc 231—Audiology	Spc 232—P and T II
3	3
Elective	Elective
3	3
—	—
16	16

Third Year			
First Semester		Second Semester	
Edu 331—Foundation	3	Bio 332—Anat and Physical	
Edu 332—Edu Psy	3	Spe and Hrng	3
Gov 231	3	Edu 3301—Edu Except Child	3
Beginning		Edu 334—Cur Mat Elem	3
Psy 234—Child	3	Gov 232	3
Spe 339—Beg Clinical Practice	3	Spe 3391—Spe Read aud Trng	3
Elective	3	Elective	3
	18		18
Fourth Year			
First Semester		Second Semester	
Edu 434—Classroom Mgmt	3	Edu 463—Student Teaching	6
Phy 338—Individual Testing	3	Phy 337—Adjustment	3
Spe 435—Spe and Lang Disords	3	Spe 432—Psy of Spe	3
Electives	9		12
	18	TOTAL	132

Plan III (For those who desire to qualify for a teacher's certificate in deaf education)

First Year			
Same as Plan II			
Second Year			
First Semester		Second Semester	
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
HPE—Activity	1	HPE—Activity	1
Psy 131—Intro to Hum Beh	3	Psy 234—Child	3
Spe 136—Nor Lng Dev	3	Spe 239—Lang for Deaf	3
Spe 231—Audiology	3	Electives	3
	16		16
Third Year			
First Semester		Second Semester	
Edu 331—Foundations	3	Bio 332—Anat and Physical	
Edu 332—Edu Psy	3	Spe and Hrng	3
Gov 231	3	Edu 3301—Edu Except Child	3
Psy 338—Individual Testing	3	Edu 334—Cur Mat Elem	3
Spe 3392—Spe for Deaf	3	Gov 232	3
Electives	3	Psy 337—Adjustment	3
	18	Spe 3391—Spe Read Aud Trng	3
			18

Fourth Year			
First Semester		Second Semester	
Edu 434—Classroom Mgmt.....	3	Edu 463—Student Teaching.....	6
Edu 335—Arith in Elem School.	3	Spc 4321—Adv Lang.....	3
Edu 339—Read in Elem School.	3	Spc 4332—Adv Spc.....	3
Edu 437—Sci and Soc Stud.....	3		—
Electives	6		12
	—		—
	18		132

Plan IV (For those not desiring the teacher's certificate)

First and Second Year

Same as Plan I

Third Year			
First Semester		Second Semester	
Fine Arts (non Spc).....	3	Fine Arts (non Spc).....	3
Gov 231.....	3	Gov 232.....	3
Psy	3	Psy	3
*Spc Electives.....	6	*Spc Electives.....	3
Elective	3	Elective	6
	—		—
	18		18

Fourth Year			
First Semester		Second Semester	
Liberal Arts.....	3	Liberal Arts.....	3
Phl	3	Phl	3
*Spc Electives.....	6	*Spc Elective.....	3
Elective	3	Electives	6
	—		—
	15		15
		TOTAL	132

*12 hours must be advanced.

30 hours of total hours must be advanced.

Bachelor of Arts—Speech Major

Same as any of the above programs except for the completion of the course numbered 232 in a foreign language.

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 supporting 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 and Phonetics. Phonetic transcription, regional and foreign dialects, and 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.

135—Children's Theatre. Instruction and practice in the beginning principles of theatre as applied to plays for children's audiences. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

136—Normal Language Development. A study of the normal developmental processes in children. Class: 3 hours. Credit: 3 semester hours.

230—Speech Correction: Pathology and Therapy I. A technical and professional course in the causes, nature, symptoms and rehabilitation with emphasis on articulation, cerebral palsy and cleft palate speech disorders. Prerequisite: Spc 134. Class: 3 hours. Credit: 3 semester hours.

231—Audiology. Study of the human ear and its abnormalities. Administration and interpretation of hearing tests; clinical observation. Credit: 3 semester hours.

232—Speech Correction: Pathology and Therapy II. A technical and professional course in the causes, nature, symptoms and rehabilitation with emphasis on disorders of fluency, voice, and language. 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 productions. 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.

239—Language for the Deaf. Survey of systems of teaching language to the deaf; emphasis on language development in the nursery and pre-school age child. Class: 3 hours. Credit: 3 semester hours.

330—Rhetoric and Public Address. A study and analysis of some of the world's great speeches with application of the 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—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.

333—Interpretation of Children's Literature. Study of materials for different ages of children; study of sources of program material; practice in adapting material into programs; practice in presenting programs in laboratory and in nearby schools, hospitals and homes. 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 businessman, 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.

3360—Advanced Children's Theatre. Instruction and practice in advanced principles of theatre as applied to plays for children's audiences. Class: 2 hours. Laboratory: 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. Prerequisite: Spc 230. Credit: 3 semester hours. Course may be taken 3 times for credit.

3391—Speechreading and Auditory Training. Techniques of teaching speech reading to deaf children and deafened persons. Class: 3 hours. Credit: 3 semester hours.

3392—Speech for the Deaf. Study of various methods of developing speech in the young deaf child. 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 elects a project or problem on which he does extensive research and presents a report to the department faculty. Credit: 3 semester hours. Course may be repeated once for credit.

431—Problems and Projects in Theatre. Students will perform activities in one of the following areas: acting, directing, producing, designing, and constructing costumes and stage settings for the school theatre. Credit: 3 semester hours. Course may be repeated once for credit.

432—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.

4321—Advanced Language for the Deaf. Principles and techniques for systematic development of language from first through sixth grades. Class: 3 hours. Credit: 3 semester hours.

4322—Advanced Speech for the Deaf. Designed to study problems of speech development along with maintaining intelligible speed. Class: 3 hours. Credit 3 semester hours.

4324—Advanced Audiology. Assessment of auditory functions by special pure tone techniques and speech audiometry and hearing aid evaluation. Class: 3 hours. Credit: 3 semester hours.

4325—Instrumentation. A study of the behavior of sound waves, basic recording and analysis of sound, use and maintenance of equipment used in speech and hearing clinics or for research projects. 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 Voice Disorders. Diagnosis and therapy of disorders and communication that are organic in nature, with emphasis on structural disorders and disorders of voice. Credit: 3 semester hours.

436—History of Theatre. A survey of theatre from 5th C.B.C. to the present day, with emphasis on methods and styles of presentation. Class: 3 hours. Credit: 3 semester hours.

437—Directing Secondary School Theatre Activities. Principles involved in extracurricular theatre activities. Practical experience with workshop students constitutes a part of this course. (Offered in summer terms only.) Credit: 3 semester hours.

438—Directing Secondary School Speech Activities. Principles involved in extracurricular activities such as debate, extemporaneous speaking, radio and television. Practical experience with workshop students constitutes a part of this course. (Offered in summer terms only.) Credit: 3 semester hours.

515, 525, 535—Individual Study. Independent study of special and/or specific problems in disorders of communication. Credit: 1-3 semester hours.

530—Seminar in Speech Pathology. Study of theory and diagnostic procedures with emphasis on educational and vocational aspects as they relate to speech pathology. Credit: 3 semester hours.

531—Advanced Clinical Practice. Diagnostic and therapeutic procedures in speech pathology or audiology. One hour of clinical practice per week per credit hour. Credit: 3 semester hours.

532—Communication Theory. Development of language, automatic control devices, scenery feedback systems, tonal flow and modulation, and qualitative aspects of sound as related to speech development and dysfunction. Class: 3 hours. Credit: 3 semester hours.

5321—Seminar in Audiology. Study of theory and diagnostic procedures, with emphasis on educational and vocational aspects as they relate to loss of hearing. Class: 3 hours. Credit: 3 semester hours.

5322—Seminar in Disorders of Language. Etiology, diagnosis and clinical management of language disorders, with emphasis on aphasia. Class: 3 hours. Credit: 3 semester hours.

5323—Neurological Speech and Hearing Disorders. Principles of general neurology with special reference to the functions of the central nervous system, as related to speech and hearing disorders. Class: 3 hours. Credit: 3 semester hours.

5324—Science of Sound. Study of amplification and phonation in relation to electrical theories of audition. Credit: 3 semester hours.

533—Disorders of Communication: Clinical Management. Study of theory, procedure, and clinical management as they relate to problems in disorders of communication. Class: 3 hours. Credit: 3 semester hours.

534—Disorders of Communication: Administration. Study of procedure, inter and intra agency and professional relationships, supervision, and program development as they relate to administrative practice in the field of disorders of communication. Credit: 3 semester hours.

537—Medical Audiology. Differential diagnosis, medical-legal implications, testing of infants with emphasis on electrophysiological audiometry. Credit: 3 semester hours.

538—Hearing Conservation. Programs in industry and the public schools including study and practicum. Credit: 3 semester hours.

539—Seminar in Fine Arts. A study of the areas of art, music, and theatre. Class: 3 hours. Credit: 3 semester hours.

669A, 669B—Thesis. Prerequisite: Admission to candidacy. Credit: 3 semester hours.

DEPARTMENT OF COMMERCIAL ART

Department Head—William H. Boughton. *Professor*—Robert C. Rogan. *Assistant Professors*—Joseph R. Madden, Jerry A. Newman, Robert G. O'Neill, Ruth V. Werner, Glenn Bill Williams. *Instructors*—Norma L. Richards, Julia M. Walther, Robert M. Willis. *Departmental Secretary*—Mrs. Phyllis L. Freeman.

Bachelor of Science—Commercial Art—Plan I

This program prepares the student for a professional career in Commercial Art and requires a total of 132 semester hours including four semesters of physical education.

Program of Study

First Year

First Semester		Second Semester	
CA 130—Appr Fine Arts.....	3	CA 132—Sketching.....	3
CA 131—Sketching.....	3	**CA 134—Design & Comp (133)	3
**CA 137—Lang of Art (138)...	3	CA 232—Figure.....	3
Eng 131—Composition.....	3	Eng 132—Composition.....	3
HPE—Activity.....	1	HPE—Activity.....	1
**Mth 131 (133).....	3	**Mth 132 (134).....	3
	16		16

Second Year

First Semester		Second Semester	
CA 231—Figure.....	3	CA 236—Art Concepts.....	3
CA 235—Art Concepts.....	3	**CA 238—Watercolor (237)....	3
*Eng 231—Literature.....	3	His 232—United States.....	3
His 231—United States.....	3	*Eng 232—Literature.....	3
HPE—Activity.....	1	HPE—Activity.....	1
Science (Lab).....	4	Science (Lab).....	4
	17		17

Third Year***

First Semester		Second Semester	
CA 233—Advertising Art.....	3	CA 234—Advertising Art.....	3
CA 331—Illustration.....	3	CA 332—Illustration.....	3
Gov 231—State and Natl.....	3	**CA 336—Silkscreen (335)....	3
Elective (Free, not Art).....	9	Gov 232—State and Natl.....	3
		Elective (Free, not Art).....	6
	18		18

*Speech 131 may be substituted for 3 hours of English (Literature).

**Either.

***CA 235-236 prerequisite to all CA 300-400 level courses.

Fourth Year***

First Semester		Second Semester	
CA 333—Adv Advert.....	3	CA 334—Adv Advert.....	3
CA 433—Prob in Advert.....	3	CA 434—Prob in Advert.....	3
**CCA 435—Exper in Form (436)	3	CA Elective.....	3
CA Elective.....	3	Elective (Free, not Art).....	6
Elective (Gen Edu).....	3		—
	—		15
	15		

**Either.

***CA 235-236 prerequisite to all CA 300-400 level courses.

Plan II

This program prepares the student for a career in Fine Art and requires 132 semester hours including four semesters of physical education.

Program of Study

First Year

First Semester		Second Semester	
CA 130—Appc of Fine Art.....	3	CA 132—Sketching.....	3
CA 131—Sketching.....	3	CA 134—Design and Comp.....	3
CA 133—Design and Comp.....	3	**CA 138—Lang of Art (137)...	3
Eng 131—Composition.....	3	Eng 132—Composition.....	3
HPE 111—Activity.....	1	HPE 112—Activity.....	1
**Mth 131 (133).....	3	**Mth 132 (134).....	3
	—		—
	16		16

Second Year

First Semester		Second Semester	
CA 231—Figure.....	3	CA 232—Figure.....	3
CA 235—Art Concepts.....	3	CA 236—Art Concepts.....	3
*Eng—(Literature).....	3	*Eng—(Literature).....	3
Hist 231—United States.....	3	Hist 232—United States.....	3
HPE 211—Activity.....	1	HPE 212—Activity.....	1
Sci 141—(Lab).....	4	Sci 142—(Lab).....	4
	—		—
	17		17

Third Year***

First Semester		Second Semester	
CA 237—Watercolor.....	3	CA 238—Watercolor.....	3
**CA 335—Silkscreen (336).....	3	CA—Elective.....	6
CA—Elective.....	3	Gov 232—State and Natl.....	3
Gov 231—State and Natl.....	3	Elective (Free, not Art).....	6
Elective (Free, not Art).....	6		—
	—		18
	18		

*Speech 131 may be substituted for 3 hours English Literature.

**Either.

***CA 235-236 prerequisite to all CA 300-400 level courses.

Plan III

All-Level Certification

This program prepares the student for a career in teaching Art in the elementary and secondary school and requires 132 semester hours including four semesters in physical education.

Program of Study

First Year

First Semester		Second Semester	
CA 130—Appr of Fine Art.....	3	CA 132—Sketching.....	3
CA 131—Sketching.....	3	*CA 134—Design & Comp (133)	3
*CA 137—Lang of Art (138).....	3	Eng 132—Composition.....	3
Eng 131—Composition.....	3	HPE 112—Activity.....	1
HPE 111—Activity.....	1	*Mth 132 (134).....	3
*Mth 131 (133).....	3	Elective (Gen Edu).....	3
	16		16

Second Year

First Semester		Second Semester	
*CA 231—Figure (232).....	3	CA 236—Art Concepts.....	3
CA 235—Art Concepts.....	3	Eng (Literature).....	3
Eng (Literature).....	3	His 232—(United States).....	3
His 231—United States.....	3	HPE 212—Activity.....	1
HPE 211—Activity.....	1	Science—(Lab).....	4
Science—(Lab).....	4	Spc 131—Fundamentals.....	3
	17		17

Third Year**

First Semester		Second Semester	
*CA 237—Watercolor (238).....	3	CA 338—Art for Sec.....	3
CA 337—Art for Elem.....	3	CA—Elective.....	3
CA—Elective.....	3	Edu 334—Child Dev.....	3
Edu 331—Foundations in Edu.....	3	Gov 232—State and Natl.....	3
Edu 332—Edu Psy.....	3	Elective (Gen Edu).....	3
Gov 231—State and Natl.....	3	Elective—(Gen Edu).....	3
	18		18

Fourth Year**

First Semester		Second Semester	
*CA 431—Oil Ptg (432).....	3	CA—Elective.....	3
CA 4317—Crafts Ele Level.....	3	CA 4318—Crafts Sec Level.....	3
Edu 438—Classroom Mngt.....	3	Edu 463—Stu Tchng.....	6
Elective (Gen Edu).....	3	Elective (Free).....	3
Elective (Free).....	3		
	15		15

*Either.

**CA 235-236 prerequisite to all CA 300-400 level courses.

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. Working with pencil, pen, chalk and brush to train the eye and hand in visual recording. 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.

231, 232—Life Drawing. Drawing the human figure in pencil, pen and ink, charcoal, pastel and watercolor. 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 History. A survey of the art history from prehistoric times to the present, in terms of form, subject matter and ideology. The expression of mankind's varying attitudes in his greatest art. Class: 3 hours. Credit: 3 semester hours per course.

237, 238—Watercolor. Study and practice in the planning and execution of paintings in transparent and opaque watercolor. Class and Laboratory: 6 hours. Credit: 3 semester hours per course.

331, 332—Illustration. The visual preparation of graphic material for books, magazines and advertising in black and white and full color. Commercial reproduction techniques including color separations are studied and practiced. Prerequisite: CA 231 and 232. Class and Laboratory: 6 hours. Credit: 3 semester hours per course.

333, 334—Advanced Advertising Art. The study of layout and commercial reproduction techniques. Prerequisite: CA 233 and 234. Class and Laboratory: 6 hours. Credit: 3 semester hours per course.

335, 336—Graphics. Introductory work in the graphic processes of serigraphy, etching, woodcut, engraving and lithography. Prerequisite: CA 231 and 232. Class and Laboratory: 6 hours. Credit: 3 semester hours per course.

337—Art in the Elementary School. Teaching devices, techniques and media used in the elementary school are studied and used in the laboratory. Class and Laboratory: 6 hours. Credit: 3 semester hours.

338—Art in the Secondary School. Teaching devices, techniques and media used in the secondary school are studied and used in the laboratory. Class and Laboratory: 6 hours. Credit: 3 semester hours.

431, 432—Oil Painting. The planning and producing of original oil paintings either as commercial art subjects or as fine art paintings. Their presentation for publication and exhibition. Class and Laboratory: 6 hours. Credit: 3 semester hours per course.

4311—Advanced Oil Painting. A continuation of the planning and production of original oil paintings as fine art. Prerequisite: CA 431 and 432. Class and Laboratory: 6 hours. Credit: 3 semester hours. Course may be taken twice for credit.

4312—Sculpture. Experience in the problems of three dimensional work in clay and other materials. Prerequisite: CA 231 and 232. Class and Laboratory: 6 hours. Credit: 3 semester hours. Course may be taken twice for credit.

4313—Advanced Life Drawing. Drawing the human figure in various media. Prerequisite: CA 231 and 232. Class and Laboratory: 6 hours. Credit: 3 semester hours. Course may be taken twice for credit.

4314—Advanced Graphics. A course in intaglio and relief painting. The further study and use of all the graphic reproduction processes. Prerequisite: CA 335 and 336. Class and Laboratory: 6 hours. Credit: 3 semester hours. Course may be taken twice for credit.

4315—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.

4316—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.

4317—Crafts. An introduction to various craft materials and techniques used in the elementary school. Prerequisite: CA 337. Class and Laboratory: 6 hours. Credit: 3 semester hours. Course may be taken twice for credit.

4318—Crafts. An introduction to the various craft materials and techniques used in the secondary school. Prerequisite: CA 337. Class and Laboratory: 6 hours. Credit: 3 semester hours. Course may be taken twice or credit.

4319—Renaissance Art. Study of fifteenth and sixteenth century art in the western world. Prerequisite: CA 235 and 236. Class: 3 hours. Credit: 3 semester hours.

4320—Medieval Art. A study of visual manifestations of culture in the early Christian, Byzantine, Romanesque and Gothic periods. Prerequisite: CA 235 and 236. Class: 3 hours. Credit: 3 semester hours.

4321—Ancient Art. A critical study of the character, aesthetic merit, and development of ancient Greek and Roman art in relation to social, economic, political and religious conditions which affect them. Prerequisite: CA 235 and 236. Class: 3 hours. Credit: 3 semester hours.

433, 434—Problems in Advertising Art. Further study of commercial art techniques and topography. Prerequisite: CA 333 and 334. Class and Laboratory: 6 hours. Credit: 3 semester hours per course.

435, 436—Experiments in Form. Creative experimentation with the formal aspect of art. Abstract expression forces in art are analyzed and practiced. 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.

439—Directed Individual Study. An individual student assignment course for juniors and graduate art majors. Time to be arranged. Credit: 3 semester hours. Course may be taken three times for credit.

DEPARTMENT OF MUSIC

Department Head—George L. Parks. *Professors*—Hubert B. Kaszynski, Charles A. Wiley. *Associate Professors*—Edna M. Brooks, *Richard F. Burkart, Paul W. Holmes, Ray W. Moore, Joseph Truncala. *Assistant Professors*—Mary French Barrett, *Jay N. Collier, Katherine J. Eisey. *Karl Wadenpfohl. *Instructors*—Philip E. Aaholm, Randolph L. Babin, Ann Kozuch, Thomas G. Parriott, Martin R. Williams. *Staff Accompanist*—Jayne Hebert. *Departmental Secretary*—Mrs. Sharon Marcontell. (* On leave)

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. Application for the piano barrier exam may be made during any semester of the student's enrollment except when otherwise specified.
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.
6. For graduation all music majors must present a recital as recommended by the department head, during the senior year.
7. All students, including transfers, must show adequate proficiency in their areas of specialization as determined by the music faculty.
8. 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.

Program of Study

Bachelor of Science—Music Major

Plan I (Qualifies for teacher certification—music, all levels.)

Instrumental Major

First Year

First Semester		Second Semester	
Eng 131—Composition	3	Eng 132—Composition	3
Mth 131—Finite	3	Mth 132—Finite	3
MA—Applied	2	MA—Applied	2
MA—Piano	1	Mlt 112—Music Principles	1
Mlt 111—Music Principles	1	Mty 133—Elementary Harmony	3
Mty 132—Elementary Harmony	3	MLb 114—Band	1
HPE—Activity	1	Science—Laboratory	4
or			—
MLb 114—Band			17
Science—Laboratory	4		
	—		
	18		

Second Year

First Semester		Second Semester	
Eng—Literature	3	Eng—Literature	3
His 231—United States	3	His 232—United States	3
Gov 231—State	3	Gov 232—National	3
MA—Applied	2	MA—Applied	2
Mty 232—Advanced Harmony	3	MTy 233—Advanced Harmony	3
Elective (Free)	3	Elective (Free)	3
HPE—Activity	1	MLb 115—Band	1
or			—
MLb 114—Band			18
	—		
	18		

Third Year

First Semester		Second Semester	
Edu 331-332	6	Edu 334	3
MA—Applied	2	MA—Applied	2
MEd 311—Brass	1	MEd 312—Brass	1
MLt 323—Music History	2	MLt 324—Music History	2
MEd 336—Instrumental Music	3	MTy 322—Counterpoint	2
MEd 317—Marching Methods	1	MLb 115—Band	1
MTy 321—Counterpoint	2	MEd 313-314—Strings	2
HPE—Activity	1	MEd 213—Percussion	1
or			—
MLb 114—Band			17
	—		
	18		

		Fourth Year	
		First Semester	Second Semester
Edu 438.....	3	Edu 464.....	6
MTy 421—Form and Analysis...	2	MTy 425—Band Arranging.....	2
MA—Applied.....	2	MA—Applied.....	2
Elective—Music.....	1	MLb 115—Band.....	1
Elective (Free—Non-music)....	4	MEd 412—Woodwinds.....	1
HPE—Activity.....	1		—
or			12
MLb 114—Band			
MEd 411—Woodwinds.....	1	TOTAL.....	132
	—		
	14		

The six elective hours must be chosen from the academic foundations groups.

Piano and Organ Major

		First Year	
		First Semester	Second Semester
Eng 131—Composition.....	3	Eng 132—Composition.....	3
HPE—Activity.....	1	HPE—Activity.....	1
MA 1181—Voice.....	1	MA 1182—Voice.....	1
MA 1241—Piano.....	2	MA 1242—Piano.....	2
MLb—Choir or Orchestra.....	1	MLb—Orchestra or Choir.....	1
MLt 111—Music Principles.....	1	MLt 112—Music Principles.....	1
MTy 132—Elementary Harmony	3	MTy 133—Elementary Harmony	3
Science—Laboratory.....	4	Science—Laboratory.....	4
	—		—
	16		16

		Second Year	
		First Semester	Second Semester
Eng—Literature.....	3	Eng—Literature.....	3
His 231—United States.....	3	His 232—United States.....	3
HPE—Activity.....	1	HPE—Activity.....	1
MA 2241—Piano.....	2	MA 2242—Piano.....	2
MLb—Choir or Orchestra.....	1	MLb—Choir or Orchestra.....	1
MLb 210—Opera.....	1	MLt 213—Piano Literature.....	1
Mth—Math.....	3	Mth—Math.....	3
MTy 232—Advanced Harmony..	3	MTy 233—Advanced Harmony..	3
	—		—
	17		17

		Third Year	
First Semester		Second Semester	
Edu 331.....	3	Edu 334.....	3
Edu 330—Edu Psy.....	3	MA 3243—Piano.....	2
MA 3241—Piano.....	2	MEd 332—Technique and Materials.....	3
MEd 331—Elementary Meth.....	3	MEd 337—Choral Conducting.....	3
MLb—Choir or Orchestra.....	1	MLb—Choir or Orchestra.....	1
MLt 323—Music History.....	2	MLt 324—Music History.....	2
MTy 321—Counterpoint.....	2	MTy 322—Counterpoint.....	2
	—	Elective (Free).....	3
	19		—
			19

		Fourth Year	
First Semester		Second Semester	
Edu 438.....	3	Edu 464.....	6
Gov 231—State.....	3	Gov 232—National.....	3
MA 4241—Piano.....	2	MA 4241—Piano.....	2
MLb—Choir or Orchestra.....	1	MLb—Choir or Orchestra.....	1
MTy 421—Form and Analysis.....	2	MTy 422—Orchestration.....	2
Elective—Academic.....	3		—
	—		14
	14		

The six elective hours must be chosen from the academic foundations groups.

If the student is an organ major, substitute MA organ for all MA piano.

Piano or organ majors must take at least four semesters of their eight semesters of Laboratory in choir.

String Major

		First Year	
First Semester		Second Semester	
Eng 131—Composition.....	3	Eng 132—Composition.....	3
Mth 131—Finite.....	3	Mth 132—Finite.....	3
Science—Laboratory.....	4	Science—Laboratory.....	4
MLt 111—Music Principles.....	1	MLt 112—Music Principles.....	1
MTy 132—Elementary Harmony.....	3	MTy 133—Elementary Harmony.....	3
MA—Major Instrument.....	2	MA—Major Instruments.....	2
MLb 112—Orchestra.....	1	MLb 112—Orchestra.....	1
HPE—Activity.....	1	HPE—Activity.....	1
	—		—
	18		18

		Second Year	
First Semester		Second Semester	
Eng—Literature	3	Eng—Literature	3
Gov 231—State	3	Gov 232—National	3
His 231—United States	3	His 232—United States	3
MTy 231—Advanced Harmony	3	MTy 232—Advanced Harmony	3
MEd 313 or 314—Strings	1	MA—Violin or Cello	1
MA—Major Instrument	2	MA—Major Instrument	2
MLb 112—Orchestra	1	MLb 112—Orchestra	1
HPE—Activity	1	HPE—Activity	1
	—		—
	17		17

		Third Year	
First Semester		Second Semester	
Edu 331, 332	6	Edu 334	3
MEd 311—Brass	1	MEd 338—Instrumental Conduct	3
MEd 336—Instrumental Music	3	MLt 324—Music History	2
MLt 323—Music History	2	MTy 322—Counterpoint	2
MTy 321—Counterpoint	2	MA—Major Instrument	2
MA—Major Instrument	2	MLb 112—Orchestra	1
MLb 112—Orchestra	1	MA—Piano	1
	—	Elective—Music	2
	17		—
			16

		Fourth Year	
First Semester		Second Semester	
Edu 438	3	Edu 464	6
MEd 411—Woodwinds	1	MTy 422—Orchestration	2
MEd 332—Techniques and Materials	3	MA—Major Instrument	2
MTy 421—Form and Analysis	2	MLb 112—Orchestra	1
MA—Major Instrument	2	Elective (Free)	3
MLb 112—Orchestra	1		—
Elective (Free)	3		14
	—		
	15	TOTAL	132

The six elective hours must be chosen from the academic foundations groups.

Theory and Composition Major

First Year	
First Semester	Second Semester
Eng 131—Composition	3 Eng 132—Composition
Mth 131—Finite	3 Mth 132—Finite
Science—Laboratory	4 Science—Laboratory
MA—Major Instrument	2 MA—Major Instrument
MTy 132—Elementary Harmony	3 MTy 133—Elementary Harmony
MLt 111—Music Principles	1 MLt 112—Music Principles
MLb—Band, Orchestra, Chorus	1 MLb
HPE—Activity	1 HPE—Activity
—	—
18	18

Second Year	
First Semester	Second Semester
Eng—Literature	3 Eng—Literature
His 231—United States	3 His 232—United States
Gov 231—State	3 Gov 232—National
MA—Piano	2 MA—Piano
MTy 232—Advanced Harmony	3 MTy 233—Advanced Harmony
MLb	1 MLb
HPE—Activity	1 HPE—Activity
—	3
16	19

Third Year	
First Semester	Second Semester
Edu 331	3 Edu 334
Edu 332	3 MA 3284—Composition
MA 3283—Composition	2 MTy 322—Counterpoint
MTy 321—Counterpoint	2 MEd 337—Chorus Conducting
MLt 323—Music History	3 MEd 338—Instrument Conduct
MEd 331—Elementary Methods	2 MLt 324—Music History
MLb	1 MTy 425—Band Arr
Music Elective	1 MLb
—	—
17	18

Fourth Year	
First Semester	Second Semester
Edu 438.....	Edu 463.....
MEd 332—Techniques and Materials.....	MTy 422—Orchestration.....
MTy 421—Form and Analy.....	MA 4283—Composition.....
MA 4283—Composition.....	Elective.....
Music Elective.....	MLb.....
MLb.....	
—	—
12	TOTAL... 132

The six elective hours must be chosen from the academic foundations groups.

Theory and Composition majors may elect 6 hours from Percussion 213, Brass 311, 312. Strings 313, 314, or Woodwinds 411, 412, in place of Music Education 331, and 332.

Vocal Major

First Year	
First Semester	Second Semester
Eng 131—Composition.....	Eng 132—Composition.....
HPE—Activity.....	HPE—Activity.....
MA 1143—Piano.....	MA 1144—Piano.....
MA 1281—Voice.....	MA 1282—Voice.....
MLb—Choir.....	MLb—Choir.....
MLt—Music Principles.....	MLt 112—Music Principles.....
MTy 132—Elementary Harmony.....	MTy 133—Elementary Harmony.....
Science—Laboratory.....	Science—Laboratory.....
—	—
16	16

Second Year	
First Semester	Second Semester
Eng—Literature.....	Eng—Literature.....
His 231—United States.....	His 232—United States.....
HPE—Activity.....	HPE—Activity.....
MA 2281—Voice.....	MA 2282—Voice.....
MLb—Choir.....	MLb—Choir.....
MLb 210—Opera.....	MLb 210—Opera.....
Mth—Math.....	Mth—Math.....
MTy 232—Advanced Harmony.....	MTy 233—Advanced Harmony.....
—	—
17	17

Third Year			
First Semester		Second Semester	
Edu 331.....	3	Edu 334.....	3
Edu 332.....	3	MA 3282—Voice.....	2
MA 3281—Voice.....	2	MEd 332—Techniques and Mater.....	3
MEd 331—Elementary Methods.....	3	MEd 33—Choral Conducting.....	3
MEd 335—Choral Music.....	3	MLb—Choir.....	1
MLb—Choir.....	1	MLt 324—Music History.....	2
MLt 323—Music History.....	2	MTy 322—Counterpoint.....	2
MTy 321—Counterpoint.....	2	Elective.....	3
	—		—
	19		19
Fourth Year			
First Semester		Second Semester	
Edu 438.....	3	Edu 463.....	6
Gov 231—State.....	3	Gov 232—National.....	3
MA 4281—Voice.....	2	MA 4282—Voice.....	2
MLb—Choir.....	1	MLb—Choir.....	1
MTy 421—Form and Analysis.....	2	MTy 422—Orchestration.....	2
Elective.....	3		—
	—		14
	14		14
		TOTAL.....	132

Voice majors will take two semesters of private piano lessons. These may not be waived by a barrier exam.

The six elective hours must be chosen from the academic foundations groups.

Plan II

BS—Music

Meet all of the specifications and requirements for the Bachelor of Science Degree—music major, with the following additional requirements:

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-half hour lessons 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 Carnival, 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 techniques 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 Canonetta, 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 recitals 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, Koprasch, 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, 3244, 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—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 techniques 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 the 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—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 Education (MEd)

131—Elements of Music. A study of scales, chords and musical terminology, signatures, night 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.

311—Brass. Techniques and materials in the teaching of instrumental music in the elementary school. Trumpet and Horn. Class: 1 hour. Credit: 1 semester hour.

312—Brass. Techniques and materials in the teaching of instrumental music in the elementary school. Trombone, Baritone and Tuba. Class: 1 hour. Credit: 1 semester hour.

313—Strings. Techniques and materials in the teaching of instrumental music in the elementary school. Violin and Viola. Class: 1 hour. Credit: 1 semester hour.

314—Strings. Techniques and materials in the teaching of instrumental music in the elementary school. Cello and Bass. Class: 1 hour. Credit: 1 semester hour.

317—Marching Methods. Basic marching maneuvers. Charting various types of half-time shows for football games, such as the pageant type and the precision drills, and arranging the music for these shows. Term project: a completely charted half-time show with music. Class: 2 hours. Credit: 1 semester hour.

✓331—**Elementary Methods and Materials.** Techniques and materials in teaching of music in the lower elementary grades. 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.

✓332—**Techniques and Materials in Teaching of Music in the Upper Elementary Grades.** Creative music, rhythmic activity, rote singing, reading of notation, and effective use of materials. Class: 3 hours. Credit: 3 semester hours.

✓335—**Choral Music.** A detailed study, primarily at the secondary level, of the organization and administration of choirs, glee clubs, small ensembles, etc., and vocal problems encountered in the choral music class. Class: 3 hours. Credit: 3 semester hours.

336—**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: 3 hours. Credit: 3 semester hours.

✓337—**Choral Conducting.** Basic patterns and rudiments of choral techniques as applied to secondary school choral groups. Limited to music majors. Prerequisite: Some vocal study, piano keyboard, one year of vocal laboratory, and music theory. Class: 3 hours. Credit: 3 semester hours.

338—**Instrumental Conducting.** The rudiments of conducting as applied to high school instrumental groups, phrasing interpretation, etc. of the instrumental field, both band and orchestra. Class: 3 hours. Credit: 3 semester hours.

339—**Choral Conducting.** Basic patterns and rudiments of choral conducting; choral techniques as applied to elementary school classroom instruction and choral performances. Limited to non-music majors. 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.

411—**Woodwinds.** Techniques and materials in the teaching of instrumental music in the elementary school. Flute, Clarinet, and Saxophone.

412—**Woodwinds.** Techniques and materials in the teaching of instrumental music in the elementary school. Oboe and Bassoon.

Music Laboratory (MLb)*

*Courses in Music Laboratory may be repeated for credit. Total credit not to exceed eight semester hours for any one 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 and percussion 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.

1101—Concert Choir. A course in choral singing, organized to furnish training in the more important works of choral literature. Presentation of selection in public throughout the year. Audition required. Open to qualified students from other departments. Laboratory: 6 hours. Credit: 1 semester hour per course.

1102—Cardinal Singers. Performing choral ensemble with instrumental combo accompaniment specializing in popular and folk repertoire. Audition required. Open to qualified students from other departments. Laboratory: 3 hours. Credit: 1 semester hour per course.

1103—Chamber Singers. A performing choral ensemble specializing in music especially suited for chamber performances. Audition required. Open to qualified students from other departments. Laboratory: 3 hours. Credit: 1 semester hour per course.

1104—Grand Chorus. A course in choral singing designed to acquaint the student with the larger works in choral literature. A public concert is given each semester. Audition required. Open to qualified students from other departments. 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.

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, 8. music, c. theatre. To be taught by any representative 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.

Music Theory (MTy)

131—Elements of Music. Designed to prepare students for advanced study in music theory. A study of scales, chords, musical terminology, signature, sight singing, rhythms, 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: 3 hours. Credit: 3 semester hours.

232, 233—Advanced Harmony. Advanced keyboard and written harmony; sight singing; ear training. Prerequisite: MTy 133. Class: 5 hours. Credit: 3 semester hours.

321, 322—Counterpoint. 16th and 18th century contrapuntal techniques through analysis and creative writing. Prerequisite: MTy 233. Class: 2 hours. Credit: 2 semester hours.

421—Form and Analysis. Analytical study of musical forms and styles. Prerequisite: MTy 233. Class: 2 hours. Credit: 3 semester hours.

422—Orchestration. Techniques of writing and arranging for orchestral instruments in small combinations end for full orchestras. Prerequisite: MTy 233. Class: 2 hours. Credit: 2 semester hours.

425—Band Arranging. Techniques of writing, transcribing from orchestra score and arranging for the instrumentation of the high school marching and concert bands. Class: 2 hours. Credit: 2 semester hours.

GRADUATE SCHOOL

Departments

Biology

Business Administration

Chemistry

Education

Engineering

English

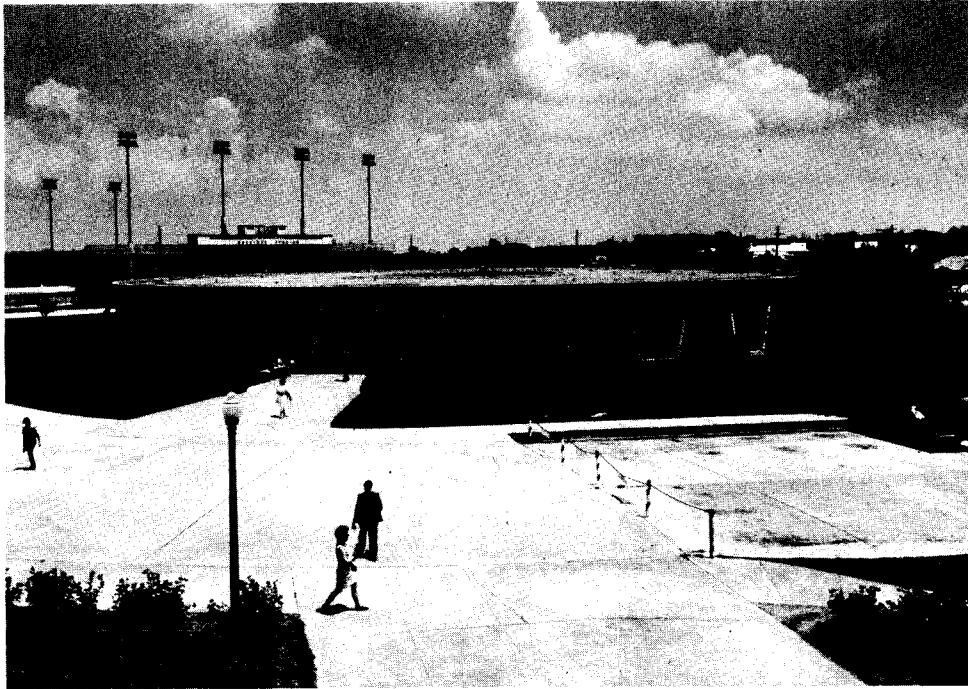
Government

Health and Physical Education

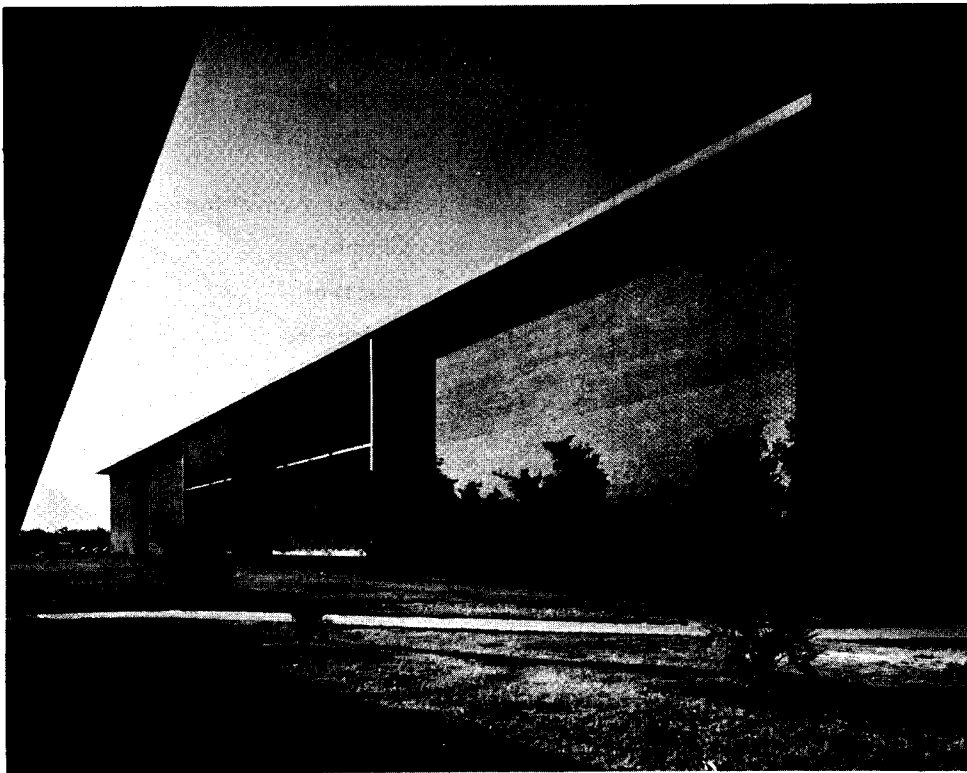
History

Mathematics

Speech



Administration Building



Main Library

The Graduate School

E. B. Blackburn, Jr., Ed.D., Dean

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

Master of Arts

- Master of Arts in English
- Master of Arts in Government
- Master of Arts in History

Master of Business Administration

Master of Science

- Master of Science in Biology
- Master of Science in Chemistry
- Master of Science in Health and Physical Education
- Master of Science in Mathematics
- Master of Science in Speech (Audiology and Pathology)

Master of Engineering

Master of Engineering Science

Master of Education

- Master of Education in Elementary Education
- Master of Education in Guidance and Counseling
- Master of Education in Secondary Education
- Master of Education in Special Education

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 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. Two official transcripts 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 Student Affairs 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.
 - A. For regular admission **both** of the following requirements must be met:
 1. A minimum overall grade-point average of 1.5 on a three-point scale.
 2. A minimum composite score (verbal + quantitative) of 720 on the aptitude section of the Graduate Record Examination and a minimum verbal score of 350.
 - B. For admission on probation **one** of the following requirements must be met:
 1. A minimum grade-point average of 1.5 on junior and senior work and acceptable scores on the Graduate Record Examination—a composite score (V + Q) of 720 and a verbal score of 350.
 2. A grade-point average lower than 1.5, but with a score of at least 540 on an appropriate section of the G.R.E. aptitude test. (Some departments use the verbal score; some use the quantitative score; and some use either.)
 3. A minimum overall grade-point of 2.0 and a minimum verbal score of 350 on the G.R.E.

NOTE: Probation is removed automatically without notification after the student completes nine semester hours of graduate work with grades of B or better.

C. Admission Requirements for Foreign Students:

Applications of foreign students are evaluated on an individual basis after the following information is received: (1) Official transcripts from colleges previously attended, (2) scores on the Graduate Record Examination, and (3) scores on the Test of English as a Foreign Language. In general, a foreign student whose native language is not English is expected to score over 500 on the TOEFL and fulfill the composite requirement ($V + Q = 720$) on the GRE.

Special Students

An applicant who wishes to register for graduate work without enrolling in a degree program may do so under the following conditions:

1. He must hold a bachelor's degree.
2. He must be approved for admission by the Dean of the Graduate School.
3. With departmental approval, courses taken by a Special Student may be used for graduate degree credit under the following conditions:
 - (1) If requirements for admission to a degree program are met during his initial semester of enrollment.
 - (2) If requirements for admission are met in a subsequent semester. A maximum of six semester hours previously completed may be approved for degree credit.

Undergraduates Taking Graduate Courses

With the approval of the head of the major department and the Graduate Dean, an undergraduate student within twelve semester hours of graduation, may take not more than six semester hours of graduate courses to be applied toward the master's degree, provided the total academic load does not exceed fifteen semester hours.

Registration

A student who has been admitted to the Graduate School may register in September or January for the long session, or in June or July for the summer terms.

FACULTY COUNCILS AND COMMITTEES

1969-70

COUNCILS

Faculty Advisory Council: Robert F. Achilles, Robert J. Barnes, Katherine Bell, Jay P. Blumenfeld, William T. Fitzgerald, Darwin C. Kirksey, Arthur F. Stelley, Anthony Tennissen, Charles H. Wilbanks, C. A. Wiley, Leonard A. Yates, Fred M. Young. At-large members: Howard A. Barlow, Jewel D. Blanton, W. H. Matthews.

Administrative Advisory Council: David L. Bost, H. C. Galloway, Andrew J. Johnson, Norris H. Kelton, M. L. McLaughlin, Thomas T. Salter, G. A. Wimberly.

Academic Council: Andrew J. Johnson, W. Brock Brentlinger, Lloyd B. Cherry, Edwin S. Hayes, Norris H. Kelton, J. D. Landes, M. L. McLaughlin, Thomas T. Salter, Preston B. Williams. Ex Officio: E. B. Blackburn.

Graduate Council: E. B. Blackburn, Robert F. Achilles, Howard W. Adams, Richmond O. Bennett, Kenneth R. Briggs, Betty Coody, James L. Cooke, Sterling C. Crim, Irving O. Dawson, E. A. Eads, Belle M. Holm, Howard Mackey, Mietzl Miller, Bruce G. Rogers. Ex Officio: Andrew J. Johnson, Maxine Johnston, W. Brock Brentlinger, Lloyd B. Cherry, Edwin S. Hayes, J. D. Landes, M. L. McLaughlin, Preston B. Williams.

Teacher Education Council: M. L. McLaughlin, Harold T. Baker, M. LeRoy Ellis, H. E. Eveland, Harry L. Frissell, Norma S. Hall, Mary W. Harp, Edwin S. Hayes, J. B. Higgins, Philip W. Latimer, Conrad D. Mang, Oliver P. Monk, George L. Parks, Carl J. Rigney, Robert C. Rogan, Preston B. Williams, Ralph A. Wooster. Ex Officio: Howard W. Adams, E. B. Blackburn, Andrew J. Johnson, E. Lee Self.

Student Advisory Council: Wayne Ward, James Carter, Patsy Allen, Clementine Allen, Jim Gibson, Lloyd Longnion, John Stewart, Jay Hankamer, Tanya Walker.

COMMITTEES

Admissions and Credits: Norris H. Kelton, Andrew J. Johnson, Celeste Kitchen, George E. McLaughlin, Oliver P. Monk, George B. Tims.

Artist and Drama Series: Jewel D. Blanton, Mary French Barrett, W. Brock Brentlinger, Belle M. Holm, S. Walker James, Ann Shaw, William R. Tucker, Naaman J. Woodland. Students: Rocky Allard, Susan Hogan, Anita Newman.

Awards and Scholarships: Jess R. Davis, David L. Bost, Anita Browning, Anne Harmon, Brian Sumrall, George B. Tims. Students: Bonnie Ownby, James Carter.

College Discipline: David L. Bost, Edna Brooks, Joe N. Fields, Howell H. Gwin, Norma S. Hall, Nora B. Leitch, Robert G. O'Neill, Arthur F. Stelley, David G. Taylor, Martha E. Thomas, Charles P. Turco, Richard

E. Walker, Roger E. Yerick, David D. Zink. Students: Patsy Allen, Karen Locke, Lorraine Longnion, Barry Lussier, Bonnie Ownby, Ronnie Polk, James Reado, John Stewart, Cindy Wilkinson.

Commencement: Celeste Kitchen, Bobbie Armstrong, Andrew J. Johnson, George L. Parks, Ann Shaw, Charles H. Wilbanks, Roger E. Yerick. Students: John Aikey, Eileen Oldad.

Foreign Students: George E. McLaughlin, Antonio de J. Pineda, Harry T. Mei, George B. Wall, A. M. Ali, Hi K. Kim. Students: Anan Siripong, Gabriel Tan.

Homecoming: Paul W. Taylor, Ann Shaw, Robert H. Wilkerson, Nora B. Leitch, C. A. Wiley, Wendell C. Bean, Nancy Darsey, Doris Davis, Annie Sue Green, Ann Harmon. Students: Ken Bernard, Marjorie Arneson, Linda Batiste, Barbara Franklin, Raymond Gore, Melinda Hay, Laura Joplin, Beth Lamonte, Phyllis Lewis, Bill Lucas, Frank Monk, Mary Monroe, Johnnie Prosperie, Robert Stakes, Amos Terry, Tanya Walker, Kathy Wallace, Ronnie Whitehead.

Intercollegiate Athletics: H. E. Eveland, D. L. Hybarger, Richard T. Cherry, Dock B. DeMent, John H. Lockhart, J. B. Higgins, George L. Parks, Russell J. Long.

Library: Richard T. Cherry, Roy H. Biser, Richmond O. Bennett, Claude B. Boren, Betty Coody, Joseph T. Watt, Edna Brooks, Margaret Cameron, William H. MacDonald, Maxine Johnston, Andrew J. Johnson.

Radio and Television: Jewel D. Blanton, Thomas T. Salter, Floyd M. Crum, Rebecca O. Hill, J. Robert Madden. Students: Warren Clover, Mike Phillips.

Registration: Celeste Kitchen, Andrew J. Johnson, Norris H. Kelton, John M. Naumann, H. C. Galloway, David L. Bost. Students: Rick Heath, Bonnie Ownby.

Research: Robert A. McAllister, Richard T. Cherry, James L. Cooke, Joseph Ilika, James R. Hawker, J. Robert Madden, Henry T. Waddell, E. B. Blackburn. Alternate members: Mietzl Miller, Luther A. Beale, Oliver P. Monk, David L. Zink, Crystal Canon, E. A. Eads, Kenneth L. Dorris.

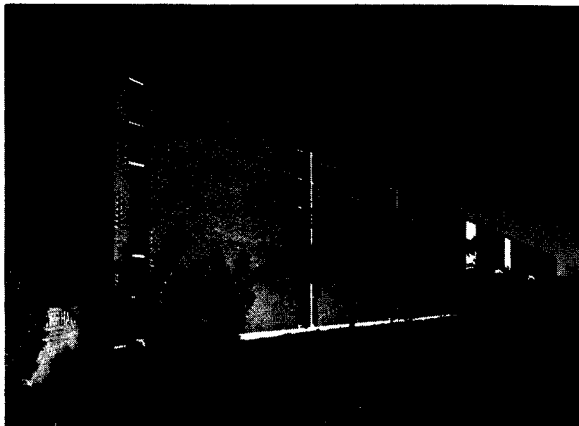
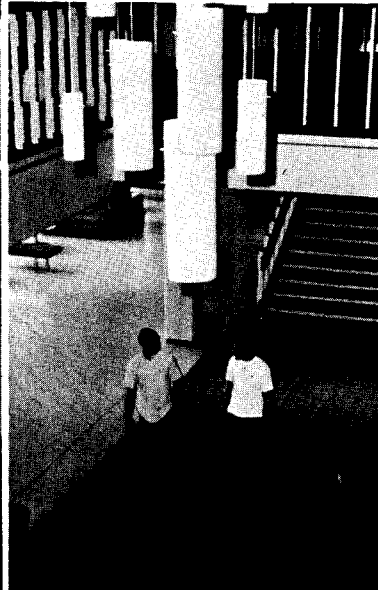
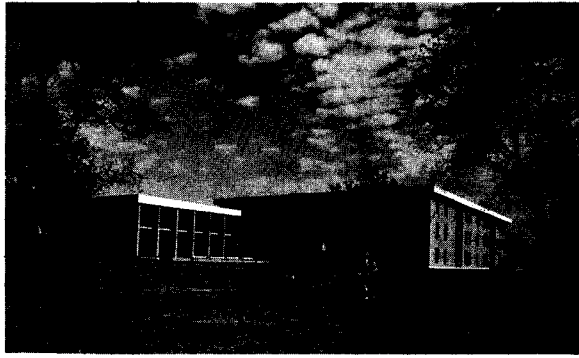
Student-Faculty Relations: Arthur F. Stelley, Sterling C. Crim, Harry T. Mei, Roger E. Yerick, Mietzl Miller, Conrad D. Mang, Lois Wilson, George W. DeSchweinitz, S. Walker James. Students: Vincent Fertitta, Linda Batiste, Kerry Nails, Jack Gilbert, Gary Looper, James Carter, Kathy Bruce, Rick Scott, Danny Lusk, Bonnie Ownby, Pat Breaux. Ex Officio: Lloyd Longnion.

Student Loans: Jess R. Davis, Brian Sumrall, Walter A. Sutton, W. Fred Farrar, Mary Jane Haskins, Bill R. Barrington.

Student Publications: Winfred S. Emmons, Dick Oliver, Joseph Ilika, Joseph C. Lambert, Katherine Elsey. Students: Phyllis Lewis, Johnnie Prosperie, Robert Stakes. Resource: David L. Bost, Robert H. Wilkerson.

Student Forum: Lloyd B. Cherry, W. Brock Brentlinger, D. L. Hybarger. Students: James Carter, Tim Middleton, Gary Neal, Nelson Thibodeaux, Dorothy Pittinger, Craig Linscomb, Jim O'Brien.

Tenure: Maxine Johnston (1970), L. Wesley Norton (1970), Saul Aronow (1971), Harry T. Mei (1971), Lyle E. Bohrer (1972).

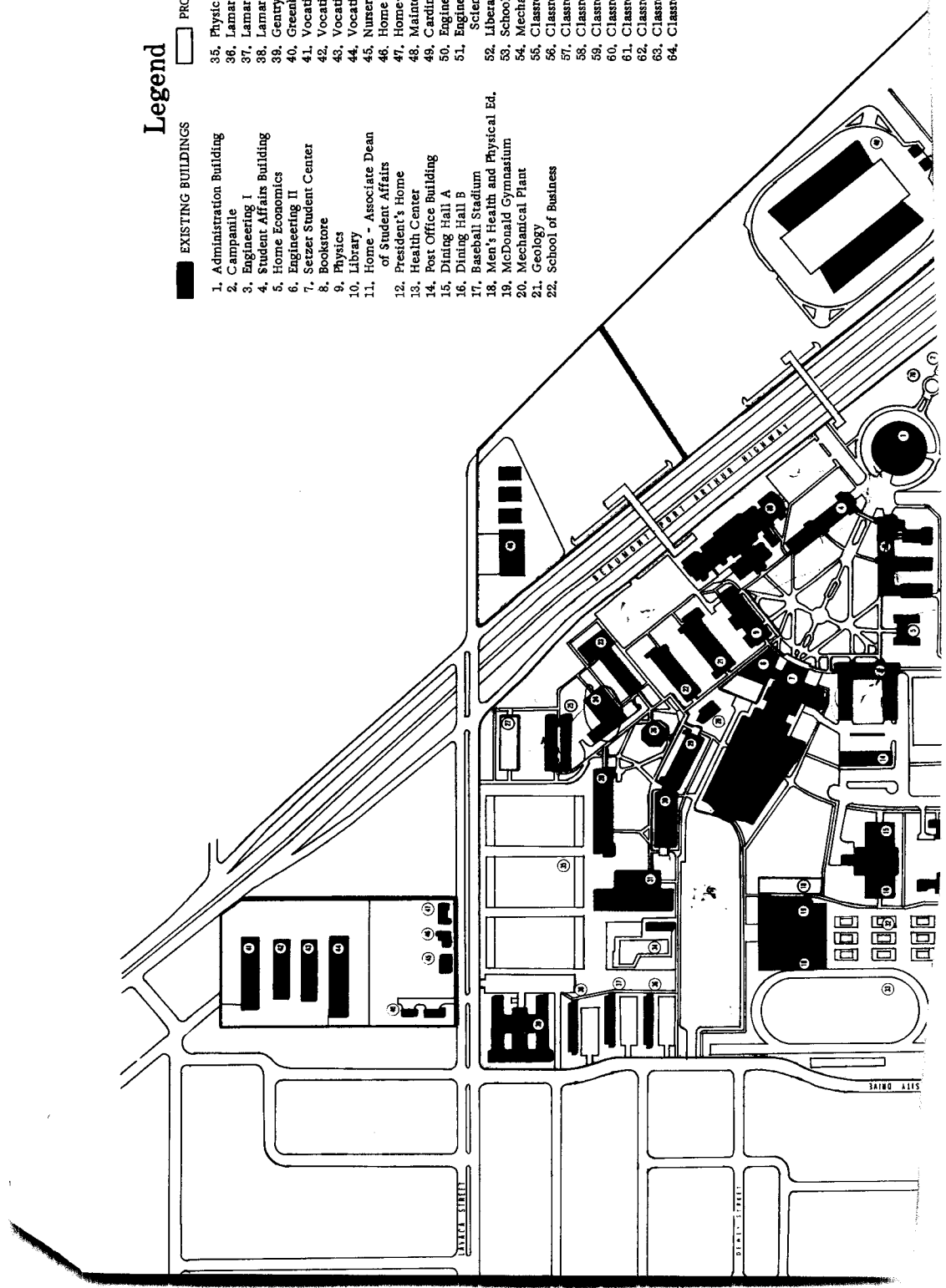


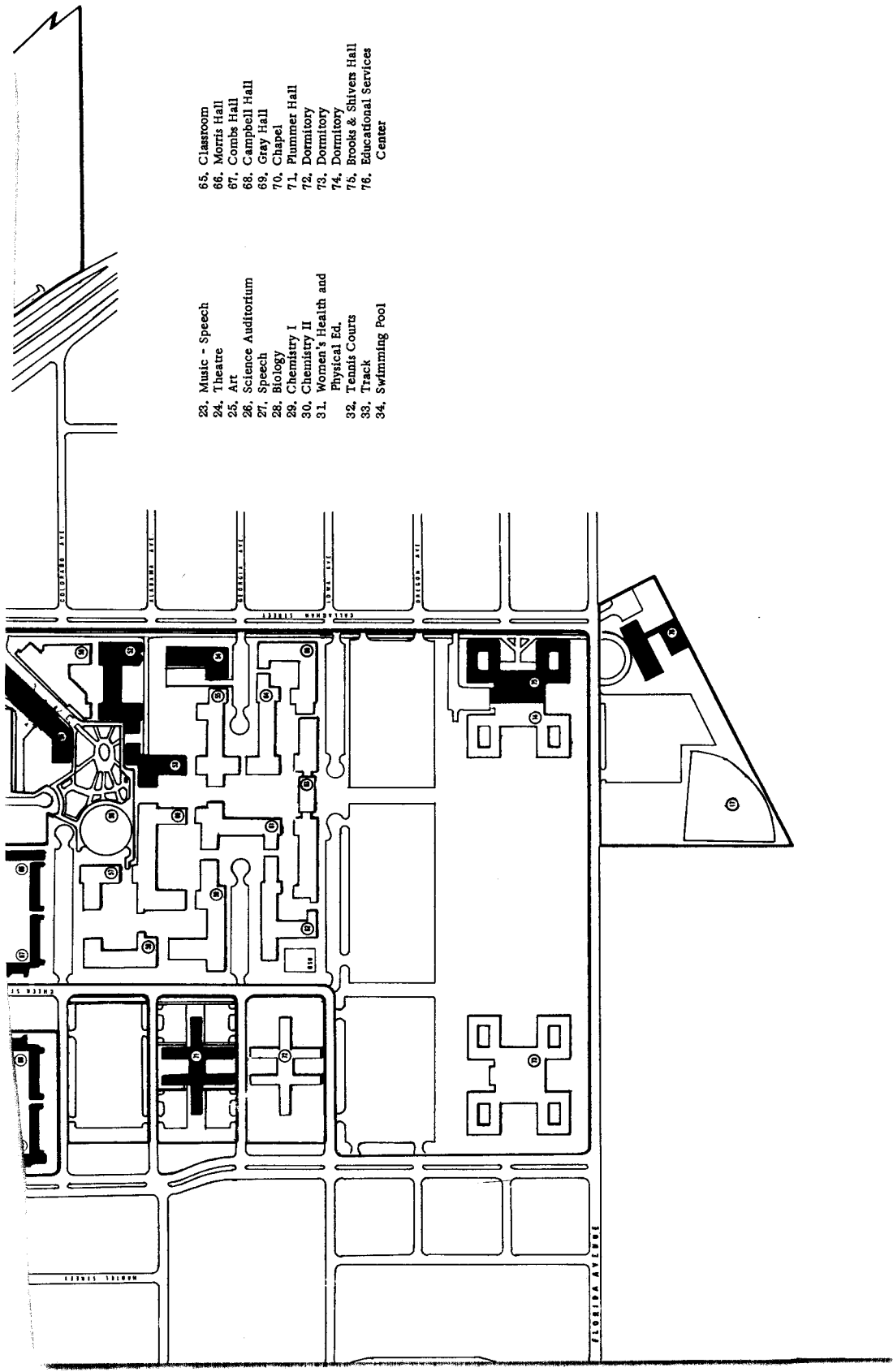
Legend

EXISTING BUILDINGS

PROPOSED BUILDINGS

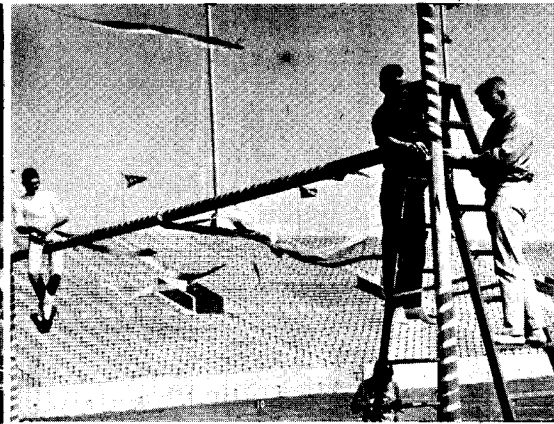
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| 1. Administration Building | 35. Physical Education Grounds |
| 2. Campanile | 36. Lamar Apartments I |
| 3. Engineering I | 37. Lamar Apartments II |
| 4. Student Affairs Building | 38. Lamar Apartments III |
| 5. Home Economics | 39. Gentry Hall |
| 6. Engineering II | 40. Greenhouse |
| 7. Setzer Student Center | 41. Vocational I |
| 8. Bookstore | 42. Vocational II |
| 9. Physics | 43. Vocational III |
| 10. Library | 44. Vocational IV |
| 11. Home - Associate Dean of Student Affairs | 45. Nursery School |
| 12. President's Home | 46. Home Management |
| 13. Health Center | 47. Home-Physical Plant Mgr. |
| 14. Post Office Building | 48. Maintenance Buildings |
| 15. Dining Hall A | 49. Cardinal Stadium |
| 16. Dining Hall B | 50. Engineering III |
| 17. Baseball Stadium | 51. Engineering/Computer Science |
| 18. Men's Health and Physical Ed. | 52. Liberal Arts |
| 19. McDonald Gymnasium | 53. School of Education |
| 20. Mechanical Plant | 54. Mechanical Plant |
| 21. Geology | 55. Classroom |
| 22. School of Business | 56. Classroom |
| | 57. Classroom |
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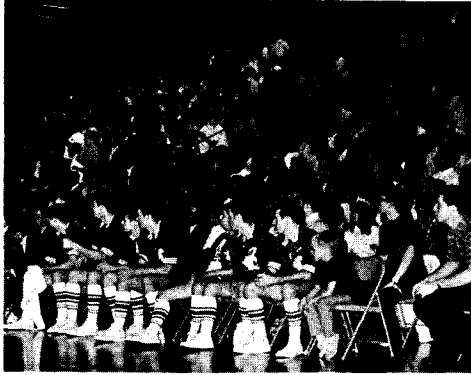
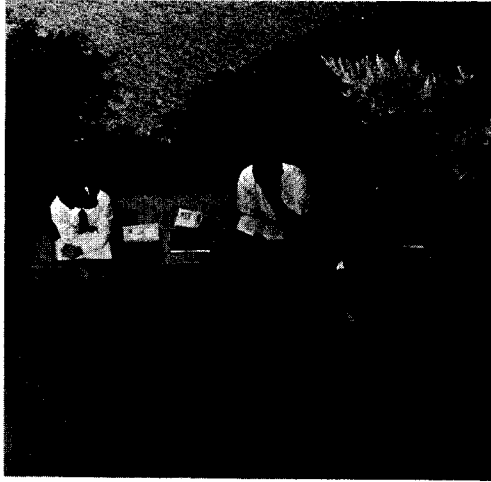




- 23. Music - Speech
- 24. Theatre
- 25. Art
- 26. Science Auditorium
- 27. Speech
- 28. Biology
- 29. Chemistry I
- 30. Chemistry II
- 31. Women's Health and Physical Ed.
- 32. Tennis Courts
- 33. Track
- 34. Swimming Pool

- 65. Classroom
- 66. Morris Hall
- 67. Combs Hall
- 68. Campbell Hall
- 69. Gray Hall
- 70. Chapel
- 71. Plummer Hall
- 72. Dormitory
- 73. Dormitory
- 74. Dormitory
- 75. Brooks & Shivers Hall
- 76. Educational Services Center







LAMAR STATE COLLEGE OF TECHNOLOGY

**First Supplement
to
1970 -71 Bulletin**

TWENTIETH ANNUAL CATALOG ISSUE

Effective August 24, 1970

Elmer H. Rode

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

The courses, tuition and fees, and all other conditions and policies set forth in this First Supplement to the Catalog issue of the 1970-71 Bulletin are hereby put into effect as of August 24, 1970, and shall remain in effect with such conditions and alterations as may be duly authorized by the Board of Regents, until another supplement or another catalog issue of the bulletin is published.

Lamar State College of Technology is an equal educational opportunity institution; its students, faculty, and staff members are selected without regard to their race, color, creed, sex, or national origin, consistent with the Assurance of Compliance with Title VI of the Civil Rights Act of 1964.

COURSE ADDITIONS AND DELETIONS

Course Additions

SCHOOL OF BUSINESS

DEPARTMENT OF BUSINESS ADMINISTRATION

BA 3301--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

BA 3302--Business Statistics. Continuation of BA 3301 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.

DEPARTMENT OF ECONOMICS

ECO 537--Managerial Economics. A study in depth of the principles and techniques of economic analysis applicable to the problems of business management. Class: 3 hours. Credit: 3 semester hours. Prerequisite: Graduate Standing.

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATION

EDU 4304--Language Arts for Early Childhood. A study of materials and methods for teaching oral language and listening skills to pre-school and kindergarten reading and writing experience and provides some student observation and participation with young children. Class: 3 hours. Credit: 3 semester hours.

EDU 432--Educating the Culturally Different. Delineating personal characteristics and the affective domain of the culturally different and identifies educational strategies applicable to the teaching process. Class: 3 hours. Credit: 3 semester hours.

EDU 5332--Guidance and Counseling in the Elementary School. A course designed to provide an understanding of guidance principles and techniques applicable to the elementary school. Class: 3 hours. Credit: 3 semester hours.

EDU 5333--Individual Counseling Theories and Techniques. Opportunities are provided for the student to enrich his background and experience in interviewing and in dealing with human relations problems in the counseling situation. Class: 3 hours. Credit: 3 semester hours.

EDU 5334--Interpretation and Analysis of Test and Measurement. Analysis and evaluation of types of test and measurement devices will be conducted. Methods of determining the reliability and validity of tests are investigated. Designs for testing programs and selection of appropriate tests will be included. Class: 3 hours. Credit: 3 semester hours.

EDU 5335--Individual Testing. Theoretical and practical study emphasizes the administration, scoring, and basic interpretation and practice in the use of individual psychological tests. Students will be trained to administer the Wechsler test, the Stanford Binet, or other subsequently developed individual intelligence scales. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR WOMEN

HPE (W) 216--Musical Comedy Dance. A laboratory course providing both background study and practical work in the specialized field of musical comedy including participation in the presentation of a full production. Open by audition or by consent of the instructor to students from all departments who are interested in dance as applied to musical comedy. Laboratory: 3 hours. Credit: 1 semester hour. May be repeated for credit up to 3 hours.

HPE 437--Health Science and Epidemiology. A study of infectious and noninfectious diseases. Class: 3 hours. Credit: 3 semester hours.

HPE 530--Problems in Health and Physical Education. Biological, physiological, social, psychological and other purposes and outcomes; selection and distribution of activities; teaching methods; facilities; teacher preparation; literature; research problems. Times Arranged. Credit: 3 semester hours.

SCHOOL OF ENGINEERING

EGR 339--Materials Science and Manufacturing Processes. Basic Principles underlying the behavior of engineering materials and methods of processing these materials. Prerequisite: Chm 141, Phy 241. Class: 3 hours. Credit: 3 semester hours.

EGR 5303--Regression Analysis. Review of regression analysis; theory of least squares; multivariate analysis; theory of the general linear hypothesis model. Class: 3 hours. Credit: 3 semester hours.

EGR 5304--Nonlinear Programming. Theory of linear and non-linear programming; the "lambda" and "delta"-form of the approximating problem; quadratic programming; gradient methods. Class: 3 hours. Credit: 3 semester hours.

EGR 5305--Reliability. Statistical theories pertinent to solution of engineering problems in reliability; distribution and failure theory including failure rate and mean time to failure for the exponential, log normal, gamma, Weibull distributions. Class: 3 hours. Credit: 3 semester hours.

EGR 5359--Seminar In Engineering Administration. Direct reading, analysis and research in the classic and modern literature of engineering administration. Class: 3 hours. Credit: 3 semester hours.

EGR 5360--Case Problems in Engineering Administration. The case method applied to complex administrative problems encountered by engineers. Class: 3 hours. Credit: 3 semester hours.

EGR 5362--Decision Making Processes. A study of the bases and philosophical implications of executive decision-making. Elementary game theory, minimax and other strategies. Bayesian interference, subjective probability, teleology of measurement. Prerequisite: Consent of instructor. Class: 3 hours. Credit: 3 semester hours.

EGR 5363--Administrative Control Systems. Problems affecting the engineer in his design, analysis and control of information systems. Class: 3 hours. Credit: 3 semester hours.

EGR 5399--Human Factors Engineering. The specialized adaptation of engineering designs to the human operator's role in man-machine systems. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF ELECTRICAL ENGINEERING

EE 4304--Advanced Topics. Topics are selected on the basis of the needs of an adequate number of students. Topic areas include analog computation; digital machines, languages, and algorithms; optimization techniques; power systems analysis; advanced field problems. May be repeated for credit when topics vary. Prerequisite: EE 331 or concurrent. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF MATHEMATICS

MTH 3313--Modern Elementary Geometry. A study of the structure of geometry with primary emphasis on the needs of the elementary teacher. Prerequisite: Mth 136. Class: 3 hours. Credit: 3 semester hours.

MTH 3315--Number Theory. A development of the elementary theory of numbers with emphasis on the needs of teachers. Class: 3 hours. Credit: 3 semester hours.

SCHOOL OF FINE AND APPLIED ARTS

DEPARTMENT OF COMMERCIAL ART

CA 139--Fundamentals of Photography. A basic course designed to teach students the operation of various types of cameras. Included is a study of the theory and practical application of darkroom laboratory processes. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

CA 4322--Origins of American Ethnic Art. A study of the development and nature of ethnic art, designed to recognize the formative influences of social backgrounds, to present the artistic life of the communities and to analyze the aesthetic norms of their art. Prerequisite: CA 137, 235, and 236. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF MUSIC

MED 131--Elements of Music. Designed 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.

MED 213--Percussion. Materials for the percussion instruments. Performance on all percussion instruments. Class: 1 hour. Laboratory: 1 hour. Credit: 1 semester hour.

MLB 216--Musical Comedy. A laboratory course providing both background study and practical work in the specialized field of musical comedy, including participation in the presentation of a full production. Open to both vocalists and instrumentalists from all departments by audition or by consent of instructor. Laboratory: 3 hours. Credit: 1 semester hour. May be repeated for credit up to 3 hours.

MLT 335--Music of the Afro-American. A general survey of the present day American Negro music and a study of the Afro-American music historical background. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF SPEECH

SPC 216--Musical Comedy. A laboratory course providing background study and practical work in the field of musical comedy, including participation in the presentation of a full production. Open by audition or by consent of the instructor to students from all departments who are interested in acting or technical work in the theatre, especially as applied to musical comedy. Laboratory: 3 hours. Credit: 1 semester hour. May be repeated for credit up to 3 hours.

Com 3234--Practice in Communication Techniques. A course designed to give students an off-campus laboratory experience in an actual setting demanding the use of communicative techniques. Under the direction of an academic advisor within the program, students will be provided with specific, on-the-job assignments in radio-TV stations, advertising agencies, and newspaper and magazine offices. Credit: 2 semester hours. Course may be repeated once for credit.

SCHOOL OF LIBERAL ARTS

DEPARTMENT OF GOVERNMENT

GOV 132--Introduction to Law Enforcement. Philosophy and history of law enforcement; agencies of law enforcement; role and place of law enforcement in the total criminal justice process. Class: 3 hours. Credit: 3 semester hours.

GOV 133--Police Organization and Administration. Organization and function of law enforcement agencies; analysis of the most effective means of social control; relationship of law enforcement to the total correctional process. Class: 3 hours. Credit: 3 semester hours.

GOV 134--Criminalistics. Scientific crime detection methods; identification and preservation of evidence; crime statistics and statistical methods. Class 3 hours. Laboratory: 2 hours. Credit: 3 semester hours.

DEPARTMENT OF MODERN LANGUAGES

FRE 143--First Year French. Pronunciation, conversation, reading, dictation, grammar. Use of tapes. This course is designed for students who have had two or more years of the language in high school but who are not ready to go into the intermediate courses. Students who take this course will finish the entire first year of the language in one semester and will then be eligible to enter the intermediate courses. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.

FRE 321--French Conversation. Required of majors and of students desiring teacher certification in French. With approval of department head, the course may be repeated for credit. (This course may not be substituted for FRE 232 to meet the language requirement for the Bachelor of Arts degree.) Prerequisite: FRE 231 or equivalent. Class: 2 hours. Credit: 2 semester hours.

FRE 331--Contemporary French Drama. A study of representative plays of the twentieth century with emphasis on the theatre of post World War II. Dramatists studied included Giraudoux, Sartre, Camus, Ionesco, Beckett, Arrabal. Prerequisite: FRE 232. Class: 3 hours. Credit: 3 semester hours.

FRE 332--Contemporary French Novel. A study of representative novels of the Twentieth century, including such writers as Gide, Mauriac, Sartre, Camus, and the masters of the New Novel. Prerequisite: FRE 232. Class: 3 hours. Credit: 3 semester hours.

FRE 337--Advanced Grammar and Composition. A thorough study of French grammar with extensive written compositions. Secondary stress on pronunciation. Prerequisite: FRE 232. Class: 3 hours. Credit: 3 semester hours.

FRE 338--French Phonetics. A Study of the French sound system. Laboratory exercises to improve pronunciation. prerequisite: FRE 232. Class: 3 hours. Laboratory. Credit: 3 semester hours.

FRE 411--Techniques of Teaching Foreign Languages. A study of methods and materials for teaching foreign languages. Open to all language majors and students desiring teacher certification in French, German and Spanish. Prerequisite: 6 advanced hours in a modern language. Class: 1 hour. Credit: 1 semester hour.

FRE 432--Nineteenth Century French Drama. Prerequisite: 6 hours of advanced courses in French Class: 3 hours. Credit: 3 semester hours.

- FRE 433--17th Century French Literature.** A study of representative plays of Corneille, Racine, and Moliere, with secondary stress on the prose and poetry of the period. Prerequisite: 6 hours advanced courses in French. Class: 3 hours. Credit: 3 semester hours.
- FRE 435--Survey of French Literature through the 18th Century.** Readings from significant works. Lectures, readings, oral and written reports. Prerequisite: 6 hours advanced courses in French. Class: 3 hours. Credit: 3 semester hours.
- FRE 436--Survey of French Literature Since the 18th Century.** Readings from significant works. Lectures, readings, oral and written reports. Prerequisite: 6 hours advanced courses in French. Class: 3 hours. Credit: 3 semester hours.
- GER 143--First Year German.** Pronunciation, conversations, reading, dictation, grammar. Use of tapes. This course is designed for students who have had two or more years of the language in high school but who are not ready to go into the intermediate courses. Students who take this course will finish the entire first year of the language in one semester and will then be eligible to enter the intermediate courses. Class: 3 hours. Laboratory: 2 hours. Credit: 4 semester hours.
- GER 230--Technical Translation.** Translation of technical textbook and selected articles in technical and scientific journals. (GER 230 with a prerequisite of GER 142 does not meet the requirement for a BA degree. Science majors working toward a BA degree may substitute GER 230 for GER 231. Prerequisite: GER 142. Class: 3 hours. Credit: 3 semester hours.
- GER 321--German Conversation.** Required of students desiring teacher certification in German. With approval of department head, the course may be repeated for credit. (This course may not be substituted for GER 232 or 233 to meet the language requirement for the Bachelor of Arts degree.) Prerequisite: GER 231 or equivalent. Class: 2 hours. Credit: 2 semester hours.
- GER 333--Survey of German Literature of the Mid-18th Century.** A study of major literary movements, authors and their works from the beginnings to the mid-eighteenth century. Prerequisite: GER 231 and either 232 or 233. Class: 3 hours. Credit: 3 semester hours.
- GER 334--Survey of German Literature Since the Mid-18th Century.** A study of major literary movements, authors and their works from the mid-eighteenth century to the present. Prerequisite: GER 231, and either 232 or 233. Class: 3 hours. Credit: 3 semester hours.
- GER 411--Techniques of Teaching Foreign Languages.** A study of methods and materials for teaching foreign languages. Open to all language majors and students desiring teacher certification in French, German, and Spanish. Prerequisite: 6 advanced hours in a modern foreign language. Class: 1 hour. Credit: 1 semester hour.

- SPA 143--First Year Spanish.** Pronunciation, conversation, reading, dictation, grammar. Use of tapes. This course is designed for students who have had two or more years of the language in high school but who are not ready to go into the intermediate courses. Students who take this course will finish the entire first year of the language in one semester and will then be eligible to enter the intermediate courses. Class: 3 hours. Laboratory: 2 hours. Credit: 3 semester hours.
- SPA 321--Spanish Conversation.** Required of majors and of students desiring teacher certification in Spanish. With approval of department head, the course may be repeated for credit. (This course may not be repeated for SPA 232 to meet the language requirement for the Bachelor of Arts degree.) Prerequisite: SPA 231 or equivalent. Class: 2 hours. Credit: 2 semester hours.
- SPA 331--Spanish-American Culture and Civilization.** A study of the geography, history, government, and psychology of Spanish-America. Lectures, readings, oral and written reports. Prerequisite: SPA 232. Class: 3 hours. Credit: 3 semester hours.
- SPA 334--Survey of Spanish-American Literature.** A study of outstanding writers and their works. Lectures, readings, oral and written reports. Prerequisite: SPA 232. Class: 3 hours. Credit: 3 semester hours.
- SPA 337--Contemporary Spanish-American Short Story.** The authors chosen are among the best interpreters of the spiritual and intellectual climate of Spanish America. Lectures, readings, oral and written reports. Prerequisite: SPA 232. Class: 3 hours. Credit: 3 semester hours.
- SPA 338--Contemporary Theater of Spain.** Emphasis will be given to the theater of Lorca, Casona, Buer Vallejo, Calvo Sotelo, Alfonso Sastre and other major authors of today. Prerequisite: SPA 23 . Class: 3 hours. Credit: 3 semester hours.
- SPA 411--Techniques of Teaching Foreign Languages.** A study of methods and materials for teaching foreign languages. Open to all language majors and students desiring teacher certification in French, German, and Spanish. Prerequisite: 6 advanced hours in a modern foreign language. Class: 1 hour. Credit: 1 semester hour.
- SPA 433--Survey of Spanish Literature Through the 17th Century.** A study of the most significant works of Spanish literature through the seventeenth century. Readings from El Cid, El Conde Lucanor, La Celestina, poetry of the Renaissance, Cervantes' prose, and the Golden Age drama. Lectures, readings, oral and written reports. Prerequisite: 6 hours of advanced Spanish. Class: 3 hours. Credit: 3 semester hours.
- SPA 434--Survey of Spanish Literature Since the 17th Century.** A study of the most significant works of Spanish literature from the eighteenth century through the twentieth century. Reading with emphasis on the drama and the novel. Lectures, readings, oral and written reports. Prerequisite: 6 hours of advanced Spanish. Class: 3 hours. Credit: 3 semester hours.

COURSES IN BIBLE AND RELIGIOUS EDUCATION

- BIB 131--Survey of the Old Testament.** A critical study of the Old Testament and its relevance to Western culture. Class: 3 hours. Credit: 3 semester hours.
- BIB 132--Survey of 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.
- BIB 133--New Testament: Gospels.** A critical study of the Gospels, the person and work of Jesus of Nazareth. Class: 3 hours. Credit: 3 semester hours.
- BIB 134--New Testament: 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.
- BIB 135--Introduction to Christian Thought.** A course designed to acquaint the student with the major concepts of the Christian faith; to explore their Biblical basis and their relevance for the present day. Class: 3 hours. Credit: 3 semester hours.
- BIB 212--Current Issues in Religion.** An interpretation of religious events through the reading and study of current religious and secular periodicals. Class: 1 hour. Credit: 1 semester hour.

SCHOOL OF SCIENCES

DEPARTMENT OF BIOLOGY

- BIO 130--Fundamentals of Modern Biology.** Basic biological concepts relevant to human welfare and the quality of life. Emphasis on approach to social problems through environmental and population control, conservation of natural resources, and the genetic basis for human betterment. Class: 3 hours. Credit: 3 semester hours.
- BIO 510--Materials and Techniques of Research.** Survey of Laboratory and library research techniques, instrumentation and materials requisite to scientific investigation. Required of all entering graduate students. Class: 1 hour. Credit: 1 semester hour.
- BIO 5101, 5201, 5401-- Special Problems.** Research in areas other than thesis. Prerequisite: approval of graduate supervisor. Time arranged. Credit: 1-4 semester hours, maximum of 4 semester hours.
- BIO 511--Graduate Seminar.** Current topics in biological research. May be repeated for credit. Class: 1 hour. Credit: 1 semester hour.
- BIO 536--Marine Invertebrate Zoology.** Field study and identification of area species, current research. Required field trips. Recommended prerequisites: BIO 346 or 445. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.
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BIO 537--Advanced Limology. Analysis of freshwater commucities with emphasis on effects of pollution. Prerequisite: BIO 443. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

BIO 538--Helminthology. Biology of free-living and parasitic worms. Prerequisite: BIO 345 or 441. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

BIO 539--Comparative Physiology. Fundamental physiological processes in animals from the phylogenetic viewpoint. Prerequisite: BIO 344, CHM 342. Class: 2 hours. Laboratory: 3 hours. Credit: 3 semester hours.

BIO 669A--669B--Thesis. Prerequisite: admission to candidacy. Credit: 6 semester hours.

DEPARTMENT OF CHEMISTRY

CHM 130--Introductory Environmental Science. Fundamental concepts of environmental systems as related to urban affairs and man's environment. Air, water and soil pollution with control methods related to the modern technological society. Demonstrations and field trips. Class: 3 hours. Credit: 3 semester hours.

CHM 343--Quantitative Analysis. Theory and practice of analytical chemistry, utilizing gravimetric and titrimetric techniques. Prerequisite: Chm 142, Mth 133, 134. Class: 3 hours. Laboratory: 5 hours. Credit: 4 semester hours.

CHM 5352--Modern Synthetic Organic. Selected topics modern aynthetic organic chemistry. Prerequisite: Graduate standing. Class: 3 hours. Credit: 3 semester hours.

DEPARTMENT OF PSYCHOLOGY

PSY 131--Introduction to Psychology. An introductory survey of the major areas of psychology such as learning, personality, social, testing, developmental, and physiological. Emphasis is on psychology as the scientific study of behavior and includes both human and animal behavior. Class: 3 hours. Credit: 3 semester hours.

PSY 242--Methods in Psychology. An introduction to the methods of research employed in the scientific study of behavior. Topics include nature and philosophy of science, experimental design, data analysis, and report writing. Several experiments are designed, conducted, and reported by students. Prerequisites: Psy 131 and 241. Class: 4 semester hours.

PSY 333--Psychology of Group Behavior. Investigation of the psychological basis of group behavior. Emphasis is on the study of individual experience and behavior in relation to the social environment, and how individual behavior both affects and is affected by social interaction. Prerequisite: Psy 131. Class: 3 hours. Credit: 3 semester hours.

Course Deletions

SCHOOL OF BUSINESS

DEPARTMENT OF BUSINESS ADMINISTRATION

BA 431--Business Statistics

BA 432--Business Statistics

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATION

Edu 435--Teaching the Slow Learner

Edu 436--Education of Gifted Children

DEPARTMENT OF WOMEN'S HEALTH AND PHYSICAL EDUCATION

HPE 430--Problems in Physical Education

HPE 435--Health Science and Epidemiology

SCHOOL OF ENGINEERING

Egr 5361--Operations Research III.

DEPARTMENT OF INDUSTRIAL ENGINEERING

IE 339--Manufacturing Processes

DEPARTMENT OF MATHEMATICS

Mth 137--Contemporary Mathematics III

Mth 4302--Advanced Calculus for Engineers

Mth 4312--Advanced Data Processing

SCHOOL OF LIBERAL ARTS

DEPARTMENT OF MODERN LANGUAGES

Fre 235--French Conversation

Fre 333--Introduction to French Literature

Fre 334--Introduction to French Literature

Fre 335--Advanced Composition

Fre 336--Advanced Composition and Conversation

Fre 432--French Drama After 1800

Fre 433--Survey of 17th Century French Literature

Ger 231, 232--Reading, Composition, Conversation

Ger 233--Technical Translation

Ger 235--German Conversation

Ger 333, 334--Survey of German Literature

Spa 332--Introduction to Spanish Literature

Spa 333--Introduction to Spanish Literature

Spa 334--Introduction to Spanish American Literature

Spa 336--Advanced Composition and Conversation



COURSES IN BIBLE AND RELIGIOUS EDUCATION

Bib 111--Acts of the Apostles
Bib 131--The Old Testament
Bib 132--The New Testament
Bib 133--The Life and Teaching of Jesus
Bib 134--The Life and Letters of St. Paul
Bib 211--The Bible, Its Origin and Growth
Bib 233--The Prophets of the Old Testament
Bib 322--Great Ideas of the Bible
Bib 333--The 20th Century Church

SCHOOL OF SCIENCES

DEPARTMENT OF CHEMISTRY

Chm 241--Quantitative Analysis
Chm 321--Inorganic Analysis

DEPARTMENT OF PSYCHOLOGY

Psy 131--Introduction to Human Behavior
Psy 231--General Psychology
Psy 233--Methods in Psychology





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