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### 1957 CALENDAR 1957

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#### SEPTEMBER

13—Friday. Condition, advanced standing, and postponed examinations. Approved petition forms must be in the Office of the Registrar four days in advance.

13, 14—Friday, Saturday. Freshman convocation and guidance tests.

Magoffin Auditorium, 8:30 a.m.

14—Saturday. General Faculty meeting, 10:00 a.m., Magoffin Auditorium.

16, 17, 18—Monday, Tuesday, Wednesday. Registration for day students.

19—Thursday. Classes begin.

19, 20—Thursday, Friday, 7-9:30 p.m.—Registration for night classes.

21—Saturday, 8:30-11:30 a.m.—Special registration for teachers.

23—Monday. Night classes begin.

25—Wednesday. Last day of registration for fall semester.

#### NOVEMBER

14—Thursday. Mid-semester reports. Last day courses can be dropped without grade of WF unless drop is initiated by the student's dean. Senior information forms due in academic dean's office.

28-30—Thursday through Saturday. Thanksgiving holidays.

#### DECEMBER

21—Saturday. Christmas recess begins at close of last class on Saturday.

*Attendance at convocations and participation in the placement and guidance tests are required of all regular freshmen (full-time, "day" students with less than 30 semester hours college credit) who have not previously attended a long-session semester at Texas Western College.*
1958 CALENDAR 1958

JANUARY
3—Friday. Classes resume.
27—Monday. Freshman convocation and guidance tests.

Magoffin Auditorium, 8:30 a.m.
28, 29, 30—Tuesday, Wednesday, Thursday. Registration for day students.
31—Friday. Classes begin.

FEBRUARY
1—Saturday, 8:30-11:30. Special registration for teachers.
3, 4—Monday and Tuesday, 7-9:30 p.m.—Registration for night classes.
4—Tuesday, Condition, postponed, and advanced standing examinations.
Approved petition forms must be in the Office of the Registrar four days in advance.
5—Wednesday. Night classes begin.
6—Thursday. Last day of registration for spring semester.

MARCH
21—Friday. Mid-semester reports. Last day courses can be dropped without grade of WF unless drop is initiated by the student's dean.
Senior information forms due in academic dean's office.

APRIL 4-7—Easter Holidays.

MAY 24-31—Saturday through Friday. Final examinations.

JUNE 1—Sunday. Commencement.

Summer Session 1958 First Term: June 3 - July 12
Registration: June 3
Second Term: July 14 - Aug. 24
Registration: July 14

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Board of Regents of The University of Texas

LEROY JEFFERS, Chairman
J. R. SORRELL, Vice Chairman
BETTY ANNE THEDFORD, Secretary

MEMBERS
Terms Expire, January 1959
LEROY JEFFERS, Houston
LEE LOCKWOOD, Waco
J. R. SORRELL, Corpus Christi

Terms Expire, January 1961
MRS. CHARLES DEVAL, Kilgore
J. LEE JOHNSON, III, Fort Worth
MERTON M. MINTER, San Antonio

Terms Expire, January 1963
J. P. BRYAN, Freeport
THORNTON HARDEE, El Paso
JOE THOMPSON, Dallas

President of The University of Texas
LOCAN WILSON, PH. D., LL. D.
TEXAS WESTERN COLLEGE

Officers of Administration

DYSART EDGAR HOLCOMB
President, 1955
B.S., Texas Technological College; M.S., Ph.D., University of Michigan
Registered Professional Engineer

KATHRYN TERESA BURKE, Dean, School of Nursing, 1957
B.S. in Nursing Education, M.S., Columbia University;
Ed.D. in Health Education, Stanford University

BETTY WALLACE CODY, Dean of Women, 1955
B.S., Alabama Polytechnic Institute; M.A., Syracuse University

ROY CLARENCE FISK, Assistant Business Manager, 1949
B.B.A., Texas Western College

ALONZO NEIL FOSTER, Director of Extension and Placement, 1951
B.S., Southwest Texas State Teachers College; M.A., University of Missouri;
Ed.D., Colorado State College of Education

BURL FRANKLIN JENNESS, Director of Health Service, 1917
M.D., Dartmouth College; Lt. Comdr., U. S. Navy, Rtd.

B.L. POLK, Librarian, 1936
B.A., Hardin-Simmons University; B.S. (Library Science), University of Oklahoma;
M.S. in Lib. Sci., Columbia University

CHARES ALEXANDER PUCKETT, Dean of Arts and Sciences, 1927
B.A., University of Texas; M.A., Harvard University

ALVIN ARLTON SMITH, Business Manager, 1949
B.A., M.A., North Texas State College

EUGENE MCRAE THOMAS, Dean of Mines and Engineering, 1930
B.S., Texas College of Mines & Metallurgy; M.S., Massachusetts Institute of Technology;
E.M., Texas College of Mines & Metallurgy

MATTHEW HENRY THOMLINSON, Curator of Museum, 1948
B.S., United States Military Academy; Colonel, U. S. Army, Rtd.

JOHN LEROY WALLER, Dean of Graduate Division, 1931
B.S., University of Okla.; M.A., University of Colorado; Ph.D., University of Texas

JOSEPH McSWAIN WHATAKER, Registrar and Director of Admissions, 1954
B.A., Agricultural and Mechanical College of Texas; M.A., Texas Western College

MRS. MYRTLE EVELYN BALL, Assistant Professor of Speech, 1929
B.A., New Mexico Normal University; M.A., University of Southern California

WILLIAM HENRY BALL, Assistant Professor of Chemistry, 1930
B.S., University of Chicago; M.S., Iowa State College

THOMAS GREGG BARNES, Professor of Physics, 1938
B.A., Hardin-Simmons University; M.S., Brown University

Date indicates year of original appointment.

FACULTY

HAROLD EDWIN ALEXANDER, Assistant Professor of Chemistry, 1955
B.S., Texas Western College; M.A., Ph.D., University of Texas

JOHN ALPHEE, Professor of Military Science and Tactics, 1954
Colonel, Artillery, U.S. Army

NEAL THOMAS ARTHUR, Instructor in Engineering Drawing, 1957
B.S., Ohio State University

FREDERICK WILLIAM BACHMANN, Professor of Modern Languages, 1933
B.A., M.A., Stanford University; Ph.D., University of Chicago

KENNETH KYLE BAILEY, Instructor in History, 1956
B.A., M.A., Ph.D., Vanderbilt University

MRS. MYRTLE EVELYN BALL, Assistant Professor of Speech, 1929
B.A., New Mexico Normal University; M.A., University of Southern California

WILLIAM HENRY BALL, Assistant Professor of Chemistry, 1930
B.S., University of Chicago; M.S., Iowa State College

THOMAS GREGG BARNES, Professor of Physics, 1938
B.A., Hardin-Simmons University; M.S., Brown University

Date indicates year of original appointment.

5
FACTORY

STEPHEN JOHN BARRES,* Assistant Professor of Economics, 1955
B.A., Texas Western College; M.S., Purdue University

RICHARD B. BENNETT, Assistant Professor of Economics & Business Administration, 1956
B.A., M.A., University of Texas

RALPH PORTER BENZTZ, Associate Professor of Mathematics, 1952
B.S., Pennsylvania State Teachers College; M.Ed., Pennsylvania State College; Ph.D., Peabody College

ANTON HELMER BERKMAN, Professor of Biological Sciences, 1927
B.A., M.A., University of Texas; Ph.D., University of Chicago

CALED ARUNDEL BEVANS, Associate Professor of Modern Languages, 1950
S.B., Northwestern University; M.A., Ph.D., University of Chicago

LELIAH BLACK, Assistant Professor of Business Administration, 1946
B.Ed., Western Illinois State Teachers College; M.A., University of Iowa

JOHN PORTER BLOOM, Instructor in History, 1956
A.B., Univ. of New Mexico; M.A., George Washington Univ.; Ph.D., Emory Univ.

CHARLES EDWIN BLOUNT, Instructor in Mathematics, 1955
B.S., Texas Western College

LEISL J. BOSSWORTH, Assistant Professor of Psychology, 1950
B.B.A., M.A., University of Texas

HALDEEN BRADDY, Professor of English, 1946
B.A., East Texas State Teachers College; M.A., University of Texas; Ph.D., New York University

FRED MEZA BREWER, Instructor in Spanish, 1955
B.A., University of New Mexico; M.A., Texas Western College

WILLIAM BREWSTER, JR.* Associate Professor of Business Administration, 1953
B.A., Harvard University; LL.B., M.A., Stetson University

LONNIE K. BREWTON, Instructor in Military Science and Tactics, 1949
Sergeant First Class, U. S. Army

RALPH CLEMONS BRIGGS, Associate Professor of Music, 1950
B.Mus., M.M., Cincinnati Conservatory of Music

JOHN MORGAN BRODUS, Jr., Instructor in History, 1954
B.A., M.A., Texas Western College

MIKE BRUMBELL, Professor and Coordinator of Physical Education and Intramurals and Athletics, 1950
B.A., Texas Christian University

ROBERT NORTHCUTT BURLINGAME, Assistant Professor of English, 1954
B.A., M.A., University of New Mexico; Ph.D., Brown University

RICHARD WEBSTER BURNS, Associate Professor of Education, 1952
B.A., Iowa State Teachers College; M.S., Ph.D., State University of Iowa

JOHN LEE CARRICO, Associate Professor of Music, 1951
B.S., M.A., Sul Ross State College; M.M., Northwestern University; Ed.D., George Peabody College

REVA JUNE CASH, Instructor in Physical Education, 1955
B.A., Texas Western College

CLARENCE JOE CERVENKA, Assistant Professor of Engineering Drawing, 1952
B.S., M.S. (Industrial Education and Engineering Drawing), Agricultural and Mechanical College of Texas, 1952

THOMAS MILLER CHISHOLM, Instructor in Bible, 1956
B.A., Carson-Newman College; B.D., Southwestern Baptist Theological Seminary

HAROLD GOLDWELL, Instructor in Mathematics, 1957
B.S., United States Naval Academy

RALPH MONROE COLEMAN, Professor of Engineering Drawing, 1946
B.S., M.S., North Texas State College

MRS. MARY LILLIAN COLLINGWOOD, Instructor in English, 1947
B.A., Texas Western College; M.A., University of Michigan

BENNY WESLEY COLLINS, Asst. Professor of Health and Physical Education, 1950
B.A., Texas Western College; M.S., University of Utah

LOUIS CONDON, Associate Professor of Education, 1949
B.A., Univ. of Alabama; M.A., Univ. of So. California; Ed.D., Univ. of Texas

DANIEL ALLMAN CONNOR, Instructor in Government, 1948
B.A., George Washington University; M.A., Texas Western College

* Leave of absence, 1956-57.
FACULTY

ELLEN WINIFRED COOLGER, Assistant Professor of Art, 1944
B.S., Sul Ross State College; M.A., Columbia University

MRS. KATHLEEN CRAIGO, Assistant Professor of Physical Education, 1945
B.A., M.A., North Texas State College

DALE LOUIS CHAMEN, Assistant Professor of Economics, 1955
B.S., M.A., Bradley University

Cecil Clement Crawford, Professor of Philosophy, 1953
B.A., M.A., Ph.D., Washington University

James Francis Day, Assistant Professor of Education, 1955
B.S., M.S., Utah State College; Ed.D., Stanford University

Floyd Archie Decker, Professor of Electrical Engineering, 1935
B.S. in E.E., E.E., Kansas State College; M.S.E., University of Michigan;
Registered Engineer

MRS. LURLINE HUGHES DOUGLAS, Instructor in English, 1954
B.A., M.A., University of Texas

Walter Ducoy, Instructor in Engineering Drawing, 1957
B.S., University of New Mexico

MRS. MARY ELEANOR DUK, Assistant Professor of Biological Sciences, 1947
B.A., Texas Western College; M.A., University of Texas

OLAY ELLING ELIDRO, Assistant Professor of Music, 1950
B.A., Concordia College; M.A., Texas Western College; Ph.D., Univ. of N. Dakota

FRANCIS ALAN EMMANN,* Instructor in English, 1950
B.A., Texas Western College; M.A., University of Texas

Floyd Emmett Fauquier, Professor of Education, 1942
B.S., Miami University; M.A., University of Chicago; Ed.D., University of Texas

George Unger Ford, Assistant Professor of Military Science, 1953
Lieutenant Colonel, Artillery, U.S. Army

Alonzo Neil Foster, Professor of Education, 1951
B.S., Southwest Texas State Teachers College; M.A., University of Missouri;
Ed.D., Colorado State College of Education

Nelle Trev Francis,* Instructor in English, 1946
B.A., Hardin-Simmons University; M.A., University of Texas

Donald Keith Freeland,* Assistant Professor of Economics and Business Administration, 1949.
B.S., Austin College; M.B.A., North Texas State College

FRANCIS LYLE FUGATE, Instructor in English, 1949
B.A., B.J., University of Missouri

Wayne Edson Fuller, Assistant Professor of History, 1955
B.A., Univ. of Colorado; M.A., Univ. of Denver; Ph.D., Univ. of California

MRS. GRETHELM RENEMUND GABRIEL, Assistant Professor of Spanish, 1943
B.A., M.A., Stanford University

Charles Herman Gladman, Assistant Professor of Mathematics, 1948
B.S., M.A., Ohio State University

MRS. LYTETTE CLARION, Instructor in Physical Education, 1951
B.A., M.A., Texas Western College

Harold Goddard, Assistant Professor of Music, 1949
B.M., B.M.E., M.M., University of Colorado

Manuel Gomez Jr., Instructor in Electrical Engineering, 1955
B.S., Texas Western College

John Fraser Graham, Professor Emeritus of Mining and Metallurgy, 1925
B.S., E.M., Michigan College of Mining and Technology

Norman Gregor, Instructor in English, 1955
B.A., M.A., University of Minnesota; Ph.D., University of New Mexico

CLAY'S GREGORY, Professor of Government, 1928
B.S., Southwestern University; M.A., Ph.D., University of Texas

Jesse Apley Hancock, Professor of Chemistry, 1941
B.S., M.S., Gonzaga University; Ph.D., University of Colorado

William Marion Hardy, Instructor in Speech and Drama, 1954
B.S., Duke University; M.A., University of North Carolina

Wiltz Harrison, Associate Professor of Art, 1948
B.A., Texas Western College; M.A., University of Denver

Wade James Hartwick, Professor of Economics and Business Administration, 1944
B.A., Texas Technological College; M.B.A., Ph.D., University of Texas

* Leave of absence, 1956-57.

7
FACULTY

PAUL CLIFFORD HASLER, Jr., Associate Professor of Civil Engineering, 1948
B.S., Grove City College; M.S., University of New Mexico; Registered Engineer

RICHARD EUGENE HENDERSON, Assistant Professor of Music, 1952
B.A., College of Puget Sound; M.M., Florida State University

CARL HERTZOG, Special Lecturer and Director of Press, 1948

WILLIAM LAMAR HEUSER, Instructor in Economics and Business Administration, 1955
B.S., Denver University; M.A., University of Colorado

WILFRED HICKS, Associate Professor of Radio, 1945
B.A., Texas Western College; M.A., University of Southern California

DOUGLAS NEIL HILLHOUSE, Assistant Professor of Geology, 1956
B.A., M.S., University of British Columbia

MRS. CAROLINE EISENMAH HITCHCOCK, Instructor in English, 1956
B.A., M.A., University of Michigan

WILLIAM LYLE HODGE, Assistant Professor of Military Science and Tactics, 1954
B.A., Texas Wesleyan College; Major, Artillery, U. S. Army

MRS. ROBERTA MAY HOFFMAN, Instructor in English, 1955
B.A., Hunter College

ARU A. HOGENBOOM, Instructor in History, 1956
B.A., Atlantic Union College; M.A., Columbia University

KENNETH NEWTON HOWARD, Instructor in Business Administration, 1956
B.B.A., M.B.A., Texas Technological College

GUY ERNEST INCEROLL, Associate Professor of Mining and Metallurgy, 1947
E.M., University of Minnesota; Registered Engineer

JOSEPH HOPKINS JAMES, Assistant Professor of English, 1938
B.A., M.A., University of Alabama

MRS. CLARENCE MATTHEWS JONES, Assistant Professor of Speech, 1946
B.S., West Texas State College; M.A., Texas State College for Women

BRYAN STEELE JONES, Instructor in Journalism, 1956
B.A., University of Arkansas

CLYDE EASTMAN KELSEY, Jr., Assistant Professor of Psychology, 1947
B.A., Texas Western College; M.A., University of Tulsa

WILLIAM ABBOTT KIRBY,* Instructor in Mathematics, 1953
B.A., M.A., University of Wyoming

GEORGE EDWARD KISER, Professor of Economics and Business Administration, 1956
B.A., Stanford University; M.B.A., Ph.D., The University of Texas

EDWIN JOHN KNAPP, Professor of Mathematics and Physics, 1931
Ph.B., Ph.D., University of Wisconsin

OVERTON CLEON KRUSCHWITZ, Instructor in Mathematics, 1956
A.B., Ohio Wesleyan University; M.A., Gorge Peabody College

WILLIAM WALTER LAKE, Professor of Chemistry, 1927
B.A., Ohio Wesleyan University; B.S., M.S., Ohio State University; Ph.D., University of Chicago

EARL JAMES LANGER, Jr., Assistant Professor of Biological Sciences, 1956
A.B., M.S., University of Wisconsin

JOSEPH LEE LEACH, Professor of English, 1947
B.A., Southern Methodist University; Ph.D., Yale University

ROBERT MELTON LECHU, Assistant Professor of Speech and Drama, 1949
B.F.A., M.F.A., University of Texas

EUGENE WALTER LEWIS, Jr., Assistant Professor of Chemistry, 1956
B.S., St. Louis University; B.A., St. Mary's University; M.S., Ph.D., University of Wisconsin

SALVADOR FRANCIS MAGGIO, Instructor in Military Science and Tactics, 1953
M. Sgt., U. S. Army

ROBERT JOSEPH MASSEY, Assistant Professor of Art, 1953
B.A., Oklahoma Agricultural & Mechanical College; M.F.A., Syracuse University

WILLIAM FRANKLIN MAYALL, Jr., Instructor in Economics and Business Adm., 1958
B.B.A., Texas Western College

GEORGE COURTNEY McGARRITY, Asst. Professor of Health and Physical Education, 1953
B.S., M.A., New Mexico College of Agriculture and Mechanical Arts

Oscar Harry McMahen, Associate Professor of Physics, 1943
B.S., Oklahoma Agricultural and Mechanical College; M.S., University of Arizona

* Leave of absence, 1956-57.
JOHN HAMILTON McNEELY, Assistant Professor of History, 1946
B.A., American University; M.A., George Washington University

JACK HUSTON MEADOWS, Associate Professor of Education, 1954
B.S., M.A., Sam Houston State College; Ed.D., Texas Technological College

VLADIK ADOLPH MISCULA, Instructor in Mathematics, 1955
B.S., Southwest Texas State Teachers College; M.S., Texas Technological College

JOHN JUDY MIDDAGH, Associate Professor of Journalism, 1948
B.S., University of Missouri; M.A., Texas Western College

ROSS MOORE, Instructor in Physical Education, 1940
B.A., Texas Western College

LEON Denny MOSES, Associate Professor of English, 1927
B.A., M.A., Columbia University

SAMUEL DALE MYERS, Jr., Assistant Professor of Government, 1955
B.A., M.A., Southern Methodist University; Ph.D., The University of Texas; LL.D., Trinity University

LEIF NEERJUS, Instructor in Business Administration and Mathematics, 1956
B.S., United States Military Academy

LLOYD ALVINO NELSON, Professor of Geology, 1926
E.M., Texas College of Mines; M.S., Ph.D., Univ. of Colorado; Registered Engineer

LEONARD PAUL NICHOLS, Assistant Professor of Military Science and Tactics, 1956
A.B., University of Missouri; Captain, United States Army

ERNEST ARTHUR OLSEN, Associate Professor of Health and Physical Education, 1955
B.S., Ed.M., University of Maine; Ed.D., Boston University

MRS. CATHERINE BURSIDE O'MALLEY, Assistant Professor of Education, 1955
B.A., Texas Western College; M.A., University of Southern California

FLOYD BRELAND O'NEAL*, Instructor in Chemistry, 1954
B.S., The Citadel; M.S., Tulane University

AMERICCO PAREDES, Instructor in English, 1956
B.A., M.A., Ph.D., The University of Texas

RAYMOND EDGAR PAST, Assistant Professor of English, 1952
A.B., University of Pennsylvania; B.A., Ph.D., University of Texas

MRS. JOHN LILES PATTYSON, Instructor in Mathematics, 1927
B.A., University of Texas; M.A., University of Chicago

SOLEDAD PEREZ, Instructor in English, 1949
B.A., Texas Western College; M.A., University of Texas

PEARL OLIVE PONSFORD, Assistant Professor of English, 1936
B.A., Wellesley College; M.A., Ph.D., University of Southern California

EUCLIDE OLIVER PORTER, Professor of History, 1940
B.A., Ohio Wesleyan College; M.A., Ph.D., Ohio State University

CHARLES ALEXANDER PUCKETT, Professor of Education, 1927
B.A., University of Texas; M.A., Harvard University

JACK RICHARD PUCKETT, Instructor in Chemistry, 1955
B.S., Texas Western College

HOWARD EDMUND QUINN, Professor of Geology, 1924
E.M., M.S., University of Minnesota; Ph.D., Harvard University

MRS. MARY KELLY QUINN, Assistant Professor of Sociology, 1925
B.A., Wellesley College; M.A., Boston University

WILLIAM WOOLSEY RAYMOND, Associate Professor of Electrical Engineering, 1949
B.S. (Electrical Engineering), University of Texas; M.S., University of Michigan

JAMES BLANCHETTE RIDGE, Assistant Professor of Biological Sciences, 1955
B.S., M.S., Louisiana State University

MRS. LOUISE FLETCHER RESLEY, Assistant Professor of Mathematics, 1940
B.A., M.A., University of Texas

MRS. BERTHA REYNOLDS, Assistant Professor of Education, 1928
B.A., M.A., University of Colorado

JOSEPH CHARLES RINTELLEN, Jr., Professor of Mining and Metallurgy, 1949
B.S., Brooklyn Polytechnic Institute; M.S., Cornell Univ.; Ph.D., Duke University

WALTER RAY ROSE, Instructor in Mining and Metallurgy, 1937
B.S., Texas Western College

EDGAR THOMAS RUPF, Professor of Modern Languages, 1945
B.A., M.A., Northwestern University; Ph.D., University of Texas

* Leave of absence, 1956-57.
FACULTY

WILLIAM MAURICE RUSSELL, Instructor in Modern Languages, 1955
B.A., Birmingham-Southern College; M.A., University of North Carolina

JOHN ALLEN RYAN, Asst. Professor of Economics and Business Administration, 1955
B.A., University of Southern California; M.B.A., University of Texas

BEVIE TRUETT SANDERS, Associate Professor of Business Administration, 1955
B.A., North Texas State College; M.S., Texas Agricultural & Mechanical College

ALLEN SAYLEN, Assistant Professor of Economics, 1948
A.B., University of Chicago

ROBERT LOUIS SCHUMAKER, Assistant Professor of Physics, 1946
B.S., Texas Western College; M.S., University of Arizona

JOSEPH WALLACE SCRUGGS, Assistant Professor of Chemistry, 1946
B.S., Texas Agricultural and Mechanical College; M.A., Texas Western College

LE ROY GEORGE SELS, Professor of Health and Physical Education, 1950
A.B., Denison University; M.Ed., D.Ed., Boston University

JOHN McCARTY SHARP, Associate Professor of Modern Languages, 1949
B.A., Westminster College; M.A., Ph.D., University of Chicago

WILLIAM LLOYD SHEPHERD, Instructor in Mathematics, 1952
B.S., M.S., Oklahoma Agricultural and Mechanical College

HOWARD JAY SHERMAN, Assistant Professor of Philosophy, 1955
B.S., Northwestern University; M.A., University of New Mexico

FRANK YOKIMASA SHIOJI, Instructor in Chemistry, 1955
B.S., Texas Western College

JAMES RICHARD SMART, Instructor in Mathematics, 1955
B.A., Hendrix College; M.A., George Peabody College

MRS. GRACE KNOX SMITH, Instructor in English, 1953
B.A., M.A., Texas Western College

MRS. STELLA McMULLIN SMITH, Assistant Professor of Business Administration, 1946
B.A., Bowling Green College of Commerce; M.S., University of Tennessee

CHARLES LELAND SPOHNKEIS, Professor of English, 1931
B.A., University of Minnesota; M.A., Ph.D., Harvard University

WILLIAM SAMUEL STRAIN, Assistant Professor of Geology, 1937
B.S., West Texas State College; M.S., University of Oklahoma

REX WALLACE STUCKLAND, Professor of History, 1936
B.A., Austin College; M.A., Southern Methodist Univ.; Ph.D., University of Texas

BILLY L. STUART, Instructor in Military Science, 1956
Master Sergeant, United States Army

ROBERT LEWIS TAPPAN, Assistant Professor of Modern Languages, 1954
B.A., M.A., Texas Western College; Ph.D., Tulane University

EUGENE MCRAE THOMAS, Professor of Mining Engineering, 1930
B.S. (Mining Engineering), Texas College of Mines; M.S., Massachusetts Institute of Technology; E.M., Texas College of Mines; Registered Engineer

WILLIAM HARRY THOMSON, Instructor in Art, 1955
B.S., Institute of Design of Illinois Institute of Technology

JAMES ALEXANDER THORBURN, Instructor in English, 1956
B.A., M.A., Ohio State University

ENCEBERT A. THOMSONGAARD, Professor of Music, 1949
B.A., Concordia College; M.A., Ed.D., Columbia University

MRS. EUNICE LUCILLE THREADGILL, Instructor in Mathematics, 1946
B.A., Texas Western College

WILBERT HELD TIMMONS, Associate Professor of History, 1949
B.A., Park College; M.A., University of Chicago; Ph.D., University of Texas

MARTHA RAY VANCE, Instructor in Biological Sciences, 1956
B.A., Texas Western College

HOWARD CLAY VANCANT, Instructor in Civil Engineering, 1955
B.S., Texas Western College

MRS. EMILY HOLMES VOWELL, Instructor in Geology, 1955
B.S., Texas Western College; M.S., University of Oklahoma

JACK CAROTHERS VOWELL, Jr., Instructor in History, 1955
B.S. in F.S., M.S. in F.S., Georgetown University; M.A., Texas Western College

* Leave of absence, 1956-57.
FACULTY

MRS. MARIA LANDAU WADDELL, Instructor in English, 1954
B.A., Howard Payne College; M.A., Scarritt College

MRS. ROBERTA RUTH WALKER, Instructor in Business Administration, 1948
B.A., M.A., Texas Western College

JOHN LEROY WALLER, Professor of History, 1931
B.S., University of Okla.; M.A., University of Colorado; Ph.D., University of Texas

DALE BARNARD WATERS, Associate Professor of Physical Education, 1950
B.A., University of Florida; M.A., Texas Western College

WILLIAM FLETCHER WEBB, Assistant Professor of Modern Languages, 1945
B.A., M.A., University of Texas

VERA WISE, Professor of Art, 1939
B.A., Willamette University; Chicago Academy of Fine Arts; Kansas City Art Inst.

KEITH AINSWORTH YARBOROUGH, Assistant Professor of Civil Engineering, 1956
B.S. in S.E., M.S. in S.E., University of Illinois

JACK WYATT, Assistant Professor of Psychology, 1956
B.A., University of Wyoming; M.A., Michigan State College; Ph.D., Purdue University

Part-Time Instructors

BRUCE A. BELLER, Department of Economics and Business Administration
B.A., University of Chicago; B.B.A., The University of Texas

HANS ERIC BROCKMOLLER, Dept. of Economics and Business Administration, 1947
B.A., Texas Western College; LL.B., University of Texas

BRUCE W. BROOKS, Department of Journalism and Radio
B.A., Texas Western College

JOSEPH LEONARD BROWNLOW, Jr., Dept. of Economics and Business Administration
B.A., Texas Western College; M.A., Stanford University

CONWAY BRYSON, Department of History, Government, and Sociology
B.A., Texas Western College

MRS. FLORENCE B. BUCKNER, Dept. of Economics and Business Administration, 1947
B.A., Sul Ross State College; Certified Public Accountant

ABRAHAM CHAVEZ, Jr., Department of Music

VIRGIL ROBERTS COWART, Department of Economics and Business Administration
B.A., Columbia University

JOHN WILLIAM DENTY, Department of History, Government, and Sociology
B.A., M.A., Texas Western College

GEORGE BERNARD DICKINSON, Dept. of Economics and Business Administration
B.B.A., Texas Western College

PAUL J. ELLENBURG, Department of Economics and Business Administration
B.B.A., Southern Methodist University; M.B.A., The University of Texas

CLARENCE GORDON HACKETT, Department of Philosophy and Psychology
B.E., Milwaukee State Teachers College; M.A., State University of Iowa; Ph.D., Purdue University

MRS. JEAN BERRY HAWKINS, Department of Economics and Business Administration
B.B.A., M.Ed., Sul Ross State College

RALPH LYNN LOWENSTEIN, Department of Journalism and Radio
B.A., M.S., Columbia University

MRS. LORAINA EVERETT MARBELL, Department of Music
B.M., M.M., American Conservatory of Music

MRS. LUCILLE BALLEW PILLOW, Department of History, Government, and Sociology
B.A., Texas Western College; M.S.W., Tulane University

MURRAY PROCTOR, Department of Mathematics and Physics
B.S., City College of New York; M.A., Columbia University

11
STAFF

CHARLES SIMPSON, Department of Music
B.M., Texas Western College

MRS. MAXINE BRAY STEELE, Department of English and Speech
B.A., Texas State College for Women; M.A., University of Texas

DOROTHY ANN STUART, Department of English and Speech
B.A., Mississippi Southern College

PAUL H. TETZNER, Department of Art
B.S., Institute of Design of Illinois Institute of Technology

GEORGE FRANK WALKER, Department of Business Administration
B.A., University of California at Los Angeles

Administrative Assistants

LU VENIA ARNOLD, Assistant Registrar, 1940. B.A., Texas Western College

MRS. EULALIE WILLIAMS BROWN, Secretary to Dean of Student Life, 1956
B.A., Texas Western College

MRS. MARGARET NEELY BROWN, Secretary to Dean of Mines and Engineering, 1955

FRANCIS CLAYTON, Assistant Librarian, 1943
B.A., Texas Western College; M.L.S., University of Texas

MRS. ELOISE S. COOK, R.N., Resident Nurse, Health Service, 1949
B.A., Texas Western College

JOE W. DALEY, Superintendent of Buildings and Grounds, 1954

MRS. BARBARA DABBY, Secretary to Dean of Women, 1955
B.A., Agnes Scott College; M.A., Emory University

MRS. JOE ANN DUGGER, Secretary to Dean of Graduate Division, 1955

JOE GUADALUPE HERREKA, Department of Military Science and Tactics, 1953
Sergeant First Class, United States Army

MRS. MARGARET SALCIDO, Secretary and Assistant to Librarian, 1956

ALLEN SAYLES, Auditor, 1946. A.B., University of Chicago

MRS. MILDRED SKEW, Loan Librarian, 1955
B.A., Texas Western College

WILSON SNOGOSS, Cataloger, Library, 1957
B.A., Sam Houston State Teachers College; M.L.S., The University of Texas

MRS. FRANCES SMITH STEVENS, Secretary and Administrative Assistant, Office of the President, 1931

MRS. NELL K. THOMPSON, Loan Librarian, 1938

MRS. MILDRED D. TOROK, Secretary to the Faculty, 1954

WILLIAM J. WATT, Department of Military Science and Tactics, 1956
Sergeant First Class, United States Army

Dormitory Staff

MRS. WREN HOLLENDAHL, Social Director, Benedict Hall

MRS. HELEN B. MURPHIE, Assistant Social Director, Bell Hall

MRS. JOE RAMSEY, Social Director, Hudspeth Hall

MRS. MAY STUART, Social Director, Worrell Hall

MARY L. WHITE, Social Director, Bell Hall
TEXAS WESTERN COLLEGE is located in El Paso at the intersection of several of the oldest highways in the nation—where white men walked almost a full century before the landing of the Pilgrims at Plymouth Rock.

Here on this historic ground at ancient El Paso del Norte (The Pass of the North) students find themselves virtually in the middle of many of their studies. El Paso is the largest city on the Mexican border, a bilingual city of Spanish and English, with colorful Juarez just across the Rio Grande in Old Mexico. Spanish phrases come as naturally as how-do-you-do.

Golfers find arrowheads on the Country Club course, and on a steak fry in the nearby desert one not infrequently discovers fragments of Indian pottery within light of the campfire. A few miles away at Old Mesilla one
can stand upon the spot where the Gadsden Treaty was consummated, and
dine at a former stage stop on the Butterfield Trail, once patronized by
Billy the Kid and many others whose names make up western history.

Within a radius of from one to ten miles are found in great variety those
geological formations and structures usually associated with the mineral
industry, not only in metal mining, but in coal mining, oil fields, and non-
metallic deposits as well. Local supply houses do a brisk business in pros-
pecting equipment. In opportunity for geological study, no school in the
United States is more fortunately located.

One of the largest custom smelters in the world is situated near the
College. Within a short distance is also a most modern electrolytic copper
refinery, which has a capacity of 288,000 tons per year. Nearby are located
a large cement plant, several large brick plants and three oil refineries.
The manufacture of lime, tile, and other non-metals is carried on in the
immediate neighborhood of the College.

El Paso’s unique location, at the far western corner of Texas, provides
a picturesque mountainous setting, with the campus itself nestled in craggy
Crazy Cat range. The city forms a great crescent around the base of Mount
Franklin, the southern tip of the Rockies. Alongside is the fertile Rio
Grande Valley, with its rich farms and green trees. Beyond the green
valleys in every direction stretch millions of acres of cattle range, studded
with exotic desert growth. Within a short drive are a variety of lakes and
rivers, and high mountains with dense pine forests.

The Texas Western College stadium is the home of the annual New
Years’ Day football classic, the Sun Bowl Game. This event earned its
name because of El Paso’s location in America’s 80% Sunshine Belt. The
almost perpetual sunshine, lack of humidity and medium latitude combine
with a moderately high altitude (3,800 feet above sea level) to give
El Paso a delightful and healthful climate all the year round and make
the city a tourist Mecca.

Being the fifth largest city in Texas, El Paso has the cultural advantages
of a metropolitan area. There is a local symphony orchestra, under the
direction of an internationally-known conductor. El Paso has a regular
program of ballets, and musical and dramatic productions, and the resi-
dents of the city support many other intellectual and aesthetic activities.

Outdoor sports are enjoyable throughout the year. Horseback riding,
golf, tennis, fishing, hunting, exploring and sightseeing are the most
popular. Rodeos, horse shows and racing are frequent events, and then
dress takes on an even stronger than usual western flavor. In the winter
season skiing and other snow sports are available a few hours away at
Cloudcroft. National Parks and National Monuments and Indian country
can be seen any time. Old Mexico, friendly and always interesting, is just
across the International Bridge, offering the thrilling spectacle of bull-fighting. Ciudad Juarez, El Paso’s sister city on the border, is colorful, modern and progressive, but it is a foreign city in every sense of the word.

Local and adjacent industries include copper and potash mining, smelting and refining, oil and natural gas production and refining, cotton processing, textile and clothing manufacturing, and meat and vegetable packing. Several important army installations are nearby, including the famous rocket testing area at White Sands Proving Grounds in New Mexico.

**Accessibility**

**Located at an international crossroads, El Paso and Texas Western College are easily accessible by railroad, bus, airline, or motor car. The city is served by six railroads, four airlines, and five bus lines. Numerous highways lead into the city from all directions, including the Pan American highway between Juarez, Mexico, and El Ocotal, Guatemala.**

The Santa Fe, Southern Pacific, Texas & New Orleans, and the Texas & Pacific, as well as the National Railways of Mexico and the Mexico Northwestern Railroad converge on El Paso’s Union Station. American Airlines, Continental Air Lines and Trans-Texas Airways make regularly-scheduled stops at the Municipal Airport, with Lamsa Airlines, of Mexico, landing at Juarez. Motorists reach El Paso on U. S. Highways 80, 85, 54, 62 and 180.
The present Texas Western College of the University of Texas was created in 1913 as the School of Mines and Metallurgy by a legislative act. This act, passed by the Thirty-third Legislature, charged the institution with teaching and research in mining, metallurgy and allied subjects, and placed it under the control of the Board of Regents of The University of Texas.

The school opened in September, 1914, in the buildings of the former El Paso Military Institute, which were donated by the City of El Paso. In 1916 the Main Building burned, resulting in a decision to move to the present site west of Mount Franklin. The Thirty-fifth Legislature voted an emergency appropriation of $100,000 for new buildings. In 1919 the Thirty-fifth Legislature made the “School” or “College” a branch of The University of Texas.

During the next several years the “College of Mines,” as it became known, experienced a growth that justified expansion of its educational program. The liberal arts were included in the curriculum as early as 1927, and in 1931 the Board of Regents authorized the College to confer the degree of Bachelor of Arts. At successive dates the Bachelor of Science, Bachelor of Business Administration, and Bachelor of Music were added. In 1940 the board approved the Master of Arts degree. The degree of Bachelor of Science in Nursing was approved in 1956.

During early years the chief administrative official of the College was a dean who took his authority through the President of The University of
Texas, at Austin. In 1931 the Board of Regents provided a presidency and vested direct administrative authority in that office. From 1931 to 1950 the College operated directly under the Board of Regents. During the period September, 1950, to September, 1954, the University of Texas operated under a chancellorship system. In September, 1954, the office of Chancellor was abolished and the title of President was given to the chief administrative officer of the university system. Texas Western College retains a semiautonomous position with its president reporting directly to the president of the system.

The name of the school was changed to Texas Western College on June 1, 1949. This was done in order to recognize the expansion of the curriculum into various fields, thus enabling the College to present itself as an institution with a broad program, attractive to a variety of students from many different places.

Today Texas Western College, a coeducational institution with an enrollment of almost 4,000 students, offers the following degrees: Engineer of Mines, Bachelor of Science in Mining Engineering, Metallurgical Engineering, Civil Engineering, and Electrical Engineering; Bachelor of Arts, Bachelor of Science in the Sciences, and in Education; Bachelor of Business Administration, Bachelor of Music, Master of Arts and Master of Science in Education. The College is primarily an undergraduate institution with emphasis on instruction. Proper attention, however, is given to the Masters Degree; and the curriculum is expanding on that level in accordance with faculty, facilities, and students available for graduate work.
The Texas Western College Library, an open-stack collection of over 80,000 volumes, is housed on the second floor and in the west annex of the Library-Administration Building. Originally planned to serve the professional mining engineer, the library has been expanded to include materials relating to the liberal arts on both undergraduate and graduate levels.

Especially notable are the geological, mining, language, literary and historical collections. Recent gifts of modern books in Spanish from Mr. John H. McNeely, a member of the history faculty, have made this collection worthy of special mention. The library is also collecting books and periodicals (both rare and current) pertaining to the social and political history of the Southwest. Valuable files of the United States Geological Survey and Bureau of Mines bulletins and reports are available for study.

The library regularly receives over 500 periodicals—technical, general, literary and popular—and about 10 newspapers. A microfilm file of the El Paso Times from May 1, 1884, to January 1, 1949, presented to the Library by Dorrance D. Roderick, owner of the newspaper, is available for research in local history. The Library also has a microfilm file of the New York Times from September, 1951, and Despatches from U. S. Consuls in Ciudad Juarez, April 10, 1850 to August 6, 1906. There is a very fine collection of phonograph records available for use in the building with turntables as well as outside circulation. The collection includes music and literary selections.

Recently departmental libraries have been set up to include three separate collections; namely, science, mining and museum. The facilities of the El Paso Public Library, the Professional Library of the El Paso Public Schools and the El Paso County Medical Society Library are available to
students who wish to do specialized research. Active inter-library loan relations are maintained with other university and state libraries as well as a sponsoring membership in the Bibliographical Center for Research, Denver. This service is available to all students.

**Buildings and Grounds**

The physical plant of the College is attractive, functional, and adequate for an extensive educational program. The campus proper, approximately sixty acres, is decidedly picturesque. The unique architectural style of the major buildings is Bhutanese, sometimes referred to as Tibetan, and the rugged mountainous setting is a fitting background.

In addition to administrative and academic facilities there are available for curricular and extra-curricular activities, a swimming pool, military science building, and a stadium. There are eight sorority and fraternity lodges adjacent to the campus, and the College has 72 housing units available for married veterans who are students.

The recently-completed Magoffin Auditorium contains facilities for the study of television production. Towering over the College is the antenna of KVOF-FM, a complete laboratory radio station operated by the Journalism and Radio Department.

**Dormitories**

There are five modern and conveniently located residence halls on the campus, three for men and two for women. These five dormitories have a capacity of 350 students. Meals are served in a dining hall located between the two women's dormitories. Three meals daily are served, with the exception of Sunday night supper. All students residing in the dormitories are required to take their meals in the dining hall.

Bell Hall — Women's Dormitory
The Museum

The El Paso Centennial Museum was allocated by the Commission of Control for the Texas Centennial Celebration. The museum building was located on the campus of Texas Western College by authority of the El Paso County Advisory Committee and was erected in 1936.

The building is of native stone and conforms with the Bhutanese architecture of other College buildings. It is readily accessible to both students and the public. The College is endeavoring to develop it as a great museum of the Southwest, and it also serves as an auxiliary instructional service.

Permanent collections include an excellent display of minerals and rocks, with special emphasis on Southwestern varieties. Located with the minerals is a noteworthy group of meteorites. The archeological collections have likewise been assembled to show Southwestern cultures; the El Paso Polychrome and Chihuahua pottery exhibits are outstanding. Vertebrate and invertebrate paleontological materials present a good display of prehistoric life, with particular application to nearby localities.

Loan Collections have been placed in the museum by organizations and individuals. The museum is anxious to secure additional collections, particularly in materials pertaining to the Southwest.

The general public and students alike are urged to visit the museum without special invitation. Except during holiday periods the building is open from eight to five, Monday through Friday; from eight to twelve on Saturday, and from two to five on Sunday.

Women's Gymnasium and College Swimming Pool.
The Schellenger Foundation in Electricity

The Research Laboratory of the Schellenger Foundation in Electricity is located at Texas Western College in the new wing of the Engineering Building. Through the will of Emma H. Schellenger, the Schellenger Foundation in Electricity was established in honor of her husband Newton C. Schellenger. A trust fund from this will provides for the construction costs and purchase of equipment for the laboratory.

The El Paso National Bank serves as Trustee of the Foundation. The following committee from the faculty of Texas Western College has been appointed as directors of the Foundation:

Thomas C. Barnes, Chairman
Floyd A. Decker    Oscar H. McMahan    William W. Raymond
President Dysart E. Holcomb, Ex-officio
Alvin A. Smith, Ex-officio

The following policy has been adopted by the Foundation:

I. Object:
   To promote, encourage, and do research and development directly or indirectly in the field of electricity at the Schellenger Laboratory in keeping with the intent and spirit of the Schellenger Will.

II. General Plans:
   1) To acquaint research foundations, government agencies, and industry with the plans, purposes and possibilities of this foundation.
   2) To interest the above groups in the possibilities for research by the Schellenger Foundation.
   3) To seek grants from other research foundations and from government agencies. Seek problems from industry to be solved on a contract or fee basis.

III. Self-Supporting:
   The foundation must be Self-Supporting, that is, no cost is to accrue to the College. Any contracts or grants must be sufficient to take care of costs not already provided for by the Foundation. All monies accrued above cost of research will be used for further research by the Schellenger Foundation.

IV. Research Staff of the Foundation:
   This staff is to be composed of regular faculty members of Texas Western College in so far as possible. Outside research men may be brought in if it is felt that the research can best be carried on by so doing.

V. Approval:
   1) All contracts, research projects, purchases, use of Foundation facilities must first be approved by the directors of the foundation.
   2) It is understood that the conduct of this Foundation must meet with the regulations of the Board of Regents of The University of Texas.
Identification of Minerals, Ores and Rocks

ONE OBJECTIVE of Texas Western College is to be of assistance in the economic development and exploitation of the natural resources of the State. In pursuance of this objective the College will examine and identify minerals, rocks and ores sent for determination. It will also advise as to the possible economic value represented by such specimens.

At times inquiries may be made of the College which should properly be handled by some other State or Federal agency. The College will direct such inquiries into the proper channels.

The College does no commercial assaying, but it will be glad to refer the inquirer to a commercial assayer who can do the work requested. The College assumes no responsibility for the safe arrival of packages sent to it.
How to Enter Texas Western College

First, if you do not have a personal copy of this Catalog and an Application Form, write the Registrar, Texas Western College, El Paso, Texas. He will send them to you without charge and will be glad to answer any questions about your qualifications and about the College.

Second, request the Principal or Superintendent of the High School from which you graduated to send the Registrar a complete record (transcript) of your high school work. Transfer Students: A student who has been enrolled in another college or university must have a complete and official transcript sent directly from the institution last attended.

Third, when you receive the Application Form, fill it out and mail it to the Registrar. This is all you need to do. Within a few days, if you meet the entrance requirements, you will receive an official Notice of Acceptance.

Room Reservation

When you get your Notice of Acceptance you are eligible to apply for your dormitory room. This should be attended to at once by sending a $5.00 room deposit directly to the Business Manager, Texas Western College. For details about room rates see page 30.

Freshman Guidance Service

Provisions are made to assist you in getting off to a good start at Texas Western. The opening program of assemblies and personal advisory service by faculty members will introduce you to the College and acquaint you with its social and academic organizations and activities. Through the Bureau of Testing, Guidance, and Consultation, all Texas Western students are offered a complete program in aptitude testing and vocational counseling. This service aids the student in planning his college career and his life work.

Note the dates, times and place of convocation and orientation exercises in the Calendar at the front of this catalog. It is necessary that you attend these events so that you will have the necessary information for a good beginning of your school work at the College. Further information about admission and registration procedures will be found on the following pages.
Information for Veterans

Texas Western College is approved by the Veterans Administration for the training of both Korean and World War II veterans. Provision has been made to help ex-service men and women obtain the benefits to which they are entitled. The Registrar will gladly answer questions about admission, credit for training in the armed services, college courses and programs of study.

A limited number of housing units are available on the campus for married veterans and their families. Inquiries should be addressed to the Business Manager, Texas Western College.

Procedure for Veterans

As early as possible before registration, apply at the nearest Veterans Administration Office for a Certificate of Eligibility. (In case of previous attendance at another school under the Veteran’s Bill, or change of educational objective, a Supplementary Certificate is required.)

World War II veterans must furnish the proper certificate at registration to qualify for veterans’ benefits.

The Korean veterans may, if necessary, apply for Certificate of Entitlement after entering college and still qualify for subsistence retroactive to the date application is received by the Veterans Administration.

With the exception of the above requirement, veterans register in the same manner as other students, as set forth on the following pages.

Information for Foreign Students

Specialized counseling is provided for students from other countries through the office of the Dean of Student Life. Foreign students are counseled in all phases of their adjustment to college life from the time of their arrival on campus, and assistance is given in helping them understand and conform with federal, state and local regulations.

Detailed information on the special problems of registration which will be encountered by foreign students may be obtained by writing the Registrar, Texas Western College, El Paso, Texas.
Admission and Registration

Admission to the College is controlled by the Faculty and administered by the Registrar. Information about registration procedures will be posted in the Administration Building several days before registration.

Registration Dates

Students are admitted four times during the year: September, January, June, and July. (See "Calendar" at front of this catalog.) Applications and transcripts should be submitted as early as possible to insure acceptance and to avoid delay in registration.

Co-Education

Both sexes are admitted to all branches of the College on equal terms regardless of race.

Character

The College is open only to applicants of good moral character.

Health

Each new student is required to have a physical examination at his own expense. This must be done before the student's registration can be completed. The form that is required for the physical examination may be obtained from the Admissions Office.

Loyalty Oath

By Act of the Texas Legislature, each applicant who is a citizen of the United States must take an oath of loyalty to the Government of the United States.

Hazing Pledge

By Act of the Texas Legislature, each applicant is required to sign a pledge that he will not "encourage nor participate in hazing or rushes . . ."

Late Registration

Eligible students whose transcripts have been received by the Registrar will be allowed to register for a limited time after the regular registration listed in the Calendar. (See also page 37.)

Warning: Due to class load limits, closed classes, and other factors, late registrants may expect some delay and difficulty in getting satisfactory programs. After classes have begun, the student will be asked to enroll for a reduced program, depending on the lateness of his registration. No one may register under any conditions after the final date for registration as listed in the Calendar.

Freshman Orientation

All regular freshmen (full-time "day" students with less than thirty semester hours college credit) who have not previously attended a long-session semester at Texas Western are required to attend convocations and take the freshman tests, as noted in the Calendar.

Note: A student's test grades do not affect his admission to the College. The tests are used for guidance into suitable major fields, and for placement in mathematics and English courses. Additional class periods are provided for the student who needs extra help in mathematics.

Methods of Admission

There are three ways to qualify for admission to the College:
1. High school graduation
2. Individual approval
3. Transfer from other colleges

1. High School Graduation

Upon graduation from an accredited high school, clear admission will be granted to an applicant who presents fifteen acceptable units of credit, as outlined in the following patterns. Drill subjects (penmanship, physical education, military training, etc.) are not accepted. One unit of foreign language may be counted.

Arts and Sciences Division

<table>
<thead>
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<th>Subject</th>
<th>Units</th>
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<tbody>
<tr>
<td>English</td>
<td>3</td>
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<tr>
<td>Mathematics</td>
<td>2</td>
</tr>
<tr>
<td>Foreign Language, Natural Science, Social Studies</td>
<td>4</td>
</tr>
<tr>
<td>Elective Units</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
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</table>

Engineering Division

<table>
<thead>
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<th>Units</th>
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</thead>
<tbody>
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<tr>
<td>Algebra</td>
<td>2</td>
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<tr>
<td>Plane Geometry</td>
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</tr>
<tr>
<td>Solid Geometry</td>
<td>½</td>
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<tr>
<td>Foreign Language, Natural Science, Social Studies</td>
<td>4</td>
</tr>
<tr>
<td>Mechanical Drawing</td>
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<td>Physics</td>
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<tr>
<td>Elective Units</td>
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</tr>
<tr>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>
ADMISSIONS AND REGISTRATION

Quality Provisions

Conditional Admission—A student may be permitted to enter with a condition in any subject of group except English. Special consideration may be allowed an applicant with a strong high school record, provided he meets the English requirement and has fifteen acceptable units.

Removal of Condition — High school credit conditions will be removed without penalty if the student makes an average grade of C in his first thirty semester hours of work completed in the College. (See Engineering exceptions, below.) Otherwise, conditions must be removed by using college credit, on the basis of two semester hours college credit for one-half unit high school deficiency, and three semester hours for one unit deficiency.

Engineering Exceptions — All of the above provisions apply also to Engineering, except that mathematics and drawing deficiencies must be made up after admission to the College. A condition in algebra may be removed by taking Mathematics 3130, in Solid Geometry by Mathematics 3130, and in Mechanical Drawing by Drawing 2100. While removing conditions the student must postpone part of his regular freshman work. If possible, it is better to clear admission conditions before entering the College.

2. Admission by Individual Approval

An applicant over twenty-one years old (veterans over eighteen) may, at the discretion of the Registrar, be admitted by Individual Approval. The applicant must furnish evidence that he has sufficient ability and seriousness of purpose to do the work desired with profit to himself and to the satisfaction of the College. He will be required to show that he has an adequate command of English. Application shall be made on special forms obtainable from the Registrar.

A student admitted by Individual Approval may clear his admission condition by (a) making no grade below C in his first thirty semester hours of work completed at the College, or (b) making a C average in his first sixty semester hours completed. Failure to make the required grade average will involve loss of college credit to absolve the admission deficiency.

3. Transfer from Other Colleges

Eligibility — Qualified applicants with honorable dismissal from other colleges and universities will be admitted to Texas Western. A student ineligible to return to the institution last attended will not be admitted to the College. Others who have been suspended, who have failed, have been placed on probation, or have a record of low grades may be refused admission, or admitted on probation or any other condition that seems suitable.

Transcript — Each applicant, including the student who seeks re-admission to Texas Western, is responsible for the direct transfer of an official transcript of his entire college record. This requirement applies to admission to the Summer Session as well as the Long Session.

Trouble and time will be saved by having the Registrar of the College last attended send a transcript directly to the Registrar of Texas Western College as soon as possible. Registration cannot be completed until this transcript is received.

An applicant who has attended another college is not at liberty to disregard his collegiate record and apply for admission on the basis of his high school record, but must submit his college record. This rule applies even if the student attended another institution for only a brief period; it also applies without regard to whether or not the student wishes credit here for college work done elsewhere.

Transfer of Credit — College work completed in another accredited institution with grades of C or better may be transferred insofar as the transfer work will fit into the student's curriculum. D grades will ordinarily not be accepted. Subject to the grade requirement of C, work done in an unaccredited institution usually may be transferred in accordance with the policy of the state university of the state in which the unaccredited institution is located.

Subject to the C grade requirement, Junior College credit (freshman and sophomore levels) will be accepted up to a maximum of sixty-six semester hours insofar as the courses will fit into the student's curriculum.

Extension and Correspondence

Not more than thirty semester hours of credit secured by extension and/or correspondence may be offered for a degree. Of that thirty semester hours not more than eighteen may be offered by correspondence.
Notice of Change in Tuition

TEXAS WESTERN COLLEGE
of The University of Texas
EL PASO, TEXAS

Under authority of legislation enacted by the 55th Session of the State Legislature, the Board of Regents of the College has fixed the following schedule of registration fees for each semester of the 1957-58 school year:

<table>
<thead>
<tr>
<th>Hours</th>
<th>Resident</th>
<th>Non-Resident</th>
</tr>
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<tbody>
<tr>
<td>12 or more</td>
<td>$50.00</td>
<td>$125.00</td>
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<tr>
<td>11</td>
<td>47.00</td>
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<td>43.00</td>
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<td>19.00</td>
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<tr>
<td>3 or less</td>
<td>15.00</td>
<td>35.00</td>
</tr>
</tbody>
</table>

This listing will replace the schedule of tuition charges on page 27 of this catalogue. The rate for Summer School will be announced at a later date.

Dormitory Rate Change

The charges for room and board per person will be $265.00 per semester rather than $255.00 as printed on page 30 of this catalogue.
Expenses

Average registration cost for resident liberal arts students runs from $47.00 to $54.00 per semester. Average registration cost for resident engineering students runs from $47.00 to $63.00 per semester. Registration and laboratory fees are payable on a semester basis at the beginning of each semester and must be paid in full before the student will be permitted to enter class or laboratory. The Business Office does not cash checks. However, checks are accepted in settlement of obligations to the College.

Tuition and Registration Fees

For Residents of Texas

Each resident student is required to pay tuition at the following rate for each semester:

- 12 or more semester hours . . . $25.00
- 11 semester hours . . . . . . . . 23.50
- 10 semester hours . . . . . . . . 21.50
- 9 semester hours . . . . . . . . 19.50
- 8 semester hours . . . . . . . . 17.50
- 7 semester hours . . . . . . . . 15.50
- 6 semester hours . . . . . . . . 13.50
- 5 semester hours . . . . . . . . 11.50
- 4 semester hours . . . . . . . . 9.50
- 3 semester hours . . . . . . . . 7.50

Summer School, per term:

- More than 3 semester hours . $17.50
- 3 semester hours . . . . . . . . 12.00
- Less than 3 semester hours . 10.00

For Non-Residents of Texas

Under the authority of House Bill No. 507, recently enacted into law by the Fifty-fifth Legislature, the Board of Regents of the College has fixed the following schedule of registration fees:

(A) For each semester of the Long Session, $75 for a course load of twelve or more semester hours. A student who registers for less than twelve semester hours' work will be charged tuition at the rate of $6.25 per semester hour.

(B) For each summer term (of six weeks), $25 for a load of four or more semester hours. A student who registers for less than four semester hours per term will be charged tuition at the rate of $6.25 per semester hour.

Resident and Non-Resident Students

(The definitions of resident and non-resident as used herein are not necessarily the same as those in ordinary usage.)

1. A student under 21 years of age is classified as a resident student if his parents are living in the State of Texas at the time of his registration and have lived within the state for a period of at least 12 continuous months immediately prior to the date of registration.

2. A student over 21 years of age is classified as a resident student if he has lived within the State of Texas for a period of 12 months, not enrolled in an educational institution, subsequent to his twenty-first birthday and immediately prior to his registration and if he lives in the State on the date of said registration.

3. The 12 months requirement of the preceding paragraph may be satisfied wholly or in part under the provisions of paragraph 2 above providing residence in the State is continuous up to and including the date of registration.

4. Officers, enlisted men and women, selectees or draftees of the Army, Navy, Air Force, or the Marine Corps of the United States, who are stationed in Texas by assignment to duty within the borders of this State, shall be permitted to enroll themselves, their husbands or wives as the case may be, and their children in State institutions of higher learning by paying the tuition fees and other fees or charges provided for regular residents of the State of Texas, without regard to the length of time such officers, enlisted men, selectees or draftees have been stationed on active duty within the State.

Wives and children of military personnel are required to have on file in the Business Office, during their period of enrollment, a letter from their husband’s or father’s Commanding Officer certifying to their status as a military dependent, and to the fact that the husband or father is stationed in Texas.

Out-of-State military personnel stationed within the borders of this state whose tuition is paid in full or in part through contractual agreement with the Federal government must be classified as non-residents. Living on military post or base does not constitute residence in a state.

5. A student under 21 years of age is classified as non-resident if his parents do not reside in the State of Texas or
have not lived within the State during the full 12 months prior to his registration.

6. A student over 21 years of age who comes from out of the State of Texas is classified as a non-resident student unless he has resided within the State for 12 full months, not enrolled in an educational institution, prior to the date of registration.

7. An alien is classified as a non-resident, except as provided in paragraph 9 of next section.

Legal Residence

The following statements are intended to clarify certain points and answer some of the questions that may arise. For additional information see the Business Manager.

1. The legal residence of one who is under 21 years of age is that of the father. Upon death of the father, the legal residence of a minor is that of the mother.

2. If the parents are divorced, the residence of a minor is the same as that of the parent with whom he has lived during the 12 months preceding registration. If he has not lived with either parent, the residence of the father shall control. If custody is granted to some person other than a parent, the residence of that person shall control for so long as the minor actually makes his home with such person.

3. The residence of a wife is that of her husband.*

4. Individuals who have come from without the State of Texas and who are within the State primarily for educational purposes are classified non-resident. Registration in an educational institution within 12 months after having arrived in the State is considered as evidence that the individual is in the State for educational purposes.

5. The fact that an individual or family has bought property, established a business, paid taxes, voted, has become the legal ward of or has been adopted by a Texas resident does not affect his classification as resident of non-resident.

6. The fact that a student is self-supporting or is supported wholly or in part by a Texas resident does not affect his classification as resident of non-resident.

7. Appointment as member of the teaching or research staff or the holding of a scholarship, or assistantship does not affect the residence status of a student.

8. If the parents of a resident student under 21 years of age move out of the State, that student is classified as non-resident for all subsequent semesters.

9. In the case of an alien who has applied for naturalization in the United States, the 12 months period required to establish residence begins with the date of acceptance of his petition for citizenship.

10. It is the responsibility of the student to pay the correct fee at the beginning of each semester or term for which he may register.

Penalties for Payment of Wrong Fee

The responsibility of registering under the proper residence is placed upon the student, and it is his duty, at or before registration, if there is any possible question of his right to legal residence in Texas under the State law and College rules, to raise the question with the Business Manager and have such question settled prior to registration. There can be no change of residence except upon express authorization by the Business Manager. Attempt on the part of a non-resident to evade the non-resident fee will be taken seriously and may lead to expulsion.

Any student who wrongfully pays the Texas rather than the non-resident fee is subject to a fine of five ($5.00) dollars for each such violation.

REFUND of Tuition Fees

Refund of the registration and tuition fee is made under the following conditions and no others:

Upon presentation of his receipt at the Business Office showing payment of fees, a student withdrawing officially will receive a refund of fees as follows:

During first week of class work ............70% During second week of class work ..........60% During third week of class work ..........40% During fourth week of class work ..........20% During fifth week & thereafter No Refund

In no case shall the total refund exceed 70 per cent of the registration and tuition fees paid.

There will be no refund made of course and/or laboratory fees after the student has met the course or laboratory session. The dropping of courses will not result in reducing the semester hour load for refund purposes.
An immediate refund will not be made to a student who withdraws within fifteen days after the payment of his fees, but, upon request, a check covering all refunds due will be mailed to the address left with the Business Manager. The registration receipt must be presented when making a claim for a cash refund.

A student who enters the second semester, not knowing his first semester grades, and is required to withdraw because of failure in the work of the first semester will have all of his registration and tuition fee for the second semester refunded.

No refund provided for above will be granted unless applied for within one year after official withdrawal.

Exemption of Ex-Service Men

Men and women who are classified as residents of Texas for educational purposes and who served in the Armed Forces in World War I, World War II, the Korean conflict, or in certain of the auxiliary services, and were honorably discharged therefrom (except those who were discharged because of being over the age of 38 or because of a personal request), and who are not eligible for educational benefits provided for veterans by the United States Government, are exempted from the payment of tuition and certain required fees but not from the payment of deposits. To obtain this exemption, the student must present his service record or discharge papers to the Business Manager each time he registers. He must also produce evidence that he is not eligible for educational benefits provided for veterans by the United States Government. Exemption from fees described above also extends to children of members of the Armed Forces who were killed in action or died while in the service during World War II.

Miscellaneous Required Fees

Student Union Fee — Under the authority of Senate Bill No. 359, recently enacted into law by the 54th Legislature, the Board of Regents have authorized a Student Union Fee in the amount of $4.00 for each semester of the Long Session and $2.00 for each term of the Summer Session for the purpose of constructing, equipping and maintaining the Student Union Building. This fee is required of all students registering for course work on campus including full time and part time students enrolled for day and/or evening classes.

Refund of the fee will be made only under the same conditions as the Tuition and Registration fee.

Special Examination — A fee of $1.00 is required of persons who wish to take an advanced standing examination, an examination to remove a condition, or an examination to be given at a time other than that for which it is regularly scheduled. Permission of the Dean must be secured in advance.

Graduation — A graduation fee of $5.00 is required of candidates for graduation. A receipt showing payment of or exemption from this fee must be presented to the respective Dean at the time the degree application is filed. This fee must be paid each time an application for degree is filed.

Student Activity Fee—There is a Student Activity Fee of $13.00 for the Fall Semester, $9.00 for the Spring Semester and $3.00 for each term of the Summer Session for students enrolled on the campus.

The fee entitles the student to the following: admission to all athletic events, admission to all social activities sponsored by the Student Association; admission to artist programs; hospitalization; The Prospector; El Burro; Student Handbook; intramural activities; Student Union Building privileges; admission to the College swimming pool. In addition, the fee helps support the following student activities: The Flowsheet, Texas Western’s yearbook; Co-Ed Association; Band; and the debate team.

Refund of the fee will be made only under the same conditions as the Tuition and Registration fee.

DEPOSITS

General Property Deposit . . . $ 7.00
Military Property Deposit . . . 20.00
Dormitory Deposit . . . . . . 5.00

General Property Deposit — Every student other than an extension student must make a general property deposit of $7.00. This deposit is subject to charges for property loss or damages or breakage or violation of rules in any College library or laboratory, failure to return keys furnished by the College, or for damage to or loss of any other College property. If the charges incurred in any term or semester exceed fifty per cent of the deposit, the student, upon notice from the Business Manager, will be required to restore the deposit to the original amount by paying such charges immediately. Students having charges in excess of the deposit must
pay the excess immediately; pending payment, no credit will be allowed on the work of that semester or term, and the student will be ineligible to re-enter the College.

Deposits will be refunded only when a student ends his career at the College. No refund will be made to a student who plans to continue his education here, either at the close of the Long Session or Summer Term.

Military Property Deposit — Students enrolling in Military Science courses are required to make a deposit of $20.00. This deposit is subject to charges for military property lost, damaged, or destroyed, and is required to be restored to $20.00 at the end of each year. If at the end of any semester the deposit is reduced because of charges to $10.00 or less, it must be restored at that time to $20.00. This deposit will be refunded in the same manner as the student general property deposit.

Warning: Property issued to students enrolled in Military Science courses are required for use at all times, and when not in use for assigned military duties, must be stored at the Central Cafeteria. If such property is lost or damaged for any reason, the student will be held responsible for the loss or damage. Every extra item must be accounted for and replaced to the satisfaction of the College. Property issued to students enrolled in Military Science courses are subject to inspection by representatives of the College Health Service or by the Dean of Student Life. The College reserves the right to change the charges for room or board or both by giving written notice of such changes thirty days before the change.

Room Rent and Board
Per semester, per person . . . $355.00
Extra Dormitory Charges, per semester:
Corner room, per person . . . $10.50
Single room (if available). . . 21.25
Single corner room (if available) 42.50

Room and Boarding Houses
The College considers it a distinct advantage for all boarding students to live in the dormitories on the campus. Every student who plans to live in the dormitories maintains at all times the character and proper recreational rooms for the social life of resident students.

Room reservations should be made in advance by sending a deposit of $5.00 to the Business Office of the College. This deposit is refunded at the close of the semester, provided the student does not withdraw from the dormitory before that time, and provided there is no deduction for breakage. The deposit will be refunded to those students who cannot be accommodated or to those who cancel their reservations ten days prior to the opening of the session. A room reservation is cancelled and the room deposit is forfeited if the room is not claimed by 11:00 P.M. the last day of registration before classes begin.

Room and roommate assignments are sent to new students after August 1st. The charges for room and board per person will be $355.00 per semester. The entire amount may be paid on registration, or the student may pay $85.75 during registration and the balance in three payments of $85.75 each which shall be due on or before such dates as will be announced. The College reserves the right to change the charges for room or board or both by giving written notice of such increases thirty days before the change.

HOUSING
Dormitories
The College considers it a distinct advantage for all boarding students to live in the dormitories on the campus. Every attention will be given for the improvement of the social and educational life of boarding students.

All students whose homes are not in El Paso are required to live in the dormitories on the campus to the full capacity of the facilities.

There are four very modern and conveniently located residence halls, and a central cafeteria for all students. The buildings are fireproof in construction, well-furnished, fully equipped with modern facilities for furnishing meals, and include proper recreational rooms for the social life of resident students.

Every precaution must be taken to prevent loss or damage. All items must be accounted for at time of withdrawal or end of course.

Texas Western College maintains annually official lists of rooming houses for men and for women. Any rooming house is eligible to a place upon one of these official lists and to receive the publicity through the College accruing therefrom, provided it complies with the College regulations.

In order to be placed upon this official list, the proprietor must be of good moral character and must be willing to cooperate with the College in carrying out its regulations. All houses on the official list are subject to inspection by representatives of the College Health Service or by the Dean of Student Life. The College reserves the right to remove at any time any house from the official list for cause deemed sufficient by the Committee on Student Living Accommodations.
Financial Aid to Students

There are many ways in which students can get financial assistance while attending Texas Western College: Employment by the College, placement in part-time jobs off the campus, scholarships, and loan funds.

Employment by the College

More than one hundred students are employed by the College in a wide assortment of jobs, ranging from semi-skilled labor to student readers and laboratory and teaching assistants. Payment is normally on an hourly basis, the amount per hour depending upon the knowledge and skill of the individual. Students work varying hours, in accordance with their academic loads and the requirements of their jobs.

Student Employment

To a student who wishes to contribute to his income by working while attending college, El Paso offers many opportunities in a variety of fields. The Bureau of Placement Services at the College acts as a clearing house to co-ordinate the efforts of students seeking work and employers. The Director of Placement and his staff are in daily contact with businessmen of the El Paso area. The bureau makes every endeavor to assist students in securing employment, but, other than this, the College assumes no responsibility.

As an additional service, seniors and graduates of Texas Western College may file a complete record of their training and experience in order that the bureau can place their credentials before national concerns as well as local employers. Many graduates receive career jobs through the bureau.

Applications and correspondence should be addressed to the Director of Placement Services, Texas Western College, El Paso, Texas.

Scholarships

Except as noted in the individual scholarship descriptions below, applications for scholarships or requests for further information about scholarships should be addressed to the Dean of Student Life, Texas Western College.

Accredited School Scholarship—The College annually offers this scholarship to the valedictorian, boy or girl, graduating from an accredited secondary school located in the State of Texas, who meets specific requirements as to grades. The financial benefit is exemption from the tuition fee of $25 per semester in the College for the two consecutive semesters of the first long session after graduation from high school (total $50). The honor student must be certified through the Texas State Department of Education. Particulars may be obtained from high-school principals.

Alpha Delta Kappa Scholarship—Established in 1955—This organization awards an annual $25 scholarship to a student majoring in Education.

Alpha Phi Omega Scholarship—This organization provides four annual $50 scholarships to incoming El Paso freshmen who plan to major in Speech or Drama.

American Association of University Women—The El Paso Branch of the American Association of University Women offers scholarships, ranging from $50 to $150 in value to women students. The award of these scholarships is based on need and on scholastic record, and the money may be used in any manner to further the recipient's education.

American Business Women's Association—This organization annually awards $100 to a woman student who is studying to prepare herself for business or professional work.

American Smelting and Refining Company—This company provides an annual $500 scholarship to be awarded preferably to a senior majoring in Metallurgy. Selected by the Chairman of the Department and Dean of the Division.

The American Society for Metals Foundation for Education and Research—An annual $400 scholarship is granted by this organization to a sophomore pursuing a Metallurgy course. He is selected by the Chairman of the Department and Dean of the Division.

The Atlantic Refining Company Science and Engineering Scholarship—Established in 1955—This company provides a $500 scholarship to be awarded to an outstanding undergraduate student in the fields of physical science and engineering directly related to Petroleum Industry operations. The scholarship is administered by the Department of Geology.
SCHOLARSHIPS

B.P.O. Elks Lodge No. 157, El Paso—This organization provides two $150 and two $100 annual scholarships to Texas Western College students. Recipients are selected by the Lodge.

C. D. Bolding Memorial Scholarship—$100 in financial assistance is awarded to a student majoring in Physical Education. The money is applied to tuition and fees.

Commonwealth Foundation—An annual award of $100 is awarded to a student majoring in Drama and Speech.

Darbyshire Steel Inc.—An award of financial assistance in the amount of $200 is made to a student in the field of Civil or Mechanical Engineering.

DeWitt and Revick—$125 per semester is awarded to a real estate student. The selection is made by Professor Brewster with the approval of the chairman of the department of Economics and Business Administration. It was established in 1954.

El Paso Chapter, Associated General Contractors of America—Established in 1933, this annual scholarship of $250 is awarded to a student majoring in Civil, Mechanical, or Electrical Engineering, and who is a resident of Texas, New Mexico, or Arizona.

El Paso City Panhellenic Association—This organization provides one or more scholarships each year to women students. The financial benefit covers tuition and required fees for both semesters of one long session ($100 per student).

El Paso Customers of Alvin Hall Machinery Co.—This annual grant of $300 was established in 1956. It is to be awarded to a junior or senior student in the field of Civil Engineering on the basis of scholastic standing and need. The student is to be a resident of El Paso. The selection will be made by the Dean of Mines and Engineering.

El Paso District of the Zionist Organization of America—An annual scholarship in the amount of $50 has been established by this organization. Applications for this scholarship should be made to the Chairman of the Department of History and the recipient of the scholarship will receive $25 per semester applicable on required tuition and fees.

El Paso Herald Post—This scholarship is available to a student majoring in Journalism. The financial benefit covers tuition and required fees for both semesters of one long session.

El Paso Music Teachers Association—This organization provides $100 annually to be awarded to a student for the study of music. The amount is applied toward tuition and fees.

El Paso Piano Company—$100 is provided in financial assistance for a student studying music.

El Paso Press Club Scholarship—In 1955, the El Paso Press Club established an annual $50 scholarship to be awarded to a student majoring in Journalism, radio or television.

El Paso Symphony Association—In September, 1948, the El Paso Symphony Association established three scholarships for worthy students majoring in music. One scholarship is to be awarded to a student specializing in the French Horn, one the Bassoon, and the other the Oboe. The instruments selected for specialization may vary from year to year.

El Paso Teachers Association—This scholarship of $100 is to be used for a student in the teaching profession. The applicant must have graduated from an El Paso high school and must write a letter to the Association stating the need, honors, etc.

El Paso Times—This scholarship is available to a student majoring in Journalism. The financial benefit covers tuition and required fees for both semesters of one long session.

Five Points Lions Club—This organization offers one scholarship each year to a worthy student. This scholarship pays $100 on tuition and fees for the fall and spring semesters.

Gosen Jones Bible Class—This scholarship, established in 1956, is given in honor of Mr. Gosen Jones of Trinity Methodist Church. It provides for a grant of $150 to be awarded to a man or woman of the Methodist faith with high scholastic potentiality and high moral character.

Hubert Music Company—$100 financial assistance is awarded annually to a student majoring in the field of music. Fifty dollars is paid each semester toward tuition and fees.

Institute of Radio Engineers—$150 in financial assistance is awarded to students studying in the field of Electronics. Electronics engineering students and students majoring in Physics are also eligible.

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Roy Jackson Memorial—An award of $100 is made to a deserving student who is a member of Asbury Methodist Church. It is applied toward tuition and fees.

Kappa Kappa Gamma—Two $100 scholarships are awarded to students majoring in any field. The women recipients of this award may be either sorority or non-sorority women.

Kennebec Copper Corporation Scholarship—Established in 1955—This corporation provides a $500 scholarship to a student majoring in one of the following fields: Education, engineering, business administration, chemistry, geology, physics, industrial arts and vocational education, journalism, health and recreation, law, nursing, mechanics, medical technology, or psychology.

Louis Horwitz Memorial Scholarship—Established in 1953 as a memorial to Mr. Louis Horwitz, pioneer El Paso businessman, this scholarship of $200 is awarded annually to some worthy student. Primary consideration will be given to pre-medical students but the award is not necessarily limited to that field of study.

Radio Station KTMS—In 1943 these scholarships were established to be awarded to students in the field of Radio Education. The financial benefit covers tuition and required fees for both semesters of one long session.

Ramsey Steel Company, Inc. Scholarship—Established in 1955, this scholarship provides $500 in financial assistance to students in Civil Engineering.

RCA Scholarship—$100 is awarded annually to a student studying in the field of Radio and Television. It is applied in amounts of $50 each semester toward tuition and fees.

Rehabilitation Scholarship—The State Board for Vocational Education, through the Vocational Rehabilitation Division offers payment of tuition and other services to civilian students who have certain physical handicaps, provided the vocational objective selected by the student has been approved by a representative of the Division. Applications for Vocational Rehabilitation should be made to the Rehabilitation Office, Room 19, El Paso Technical Institute, El Paso, Texas, mailing address: Box 2829, El Paso, or to Mr. J. J. Brown, 302 Walton Bldg., Austin 12, Tex.

Roger Brown Company Scholarship—Established in 1954—This scholarship provides from $300 to $500 in scholarship assistance to a student from Texas, New Mexico, Arizona or Old Mexico who participates in one of the major sports and has high scholastic standing.

Rotary Club—This organization offers scholarships each year to worthy students. These scholarships pay $100 on tuition and fees for the fall and spring semester.

Roth Memorial—A grant of approximately $50 per year is made by the Roth Society of TWC in the name of Dr. J. M. Roth. The recipient of the award shall be a student studying in the fields of Psychology or Philosophy, and shall be recommended by the Department.

Salim N. Abdou, Sr., Memorial Scholarship—In 1955, Mr. Sammy N. Abdou, Jr. established an annual $300 scholarship fund as a memorial to his father, Mr. Salim N. Abdou, Sr. Two scholarships of $150 each are awarded each year from this fund to male students. Primary consideration is given to students majoring in business administration.

Sarah Feinburg Memorial Scholarship—In 1955 the Feinburg Foundation of the El Paso Pipe and Supply Company established two annual $300 scholarships as a memorial to Mrs. Sarah Feinburg. The scholarships are awarded to male students who are pre-medical majors, have demonstrated scholastic ability, have demonstrable financial need, and are graduates of one of the El Paso City or County High Schools.

Scholarship for Foreign Students—The Board of Regents has made available for the year 1957-58 a limited number of scholarships for worthy foreign students. To be eligible for a scholarship, a foreign student must have demonstrated his ability to speak and write English satisfactorily; he must have a grade average of at least C on all course work taken at the school from which he transfers, or, if a former student of Texas Western, he must have a grade average of at least C on the course work taken at this College during his last two semesters in residence and he must be in need of this financial assistance in order to continue his education at the College. Applications are to be made to the Chairman of the Scholarship Committee.

Standard Oil Company of Texas Scholarship—This company provides an annual $500 scholarship to be awarded preferably to senior students in Geology.
FINANCIAL AID

State National Bank—Annual scholarships totaling $500 for men students in the field of business administration have been established by the State National Bank Scholarship Fund.

Sternglanz Scholarship—In 1944, Mr. and Mrs. Elias Sternglanz of El Paso, Texas, established a scholarship as a memorial to their son, Lt. Donald M. Sternglanz, who lost his life in a mission over St. Nazaire, France. This scholarship of $400 is awarded annually to some promising student who is majoring in music.

The Belles Scholarship—This organization awards a $25 scholarship each year to a member of their group.

Texas-Arizona Motor Freight Lines, Inc. Scholarship—This company provides an annual $500 scholarship to a student from Texas, Arizona or California who participates in one of the major sports and has high scholastic standing.

Tot's Toggery—An annual scholarship of $100 provided by Mr. Alfred A. Ratner to be awarded to a worthy student.

Tri-State Music Company—This annual scholarship is available to a student majoring in music and pays for tuition, required fees, and books.

Urbici Soler Memorial Scholarship—Established in memory of Urbici Soler by Baxter Folk, this scholarship provides $100 to be awarded annually to a student in fine or majoring in music.

The Vowell Scholarship—This annual scholarship provides $200 financial assistance to a worthy student. Primary consideration will be given to engineering students whenever possible.

Women's Auxiliary—The Women's Auxiliary of Texas Western College offers scholarships each year to young women boarding students. The financial benefit amounts to $100 for two semesters for one year.

Rube Weinstein Lodge No. 509—B'nai Brith provides two annual scholarships of $50 each as follows: B'nai Brith Scholarship to a student in the Social Science field—The Dr. J. M. Roth Memorial Scholarship to a student majoring in Philosophy and Psychology.

Ysleta Woman's Club—This organization awards $150 in an annual scholarship to a student graduating from Ysleta High School.

Loan Funds

Various funds are available to students who need financial assistance to be able to continue their college educations. All loans are made at a low rate of interest and under such other terms that borrowers will be able to meet their obligations without undue difficulties.

Applicants for loans will be expected to show need for assistance and must be able to supply satisfactory references. Applications should be made as early as possible before date of registration. For additional information, write or see the Business Manager of the College.

Ex-Students' Memorial—Under the will of the late William Clifford Hogg, $25,000 was granted to the Ex-Students' Association and the College for the establishment of this fund. Only the income from the fund may be loaned. It is administered by a board of directors consisting of the administrative officers of the College and the Ex-Students' Association.

Spanish-American Loan Fund—Establishment of and additions to this loan fund are made by residents of the region who are of Spanish descent. Loans are made to students of Spanish descent who are needy and of high scholastic standing. The fund is administered by a faculty committee.

Women's Auxiliary—This loan fund was established by the Women's Auxiliary for Texas Western College. Emergency loans are made to needy students of high scholastic standing. The fund is administered by a faculty committee. For information concerning the terms of this loan fund consult the Business Manager.

Other Loan Funds—Information pertaining to other loan funds available to students, not administered by the College, may be obtained from the Business Manager.
Regulations Affecting Student Life

Student Services

The Dean of Students, Dean of Men, and Dean of Women are student personnel officers, and are concerned primarily with student welfare. These officers are available to talk over personal or organizational problems, and to answer questions that concern members of the student body. These officers supervise student housing, the student scholarship program, and student activities. Through these officers a student may apply for emergency loans, part-time employment, and counseling service.

The Bureau of Testing and Guidance is another student welfare service. This office administers the Freshman testing program and makes its services available to all those who wish counseling or vocational selection help.

In addition, there is a college health service, and a placement service which aids students in finding jobs. Various student organizations, led by the student government, render such services as activities orientation and providing tutoring service.

Extracurricular Activities

Any college exists for one reason and one reason only—academic or professional training. However, once a student has made the difficult academic adjustment to college, extracurricular activities can play an important recreational and educational part in his college life.

Athletics

Texas Western College is in the Border Intercollegiate Conference and participates in a variety of intercollegiate sports. This allows not only for student participation but also gives students, staff, and community residents a great deal of spectator enjoyment. There is also a large intramural athletic program, and all students are invited to engage in sports and recreation of their choosing. The Physical and Health Education Department, Student Association, and Dean of Students sponsor these activities.

Organizations

Other major participation areas include student publications, governmental organizations one local and four national sororities, one local and five national fraternities, music and drama groups, and departmental organizations. There are close to seventy different groups from which a student may choose his activities. They are:

- Activities Bureau—helps new students to find the activities to which they wish to belong.
- Alpha Chi—scholastic honorary for Juniors and Seniors.
- Alpha Phi Gamma—honorary journalism society.
- Alpha Epsilon Rho—honorary radio society.
- Alpha Phi Omega—local fraternity for Engineers.
- Alpha Psi Omega—local fraternity for Engineers.
- American Institute of Electrical Engineers—collegiate branch of professional society.
- American Institute of Mechanical Engineers—collegiate branch of professional society.
- American Society of Civil Engineers—collegiate branch of professional society.
- Association for Childhood Education—organization of future teachers of elementary schools.
- Baptist Student Union—organization of Baptist Students.
- Beaux Arts—for study of art appreciation.
- Belles—organization of non-sorority girls in the dormitories.
- Campus Colleagues—social group of non-Greek men and women.
- Cherubis—scholastic and service honorary for senior women.
- Canterbury Club—campus organization of Episcopalian students.
- Chi Omega—this is a national social sorority.
- Co-Ed Council—co-ordinating group for all women's organizations.
- College Band—sponsored by the Music Department.
- College Choir—sponsored by the Music Department.
- College Players—drama group which puts on plays.
STUDENT LIFE

Cosmopolitan Club—to assist foreign students in adjusting to college life at Texas Western College.

Delta Delta Delta—this is a national social sorority.

Delta Gamma—this is a national social sorority.

Delta Psi Kappa—honorary Physical Education honorary.

Delta Sigma Pi—this is an honorary Spanish society.

Engineering Council—co-ordinating group for all Engineering activities.

Cold Diggers—girls pep squad that marches with the band.

Inter-Faith Council—co-ordinating group for all religious clubs on campus.

Inter-Fraternity Council—co-ordinating group for fraternities.

Intramural Athletic Board—co-ordinating group for intramural athletics.

Junior IFC—co-ordinating group for all fraternity pledges.

Junior Pan American Roundtable—study and information group on Pan American countries.

Kappa Delta Pi—honorary education society.

Kappa Pi—this is an honorary art society.

Kappa Sigma—this is a national social fraternity.

Lambda Chi Alpha—national social fraternity.

Neuman Club—campus organization of Catholic students.

Orange Key—scholastic and service honorary for freshmen and sophomore men.

Panhellenic Council—co-ordinating group for sororities.

Phi Alpha Theta—honorary history society.

Phi Gamma Nu—professional society for women Business majors.

Phi Kappa Tau—this is a national social fraternity.

Phi Kappa International—national non-Greek social group for women.

Physical Education Majors Club—sponsored by PE department.

Pi Delta Phi—this is an honorary French society.

Pre-Law Club—students interested in the profession of law.

Pre-Med Club—students interested in the profession of medicine.

Psi Theta—this is a local social sorority.

Psychology Club—students interested in psychology.

Roth Society—social organization for Jewish men and women.

Sardonyx—scholastic and service honorary for Junior and Senior men.

Scabbard and Blade—ROTC honorary society.

Schorlaris—scholastic honorary for Freshman and Sophomore women.

Sigma Alpha Epsilon—national social fraternity.

Sigma Delta Pi—this is an honorary Spanish society.

Sigma Gamma Epsilon—honorary society for earth sciences.

Society of Exploration Geophysicists—professional society for Geologists.

Tau Kappa Epsilon—national social fraternity.

Student Union—co-ordinating group for the Union building and its activities.

Wesley Foundation—campus organization for Methodist students.

Westminster—the campus organization for Presbyterian students.

Women's Athletic Association—organization sponsoring intramurals for women.

Zeta Tau Alpha—this is a national social sorority.

And of course there are a number of all-campus activities every year in which a student may participate. Some of these are:

Snow Fiesta

Texas Western students journey to Ruidoso or Cloudcroft each year for the Snow Fiesta, an event which usually takes place between the Fall and Spring semesters. Students meet at the ski run during the day to enjoy sledding, tobogganing, skiing, skating, and snowball fights. To climax the day's activities, a dance is held in the evening and the queen is crowned.

Homecoming

Homecoming activities, usually held in November of each year, center around a Border Conference home football game. Ex-students return to town for a series of parties and meetings and are guests of honor at open houses given in each sorority and fraternity lodge. A prize is awarded for the best decorated float entered in a downtown parade, and prizes are also awarded to the winners in the
four divisions set up by the Ex-Students Association. The sororities also decorate their lodges. After the football game, a dance is given in the Student Union ballroom. The football queen is crowned at intermission.

Co-Ed Ball

This is the traditional all-college Christmas dance, when the girls make the dates, pay expenses, send flowers, use their own cars, call for their boy friends, and do the tagging. The Co-Ed Association makes this affair one of the most popular and original throughout the year.

Variety Show

The Variety Show held each December is an important activity in which different organizations participate. Each group puts on a ten minute skit in competition for a trophy and a percent of the proceeds from the event. Each group plans and produces its own skit.

Campus Chest

Each fall a drive is held on campus to raise money for charitable distribution. The organizations on campus raise money to back a candidate in the race for Mr. Miner or Miss Goldgigger. At the end of the week the candidates with the most money votes are crowned. A Miss Prospector is chosen from the organization that contributes the most money per person.

Beard Growing Contest

January 1st is more than New Year’s Day at Texas Western College. It is also the day when men on the campus start growing beards to compete in the annual beard contest which is judged at the Hard Luck dance held on or near St. Patrick’s Day. Originally an engineering tradition, beard growing has spread to the East Side.

St. Pat’s Day

On March 17th, St. Patrick’s Day, Texas Western engineers journey to Oregande for an all-day picnic during which freshman engineers are initiated into the order of St. Pat, patron saint of engineers. The initiation is traditionally held in one of the many mines around the area.

Hard Luck Dance

The Hard Luck Dance, sponsored by the engineers, is held on the closest Saturday to March 17th, St. Pat’s Day. The beard growing contest is judged during the intermission—with prizes awarded to the longest and the prettiest beards and the one showing the most effort with the least results. A prize is also awarded the man and woman wearing the best hard luck costumes.

Western Day

The Southwestern Championship Rodeo, held in El Paso each year, heralds Western Day at Texas Western College. On that day the “no slacks on campus” rule is relaxed and co-eds and campus men all dress in Western clothes, complete with boots and cowboy hats.

Sing Song

The annual fraternity-sorority sing-song, held late in the Spring semester, is a contest in which the various choruses compete for a cup. This event has grown in size to the point where many organizations other than the Greeks compete.

Beauty Contest

The Flowsheet annually sponsors this contest to select a beauty queen and several runners-up for the yearbook’s feature section. In a preliminary contest about 12 finalists are selected from entries made by the social organizations on the campus. At the final contest, the beauty is crowned and presented with a bouquet of roses.

Senior Luncheon

Each Spring the Co-Ed Association honors graduating senior women with a luncheon in the women’s dormitory. This is the final social gathering for the senior women before graduation.

Religion in Life Week

In the life of every wholly developed individual a spiritual foundation is essential. Speeches by religious leaders, informal discussions, and personal conferences are presented as a means of acquainting—or reminding—the student of religion’s vital place in his world. Catholic, Jewish, and Protestant authorities are given the opportunity to encourage the student in his spiritual quest.

All TWC Day

A day of social and sports events is set aside each year as All-Texas Western College Day. Held usually in May, the day’s activities open with a baseball game between the faculty and the seniors. Social organizations compete in a swimming meet. Highlight of the day is the annual beauty revue at which “Miss TWC” is selected from entries made by campus organizations.
Spring Festival

The Spring Festival is held each year in connection with All-TWC Day. Every organization on campus sets up a booth of games or refreshments for the festival. A dance closes the day's events.

Flowsheet Queen

Each year a nationally known celebrity is asked to act as judge in the Flowsheet Queen Contest. The identity of the queen, who is selected from photographic entries, is not revealed until the yearbook is distributed in May. A girl who is a student is eligible to compete.

CONDUCT

Discipline of the College will be so administered by the faculty as to maintain a high standard of integrity and a scrupulous regard for truth. The attempt of any student to present as his own the work of another, or any work which he has not honestly performed, or to pass any examination by improper means, is regarded by the faculty as a most serious offense, and renders the offender liable to immediate suspension. The aiding and abetting of a student in any dishonesty held to be an equally serious offense.

The possession of any material not allowed by the instructor during an examination is considered prima-facie evidence of intention to use such material illegally.

Discipline

1. Through matriculation at the College, a student neither loses the rights nor escapes the responsibility of citizenship.

2. Obedience to the law being a primary duty of the citizen, the conviction of the student for violation of law renders him subject also to disciplinary action on the part of the College.

3. A jury indictment for a felony or other offense of serious character suspends the student, without prejudice, until acquitted.

4. Illegal conduct, such as the drinking of intoxicating liquors, gambling, and dishonesty renders the student subject to suspension.

5. Persons not registered in the College when accused of misconduct that affects college life and work, if former or prospective students, will have the known circumstances inscribed in their records as presumptions against their moral character. They will not be later admitted to the College unless they can prove moral desirability.

6. All students are expected to show respect for property or the authority and to observe correct standards of conduct. Conduct inconsistent with general good order or persistent neglect of work or failure to respond promptly to official notices may subject the student to discipline.

The following penalties may be imposed: admonition; probation; suspension of social rights and privileges; suspension of eligibility for official athletic and non-athletic extracurricular activities; suspension of eligibility for any student office or honor; publication of the name of the offender, his offense, and the penalty imposed; increase in the number of courses required for a degree, cancellation of credits for scholastic work done; suspension from the College; expulsion; or such other penalty as the Faculty Committee on Discipline deems proper.

Probation

Disciplinary probation will be for a definite period and carries with it the following condition during the period of such probation: any further violation of College regulations during the time of probation will cause such student to be suspended for a period to be determined by the Faculty Committee on Discipline.

A student on probation may not hold office in any organization connected with the College, nor represent the College in any of its activities.

A student on probation who absents himself from any class exercise or neglects any class work, except for reasons considered imperative by his Dean, will be dropped from the College rolls for the remainder of the session.

Absences and neglect on the part of such student, not explained to his Dean within one day—beforehand if possible—will be presumed to be without excuse and will effect the dropping mentioned above.

A student on probation may not be initiated into any social or honorary organization.

Suspension from the College

A student suspended from the College shall remain off the campus of the College during the entire period of his suspension, excepting when summoned by an administrative official of the College, or when an appointment with an official has been previously arranged. A student while under suspension may not room or board.
in a dormitory or rooming house where other students are living, nor frequent a fraternity or sorority lodge. He may not be initiated into an honorary or social organization. A student under suspension may not receive credit at Texas Western College for college work done, by correspondence or in residence, at either this or any other institution during the period of suspension, except when allowed by the Faculty Committee on Discipline. This privilege shall not be allowed in cases involving cheating.

Expulsion from the College

A sentence of expulsion means permanent severance from the College. A sentence of expulsion shall be reviewed by the administrative officers, who, when in doubt about its propriety, shall return the case to the trial committee with the reason for so doing.

These penalties may be imposed singly or in any combination upon individuals, or groups, or organizations.

In every case in which a student is found guilty of any offense by the Faculty Committee on Discipline and in any other matter in which an emergency arises, parent or guardians will be informed and asked to cooperate with the authorities.

Debts and Bad Checks

The College is not responsible for debts contracted by individual students or by student organizations, but the College will subject to disciplinary action by the Faculty Committee on Discipline such persons who do not pay debts justly and regularly contracted. The College requires all students and student organizations to conduct themselves honorably in all commercial transactions.

A student who gives the College a bad check, the fault not being that of the bank, and who does not make it good within five days will be dropped from the College.

A student or a College organization who gives a bad check in a commercial transaction, and does not make it good within five days will be subject to disciplinary action by the Faculty Committee on Discipline. The College will not accept a check from a student who has once given a bad check.

Hazing

A student who violates his pledge of hazing, or who engages in, instigates, or encourages any type of class rush not specifically approved by the College will be liable to suspension or expulsion.
Scholastic Regulations

Credit Measurement

The unit of measurement for credit purposes is the semester hour. A semester hour entails one hour of recitation and/or lecture (or the equivalent in shop or laboratory work) per week for one semester of eighteen weeks, unless otherwise specified in the course description. For each classroom hour two hours of preparation are expected. Three hours of shop or laboratory work are counted as equivalent to one classroom hour and the preparation for it. Unless otherwise stated in the course description, it can be assumed that a course will meet for one hour of recitation-lecture per week for each semester hour of credit.

Selecting Courses

Although every effort is made to advise students, the final selection of courses is the responsibility of the individual student. All required freshman numbered courses in the student’s curriculum must be completed by the time the student reaches senior classification; otherwise no credit will be granted toward fulfilling degree requirements for the courses even though the courses must be completed. Inter-collegiate as well as intra-collegiate transfer students who lack required freshman numbered courses must register for one or more such courses each semester until all requirements have been completed. Transfer students with senior classification will receive credit for required freshman numbered courses provided the conditions as stated above are fulfilled.

Course Fees

Laboratory fees and other special fees required for individual courses are indicated in course descriptions. Per semester cost follows course title, for example:

- GEOLOGY
  3210 Principles of Geomorphology ($2)
- BIOLOGY
  3101-02 Anatomy and Physiology ($2-$2)

Adding Courses

A course may be added within the stipulated time limit by (a) authorization of the Dean, (b) validation by the Business Office, and (c) filing with the Registrar.

Changing Courses

A course may be changed within the stipulated time limit by (a) authorization of the Dean, (b) validation by the Business Office, and (c) filing with the Registrar.

Changing Sections

Once a student has registered for a given section of a course, the section may not be changed at the request of the student until after the fourth day of classes after the close of the regular registration period. Instructors may change students from one section to another at any time for the purpose of balancing enrollments in sections, correcting scheduling errors, and for any other necessary purpose. Changing the section of a course requires (a) authorization by the head of the department concerned, (b) validation by the Business Office, and (c) filing the change with the registrar.

Dropping Courses

A course may be dropped by (a) authorization of the Dean and (b) filing with the Registrar. The grade to be given by the instructor will be WF or W depending upon the student’s standing in the course at the time.

On the recommendation of the instructor concerned, approved by his Dean, a student may at any time be required to drop a course because of neglect, excessive absence, or lack of effort. In such case the grade is entered on the student’s record as WF.

Late Registration

Each class missed because of late registration will be counted as an absence, and classroom and laboratory work missed will be counted as zero unless the individual instructor grants the student permission to make up the work.

Absences from Classes

(a) Uniform and punctual attendance upon all exercises at which the student is due is strictly required. Absences will be considered as non-performance of work.

(b) A student has no right to be absent from any exercise in a course in which he is registered, except (1) for serious illness, or (2) by action of College rule, or (3)
for other unavoidable circumstances. Absences caused by serious sickness or other unavoidable circumstances, in case the work missed has been done to the satisfaction of the instructor, shall not count toward dropping a student from a course.

(c) When, in the judgment of the instructor, a student has been absent to such a degree as to impair his status relative to credit for the course, the instructor shall report the absences and the student to his Dean; and, upon recommendation from the instructor, the Dean may drop the student from the course.

(d) Absences incurred by a student prior to his registration are not to be charged against said student, provided the work missed because of late registration is made up satisfactorily by the mid-semester report date.

Absence from Tests

A student absent from a test during the semester is graded zero on that test, unless for urgent reason he is given by the instructor the privilege of taking a postponed test at a time to be set by the instructor.

Tardiness

Repeated tardiness will be considered as equivalent to absence from class, and reported as such.

Amount of Work

Engineering Students—Beginning freshmen may not register for more than nineteen semester hours except with permission of the Dean. Sophomores, juniors, and seniors may not register for hours in excess of those prescribed in the course of study except in accordance with the grade point rule (39 grade points during their preceding semester), and in no case may they register for more than twenty-one semester hours.

Arts and Science Students—Beginning freshmen may not register for more than nineteen semester hours except with permission of the Dean.

Other students, with permission of the Dean, may register for more than nineteen semester hours if the grade score has been 90 points for the preceding semester. A full summer session may be counted as a semester.

In no case may a student register for more than twenty-one semester hours.

Official Notices

Official notices are posted on bulletin boards, read to classes and sent to students individually. Students are held responsible for knowledge of and compliance with such notices.

Classification

Regular Students—Those who are registered for twelve or more credit hours.

Irregular Students—Those who are registered for less than twelve credit hours.

Freshmen Students—Engineering students having less than thirty hours of credit; Arts and Science students having less than thirty hours of credit.

Sophomore Students—Engineering students: thirty or more, but less than sixty-six semester hours; Arts and Science students: thirty or more, but less than sixty semester hours.

Junior Students—Engineering students: thirty or more, but less than sixty-six semester hours; Arts and Science students: thirty or more, but less than ninety semester hours.

Senior Students—Engineering students: one hundred and four semester hours and until graduation; Arts and Science students: ninety or more semester hours and until graduation.

Examinations

General Regulations—All of the written work handed in by students is considered to be their own product, prepared without unauthorized assistance. Students are invited to co-operate with their instructors in maintaining the integrity of examinations and are strongly urged to inform them, without specifying the offenders, if cheating goes on in their classes.

Students are expected (a) to remain in the examination room during the examination or quiz period; (b) to refrain from talking or smoking; and (c) to leave all notes and books where they will not be accessible during the examination or quiz, unless otherwise directed by the instructor.

Final Examinations

The Faculty has ruled that exemption from examinations may not be given. To encourage preparation for examinations, the Faculty has further ruled that during the last seven days of each semester before examinations no written examination or review shall be given; and all essays, theses, synopses, and the like must be
Postponed Final Examinations

Postponement of the final examination is subject to the following conditions:
1. Only in case of absence due to illness or other imperative and unavoidable cause.
2. Permission to be obtained from the Dean, validated by the Business Office for a fee of one dollar, and filed with the Registrar at least four days before the date of the examination.
3. Must be taken within a year from the date from which the examination was postponed.
4. Must be taken at a date fixed by the Calendar or at a regular final examination in the course, such time to be determined by the Dean.
5. The grade during the period of postponement to be Pr.
6. Failure to pass a postponed examination gives a grade of F in the course.
7. Absence from a postponed examination, after a permit has been granted, gives a grade of F in the course.
8. The Registrar supervises the examination.

Removal-of-Condition Examinations

Examinations are given for the removal of conditions subject to the following provisions:
1. For the removal of a grade of E, see definition of grade of E on page 40.
2. Permission to be obtained from the Dean, validated by the Business Office for a fee of one dollar, and filed with the Registrar at least four days before the date of the examination.
3. Must be taken within a year from the time the condition was received.
4. Must be taken at a date fixed by the Calendar or at a regular final examination in the course.
5. A grade of D will be given in the course if the examination is passed.
6. Failure to pass the examination gives a grade of F in the course.
7. Absence from the examination, after a permit has been granted, gives a grade of F in the course.
8. The Registrar supervises the examination.

Advanced Standing Examinations

These are examinations for credit and are subject to the following conditions:
1. Permission to be obtained from the head of the department and the Dean, validated by the Business Office for a fee of one dollar, and filed with the Registrar at least four days before the date of the examination.
2. Must be taken at a date fixed by the Calendar.
3. Will be searching in character, strictly graded, and four hours in length.
4. The passing grade is B.
5. Absence from the examination, after a permit has been granted, gives a grade of F.
6. No student is eligible who has registered for or has been given a grade in the course.
7. The Registrar supervises the examination.
8. Student must currently or previously be registered in the College.

Scholarship

To pass a course, it is necessary to secure a grade of at least D both on class work and on semester examination, considered separately. Grades are given by semester; however, in a course extending through two semesters no credit is given toward degrees until both semesters of the course have been completed.

Grades and Grade Points

The grades used are: A (excellent), B (good), C (fair), D (inferior but pass-
ing), \(E\) (failure, but with privileges of petitioning to continue the course and to take removal-of-condition examination), \(F\) (failure), \(WF\) (withdrawal from the course with a passing grade), \(WP\) (withdrawal from the course with a failing grade), \(Pr\) (in Progress), \(Inc\) (incomplete), and \(Pf\) (postponed final examination).

In the case of students who drop courses or who withdraw from school the following grades apply:

1. A student who drops a course before mid-semester reports are filed in the registrar's office will receive a grade of \(WF\) if passing and \(WP\) if failing. The student will receive a grade of \(WF\) in any course dropped after the mid-semester unless the drop is initiated by the student's Dean.

2. Students who officially withdraw from college during the semester will receive grades of \(WF\) in courses which they are passing and \(WP\) in courses which they are failing.

A grade of \(A\) will be rated as four points per semester hour, a grade of \(B\) as three points per semester hour, a grade of \(C\) as two points per semester hour, and \(D\) as one point per semester hour.

The grade point average is determined by multiplying the number of semester hours of \(A\) grades by four, the hours of \(B\) by three, the hours of \(C\) by two, and the hours of \(D\) by one. The total of these values is then divided by the sum of the semester hours of \(A\), \(B\), \(C\), \(D\), \(E\), \(F\), \(WF\), \(Inc\), and \(Pf\).

**Effect of a Semester Grade of \(E\)**

A student who fails to pass a course but makes a grade of \(E\) is called "conditioned," and is allowed opportunity to remove the condition by a second examination at the next regular examination period in the subject, at the discretion of his Dean, but in any event he must take the condition examination not later than twelve months after the condition was received. A condition successfully removed becomes \(D\).

In a subject continuing beyond one semester (for example, English 3101-02), the instructor may, by sending to the Registrar the proper credit notice, raise an \(E\) of an earlier semester to \(D\) because of a grade of \(C\) or better earned in a later semester, but no grade may be altered after the registration period of the next succeeding semester.

**Higher Work after Failure**

If a student makes an \(F\) in a course, he may not take up a more advanced course in the same subject until the course is taken again and satisfactorily completed. If a student makes an \(E\) in a course, he may take up a more advanced course in the same subject only with the written consent of the instructor concerned, approved by the student's Dean.

**Incomplete Work**

Grades for work not completed may be obtained by three distinct and separate methods:

1. At any intra-semester grade period, if the student has not completed his work for any particular course, the instructor may give a grade of \(Incomplete\) in the course.

2. At the end of any semester a student may be given a grade of \(Pf\) if he unavoidably is absent from the final examination in a course, and such absence is approved by the respective Dean. This procedure obligates the student to take a Postponed Examination in the course as a part of the removal-of-\(Pf\) grade.

3. At the end of the semester a grade of \(Incomplete\) may be given in exceptional circumstances and with the permission of the instructor and the proper Dean. When the grade of \(Incomplete\) is given at the end of the first semester, the work missed must be completed before grades are reported at the end of the second semester. If the \(Incomplete\) is given at the end of the second semester or at the end of either term of the Summer Session, it must be removed before grades are recorded for the fall semester following.

When the student is given the grade of \(Incomplete\), or \(Pf\), the grade points for the course will be considered as if the grade were \(F\) in calculating the standing of the student.

If \(Pf\) or \(Inc\) grades are removed within the first two weeks of the semester immediately following the one in which they were received, the scholastic standing of the student will be adjusted according to his earned grades. \(Pf\) examinations will be given within two weeks after the close of each semester.

When a student is late or dilatory in handing in required work of any nature, his instructor may give him, depending on the circumstances, a lowered grade, or even zero, on the late performance in question.
A student who has not completed the required volume of work in a course at the end of a semester will receive a grade within the calculation of which will be included various uncompleted pieces of work rated as zero. When such final semester grade results in an E, the instructor and respective Dean may require the student to complete the missing work as part of his removal-of-condition obligation.

Repetition of Course

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

Honor List

At the close of each semester the Registrar's Office will issue an honor list which will include the names of all students who, during the semester, have been registered for not less than fifteen hours of work and who have a grade point average of at least 3.2 without any grades of F, Inc, E, WF, or F. (If a Px, Inc, or E is removed within two weeks after the end of the semester the last grade earned will be considered.)

One-hour courses in such subjects as Physical Education, Band, Gold Diggers, Choir, Orchestra, College Players, Radio and Journalism will be counted neither in the student's load nor his grade average.

In publishing the honor list the Engineering and the Arts and Sciences divisions will be listed separately.

Students whose grades are all A will be given special mention.

Semester Reports

Grade reports are mailed to parents and guardians in November and March and at the end of each semester. The mid-semester reports sent out in November and March do not become an official part of the student's record, but merely serve to inform the student and the parents of student's progress during the course of the semester. Students may receive copies of all grade reports at the Office of the Registrar.

Self-supporting students over 21 years of age, if they request it of the Registrar in writing, may have their grade reports sent to them instead of their parents.

Standard of Work Required

The grades Px, Inc, E, and F will not be considered passing. (If Px, Inc, or E are removed within two weeks after the end of the semester, the student's status will be adjusted.)

Required Minimum Academic Performance

<table>
<thead>
<tr>
<th>Semesters</th>
<th>Hours</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st or 2nd</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>3rd or 4th</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>5th or 6th</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>7th or succeeding</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>

The number of semesters for which a student may have been enrolled in another college will be counted in determining the proper semester as listed above.

A student taking less than the minimum number of hours must make at least a 2.0 grade point average in all work taken during the semester.

No one hour course nor grade points earned on any one hour course, except for those offered in the Division of Mines and Engineering, may be counted in determining the above minimum standard of performance.

Scholastic Probation

A student who fails to attain the required minimum at the end of a semester will be placed on Scholastic Probation.

The student will be warned by his Dean and his parents will be notified by the Registrar.

A student who withdraws during a semester while on Scholastic Probation will be continued in that status for the succeeding long-session semester unless he attends an intervening summer session and makes a two-point average while registered for nine or more semester hours.

Scholastic probation shall mean that a student may not:

1. Register for more than sixteen hours except by written permission of his Dean.
2. Represent the college in any intercollegiate contest, hold any collegiate office or elective collegiate position, or officially represent the college in extracurricular student activities taking place off campus.
3. Be absent from classes, except under extenuating circumstance, without being dropped from the rolls of the college by the Registrar at the request of his Dean.

Removal of Scholastic Probation

A student on scholastic probation may return to good standing by meeting the
following minimum requirements at the end of a semester in the long session:

If the Student is in his 2nd semester .......... 15 grade points
If the Student is in his 3rd or 4th semester ... 18 grade points
If the Student is in his 5th or 6th semester ... 21 grade points
If the Student is in his 7th or succeeding semester ...... 24 grade points

He must pass in 9 hours and make a minimum of

If the Student is in his 2nd semester .......... 15 grade points
If the Student is in his 3rd or 4th semester ... 18 grade points
If the Student is in his 5th or 6th semester ... 21 grade points
If the Student is in his 7th or succeeding semester ...... 24 grade points

No one hour course nor grade points earned on any one hour course, except for those offered in the Division of Mines and Engineering, may be counted in determining the minimum requirements for removal of scholastic probation.

For the purpose of calculating the number of semesters in college, a six-week summer term of the summer session is equivalent to one-third of a semester. The number of semesters for which a student may have been enrolled in another college will be counted in determining the proper semester as listed above.

A student may remove scholastic probation during the summer session by earning a grade point average of at least two points while registered for nine or more semester hours. Students on scholastic probation may not register for more than twelve semester hours during a summer session.

Enforced Academic Withdrawal

A student shall be dropped for a period of at least one semester if:

1. He fails to pass six semester hours of work in any semester or four semester hours in a twelve-week summer session. Any student registered for less than six semester hours during the long session semester, or four semester hours in an entire summer session, must pass all of his work.

2. He fails to remove scholastic probation during a given semester or complete summer session.

3. He has been on scholastic probation and has removed it and again makes a record which places him on probation.

Readmission of Students Dropped for Scholastic Reasons

A student who has been dropped for reasons stated under Enforced Academic Withdrawal may apply to the proper Dean for readmission after the following time intervals have elapsed:

Dropped for the 1st time—1 semester
Dropped for the 2nd time—2 semesters
Dropped for the 3rd time—3 semesters

A student dropped for the third time can be readmitted only with approval of the President of the college.

Summer sessions may not be counted in computing the periods of enforced withdrawal. If a student is dropped during a semester, the fraction of the semester remaining shall not constitute a part of the period of enforced withdrawal.

Students petitioning for readmission may be required at their own expense to undergo such testing and counseling as deemed necessary by the Dean.

Official Withdrawal

A student may withdraw from college with the consent of his Dean and clearance of all financial obligations with the Business Office. Students passing six hours or less at the time of withdrawal must comply with the regulations listed under Enforced Academic Withdrawal.

Unofficial Withdrawal

Withdrawal from college without consent of the student’s Dean constitutes an unofficial withdrawal. In such cases the student will receive a grade of WF in each course for which he was registered. Students who withdraw unofficially must comply with the regulations listed under Enforced Academic Withdrawal.
DEGREES OFFERED
At Texas Western College

General Requirements

Division of Mines and Engineering
ENGINEER OF MINES
BACHELOR OF SCIENCE IN MINING ENGINEERING
(THREE OPTIONS)
BACHELOR OF SCIENCE IN METALLURGICAL ENGINEERING
BACHELOR OF SCIENCE IN CIVIL ENGINEERING
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Division of Arts and Sciences
BACHELOR OF ARTS
BACHELOR OF SCIENCE (IN SCIENCES)
BACHELOR OF BUSINESS ADMINISTRATION
BACHELOR OF MUSIC
BACHELOR OF SCIENCE IN EDUCATION

School of Nursing
BACHELOR OF SCIENCE

Graduate Division
MASTER OF ARTS
MASTER OF EDUCATION
Degrees Offered

*Division of Mines and Engineering*: Bachelor of Mines, Bachelor of Science in Mining Engineering, Metallurgical Engineering, Civil Engineering, and Electrical Engineering.

*Division of Arts and Sciences*: Bachelor of Arts, Bachelor of Business Administration, Bachelor of Science in the Sciences and in Education, and Bachelor of Music.

*Division of Nursing*: Bachelor of Science in Nursing.

No honorary degree will be conferred.

**Degree Plan**

The student should secure from his Dean by the beginning of his third year a plan for the completion of the requirements for the degree.

**Catalog Requirements**

A student may obtain a degree according to the requirements of the catalog in force at the time of his admission to the College, or of a later catalog, subject to the restriction that all requirements must be completed within six years of the date of the catalog chosen.

Students entering Texas Western College for the first time during a summer session will be subject to the requirements set forth in the catalogue for the next long session.

**Application for Degree**

At the beginning of the session in which he intends to graduate, the student will file a degree application with his Dean.

**Personal Information Forms**

Each student must file a personal information form with his dean by mid-semester of the semester in which he expects to graduate.

**Residence**

Work counting toward the degree must be completed in the College as follows:

1. A total of at least thirty semester hours, (2) twenty-four of the last thirty semester hours, and (3) six semester hours of advanced courses in the major subject.

**Complete Courses**

In a course extending through two semesters no credit is given toward a degree until both semesters have been completed.

**Government and History Requirements**

By action of the State Legislature all students graduating from the College after July 1, 1954, and all students graduating after September 1, 1957 are required to successfully complete six hours of work in government, covering the Federal and Texas Constitutions, Government 3210-3211. Four semesters of ROTC may be substituted for Government 3211.

By action of the State Legislature all students graduating from the College after July 1, 1958, must successfully complete six hours of American History.

**Grade Point Average**

The student must make an average of at least two grade points per semester hour in all courses taken at the college. In the case of interdivisional or intradivisional transfers grades of F or WF will not be counted provided they were made prior to the first transfer. Grades of F or WF made subsequent to the first interdivisional or intradivisional transfer will be considered unless removed by repetition of the course.

**One Hour Courses**

All courses carrying only one hour of credit, except for those courses offered in the Division of Mines and Engineering, are subject to the following regulations:

1. These courses may not be used to satisfy the requirements for removal of probation.
2. These courses may not be used in determining the requirements to maintain good scholastic standing.
3. Not more than eight of these one hour courses, exclusive of required courses in physical education and ROTC, may be used in fulfilling degree requirements.
4. These courses will not be used in compiling the honor roll.

**Conditional Grades**

A conditional grade (E) made by a student in the last semester of his year of graduation may not be removed until the succeeding term for the removal of such conditional grades.

**Second Degree**

No second bachelors degree will be conferred until the candidate has completed at least twenty-four semester hours at Texas Western College in addition to those counted toward the bachelor's degree requiring the higher number of semester hours of credit. Two bachelor's degrees may not be awarded to any candidate at the same commencement.

Students working toward a second bachelor's degree will register as undergraduate students.

**Commencement**

No degree will be conferred except publicly at Commencement.

**Absence from Commencement**

Each candidate is expected to attend in person the Commencement at which his degree is to be conferred unless absent for good cause, in which case he must petition his dean in writing at least three weeks before the date of commencement.
Division of Mines and Engineering

Degrees Offered

ENGINEER OF MINES

BACHELOR OF SCIENCE IN MINING ENGINEERING
Options: 1. Mining  2. Mining-Geology

BACHELOR OF SCIENCE IN METALLURGICAL ENGINEERING

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Engineer of Mines

The degree of Engineer of Mines may be conferred upon graduates of Texas College of Mines who have received the degree of Bachelor of Science in Mining Engineering, and who attended a college prior to September 1, 1931. The applicant must have completed at least four years of successful professional work in mining, metallurgy, or geology, subsequent to receiving the bachelor's degree, and present a satisfactory thesis.

Bachelor of Science

A candidate for a bachelor's degree in engineering must complete one of the following plans:

PLAN 1, leading to the degree of Bachelor of Science in Mining Engineering (Mining Option).

PLAN 2, leading to the degree of Bachelor of Science in Mining Engineering (Mining-Geology Option).

PLAN 3, leading to the degree of Bachelor of Science in Metallurgical Engineering.

PLAN 4, leading to the degree of Bachelor of Science in Civil Engineering.

PLAN 5, leading to the degree of Bachelor of Science in Electrical Engineering.

Special Requirements for Bachelor's Degree

1. All candidates must take at least twenty-four hours in advanced courses, in class at the College, out of the last thirty semester hours offered.

2. Each student must make an average of at least a C in the specified courses taken in his degree-granting department.

3. In order to become a candidate for a degree, a student must (1) have satisfied all admission requirements, (2) have an over-all C average at the beginning of his last semester of attendance.

4. Each student is strongly urged to spend at least one summer in practical work related to the degree desired.

Work Preparatory to Other Engineering Degrees


Additional courses are offered at Texas Western College which will enable a student to complete at least the sophomore year in aeronautical, chemical, mechanical, or petroleum engineering.

Abbreviations Used in Degree Plans

Ch. . . . Chemistry   Co. . . . Government
Dr. . . . Drawing   Hi. . . . History
Ec. . . . Economics   M. . . Mathematics
E. . . . . English   Me. . . Metallurgy
En. . . . Engineering   Mi. . . . Mining
Ge. . . . . Geology   Ph. . . . Physics
Sp. . . . . . . Speech
P.E. . . . . Physical Education
M.S. . . . . Military Science
DEGREE PLANS

PLAN 1—Leading to the Degree of
Bachelor of Science in Mining Engineering
(Mining Option)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 4103-04, 2111, 4214</td>
<td>14</td>
</tr>
<tr>
<td>Drawing 2101, 2102</td>
<td>4</td>
</tr>
<tr>
<td>Economics 3101</td>
<td>3</td>
</tr>
<tr>
<td>English 3101-02, 3369</td>
<td>9</td>
</tr>
<tr>
<td>Engineering 1101, 2115, 3215, 4314, 4331, 4334, 3335, 2338, 3349, 3354</td>
<td>29</td>
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<tr>
<td>Geology 3101, 3102, 3216, 2217, 4321, 3322, 2664</td>
<td>20</td>
</tr>
<tr>
<td>Government 5210-11</td>
<td>6</td>
</tr>
<tr>
<td>History 5101, 3102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 4115-16, 5213-14, 3326</td>
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<tr>
<td>Metallurgy 4322, 3363, 2403</td>
<td>9</td>
</tr>
<tr>
<td>Mining 1102, 5201, 2501, 5302, 2504, 3402, 3403, 3404, 3405, 0421</td>
<td>23</td>
</tr>
<tr>
<td>Physics 4215, 4216, 4317</td>
<td>12</td>
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<td><strong>Total</strong></td>
<td><strong>156</strong></td>
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ARRANGEMENT OF COURSES

Freshman Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST SEMESTER</td>
<td>SECOND SEMESTER</td>
</tr>
<tr>
<td>Ch. 4101, General Chemistry</td>
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<tr>
<td>Dr. 2101, Engineering Drawing</td>
<td>2</td>
</tr>
<tr>
<td>E. 3101, Rhetoric and Composition</td>
<td>3</td>
</tr>
<tr>
<td>Ma. 4113, Engineering Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>Ml. 1102, The Mineral Industry</td>
<td>1</td>
</tr>
<tr>
<td>Hi. 3101, History of the United States</td>
<td>3</td>
</tr>
<tr>
<td>P. E. Service Course</td>
<td>1</td>
</tr>
<tr>
<td>M. S. Military Science</td>
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Sophomore Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST SEMESTER</td>
<td>SECOND SEMESTER</td>
</tr>
<tr>
<td>Ch. 2211, Qualitative Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Ge. 3102, Historical Geology</td>
<td>3</td>
</tr>
<tr>
<td>Ge. 5216, Mineralogy</td>
<td>3</td>
</tr>
<tr>
<td>Hi. 3102, History of the United States</td>
<td>3</td>
</tr>
<tr>
<td>Ml. 3213, Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Ph. 4215, Mechanics and Heat</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
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</tbody>
</table>

Summer

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
</tr>
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<tbody>
<tr>
<td>FIRST TERM</td>
<td>SECOND TERM</td>
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<tr>
<td>En. 2213, Plane Surveying</td>
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<tr>
<td>Ge. 5210, American Government</td>
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Junior Year

<table>
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<tr>
<th>Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST SEMESTER</td>
<td>SECOND SEMESTER</td>
</tr>
<tr>
<td>En. 3215, Statics</td>
<td>4</td>
</tr>
<tr>
<td>Ge. 4211, Advanced General Geology</td>
<td>4</td>
</tr>
<tr>
<td>Ma. 5305, Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Ml. 3305, Engineering Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>Ml. 2501, Mining Methods</td>
<td>2</td>
</tr>
<tr>
<td>Ph. 4317, Light and Modern Physics</td>
<td>4</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
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</tbody>
</table>

Summer

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mi. 2304, Mine Surveying</td>
<td>2</td>
</tr>
</tbody>
</table>

*Not required if M.S. 2101-02 completed. Student must elect Health Education 3101 for one semester of P.E.
### DEGREE PLANS

#### Bachelor of Science in Mining Engineering (Mining-Geology Option)

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>SECOND SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester</strong></td>
<td><strong>Semester</strong></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>Hours</strong></td>
</tr>
<tr>
<td>E. 3369, Technical Writing</td>
<td>3</td>
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<tr>
<td>En. 4334, Mechanics of Materials</td>
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<tr>
<td>Ge. 2468, Field Geology</td>
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</tr>
<tr>
<td>Mi. 2403, Non-ferrous Metallurgy</td>
<td>2</td>
</tr>
<tr>
<td>Mi. 3402, Mine Valuation and Report</td>
<td>3</td>
</tr>
<tr>
<td>Mi. 3404, Mine Plant</td>
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</tr>
</tbody>
</table>

**Total:** 15

### ARRANGEMENT OF COURSES

#### Freshman and Sophomore Years Same as for Plan 1

**Junior Year**

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>SECOND SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester</strong></td>
<td><strong>Semester</strong></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>Hours</strong></td>
</tr>
<tr>
<td>En. 3101, Principles of Economics</td>
<td>3</td>
</tr>
<tr>
<td>En. 3215, Statics</td>
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</tr>
<tr>
<td>Ge. 4321, Advanced General Geology</td>
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</tr>
<tr>
<td>Ma. 3375, Calculus</td>
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<tr>
<td>Mi. 2301, Mining Methods</td>
<td>2</td>
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<tr>
<td>Ph. 4317, Light and Modern Physics</td>
<td>4</td>
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<tr>
<td>Total</td>
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</tbody>
</table>

**Total:** 19

#### Summer

| Mi. 2004, Mine Surveying | 2 Semester |

**Senior Year**

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
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</thead>
<tbody>
<tr>
<td><strong>Semester</strong></td>
<td><strong>Semester</strong></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td><strong>Hours</strong></td>
</tr>
<tr>
<td>E. 3369, Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>En. 4334, Mechanics of Materials</td>
<td>4</td>
</tr>
<tr>
<td>Ge. 2468, Field Geology</td>
<td>2</td>
</tr>
<tr>
<td>Mi. 3402, Mine Valuation and Report</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
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</table>

**Total:** 15
**DEGREE PLANS**

**PLAN 3 — Leading to the Degree of**

**Bachelor of Science in Metallurgical Engineering**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST SEMESTER</td>
<td>En. 3201, Statics</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Ch. 4000, Physical Chemistry</td>
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<tr>
<td></td>
<td>Ma. 3310, Calculus</td>
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<td></td>
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<tr>
<td></td>
<td>Me. 3311, General Metallurgy</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Me. 2301, Mining Methods</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ph. 4317, Light and Modern Physics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

| FIRST SEMESTER | En. 4314, Mechanics of Materials | 4 |
| | Me. 3405, Non-ferrous Metallurgy | 3 |
| | Me. 4407, Metallurgy | 4 |
| | Me. 4408, Advanced Ore & Coal Dressing | 4 |
| | Me. 3455, Corrosion | 3 |
| Total | | 19 |

| SECOND SEMESTER | En. 4331, Electrical Circuits and Machines | 4 |
| | En. 4340, Heat Engineering | 3 |
| | Me. 4302, Ore and Coal Dressing | 4 |
| | Me. 2328, Fire Asaying | 2 |
| | Me. 4308, Physical Metallurgy | 3 |
| Total | | 19 |

| SECOND SEMESTER | En. 3369, Technical Writing | 3 |
| | Me. 3402, Ferrous Metallurgy | 3 |
| | Me. 3400, Management | 3 |
| | Me. 3404, Hydrometallurgy | 3 |
| | Me. 3405, Metallurgical Laboratory | 3 |
| | Me. 0421, Senior Trip | 0 |
| Total | | 15 |

**ARRANGEMENT OF COURSES**

Freshman and Sophomore Years — Same as for Plan 1, except substitute Economics 3201 for Geology 3102.
### DEGREE PLANS

**Bachelor of Science in Civil Engineering**

#### PLAN 4 — Leading to the Degree of

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
<th>Semester</th>
<th>Hours</th>
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</thead>
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<tr>
<td><strong>FIRST SEMESTER</strong></td>
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<td><strong>SECOND SEMESTER</strong></td>
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<tr>
<td>Chemistry 4103-04</td>
<td>8</td>
<td>Government 3110-11</td>
<td>6</td>
</tr>
<tr>
<td>Drawing 2101, 2102</td>
<td>4</td>
<td>History 3101, 3102</td>
<td>6</td>
</tr>
<tr>
<td>Economics 3101</td>
<td>3</td>
<td>Mathematics 4115-16, 5115-16, 5325</td>
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<tr>
<td>Engineering 3101, 2212, 2213, 3215, 4314</td>
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<td>Metallurgy 3325</td>
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<tr>
<td>3322, 4351, 4354, 3355, 2336, 3348, 3349</td>
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<td>Mining 2101</td>
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<td>3354, 3355, 3355, 2356, 3426, 4221, 4327</td>
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<td>Physics 4215, 4216, 4317</td>
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<td>3440, 3441, 3442, 3446, 3460, 3461</td>
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<td>Physical Education or Military Science</td>
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<td>English 3101-02, 3356</td>
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<td>Speech 3110</td>
<td>3</td>
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<tr>
<td>Geology 3101</td>
<td>3</td>
<td>Approved Electives</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

#### ARRANGEMENT OF COURSES

| **Freshman Year** | | **Sophomore Year** | |
| **FIRST SEMESTER** | **Semester** | **SECOND SEMESTER** | **Semester** |
| Ch. 4103, General Chemistry | 4 | Ch. 4104, General Chemistry | 4 |
| Dr. 2101, Engineering Drawing | 2 | Dr. 2102, Descriptive Geometry | 2 |
| E. 3101, Rhetoric and Composition | 3 | E. 3102, Rhetoric and Composition | 3 |
| Hi. 3101, History of the U. S. | 3 | Hi. 3102, History of the U. S. | 3 |
| Ma. 4115, Engineering Mathematics | 4 | Ma. 4116, Engineering Mathematics | 4 |
| P. E. Service Course or M. S., Military Science | 1 | P. E. Service Course or M. S., Military Science | 1 |
| **Total** | 17 | **Total** | 18 |

#### Summer

| **First Term** | **Second Term** |
| **Hours** | **Hours** |
| En. 4314, Field Surveying | 4 | En. 3134, Fluid Mechanics | 3 |
| En. 2350, Dynamics | 2 | Sp. 3110, Basic Principles of Speech | 3 |
| **Total** | 6 | **Total** | 6 |

#### Junior Year

| **FIRST SEMESTER** | **Semester** | **SECOND SEMESTER** | **Semester** |
| **Hours** | | **Hours** | |
| En. 4354, Mechanics of Materials | 4 | E. 3355, Technical Writing | 3 |
| En. 3359, Heat Engineering | 3 | En. 3325, Route Surveying | 3 |
| En. 1550, Hydraulics Laboratory | 1 | En. 4331, Electrical Circuits and Machines | 4 |
| Ma. 3325, Calculus | 3 | En. 3335, Reinforced Concrete | 3 |
| Me. 3325, Engineering Metallurgy | 3 | En. 3343, Elementary Structural Analysis | 3 |
| Ph. 4317, Light and Modern Physics | 4 | En. 2356, Hydrology | 2 |
| **Total** | 18 | **Total** | 18 |

#### Senior Year

| **FIRST SEMESTER** | **Semester** | **SECOND SEMESTER** | **Semester** |
| **Hours** | | **Hours** | |
| En. 3425, Engineering Economics | 3 | En. 3440, Highway Engineering | 3 |
| En. 4227, Reinforced Concrete Design | 1 | En. 3442, Sewage and Sewage Disposal | 3 |
| En. 3441, Public Water Supplies | 3 | En. 3446, Concretes and Specifications | 3 |
| En. 1448, Soil Mechanics | 3 | En. 3461, Structural Design and Theory | 3 |
| En. 3460, Indeterminate Structures | 3 | Approved Elective | 3 |
| Mi. 2301, Tunneling and Blasting | 2 | **Total** | 15 |
| Approved Elective | 2 | **Total** | 17 |
| **Total** | 17 | |

*Not required if M.S. 2101-02 completed. Student may elect Health Education 3101 for one semester of P.E.*

---

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# Degree Plans

## Bachelor of Science in Electrical Engineering

### Arrangement of Courses

#### Freshman Year

**Semester Location**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 4103-04</td>
<td>3</td>
</tr>
<tr>
<td>Drawing 2101, 2102</td>
<td>4</td>
</tr>
<tr>
<td>Economics 3101</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 1101, 2215, 2216, 3319, 3321, 3331, 3341, 3354, 3356, 3412, 3422, 3424, 3426, 3444, 3447, 3464, 4467, 4468</td>
<td>66</td>
</tr>
<tr>
<td>English 3101-02</td>
<td>9</td>
</tr>
<tr>
<td>Government 3210-11</td>
<td>6</td>
</tr>
<tr>
<td>History 3101, 3102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 4115-16, 3213-16, 3325, 3326</td>
<td>20</td>
</tr>
<tr>
<td>Metallurgy 3305</td>
<td>3</td>
</tr>
<tr>
<td>Physics 4121, 4215, 4317</td>
<td>12</td>
</tr>
<tr>
<td>Physical Education, or Military Science</td>
<td>4</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>150</td>
</tr>
</tbody>
</table>

#### Sophomore Year

**Semester Location**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>En. 3301, Principles of Economics</td>
<td>3</td>
</tr>
<tr>
<td>En. 2216, Elementary Plane Surveying</td>
<td>2</td>
</tr>
<tr>
<td>Co. 3310, American Government</td>
<td>3</td>
</tr>
<tr>
<td>Ma. 3213, Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Ph. 4215, Mechanics and Heat</td>
<td>4</td>
</tr>
<tr>
<td>*E. Service Course or M. S. Military Science</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

#### Summer

**Semester Location**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>En. 3319, Elements of Electrical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>En. 3340, Heat Engineering</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
</tr>
</tbody>
</table>

#### Junior Year

**Semester Location**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>En. 2336, Dynamics</td>
<td>2</td>
</tr>
<tr>
<td>En. 4335, Electronics</td>
<td>4</td>
</tr>
<tr>
<td>En. 3351, Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>En. 3357, Alternating-Current Circuits</td>
<td>3</td>
</tr>
<tr>
<td>Ma. 3325, Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Ph. 4511, Light and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19</td>
</tr>
</tbody>
</table>

#### Senior Year

**Semester Location**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>En. 3369, Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>En. 3444, Measurement and Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>En. 3447, Lines and Networks</td>
<td>3</td>
</tr>
<tr>
<td>En. 4467, Alternating-Current Machines</td>
<td>4</td>
</tr>
<tr>
<td>Approved Elective</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

*Not required if M.S. 2101-02 completed. Student may elect Health Education 3101 for one semester of P.E.*
### Division of Arts and Sciences

**General Requirements for Undergraduate Degrees**

**BACHELOR OF ARTS**

**BACHELOR OF BUSINESS ADMINISTRATION**

**BACHELOR OF SCIENCE IN THE SCIENCES**

**BACHELOR OF MUSIC**

**BACHELOR OF SCIENCE IN EDUCATION**

In the division of Arts and Sciences the College offers work leading to undergraduate degrees with majors in twenty-two fields, as well as prerequisite courses for students wishing to begin their legal and medical training at Texas Western College. In the following pages prerequisite work for the various degrees is set forth in tabular form.

#### Bachelor of Arts

<table>
<thead>
<tr>
<th>Major Subjects</th>
<th>Geology</th>
<th>Physics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>Government</td>
<td>Pre-Law</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>History</td>
<td>Pre-Medical</td>
</tr>
<tr>
<td>Business Administration</td>
<td>Inter-American Studies</td>
<td>Psychology</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Journalism</td>
<td>Radio</td>
</tr>
<tr>
<td>Economics</td>
<td>Mathematics</td>
<td>Spanish</td>
</tr>
<tr>
<td>English</td>
<td>Physical Education</td>
<td>Speech and Drama</td>
</tr>
</tbody>
</table>
| French               | \n
#### Minor Subjects

<table>
<thead>
<tr>
<th>Major Subjects</th>
<th>Government</th>
<th>Physical Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>Health Education</td>
<td>Physics</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>History</td>
<td>Psychology</td>
</tr>
<tr>
<td>Business Administration</td>
<td>Journalism</td>
<td>Radio</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Mathematics</td>
<td>Sociology</td>
</tr>
<tr>
<td>Economics</td>
<td>Metallurgy</td>
<td>Spanish</td>
</tr>
<tr>
<td>English</td>
<td>Music</td>
<td>Speech and Drama</td>
</tr>
<tr>
<td>French</td>
<td>\</td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>Philosophy</td>
<td></td>
</tr>
</tbody>
</table>

**Extension and Correspondence Credit:** Not more than thirty semester hours of credit secured by extension and/or correspondence will be counted toward a degree. Not more than eighteen semester hours may be obtained by correspondence.

**Major Examinations:** at the discretion of the department concerned a major examination may be required in the major subject under the following conditions: (a) four hours written, or three hours written and one hour oral; (b) on the date fixed by the Calendar next preceding the completion of the degree; (c) the chairman of the department fixes the time and place, and supervises the examination; (d) in case of failure the student may take another examination no sooner than the next date provided in the Calendar.
### Requirements for Majors

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th>Art</th>
<th>Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Art including basic art courses 3110, 3201-02, 3203-04, 2105-06 and twelve advanced hours.</td>
<td>24—Economics 3101-02, 3203, 3325, 3363; Business Administration 4361; and two other advanced hours.</td>
</tr>
<tr>
<td>18</td>
<td>MINOR SUBJECT including six advanced hours.</td>
<td>18—MINOR SUBJECT including 6 advanced hours.</td>
</tr>
<tr>
<td>12</td>
<td>ENGLISH 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
<td>12—ENGLISH 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
</tr>
<tr>
<td></td>
<td>FOREIGN LANGUAGE: completion of 3201-02.</td>
<td>FOREIGN LANGUAGE: completion of 3201-02.</td>
</tr>
<tr>
<td>12</td>
<td>LABORATORY SCIENCES</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>MATHEMATICS</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>GOVERNMENT 3210-11, History 3101 and 3102, Economics 3101, *Philosophy 3301 or 3311.</td>
<td>15—GOVERNMENT 3210-11, History 3101 and 3102, *Philosophy 3301 or 3311.</td>
</tr>
<tr>
<td>6</td>
<td>PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td>6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
</tr>
<tr>
<td></td>
<td>Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
<td>ELECTIVES to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
</tr>
</tbody>
</table>

### Business Administration

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th>Business Administration</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Business Administration including 4111, 4112, 4361, 3360-21 and two other advanced hours.</td>
<td>24—English including 3101-02, 3203-12, or 3213-14 or 3215 and 3216, and 12 advanced hours.</td>
</tr>
<tr>
<td>18</td>
<td>MINOR SUBJECT including 6 advanced hours.</td>
<td>18—MINOR SUBJECT including 6 advanced hours.</td>
</tr>
<tr>
<td>12</td>
<td>ENGLISH 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
<td>FOREIGN LANGUAGE: completion of 3201-02.</td>
</tr>
<tr>
<td></td>
<td>FOREIGN LANGUAGE: completion of 3201-02.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>LABORATORY SCIENCES</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>MATHEMATICS</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>GOVERNMENT 3210-11, History 3101 and 3102, Economics 3101, *Philosophy 3301 or 3311.</td>
<td>18—GOVERNMENT 3210-11, History 3101 and 3102, Economics 3101, *Philosophy 3301 or 3311.</td>
</tr>
<tr>
<td>6</td>
<td>PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td>6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
</tr>
<tr>
<td></td>
<td>Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
<td>ELECTIVES to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
</tr>
</tbody>
</table>

* Philosophy 3311 is strongly recommended for Bachelor of Arts students.
### Requirements for Majors

#### Government

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>24—Government including Government 3210-11 and twelve advanced hours.</td>
<td></td>
</tr>
<tr>
<td>18—Minor subject including 6 advanced hours.</td>
<td></td>
</tr>
<tr>
<td>12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
<td></td>
</tr>
<tr>
<td>—Foreign Language: completion of 3201-02.</td>
<td></td>
</tr>
<tr>
<td>12—Laboratory Sciences</td>
<td></td>
</tr>
<tr>
<td>6—Mathematics</td>
<td></td>
</tr>
<tr>
<td>12—History 3101, 3102, Economics 3101, Philosophy 3301 or 3311.</td>
<td></td>
</tr>
<tr>
<td>6—Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td></td>
</tr>
<tr>
<td>—Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
<td></td>
</tr>
</tbody>
</table>

#### Inter-American Studies

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>24—Economics 3101-02, 3366, and three additional hours of advanced Economics, History 3101 and 3102, 3347, and either 3348 or 3349. Government 3232 or 3233, Spanish 4101-02, 3101-02, 3357, and one of the following: 3324, 3350, 3352, 3355, 3354, 3355, 3366, Psychology 3201 and Philosophy 3301 or 3311. Twelve additional hours from Business Administration, Economics, Government, History, Languages and Sociology 3336.</td>
<td></td>
</tr>
<tr>
<td>12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
<td></td>
</tr>
<tr>
<td>12—Laboratory Sciences</td>
<td></td>
</tr>
<tr>
<td>6—Mathematics</td>
<td></td>
</tr>
<tr>
<td>6—Government 3210-11.</td>
<td></td>
</tr>
<tr>
<td>6—Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td></td>
</tr>
<tr>
<td>—Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
<td></td>
</tr>
</tbody>
</table>

#### Journalism

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>24—Journalism including Journalism 3201-02, 3305 and 3312 and six additional hours.</td>
<td></td>
</tr>
<tr>
<td>18—Minor subject including 6 advanced hours.</td>
<td></td>
</tr>
<tr>
<td>12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
<td></td>
</tr>
<tr>
<td>—Foreign Language: completion of 3201-02.</td>
<td></td>
</tr>
<tr>
<td>12—Laboratory Sciences</td>
<td></td>
</tr>
<tr>
<td>6—Mathematics</td>
<td></td>
</tr>
<tr>
<td>18—Government 3210-11, History 3101 and 3102, Economics 3101, Philosophy 3301 or 3311.</td>
<td></td>
</tr>
<tr>
<td>6—Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td></td>
</tr>
<tr>
<td>—Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
<td></td>
</tr>
</tbody>
</table>

* Philosophy 3311 is strongly recommended for Bachelor of Arts students.

† A comprehensive examination in Spanish is required.

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### Requirements for Majors

#### Mathematics

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>— Mathematics including Mathematics 4115-16, 3213-14, and ten advanced hours. If student does not have admission credits in solid geometry from high school, Mathematics 2110 is also required.</td>
</tr>
<tr>
<td>18</td>
<td>— Minor subject including 6 advanced hours.</td>
</tr>
<tr>
<td>12</td>
<td>— English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
</tr>
<tr>
<td>12</td>
<td>— Foreign Language: completion of 3201-02.</td>
</tr>
<tr>
<td>12</td>
<td>— Laboratory Sciences</td>
</tr>
<tr>
<td>6</td>
<td>— Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
</tr>
<tr>
<td></td>
<td>— Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
</tr>
</tbody>
</table>

#### Modern Language

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>— Semester hours in one language including Courses 4101-02 and 3201-02 (or placement) and twelve advanced hours.</td>
</tr>
<tr>
<td>18</td>
<td>— Minor subject including 6 advanced hours.</td>
</tr>
<tr>
<td>12</td>
<td>— Completion of Course 3201-02 in a second foreign language.</td>
</tr>
<tr>
<td>12</td>
<td>— Laboratory Sciences</td>
</tr>
<tr>
<td>6</td>
<td>— Mathematics</td>
</tr>
<tr>
<td>18</td>
<td>— Government 3410-11, History 3101 and 3102, Economics 3101, *Philosophy 3301 or 3311; for Spanish majors: History 3347 or 3348 or 3349; for French majors: History 3342 or equivalent.</td>
</tr>
<tr>
<td>6</td>
<td>— Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
</tr>
<tr>
<td></td>
<td>— Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
</tr>
</tbody>
</table>

#### Physical Education

A grade average of at least 2.5 in Physical Education Courses is required in approving a student for graduation with a major in Physical Education.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>— Physical Education (Men) 3101, 3102, 3201, 3202, 3401, 3402, 3403, 3501, 3502 or 3204 or 3405 or 3305 or 3409 and 3304.</td>
</tr>
<tr>
<td>18</td>
<td>— Physical Education (Women) 3101, 3103, 3104, 3201, 3202, 3203 or 3204, 3301 or 3302, 3305, 3306, 3409 and 3304.</td>
</tr>
<tr>
<td>18</td>
<td>— Minor subject including six advanced hours.</td>
</tr>
</tbody>
</table>

**Plan I**

Plan II would include in addition to the above Physical Education courses, Health Education 3302 or 3303 and 3306 or 3307 and the minor subject would not be required.

- English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.
- Education 3101, 3102, 3202, 3204, 3211, 3206, 3305, 4403 and 4404.
- Zoology 3101, 3102 and Biology 3202, 3203.

**6—Mathematics**

**18—Government 3410-11, History 3101**

* Philosophy 3311 is strongly recommended for Bachelor of Arts students.

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1 Physical Education 3410 may be substituted for any of the advanced Physical Education courses in either Plan I or Plan II with the permission of the Department Chairman.
### Pre-Law

**Semester Hours**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>28—Law completed in the Law School of the University of Texas.</td>
<td></td>
</tr>
<tr>
<td>12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
<td></td>
</tr>
<tr>
<td>6—Mathematics</td>
<td></td>
</tr>
<tr>
<td>-Foreign Language: completion of 3201-02.</td>
<td></td>
</tr>
<tr>
<td>6—Chemistry or Physics: laboratory</td>
<td></td>
</tr>
<tr>
<td>5—Social Sciences including Government 3210-11, History 3101 and 3102, Economics 3101, Philosophy 3301 or 3311, and 28 semester hours of other social sciences, 6 of which must be advanced. Not over 12 hours of a freshman social science may be counted.</td>
<td></td>
</tr>
<tr>
<td>6—Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td></td>
</tr>
<tr>
<td>-Electives: six of which must be advanced, to make a total of at least 123 semester hours.</td>
<td></td>
</tr>
</tbody>
</table>

† This does not guarantee admission to a law school. Consult your pre-law advisor and the Registrar of the law school which you wish to enter.

### Pre-Medical

**Semester Hours**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>18—Zoology 3101-02, 3201-02, 3301, 3302.</td>
<td></td>
</tr>
<tr>
<td>27—Chemistry 4103-04, 3211, 4213, 4321-22, 4324.</td>
<td></td>
</tr>
<tr>
<td>8—Physics 4103-04.</td>
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<tr>
<td>6—Mathematics: Mathematics 3106 should be included unless one semester of trigonometry from high school has been presented in the admission requirements.</td>
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<tr>
<td>12—English 3101-02, 3211-12 or 3213-14, or 3215 and 3216.</td>
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<tr>
<td>14—French 4101-02 and 3201-02, or German 4301-02 and 3201-02.</td>
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</tr>
<tr>
<td>18—Government 3210-11, History 3101 and 3102, Economics 3101, Philosophy 3301 or 3311.</td>
<td></td>
</tr>
<tr>
<td>6—Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td></td>
</tr>
</tbody>
</table>

† This does not guarantee admission to a medical school. Consult your pre-medical advisor and the Registrar of the medical school which you wish to enter.

### Psychology

**Semester Hours**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>24—Psychology including Psychology 3301 and twelve advanced hours.</td>
<td></td>
</tr>
<tr>
<td>18—Minor subject including 6 advanced hours.</td>
<td></td>
</tr>
<tr>
<td>12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.</td>
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<tr>
<td>-Foreign Language: completion of 3201-02.</td>
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<tr>
<td>12—Laboratory Science including Zoology 3101-02.</td>
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<tr>
<td>6—Mathematics</td>
<td></td>
</tr>
<tr>
<td>18—Government 3210-11, History 3101 and 3102, Economics 3101, Philosophy 3301 or 3311.</td>
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</tr>
<tr>
<td>6—Physical Education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.</td>
<td></td>
</tr>
<tr>
<td>-Electives to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.</td>
<td></td>
</tr>
</tbody>
</table>

* Philosophy 3311 is strongly recommended for Bachelor of Arts students.
REQUIREMENTS for MAJORS

Science

Semester Hours
24—Major subject including twelve advanced hours.
18—Minor subject including six advanced hours. Minor must be another science unless otherwise recommended by the chairman of the major department and approved by the dean.

12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.
—Foreign language: completion of 3201-02.

Speech and Drama

Semester Hours
24—Speech and Drama including twelve advanced hours.
18—Minor subject including six advanced hours.
12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.
—Foreign language: completion of 3201-02.
12—Laboratory sciences
6—Mathematics
18—Government 3210-11, History 3101

* Philosophy 3311 is strongly recommended for Bachelor of Arts students.

Bachelor of Science

(Sciences)

Major Subjects: Biology, Chemistry, Geology, Physics.
Minor Subjects: Biology, Chemistry, Geology, Mathematics, Metallurgy, Physics.

Semester Hours
—Major: At least 36 semester hours including 15 semester hours of advanced courses. (Specified for Chemistry: Chemistry 4321-22, 4460, 4461, 6 additional advanced semester hours in Chemistry, and German 4101-02.)
—Minor: At least 15 semester hours including 6 semester hours of advanced courses.
6—Another laboratory science as listed above.
12—English 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.

* Philosophy 3301 is strongly recommended for the Bachelor of Science degree.

6—Physical education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.
—Electives to make a minimum total of 123 semester hours including 36 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.

12—Laboratory sciences
6—Mathematics
18—Government 3210-11, History 3101

* Philosophy 3301 and 3102, Economics 3101, *Philosophy 3301 or 3311.
6—Physical education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.
—Electives to make a minimum total of 123 semester hours including 36 hours in advanced courses. Not more than 66 semester hours may be in the major and minor subjects.

6—Physical education: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.
—Electives to make a minimum total of at least 135 semester hours, including a total of 36 semester hours in advanced courses. Foreign language should be included if the student plans graduate work.
Bachelor of Business Administration

Regular Plan

Semester Hours
42—BUSINESS ADMINISTRATION including 4111, 4112, 4251, 3250-21, 3255-26, 3251, 3341, 3346.
12—ENGLISH 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.
6—LABORATORY SCIENCES
6—MATHEMATICS 3104 and 3113.
27—SOCIAL STUDIES: Government 3210-11; Economics 3101-02, 3375; History 3101 and 3102; Philosophy, 3 semester hours; Psychology, 3 semester hours.

- SPEECH

3—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in freshman and sophomore years.

- ELECTIVES to make a minimum total of 123 semester hours including 30 hours in advanced courses. Not more than 66 semester hours may be in the major subjects.

Bachelor of Business Administration

Pre-Law Plan

Completion of the required work at Texas Western College does not assure entrance to the Law School of the University of Texas. The student following this plan should consult with the faculty advisor for pre-law students on grade averages and any additional requirements for entrance to the Law School of the University of Texas.

Semester Hours
28—LAW completed at the Law School of the University of Texas.
33—BUSINESS ADMINISTRATION 4111, 4112, 3211, 4251, 3250-21, 3255-3311-3346, and three additional semester hours.
12—ENGLISH 3101-02, and 3211-12 or 3213-14 or 3215 and 3216.
6—LABORATORY SCIENCES
6—MATHEMATICS 3104 and 3113.
27—GOVERNMENT 3210-11; Economics 3101-02, 3375; History 3101 and 3102 * Philosophy 3301 is strongly recommended for the Bachelor of Science degree.

Bachelor of Music


Note for Music Majors: Auditions in Voice are required of all Music Majors upon entering college; instrumental majors selected for membership in the a cappella choir will be required to participate each year in residence and will be groomed as both choral and instrumental directors.

Note for majors in Music Education: Elementary Education 3302 is required of students planning to teach social studies, arithmetic, and science.

Note for minors in Music: A minor in music requires participation in the ensemble of the major instrument (band, choir or orchestra), the number of semesters depending on background of student.

Note for Graduate Students minoring in Music: Participation in the ensemble of the major instrument required of full-time students registered for 6 or more semester hours in Music; credits are not counted towards the degree.
REQUIREMENTS for MAJORS

Music Theory and Composition

1. (a) Music theory—38 semester hours.
   (b) Applied music—32 semester hours including 18 hours, secondary level, of the major instrument, 8 hours, or the equivalent, of piano, and 6 hours of secondary instruments.
   (c) Music education—3 semester hours.
   (d) Music literature—12.5 semester hours in addition to choral or band literature taken each semester in residence.
   (e) Participation in the ensemble of the major instrument (choir, band, or orchestra) each semester in residence. Only 8 semester hours may be offered.
   (f) Recital participation and/or attendance considered as laboratory for other music courses.

2. English 3101-02, and 3211-12 or 3213-3214 or 3215 and 3216.


4. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in the freshman and sophomore years.

5. Enough other courses to make at least 129 semester hours including a total of 30 semester hours in advanced coursework. In most cases students will have more than the minimum number of hours, depending upon how they elect to satisfy requirements 1b, 1d and 2e, and upon the quality of work done in applied music.

Music Education

For certification in All-level and Secondary teaching, instrumental or vocal emphasis.
(For details, consult chairman of music department).

A grade average of not less than 2.5 in the teaching field is necessary for permission to do student teaching and for graduation.

1. Music theory—20 semester hours.
2. Applied music—30 semester hours.
   Instrumental field: 12 hours, secondary level, of a major instrument, 4 hours, or equivalent, of piano; 4 hours of voice and 10 hours of secondary instruments.
   Choral field: 12 hours, secondary level, of a major instrument (voice or piano). A minimum of 8 hours of both piano, or the equivalent, and voice is required; 10 hours of secondary instruments.
3. Pre-Professional courses: Ed. 3101-02.
4. Music education—12 semester hours.
5. Professional Laboratory Experiences in Teaching:
   All-level Music Ed. 4401, 4402.
   Secondary Music Ed. 4403, 4404.
6. Music Literature—9 semester hours in addition to band or choral literature taken each semester in residence. At least two semesters of choral literature must be included for instrumental majors.

*Students will be assigned to choral or instrumental experiences, depending upon the major instrument selected.

9. Participation in the ensemble of the major instrument (band, orchestra or choir) each semester in residence. Only 8 semester hours may be offered.
10. Recital participation and/or attendance considered as laboratory for other music courses.
11. English 3101-02. Speech—3 semester hours.
13. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in the freshman and sophomore years.
14. Electives—7 semester hours.
15. Enough courses to make at least 129 semester hours including a total of 30 semester hours in advanced courses. In most cases students will have more than the minimum number of hours, depending upon how they elect to satisfy requirements 2, 6, and 9, and upon the quality of work done in applied music.

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**Applied Music**

**ORCHESTRAL INSTRUMENTS**

1. (a) Music theory—23 semester hours.
   (b) Applied music—38 semester hours including 32 hours, secondary level, of the major instrument and 4 hours of piano, or equivalent.
   (c) Music education—6 semester hours.
   (d) Music literature—12 semester hours in addition to band literature taken each semester in residence. At least two semesters of choral literature must be included.
   (e) Participation in the ensemble of the major instrument (Band or Orchestra) each semester in residence (only 8 semester hours may be offered). At least two semesters of choir must be included.
   (f) Recital participation and/or attendance considered as laboratory for other music courses.

2. English 3101-02 and 3211-12 or 3213-14, or 3215 and 3216.
4. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in the freshman and sophomore years.
5. Enough other courses to make at least 125 semester hours including a total of 30 semester hours in advanced courses. In most cases students will have more than the minimum number of hours, depending upon how they elect to satisfy requirements 1b, 1d, and 1e, and upon the quality of work done in applied music.

**PIANO ORGAN**

1. (a) Music theory—27 semester hours.
   (b) Applied music—32 semester hours of piano, or organ, secondary level; piano sight reading—2 hours or minimum standards audition.
   (c) Music education—9 semester hrs.
   (d) Music literature—12 semester hours in addition to choral or band literature taken each semester in residence. At least two semesters of choral literature must be included.
   (e) Participation in the ensemble of the major instrument (Choir, Band, or Orchestra) each semester in residence (only 8 semester hours may be offered). At least two semesters of choir must be included.
   (f) Recital participation and/or attendance considered as laboratory for other music courses.

2. English 3101-02 and 3211-12 or 3213-14, or 3215 and 3216.
4. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in the freshman and sophomore years.
5. Enough other courses to make at least 125 semester hours including a total of 30 semester hours in advanced courses. In most cases students will have more than the minimum number of hours, depending upon how they elect to satisfy requirements 1b, 1d, and 1e, and upon the quality of work done in applied music.

**VOICE**

1. (a) Music theory—23 semester hours.
   (b) Applied music—32 semester hours including 24 hours of voice, secondary level, and 8 hours, or equivalent, of piano.
   (c) Music education—6 semester hrs.
   (d) Music literature—12 semester hours in addition to choral literature taken each semester in residence.
   (e) Choir each semester in residence (only 8 semester hours may be offered).

2. English 3101-02 and 3211-12, or 3213-14, or 3215 and 3216.
4. Speech—3 semester hours (3214 recommended).
5. Foreign language—Courses 4101-02.
6. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 3101 (for men) or 3102 (for women) as prescribed in the freshman and sophomore years.
7. Enough other courses to make at least 125 semester hours including a total of 30 semester hours in advanced courses. In most cases students will have more than the minimum number of hours, depending upon how they elect to satisfy requirements 1b, 1d, and 1e, and upon the quality of work done in applied music.
## Bachelor of Science in Education

### Semester | Plan I - Elementary School | Hours
--- | --- | ---
35 | Education 3101, 3102, 3201, 3203, 3301, 3302, 3303, 3304, 3399, 4401, 4402 (A grade average of not less than 2.5 is required in this area.)

12 | English 3101-02, and 3211-12 or 3213-14. (Additional work will be required of the student showing a lack of proficiency in written English.)

6 | Speech. (Additional work will be required of the student showing a lack of proficiency in oral English.)

36 | Mathematics 3101 and 3102. (Mathematics 3102 will also be required of the student showing a lack of proficiency in written English.)

12 | History 3101 and 3102.

12 | Physical Education 3204 and 3301, also Health Education 3101 (for men) or 3102 (for women); and three semesters of service courses as prescribed in freshman and sophomore years (not required of students taking 3 semesters of Military Science).

12 | Electives to make a minimum total of 123 semester hours.

### Plan II - Secondary School

29 | Education 3101, 3102, 3202, 3204, 3311, 3308, 3395, 4403, 4404. (A grade average of not less than 2.5 is required in this area.)

12-24 | In the first teaching subject, 12 hours of which must be advanced. (A grade average of not less than 2.5 is required in this area.)

### School of Nursing

The establishment of a School of Nursing was recently authorized and it is anticipated that the school will be fully organized with respect to faculty, curriculum, and physical facilities by the beginning of the 1957 fall semester.

The curriculum will lead to the Bachelor of Science degree in Nursing and upon completion of the program students will be qualified to take the State Board examinations for registration. The school will not offer terminal work leading to a diploma at the completion of three years of study.

Entrance requirements for the freshman year will be the same as those of the Division of Arts and Sciences; however, prospective nursing students are urged to take high school chemistry. Students may enroll in Nursing prior to September, 1957; however, course offerings will not include any professional nursing courses before this date.

Detailed information pertaining to the curriculum and other requirements will be available during the early part of the summer and may be obtained by writing the Director, School of Nursing.

A number of scholarships will be available for qualified students. Application should be made to the Office of the Dean of Student Life.

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GRADUATE DIVISION

TEXAS WESTERN COLLEGE offers work leading to the degree of Master of Arts and Master of Education. Graduate Study is under the general supervision of the Graduate Council. The program carried by any student who has been admitted to the Graduate Division is under the administration of the Dean of the Graduate Division. Work of the individual student after admission will be directed by a professor in the major field. A grade of at least B is required in any course counted for graduate credit. A minimum of fifty per cent of the semester hour requirements must be in graduate courses (3500 and above). Graduate courses are open to graduate students only, and have prerequisites of twelve semester hours of advanced courses in the particular field.


ADMISSION TO GRADUATE DIVISION

1. Qualifications of Applicants:
   An applicant for admission to the Graduate Division must hold a bachelor's degree from an accredited college or university. Twenty-four (24) semester hours of undergraduate work in the major subject and twelve semester hours in the minor subject are required. Removal of any undergraduate deficiencies will be subject to action of the Graduate Dean with the exception that deficiencies in the study of the Constitutions of the United States of America and of Texas must be satisfied in accordance with the state law.

2. Method of Application:
   An application for admission must be made in the office of the Dean of the Graduate Division, where forms may be secured. Two complete transcripts must be provided—one for the Registrar, and one for the office of the Dean of the Graduate Division.

3. Transfer of Credit:
   Acceptance of graduate credits from another institution may not exceed six semester hours, and is subject to approval by the Graduate Council.

Graduate Credit for Work Taken as Undergraduate

An undergraduate student who has completed the freshman and sophomore requirements for a bachelor's degree and who lacks not more than twenty-seven (27) semester hours of completing all requirements for the degree may secure graduate credit for additional advanced courses upon petition to the Graduate Council at the time of registration.

The Aptitude Test

After September 1, 1955, everyone, including graduates of Texas Western College, who seeks admission to the Graduate Division with the master's degree as an objective will take the Aptitude Test of the Graduate Record Examination, prepared and scored by the Educational Testing Service of Princeton, New Jersey. Applications for the test must be made in the office of the Graduate Division at least three weeks in advance of the published date of the test. An examination fee of $3.00 is required of each examinee. A check for this amount, payable to the College, should accompany the application. The Aptitude Test will be given three times each year—in October, March, and July. To be admitted unconditionally to candidacy, a student must make a score above that of the lowest quartile. Scores in both the quantitative and verbal factors will be considered. Education majors will be required to take both the Aptitude Test and the Advanced Test in Education. Other majors, at the discretion of the department concerned, may also be required to take the advanced test in their field. These examinations will be administered by the Bureau of Testing and Guidance in Annex I.

* 1957: March 30, July 13, October 26;
   1958: March 29, July 12.
GRADUATE DIVISION

Graduate Load for Teachers
Students who are employed in full time teaching positions should be limited to three semester hours of work each semester. With the written approval of the school superintendent, as much as six semester hours of graduate credit for one semester may be approved; however, nine semester hours is the maximum that may be approved for one academic year.

Graduate Load for Veterans
Twelve semester hours of course work constitutes a full load for the regular semester; six semester hours for each term of the summer session.

Candidacy
After completion of twelve semester hours, an applicant for the master’s degree must file a Petition for Candidacy, which will be acted upon by the department of the major. If the petition is denied, a new application may be made at a later date.

Examination
A comprehensive examination, oral and/or written, may be given at the discretion of the major department.

Scholastic Regulations
General regulations pertaining to undergraduate, such as those concerning class attendance, changing or dropping courses, withdrawals, and examinations apply in the Graduate Division.

Catalog Requirements
A student may obtain a degree according to the requirements of the catalog in force at the time of his admission to the Graduate Division or of a later catalog, subject to the restriction that all requirements must be completed within six years of the date of admission.

Residence
The minimum requirement for the master’s degree is one long session or three summer sessions, or one semester of the long session and two summer sessions. In the case of students doing part-time graduate work during the long session, residence will be computed in terms of semester hours completed, three semester hours being equivalent to one-fourth of a semester.

REQUIREMENTS FOR THE MASTER OF ARTS DEGREE

1. A thesis (six semester hours) and twenty-four (24) semester hours of course work.

2. A major* with a minimum of eighteen (18) semester hours, including the thesis; a minimum of 24 semester hours is permissible.

3. A minor of not less than six (6) semester hours. There may be two minors of six (6) semester hours each, or one minor with a maximum of twelve (12) semester hours.

4. There must be a minimum of fifteen (15) semester hours, including the thesis, of graduate courses (those numbered 3500 and above).

Thesis
The thesis must be approved by a committee of not less than two. The head of the department of the major, or a member of that department will be the chairman. Two completed copies of the thesis, neatly typewritten on required quality bond paper in uniform large type, double-spaced, must be presented to the dean of the graduate division on commencement day in the long session and not less than five days in the summer session. In order to obtain the six semester hours credit for the thesis, the student must register for course 3598 during the preparation of the thesis and must register for course 3599 during the semester or summer session in which all requirements for the degree are completed. If a student has not completed his thesis work at the end of two years after the subject has been approved and recorded, then the supervisor may require him to choose another subject. Credit in the thesis course will not be granted until the thesis is completed and approved.

REQUIREMENTS FOR THE MASTER OF EDUCATION DEGREE

1. Thirty-six (36) semester hours of course work.

2. Not less than twenty-one (21) semester hours, nor more than twenty-seven (27) semester hours of Education.

3. A minor of not less than nine (9) semester hours or more than fifteen (15) semester hours. There are two possibilities for a split minor: nine (9) semester hours in one subject and six (6) in another, or six (6) semester hours in each of two fields.

4. There must be a minimum of eighteen (18) semester hours of graduate courses (those numbered 3500 and above).

*When the major is in Education, there must be a minor of twelve (12) semester hours.
# Course Descriptions

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</tbody>
</table>
Explanation of Course Numbering System

CREDIT MEASUREMENT

The unit of measurement for credit purposes is the semester hour. A semester hour entails one hour of recitation and/or lecture (or the equivalent in shop or laboratory work) per week for one semester of eighteen weeks, unless otherwise specified in the course description. For each classroom hour two hours of preparation are expected. Three hours of shop or laboratory work are counted as equivalent to one classroom hour and the preparation for it. Unless otherwise stated in the course description, it can be assumed that a course will meet for one hour of recitation-lecture per week for each semester hour of credit.

COURSE NUMBERING SYSTEM

Courses are designated by four digit numbers. The first number indicates semester hour value of the course, the second number indicates level of the course: all courses with a second number of 1 are freshman courses, all courses with a second number of 2 are sophomore courses, all courses with a second number of 3 are junior courses, all courses with a second number of 4 are senior courses, and all courses with a second number of 5 are graduate courses. Any course with a second number of 3 or 4 may be counted as upper division work.

TWO SEMESTER COURSES

Courses requiring two semesters for completion are designated in the course description by a hyphen. For example, English 3101-02. In such cases no credit will be given until both semesters of the course have been completed. When any course requires two semesters for completion, the first semester is prerequisite for enrolling in the second semester.

COURSE FEES

Laboratory and other special fees for individual courses are indicated no a per-semester basis in parentheses following course titles:

**GEOLOGY**
- 3210 Principles of Geomorphology ($2)

**BIOLOGY**
- 3101-02 Anatomy and Physiology ($2-$2)
  *(Two Semesters – Two Fees)*
Art

MISS VERA WISE, Chairman
Professor Wise; Associate Professor HARRISON; Assistant Professors COOCLER, MASSEY; Instructor THONSON; Assistant Instructor TETZNER

The art program permits students to specialize in the following directions: Painting, design, art education, the crafts and graphics. The third digit in course numbers indicates the area; i.e., painting 1, life drawing 2, graphics 3, metals 4, enamels 5, design 6, photography 7, clays 8, art education 9. The last digit represents, generally, the semester a course is offered, odd numbers indicating the first semester and even ones the second. A third digit 0, generally, indicates a basic course.

The Art Department reserves the right to keep a limited amount of student work for exhibition purposes for a period of one year.

For Undergraduates

Basic Courses

2103-04 Basic Design ($2 - $2)
A course stressing principles of art, color theory, dimensionality, and other design qualities. The organization of ideas into creative design.

2105-06 Basic Drawing ($2 - $2)
Instruction in drawing of forms, actions, etc., with emphasis upon learning skill in draftsmanship and perspective.

3110 Introduction to the Fine Arts
Enjoyments of the Arts through understanding of their interrelationship and the expressive elements common to Music, Art, and Drama. Differences in media of expression and the tools of each Art. Required of Art majors. Not counted in addition to Music Literature or Drama by the same number.

3301-02 Art History and Appreciation [3101-02]
Art from Man’s earliest period of aesthetic expression through the Renaissance. Second semester covers development from the Renaissance to contemporary art. Aesthetic understanding furthered by analyses by students of both two and three dimensional art. Lectures, slides, and films.

Specific Areas

All fourth year courses may be taken for graduate credit.

Painting

For Undergraduates

2211-12 Painting ($2 - $2)
The development of painting experience and creative forms. Prerequisite: Must be taken in sequence; 2104 concurrently, or following first semester or, with consent of the head of the department.

2311-12, 2411-12 Painting ($2 - $2)
Organization of composition from sketches, experiment and imagination, with emphasis on color theory, form, and technique. Prerequisite: Must be taken in sequence (2212 prerequisite for 2311). One extra credit hour available, with consent of head of the department.

2413-14 Painting ($2 - $2)
Exploration of Mural techniques and media. Prerequisite 2312.

Life Drawing

For Undergraduates

2211-22, 2221-22 Life Drawing ($2 - $2)
Basic study of the human form, with special attention given to head, hands, and feet. Prerequisite: Must be taken in sequence.
ART

Former Number 2321-22, 2421-22 Life Drawing ($2 - $2)
Emphasis on aesthetic factors in interpreting human form, and composition of group studies. Prerequisites: Must be taken in sequence (2222 prerequisite for 2321).

Graphics For Undergraduates
2131-32 Graphics ($2 - $2)
Introductory course for basic graphic processes. 2132 prerequisite for following graphic courses.
2231-32 Etching ($2 - $2)
Experimentation with line etching for various approaches, line or value.
2233-34 Lithography ($2 - $2)
Experimentation with lithographic processes on stone.
2331-32 Etching ($2 - $2)
Advanced work in all etching or intaglio media, including aquatint, lift, and soft ground. 2232 prerequisite for 2331.
2333-34 Lithography ($2 - $2)
Advanced work in lithographic media. Color problems developed. 2233 prerequisite for 2333.

Metals For Undergraduates
2141-42, 2241-42 Metals ($2 - $2)
Basic techniques in jewelry construction. Prerequisite: Must be taken in sequence.
2341-42 Metals ($2 - $2)
Basic to advanced techniques in metal smithing. Prerequisite: Must be taken in sequence (2242 prerequisite for 2341).

Enameling For Undergraduates
2151-52, 2251-52 Enameling ($2 - $2)
Basic techniques in enameling, from jewelry forms to the enameling of hollow ware. Prerequisite: Must be taken in sequence.
2351-52 Enameling ($2 - $2)
Advanced problems in enameling. Prerequisite: 2252.

Design For Undergraduates
2161-62 (Advertising Design ($2 - $2)
Application of design principles to advertising art and study of type faces and letterforms. Concurrently or following 2104 and 2105.
2261-62 Advertising Design and Production ($2 - $2)
Advanced study of advertising art and production on a professional level. Prerequisite: 2162.
2263-64 Interior Design ($2 - $2)
Application of principles of art to home decoration problems: house planning, choice of furniture, color theory, etc., design for modern living. Prerequisite: Sophomore standing.
2264-1 Fashion Design ($2)
Techniques in drawing the fashion figure, media used and training in newspaper and magazine reproduction. Prerequisites: 2104 and 2122 (2122 may be taken concurrently).
AnT

2265-1 Display ($2)

Art principles applied to window, store, and other types of display of merchandise and other material. Prerequisite: 2104 and 2105 (2105 may be taken concurrently).

2361-62 Three Dimensional Design ($2 - $2)

Workshop experimentation with materials and forms in various media, with emphasis on excellence of craftsmanship and design. Prerequisite: four hours of crafts plus basic courses.

Photography

2171-72 Photography ($2 - $2)

Theory and technique of the photographic process: laboratory, studio, and field practice. Use of light as a creative and aesthetic medium. Concurrently or follow ing 2105.

Clays

For Undergraduates

2181-82, 2281-82 Clay ($2 - $2)

Methods of construction by hand, pinch pot, coil, slab, throwing, modeling and casting. Glaze techniques. Prerequisite: Must be taken in sequence.

2381-82 Clay ($2 - $2)

Advanced techniques in ceramics. Emphasis on study of clays, glazes, and technical aspects of ceramic production, including equipment. Prerequisite: Must be taken in sequence (2281 prerequisite for 2381).

Art Education

For Undergraduates

2195-96 Elementary Art Education ($2 - $2)

A course designed for elementary school teachers, to instruct them in methods of the integrated art program. Required for the certification of elementary teachers.

2291-92 Art Teaching Methods ($2 - $2)

Organization of art projects and teaching plans for all levels. Exploration of all types of materials that can be used creatively, and instruction in their use. Prerequisite for 2291: 2104, or concurrently. Must be taken in sequence.

2391-92, 2491-92 Materials and Techniques in Teaching Art ($2 - $2)

Art principles and elements stressed in art forms, instruction in technical use of materials, visual equipment and its use: television adapted to art education. Prerequisite: Must be taken in sequence (2292 prerequisite for 2391).

Research

1401 to 6401 Introduction to Research in Art Fields

Credit will be given up to six semester hours for research satisfactorily completed by advanced students in the Art Department. Only specially qualified students approved by the Chairman of the Art Department will be accepted for this work. Credit will be granted only in the senior year on the recommendation of the Chairman of the Art Department. Prerequisite: Permission of the Chairman of the Art Department.
Credit toward college degrees is given for certain courses offered under the following regulations established by the Board of Regents to maintain the equivalence of these courses with other courses given in the College:

The plant in which the courses credited are given must (1) be located in El Paso, convenient to the College; (2) contain adequate classroom facilities—rooms, seats, blackboards, charts, maps, tables; (3) provide a library of books, dictionaries, and lexicons costing at least $500 as an initial expenditure.

The instructors by whom the courses credited are given must (1) be under the control of some permanent religious organization of recognized standing; (2) possess at least the training demanded of instructors in the College; (3) devote their time primarily to teaching; (4) be approved by the President, subject to final action by the Board of Regents.

The courses credited must (1) be in the field of historical or literary, but not exegetical or doctrinal, study of the Bible; (2) be thoroughly organized, with syllabi showing the outlines and required readings; (3) be of college grade and on a subject suitable for college instruction; (4) be given in regular classes with meetings at least equal in number, in length of period, and in amount of preparation required, to those of a College course involving the credit asked; (5) include regular tests or examinations corresponding to those of the College, to be given at the time prescribed by the College for other examinations; (6) be subject to the same regulations and oversight as regular courses given in the College.

The students enrolled in the courses for credit (1) may be credited with no more than twelve semester hours in Bible on any bachelor's degree; (2) are subject to the regulations of the catalog on the amount of work which may be carried.

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<tr>
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</tr>
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<td>3103</td>
<td>The Life of Christ</td>
<td>303</td>
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<td>3104</td>
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<td>3107</td>
<td>Elementary New Testament Greek</td>
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<td>3108</td>
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<td>3201</td>
<td>Comparative Religion</td>
<td>310</td>
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<td>3301</td>
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# Biological Sciences

**Biological Sciences**

**Dr. A. H. Berkman, Chairman**

*Professor Berkman; Assistant Professors Landers, Duke, Reeves; Instructor Vance*

Biology 3204 may not be used to satisfy the science requirement for the Bachelor of Arts Degree or the Bachelor of Science Degree.

## Biology

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<td>3101-02</td>
<td>Anatomy and Physiology ($2-$2)</td>
<td>Study of a typical animal cell: mitosis and cell division; mitosis; survey of mammalian histology, the human skeleton, muscles of the body, circulatory and nervous systems, physiology. Three lectures and two laboratory hours per week. This course is open only to pre-clinical nurses and to students in a school of nursing.</td>
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<tr>
<td>4103</td>
<td>Nutritional Requirements of the Human Body ($4)</td>
<td>Nutritional needs of the normal human body. Three lectures and three laboratory hours per week. Prerequisite: Biology 3101 and Chemistry 3101. This course is open only to pre-clinical nurses and to students in a school of nursing.</td>
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<td>3201</td>
<td>Microbiology ($2)</td>
<td>Survey of microbes with emphasis on pathogens, bacteria and protozoans; culture technique; staining technique; histology of the blood and typing of blood groups. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 3102 and Biology 3101. This course is open only to pre-clinical nurses and to students in a school of nursing.</td>
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<tr>
<td>3202</td>
<td>Biology of the Human Body ($2)</td>
<td>Survey of the anatomy of the human body with emphasis on the skeletal and muscular systems. Three lectures and two laboratory hours per week. Prerequisite: Zoology 3202. This course may not be counted for credit in addition to Zoology 3202.</td>
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<tr>
<td>3203</td>
<td>Introduction to Human Physiology ($2)</td>
<td>Body functions with emphasis on their relations to physical exercise. Three lectures and two laboratory hours per week. Prerequisite: Biology 3202 or Zoology 3202.</td>
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<tr>
<td>3204</td>
<td>Heredity (Genetics)</td>
<td>Principles of heredity in their application to animals, plants, and mankind. Prerequisite: Sophomore standing or six semester hours of a laboratory science.</td>
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<tr>
<td>3301</td>
<td>Technique in Histology and Cytology ($2)</td>
<td>Fixing, imbedding, sectioning, staining and mounting tissues and cells for critical microscopical examination. One lecture and six laboratory hours per week. Prerequisite: Chemistry 413, or 3211-22 or 4311-22 or Bacteriology 3302, or 12 semester hours of zoology, or botany, and permission by the chairman of the department.</td>
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<td>Principles of bacteriology; application of pure culture method employing non-pathogenic forms; bacteriological analysis of water, milk, and sewage; staining technique; preparation of media. Three lectures and three laboratory hours per week. Prerequisite: Twelve semester hours in any one of the natural sciences or a combination of twelve semester hours in natural sciences and junior standing.</td>
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BIOLOGICAL SCIENCES

3302 Pathogenic Bacteria and Immunology ($2)

Survey of pathogenic bacteria with emphasis on their pathogenicity, and application of principles in isolation: introduction to immunology and hematology. Three lectures and three laboratory hours per week. Prerequisite: Bacteriology 3301; for juniors and seniors, the equivalent of Bacteriology 3301 as determined by the instructor and the Head of the department.

Botany

3101 General Botany ($2)

Survey of the plant cell and plant body; survey of the algae and fungi coupled with an exposition of their functional relationship to man. Three lectures and two laboratory hours per week.

3102 General Botany ($2)

Life cycles and survey of mosses, ferns, and seed plants. Three lectures and two laboratory hours per week. Prerequisite: Botany 3101.

3201 Local Flora ($2)

Survey of flowering plants of the El Paso Region. Two lectures and three laboratory hours per week. Prerequisite: Six semester hours of a laboratory science, or Botany 3101 and sophomore standing.

Zoology

3101 General Zoology ($2)

Theoretical biology; survey of the invertebrates and their relationship to health problems and the economic phase of man's life. Three lectures and two laboratory hours per week.

3102 General Zoology ($2)

General survey of the protochordates, cyclostomes, the dogfish, and the frog. Introduction to animal histology and genetics. Three lectures and two laboratory hours per week. Prerequisite: Zoology 3101, or three semester hours of general biology.

3201-02 Vertebrate Zoology and Comparative Anatomy ($2-$2)

Comparative study of the anatomy of the dogfish, an amphibian (Necturus), the turtle, the pigeon, and a mammal, with emphasis on development and relationship of such evolution to developmental anatomy of man. Three lectures and three laboratory hours per week. Prerequisite: Zoology 3102, or six semester hours of general biology.

For Undergraduates and Graduates

3301 Vertebrate Embryology ($2)

Development of the chick and mammalian embryos. Two lectures and three laboratory hours per week. Prerequisite: Zoology 3202; for juniors and seniors, Zoology 3102 completed with a grade not lower than C, and Zoology 3201-02 concurrently. Zoology 3202 must be completed before credit can be granted for the completed course in Zoology 3301.

3302 Animal Cytology and Histology ($2)

Structure, differentiation, and functions of cells, ontogeny and histogenesis of tissues. Two lectures and three laboratory hours per week. Prerequisite: Zoology 3202; for juniors and seniors, Zoology 3102 completed with a grade not lower than C, and Zoology 3201-02 concurrently. Zoology 3202 must be completed before credit can be granted for the completed course in Zoology 3302.
Business Administration and Economics

DR. C. E. Kiser, Chairman

Professors Kiser, Hartrick; Associate Professors Brewster, Sanders;
Assistant Professors Bennett, Black, Buckner, Cramer, Freeland, Middagh,
Ryan, Sayles, Smith; Instructors Barres, Heuser, Howard, Mayhall, Neprud,
R. Walker; Lecturers Bixler, Brockmoller, Brownlow, Cowart,
Dickinson, Ellenbur, G. Walker.

Majors in this department may secure the degree of Bachelor of Business Administration or Bachelor of Arts. For those preparing particularly for business careers, the Bachelor of Business Administration degree is recommended. Students choosing the Bachelor of Arts degree may major in Economics or Business Administration.

Each student is strongly advised to consult with the advisor in his field of concentration, including Accounting, Economics, Finance, Foreign Trade, Insurance, Labor and Industrial Management, Marketing, Office Management, Real Estate, Secretarial Science, Statistics, and Transportation. Students wishing to teach subjects in economics or business in high school or college should plan their courses with the aid of the department chairman. Students interested in the study of law should follow the Pre-law Plan leading toward the Bachelor of Business Administration degree.

Note to majors and minors in this department: In order that your courses may be co-ordinated and planned in advance, you are urged to counsel with the chairman of this department before registration in your sophomore year. Advice at this stage may prevent subsequent difficulties in your program. Mature students, properly qualified with adequate business education and experience, may enter courses by permission of the department chairman.

BUSINESS ADMINISTRATION

For Undergraduates

3121 Introduction to Business [601]
A general survey of the major industries in the United States with special emphasis on the competitive, technological, and historical forces underlying their growth and development.

Secretarial Science

For Undergraduate Credit Only

2101 Elementary Typewriting ($2) [302]
For the beginner on the typewriter; keyboard, techniques, copy work and page placement. Five hours per week.

2102 Intermediate Typewriting ($2) [303]
A continuation of Business Administration 2101 with emphasis on speed and accuracy; business letters and business forms. Five hours per week. Prerequisite: Business Administration 2101.

2103 Advanced Typewriting ($2) [NEW]
A continuation of Business Administration 2102 with further emphasis on speed and accuracy; business letters and legal papers; manuscript writing. Five hours per week. Prerequisite: Business Administration 2102.

4104-05 Elementary Shorthand [604]
Fundamental principles of Gregg shorthand, reading, writing and elementary transcription. Three classroom and two workshop hours per week for two semesters. Prerequisite: Business Administration 2102 (may be taken concurrently).

For Graduates and Undergraduates

3301-02 Advanced Stenography ($2-$2) [621]
Development of speed and accuracy in shorthand and typewriting; technical vocabulary; office procedures; dictating machine transcription. Three classroom and three laboratory hours per week for two semesters. Prerequisite: Business Administration 4105, 2102 or 2103 (may be taken concurrently).

* On Leave of Absence.

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BUSINESS ADMINISTRATION AND ECONOMICS

3303 Office Practice ($2)
Practice of all office procedures; duplicating and dictating machines, and other types of office equipment; PBX, filing; advanced dictation and transcription; secretarial responsibilities. Three classroom and three laboratory hours per week.  
Prerequisite: Business Administration 3301-02 (may be taken concurrently).

Accounting  
For Undergraduate Credit Only

4111 Theory and Practice in Accounting ($4)
Principles of double-entry bookkeeping, theories of general financial accounting, analysis and recording of business transactions, adjusting and closing entries; financial statements, sole proprietorship accounting, practice set. Three classroom and three laboratory hours per week.

4112 Theory and Practice of Accounting ($4)
Continuation of Business Administration 4111. Partnership accounting, corporation accounting, reserves and reserve funds, manufacturing accounts, asset valuation, practice sets. Three classroom and three laboratory hours per week.  
Prerequisite: Business Administration 4111.

3211 Intermediate Accounting, First Course
Classification and codification of accounts, forms and content of financial statements; theory involved in corporation accounting, actual cost accounting, consignment and installment sales; evaluation of investments, analysis of working capital.  
Prerequisite: Business Administration 4112.

3212 Intermediate Accounting, Second Course
Prerequisite: Business Administration 3211.

For Graduates and Undergraduates

3310 Governmental and Municipal Accounting
A study of accounting principles as applied to governmental unit systems. Emphasis on budgetary and fund accounts.  
Prerequisite: Business Administration 3211.

3311 Cost Accounting
Accounting for materials, labor, and manufacturing expense under specific cost system and continuous process cost system. Study of standard costs, variances production orders, standing orders.  
Prerequisite: Business Administration 4112.

3313 Auditing
Auditing procedure, reports, and working papers used in financial investigations; balance sheet, detailed audits; verifications of assets, liabilities, nominal accounts.  
Prerequisite: Business Administration 3211.

3315 Federal Tax Accounting for Individuals
Theory and problems, income tax forms, most recent federal revenue acts, and application of federal tax problems to everyday personal and business questions.  
Prerequisite: Business Administration 4112.

3316 Federal Tax Accounting for Partnerships and Corporations
Theory and problems, estate and trust taxes, capital stock taxes, excess profits taxes, gift taxes, foreign income taxes, and problems of foreign taxpayers.  
Prerequisite: Business Administration 3315.

3411 Advanced Accounting, First Course
Advanced phases of accounting for capital stock, surplus, surplus reserves, and corporate income.  
Prerequisite: Business Administration 3212.
BUSINESS ADMINISTRATION AND ECONOMICS

Former Number

3412 Advanced Accounting, Second Course [362]
The advanced accounting aspects of corporate reorganizations, liquidations, receiverships, corporate trusteeships, bankruptcies, estates and trust, partnerships, syndicates, and joint ventures. Prerequisite: Business Administration 3411.

3413 C. P. A. Problems [363]
Solution of problems in regular C.P.A. examinations and by the American Institute of Accountants. Prerequisite: Twelve semester hours of courses in accounting.

3414 C. P. A. Law Review [364]
Analysis of C.P.A. law examinations for recent years; fields of law covered by examinations; technique of analyzing and answering law problems and cases. Prerequisite: Business Administration 3325-26.

Machines, Letters, and Office Management

For Undergraduate Credit Only

3120 Business Machines ($2) [307]
A course designed to teach speed and accuracy in the operation of business machines, particularly adding machines and calculators, including practical business problems.

For Graduates and Undergraduates

3320-21 Business Letters and Report Writing [620]
Preparation for writing clear, concise and forceful business letters. Letter types include sales, credit, adjustment, claim, order, rejection, collection, and application letters; theory and practice of report writing. Prerequisite: English 3211-12 or 3213-14 or 3215 and 3216; junior standing; Business Administration 2102 or by passing departmental examination.

3322 Office Organization and Management [335]
Location, equipment, organization, and general routine practice of the modern office from the office manager's and the office employee's viewpoints. Prerequisite: Junior standing.

Business Law and Insurance

For Undergraduate Credit Only

3325-26 Business Law [623]
Textbook and case method. Law of contracts, agency, bailments, sales, mortgages, negotiable instruments; emphasis on Texas interpretation. Prerequisite: Economics 3102 or Business Administration 4112; junior standing.

3328 Insurance Fundamentals [359]
The economic and social services, the important principles and practices, and the principal legal phases of all the common forms of insurance including life, property, casualty, and suretyship. Prerequisite: Business Administration 4112 or Economics 3102.

For Graduates and Undergraduates

3328 Life Insurance [360]
Types of policies, personal applications and uses, rate making, estate programs; economic, legal and taxation phases of settlement plans and insurance trusts; modern developments and combinations of life underwriting services. Prerequisite: Business Administration 3228.

3329 Property and Casualty Insurance [360]
Policy contracts and uses of all fire insurance, inland and ocean marine, liability, automobile, casualty and surety coverage. Prerequisite: Business Administration 3228.
Real Estate

For Undergraduate Credit Only

3332 Real Estate Principles and Practices [378]
Fundamentals of the real estate business. The economics of real property. Ownership, titles, and interests in real estate; liens, taxes, contracts, leases, deeds; financing and investment; valuation and appraisal principles; subdivision, home ownership, and housing; insurance, ethics, licensing requirements, and operating procedures. Prerequisite: Economics 3102.

For Graduates and Undergraduates

3332 Real Estate Brokerage [378K]
Operation of the real estate business. Qualifications and training of salesmen and brokers; licensing requirements; government regulations and zoning; real estate instruments and legal principles; title transfers and closings; relations with employers, other salesmen, and brokers; code of ethics and objectives of the National Association of Real Estate Boards. Prerequisite: Business Administration 3232 and junior standing.

3333 Real Property Management and Investment [NEW]
Management of real estate; investment in real estate; maintenance; personnel problems; costs, yields; elements of appraisal and income; depreciation; records and accounting. Prerequisite: Business Administration 3232 and junior standing.

3334 Real Estate Finance [NEW]
Methods of financing real estate; financial institutions; instruments of finance; mortgages; government, business, and private financing techniques; legal and tax aspects of real estate financing. Prerequisite: Business Administration 3232, 3333.

3432 Real Estate Appraisal [378M]
Practical methods and basic principles of real property valuation. The appraisal process; neighborhood trends; site valuation, building material; architectural styles and functional utility; building cost estimates; depreciation; technique of the cost, market, and income capitalization approaches; correlation of data and final estimate; the appraisal report, testifying, and professional standards. Prerequisite: Business Administration 3232, 4112.

3433 Real Estate Law [NEW]
The law of real property with special application to Texas. Business and personal legal interests and rights in real estate; classification of estates; community and separate property; license law of Texas; titles; conveyances and legal documents; liens; contracts; deeds; closing transactions; federal taxes and their effect on real estate ownership. Prerequisite: Business Administration 3232, 3326.

Labor and Industrial Management

For Graduates and Undergraduates

3345 Personnel Management [342]
Policies and practices of planning for and organizing personnel for the purpose of procuring, developing, maintaining, and utilizing employees. Prerequisite: Junior standing.

3346 Industrial Management [NEW]
Basic principles of industrial organization and management; problems connected with production and human relations; case studies. Prerequisite: Economics 3101 and junior standing.

3347 Foremanship and Supervision [NEW]
Managerial problems on the level of first-line supervisors; leadership and discipline; relations with subordinates, with superiors, and with other departments; problems of absenteeism, grievances, morale, and safety. Prerequisite: Business Administration 3345.
BUSINESS ADMINISTRATION AND ECONOMICS

Former Number

3448 Methods Improvement  [ NEW
An analysis of the procedures, processes and principles of motion economy and
micromotion techniques; determining time standards and their relation to incentive
systems; attendant human relations problems are examined. Prerequisite:
Business Administration 3346.

3449 Production Control  [ NEW
A study of the function of production control and its relationship with manufactur-
ing, sales, and technical staff departments. Observations of the techniques used by
business are made by means of field trips and case problems. Prerequisite:
Business Administration 3448.

Marketing and Statistics

For Undergraduate Credit Only

3351 Marketing  [ 337
Considers functions, middlemen, institutions, law, policies, and practices in
marketing. Prerequisite: Economics 3102.

For Graduates and Undergraduates

3350 Fundamentals of Advertising  [ 321K
Relation to other business functions. Study of campaigns, appropriations, media,
and practical advertising activities. Prerequisite: Business Administration 3351
and junior standing.

3351 Advertising, Copywriting and Special Layouts  [ 326K
Instruction and practice in preparing various types of copywriting and layouts.
Study of marketing media, direct mail advertising, circulars, store layouts. Two
classroom and two practice hours per week. Prerequisite: Business Administra-
tion 3350.

3352 Public Relations  [ 355
Principles, techniques, and methods used in public relations; necessity and sig-
nificance in the free enterprise system. Relationships include national, state, and
local government, employees, customers, suppliers, social and religious institu-
tions. Prerequisite: Junior standing.

3353 Business Salesmanship  [ 339
Economic problems of personal selling, planning and execution of an interview,
product and market analysis, building good will, salesman and employer rela-
tionship. Prerequisite: Business Administration 3351 and junior standing.

3355 Owning and Operating a Small Business  [ 367
A study of steps essential in planning, organizing, and operating a single pro-
prietorship or partnership enterprise. Special emphasis on meeting local, state,
and federal requirements; locating, financing, insuring, accounting, and mer-
chandising for profit. Prerequisite: Business Administration 4112 and junior
standing.

3359 Storage and Warehousing  [ 346
Development of facilities, services, and practices by public and private ware-
houses; financial, transportation, and other aspects of industry. Prerequisite:
Economics 3102; junior standing; Business Administration 3251.

3379 Credits and Collections  [ 335
Considers the types of credit, credit terms, organization and operation of credit
department, credit analysis and appraisal, credit information, collection devices,
legal aspects, and procedure with past due and insolvent accounts. Prerequisite:
Business Administration 4112 or Economics 3102 and junior standing.

3450 Principles of Retailing  [ 369
Survey of all phases of retailing, internal and external. Prerequisite: Business
Administration 4112 and 3251.

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## Market Research and Analysis
Former Number: 3451
Research methods and statistical techniques used in market research and analysis. Emphasis on collection of information from internal and external sources, analysis, interpretation, and presentation of research findings. Prerequisite: Business Administration 4391 and Business Administration 3251.

## Credit Management Problems
Former Number: 3479
A case study of credit problems developing professional approaches to responsibilities, policies, and skills of credit management. Prerequisite: Business Administration 3251.

## Principles of Statistics ($4)
Prerequisite: Six semester hours of mathematics and junior standing.

## Transportation
### For Graduates and Undergraduates
#### Fundamentals of Transportation
Former Number: 3370
History, economic characteristics and regulation of rail, motor, air, water and pipeline transportation agencies. Prerequisite: Economics 3102 and junior standing.

#### Transportation and Traffic Management
Former Number: 3371
Technical tariff and rate interpretation; through routes and rates, overcharges and undercharges, loss and damage; imports and exports traffic; classification and rate committee procedure. Prerequisite: Business Administration 3379 or permission of the department chairman.

#### Transportation and Traffic Management (Cont'd.)
Former Number: 3370
Development, construction, interpretation and application of the Interstate Commerce Act; creation and organization of Interstate Commerce Commission; procedure and practice before I.C.C. Prerequisite: Business Administration 3371.

## Finance
### For Graduates and Undergraduates
#### Corporation Finance
Former Number: 3331
Promotion of corporations, sources of capital, capital structures, internal financial management, receiverships, reorganizations, relation of corporation finance to banking, social consequences of over-promotion. Prerequisite: Economics 3102 and junior standing.

#### Banking Theory and Practice
Former Number: 3376
Bank promotion and incorporation; organization and powers, directors, stockholders, clearing and collecting systems, credit analysis, banking departments, Federal Reserve System. Prerequisite: Economics 3375.

#### Investments
Former Number: 3378
Investment principles, investment banking, security analysis, security classification including rails, industrials, utilities, governments, and others. Principally considers investor's viewpoint. Prerequisite: Business Administration 4112 and junior standing.
Special Studies  For Graduates and Undergraduates

2495 to 6495 Special Studies in Business Administration  [679]
Special studies in areas for which a separate course is not organized. Credit will vary according to work performed, value being indicated by course numbers. Prerequisite: Eighteen hours of Business Administration and/or Economics, six of which must be advanced; consent of instructor and the department chairman.

For Graduates Only

3595 Managerial Organization  [390]
A survey of the important literature in the field of industrial organization and management. The student has an opportunity to participate in seminar discussions of industrial management problems. Prerequisite: 12 semester hours of advanced courses in Business Administration.

3596 Personnel Administration Problems  [NEW]
A survey of the important literature in the field of human relations. The student has an opportunity to participate in seminar discussions of human relations problems. Prerequisite: 12 semester hours of advanced courses in Business Administration.

ECONOMICS  For Undergraduate Credit Only

3101 Principles of Economics  [302]
An introduction to the basic principles of Economics and an analysis of the manner in which they operate in the institutional complex of our society.

3102 Principles of Economics  [303]
A continuation of Economics 3101. Prerequisite: Economics 3101.

3203 Intermediate Economic Theory  [310]
A study of cost, demand, and price theory: the concepts, assumptions, and policy implications of aspects of particular equilibrium and general equilibrium theory; a critical survey of various concepts of the scope, methods, and approaches to Economics. Prerequisite: Economics 3102.

3210 Economic History of the United States  [323]
Survey of American economic development from colonial time to present; analyses of factors which have shaped that development. Prerequisite: Economics 3102.

3250 Economics of Consumption  [347]
Present-day position of consumer, factors influencing consumer choice, costs and standards of living, household budgeting, installment buying, consumer protective organizations, positive and restrictive governmental consumer aid. Prerequisite: Economics 3102.

3265 Introduction to Foreign Trade  [350]
History, principles, and practices of the international movement of goods and services. Prerequisite: Economics 3102.

For Graduates and Undergraduates

3321 History of Economic Thought  [340]
A study of the development of principal economic doctrines and schools of economic thought. Prerequisite: Economics 3102 and junior standing.

3325 Comparative Economic Systems  [343]
A consideration of economic foundations of the capitalistic and other systems; objective study of economic construction of fascism, marxism, socialism, communism, capitalism. Prerequisite: Economics 3102 and junior standing.

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BUSINESS ADMINISTRATION AND ECONOMICS

3330 Public Finance and Taxation [321]
Financial administration by agencies of local, state, and federal government; principles of taxation, sales, property, income, and inheritance taxes; analysis of government expenditures and public credit. Prerequisite: Economics 3102 and junior standing.

3340 Labor Problems [349]
An introductory course in labor-management relations, unions, management, and the government; including pertinent history, and labor legislation. Prerequisite: Economics 3101 and junior standing.

3342 Labor Law [NEW 349]
Labor Law and its development to current usage; actions and decisions of the executive, legislative, and judicial branches of the government and significant cases. Prerequisite: Economics 3340.

3363 Business Cycles and Forecasting [345]
History and theories; prediction of commodity prices, sales volume, industrial production, industrial growth and decay, security prices, and business profits; professional forecasting service. Prerequisite: Economics 3102, Business Administration 4361.

3366 Latin-American Resources and Trade [348]
Considers historical background, economic and human resources, production, domestic and international trade of Mexico, Central America, Caribbean Lands, and South America. Prerequisite: Economics 3102 and junior standing.

3375 Money and Banking [322]
Principles and important underlying theories of money and banking; history of precious metals, bimetallism, banking development; relation of money and credit to prices, foreign exchange principles. Prerequisite: Economics 3102 and junior standing.

3425 Business and Government [331]
Government in regulatory and cooperative capacity; theories of constitutional protection, anti-trust laws, unfair trade practice control, security and railway regulation, credit granting, settlement of labor disputes, social security. Prerequisite: Economics 3102 and junior standing.

2495 to 6495 Special Studies in Economics [679]
Special studies in areas for which a separate course is not organized. Credit will vary according to work performed, value being indicated by course numbers. Prerequisite: Eighteen hours of Business Administration and/or Economics, six of which must be advanced; consent of instructor and the department chairman.
The minimum course requirements in Chemistry for the Bachelor of Science Degree are Chemistry 4103-04, 4211, 4321, 4324, 4321-22; 4460, 4461, and six additional advanced hours in Chemistry.

For Undergraduates

<table>
<thead>
<tr>
<th>Course</th>
<th>Former Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3101-02</td>
<td>601a-b</td>
<td>For those students whose formal education in chemistry terminates with one year's work in the subject or whose degree plans stipulate six hours of general chemistry as the total requirement in that science. Two lectures, one demonstration hour, and two laboratory hours per week. May not be used as a prerequisite for any other chemistry course.</td>
</tr>
<tr>
<td>4103-04</td>
<td>801a-b</td>
<td>The laws and theories of chemistry; the elements and their most important compounds with reference to their production and use. For students who need a foundation for work in advanced chemistry and related sciences. Three lectures and four laboratory hours per week.</td>
</tr>
<tr>
<td>3105</td>
<td>305</td>
<td>A review of the fundamental principles of elementary chemistry and their application. Required of all students who, after trial and a qualifying examination, are found insufficiently prepared to carry Chemistry 4103 and who plan to register for that course the next succeeding semester. Two lectures and one demonstration hour per week. May not be used as a prerequisite for any chemistry course other than 4103.</td>
</tr>
<tr>
<td>3106</td>
<td>306</td>
<td>Elementary principles of chemistry with applications to the nursing profession. Three lectures and two laboratory hours per week. Open only to pre-clinical nurses and to students in a school of nursing.</td>
</tr>
<tr>
<td>3107</td>
<td>307</td>
<td>A continuation of Chemistry 3106. Three lectures and two laboratory hours per week. Prerequisite: Chemistry 3106.</td>
</tr>
<tr>
<td>3211</td>
<td>311</td>
<td>Analytical reactions from the point of view of the laws of chemical equilibrium applied to solutions of electrolytes. Analysis of the common ions using the semimicro technique. One lecture and six laboratory hours per week. Prerequisite: Chemistry 4103-04 with a grade of not less than C in each semester.</td>
</tr>
<tr>
<td>2211</td>
<td>New</td>
<td>Lectures the same as for Chemistry 3211 but with only three laboratory hours per week. Prerequisite: Chemistry 4103-04 with a grade of not less than C in each semester.</td>
</tr>
<tr>
<td>4213</td>
<td>413</td>
<td>The theory and practice of quantitative chemical analysis. Two lectures and six laboratory hours per week. Three of the four credit hours may be counted as advanced. Prerequisite: Chemistry 3211.</td>
</tr>
</tbody>
</table>

* On leave, 1956-57.
CHEMISTRY

Former Number

4214 Quantitative Analysis ($4) [NEW]
A one semester course in gravimetric and volumetric analysis with special emphasis on ores and metallurgical products. Two lectures and six laboratory hours per week. Prerequisite: Chemistry 3211 or 2211. Not counted in addition to Chemistry 4213.

3221-22 Organic Chemistry ($2-$2) [NEW]
A study of the fundamental types of carbon compounds. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 4103-04.

For Undergraduates and Graduates

4321-22 Organic Chemistry ($4-$4) [NEW]
A study of the fundamental types of carbon compounds. Three lectures and five laboratory hours per week. Prerequisite: Chemistry 4213.

4324 Quantitative Analysis ($4) [NEW]
A continuation of Chemistry 4213. Two lectures and six laboratory hours per week. Prerequisite: Chemistry 4213.

4460 Physical Chemistry ($4) [NEW]
Properties of substances in the gaseous, liquid, and solid state; solutions; thermodynamics. Three lectures and three laboratory hours per week. Prerequisite: Chemistry 4213 or 4214, Mathematics 3214, and two semesters of Physics.

4461 Physical Chemistry ($4) [NEW]
Homogeneous and heterogeneous equilibria; kinetics of reaction, electrochemistry, and chemical thermodynamics. Three lectures and three laboratory hours per week. Prerequisite: Chemistry 4460.

3462 Biochemistry ($2) [NEW]
Chemistry of food substances, digestion, vitamins, enzymes, absorption, and blood. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 3221-22 or 4321-22.

3463 Biochemistry ($2) [NEW]
Immunochemistry, chemistry of respiration, hormones, intermediary metabolism, etc., with emphasis on cell metabolism. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 3462.

3468 Principles of Colloid Chemistry ($2) [NEW]
Chemical and physical conditions of the colloid state. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 4460.

2496 to 6496 Introduction to Research ($2 or $4) [NEW]
Credit will be granted, up to six semester hours, for research satisfactory completed by advanced students in the Chemistry Department. Only specially qualified students approved by the Chairman of the Chemistry Department will be accepted for this work. Credit will be granted only in the senior year on the recommendation of the Chairman of the Chemistry Department. Prerequisite: Permission of the Chairman of the Chemistry Department.

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The general teacher-education program is concerned with the total education of the prospective teacher in emphasizing preparation for our American way of life, the development of moral and ethical character and proficiency in the use of oral and written English.

Furthermore, for the prospective elementary school teacher, the program is concerned with the provisions for helping him to acquire an adequate foundation in the knowledge and understanding of the elementary school child, in the organization of effective learning situations, and in the proficiency of using various instructional materials, as well as in the evaluation of children's progress.

For the prospective secondary school teacher, the program is also concerned with helping the student acquire competence in one or more teaching fields, along with professional knowledge in the field of Education which would pertain to the growth and behavior of students of secondary school age.

For Undergraduate Credit Only

**Pre-Professional and General**

3101 Introduction to Education [300]

The relationship of American public schools to social and economic changes, also problems in the development of the curriculum, instructional practices, school organization, and administration. A prerequisite to all courses in Education.

3102 Introduction to Educational Psychology [301]

A study of the learning process and the conduct of children. Prerequisite: Education 3101.

3310 Philosophy of Education [359]

Educational principles governing aims, curricula, methods, and organization, relation of individual to society, and the historical development of modern democratic concepts of education. Prerequisite: Nine hours of Education and junior standing.

**Elementary Education**

3201 Psychology of the Elementary School Child* [314]

The changes which take place in the life of the child as related to the processes of elementary education. Prerequisite: Education 3101 and 3102.

3203 Introduction to Elementary School Curriculum* [3181]

An introduction to the curriculum in the elementary grades. Prerequisite: Education 3101 and 3102.

3301 Children’s Literature in the Elementary School [320]

Children’s literature and the administration of the recreational reading program in relation to the content subjects in the elementary school. Special reading may be done at the level in which the student is most interested. Prerequisite: Twelve hours of Education.

3302 Introduction to Teaching in the Elementary School [3301]

Methods for the elementary school, with emphasis centered upon reading and language arts. Prerequisite: Education 3201 and 3203.

* The course may be taken by permission of the chairman of the department.
3303 Methods and Materials of Instruction in the Elementary School
Methods for the elementary school, with emphasis upon social studies, arithmetic, and science. Prerequisite: Education 3201 and 3203.

3304 Teaching of Science in the Elementary School
Materials and methods of teaching science in the elementary school. Prerequisite:

3309 Introduction to Educational Tests, Measurements, and Evaluation in the Elementary School
Introduction to educational measurement and testing in the elementary grades. The study and use of educational tests in reference to the improvement of instruction. Prerequisite: Twelve hours of Education.

4401 Professional Laboratory Experience in the Elementary School
A minimum of ten hours a week for one semester of laboratory observation and teaching experience in an elementary school classroom. Prerequisite: Eighteen hours of Education, including Education 3201, 3203, 3302 and 3303; senior standing, and permission of the department chairman.

4402 Professional Laboratory Experience in the Elementary School
A minimum of ten hours a week for one semester of laboratory teaching experience in an elementary school classroom. Prerequisite: Education 4401 (in advance or concurrently by permission).

Secondary Education

3202 Psychology of the Secondary School Student
The nature and development of the individual through the adolescent period as related to the processes of secondary education. Prerequisite: Education 3101 and 3102.

3204 Introduction to the Curriculum in the Secondary School
An introduction to the development of the curriculum in the secondary school. Prerequisite: Education 3101 and 3102.

3308 Introduction to Mental, Educational Measurements, and Evaluation in the Secondary School
Introduction to measurement in secondary education. Typical methods of measuring intelligence, character, and achievement. Elementary statistical terms and processes. Preparation for use of mental and educational tests. Prerequisite: Twelve hours of Education.

3311 Principles of Guidance in the Secondary School
Consideration of general meaning, importance, and function of guidance together with a survey of techniques and the evaluation of outcomes in the secondary school. Prerequisite: Twelve hours of Education, including Education 3202.

3305 Principles of Teaching in the Secondary School
Types of teaching in the secondary school. Prerequisite: Education 3202 and 3204.
EDUCATION

3306 Teaching High-School Journalism,
Supervision of School Publications
[343K]
Instruction in teaching high-school journalism and supervision of publications, both classroom and extracurricular. Lectures include selection of material, editing, production, and school public relations. Attention will be given to defining the problems of school public relations and the function and scope of the various types of school publications. Prerequisite: Fifteen hours of Education, including Education 3305.

3307 Methods of Teaching Commercial Subjects
in the Secondary School
[321K]
Subject matter and methods for teaching secretarial courses, bookkeeping, arithmetic, and allied subjects in high school. Prerequisite: Business Administration 3301-02 and fifteen hours of Education, including Education 3305.

4403 Professional Laboratory Experience in the
Secondary School
[327]
A minimum of ten hours a week for one semester of laboratory observation and teaching experience in a secondary school classroom. Prerequisite: Eighteen hours of Education, including Education 3302, 3304 and 3305, senior standing, and permission of the department chairman.

4404 Professional Laboratory Experience in the
Secondary School
[327t]
A minimum of ten hours a week for one semester of laboratory teaching experience in a secondary school classroom. Prerequisite: Education 4403 (in advance or concurrently by permission), and permission by the department chairman.

For Undergraduates and Graduates
Prerequisites for courses listed below: Twelve semester hours of Education

Elementary Education

3405 Teaching of Arithmetic in the Elementary School
[348K]
Consideration given to recent research studies in the teaching of arithmetic as well as to recommended techniques.

3406 Teaching of the Social Studies in the Elementary Grades
[349]
The course will consider programs of instruction and procedures, as well as more detailed techniques in the teaching of specific units in the social studies.

3407 Classroom Management in the Elementary School
[329K]
The use of records and group techniques to improve human relations in the classroom.

3408 Mental Hygiene and Problems of Children
in the Elementary School
[357]
A study of the conditions and factors essential for healthful mental development. Consideration of the development of personality with special stress on the problems peculiar and unique to the school child.

3409 The Education of Exceptional Children
in the Elementary School
[339t]
Consideration given to the philosophy of the education of exceptional children and to the psychology and educational treatment of atypical pupils in elementary schools.

83
3410 The Technique of Speech Correction in the Elementary School
The technique of speech correction, involving diagnosis of speech defects and disorders, phonetics, principles of speech correction, and clinical practices in speech correction.

3411 Clinic in Speech Correction in the Elementary School
Practice in the diagnosis and treatment of speech defects. Prerequisite: Education 3410.

3412 Classroom Use of Audio-Visual Equipment and Materials in the Elementary School
Consideration of various kinds of audio-visual equipment and materials in relation to classroom instruction in the elementary school.

3413 Radio Listening as an Aid to Elementary Teaching
A survey course in the use of radio in the classroom. Survey of program material available and a study of methods and techniques in advance preparation and program follow-up. Survey of state “School of the Air.” How television will be used in the classroom.

3415 Preparation and Presentation of Radio Programs in the Elementary School
Radio production techniques essential to the successful presentation of school programs—the program idea, writing, speaking on the microphone, timing. Survey of program material most welcomed by stations. Practical studio experience and instruction in operation of studio equipment in the Texas Western College radio studio facilities.

3417 Educational Television — A Seminar
Set up on a seminar level, allowing the student to devote his attention exclusively either to the elementary or the secondary school. The course presents the role of television in modern education. Planning and producing the educational television program for in-school viewing. Also applications of television programs and techniques as audio-visual aids.

Secondary Education

3414 Radio Listening as an Aid to Secondary Teaching
A survey course in the use of radio at the high school level. Program analysis and methods and techniques of coordinating educational and public service broadcasts with high school curriculum. Study of state “Schools of the Air,” survey of radio’s potentialities in education. Syllabus of things to come—television as an aid to teaching.

3416 Preparation and Presentation of Radio Programs in the Secondary School

3417 Educational Television — A Seminar
Set up on a seminar level, allowing the student to devote his attention exclusively either to the elementary or the secondary school.
3418 Current Events in Relation to Classroom Use in the Secondary School

Particular attention given to selection, organization, and use of current event materials in the secondary school classroom.

*For Graduate Students Only*

Prerequisite: Twelve semester hours of advanced courses in Education.

3502 Problems in Education — A Seminar

A course emphasizing educational research in both the elementary and secondary school fields. The student is allowed to make a choice of the field in which to carry on educational research.

3503 Problems in Education — A Seminar

**Prerequisite:** Education 3502.

3504 Educational Statistics — Beginning Course

May not be counted for credit by students who have credit for another course in statistics.

3505 The Construction and Use of Achievement Examinations — A Seminar

Covers the theory of testing and provides practical experience in both critical analysis and construction of tests for classroom use. The student will be allowed to devote his attention exclusively either to the elementary school level or to the secondary, thereby receiving credit in elementary education or in secondary.

3506 Remedial Reading in the Elementary School

Examination and appraisal of significant researches in the field of remedial reading. Attention given to the analysis and diagnosis of individual cases of reading retardation, and to corrective and remedial procedures.

6507 Clinic in Reading in the Elementary School

A course designed for the needs of experienced classroom teachers who desire to work with elementary school children in a workshop situation, diagnosing with standard and teacher-made tests, trying out methods, building competence in case study approaches, and participation in small group discussions concerning progress and new possibilities.

3508 Workshop in Instructional Problems

Study of teaching problems arising in the classroom. Students will choose their own problems and those with allied interests will be grouped together to facilitate individual research. Problems at both elementary and secondary levels may be chosen by students.

3509 Workshop in Instructional Problems

Extension of Education 3508.

3510 Workshop in Teaching Arithmetic in the Elementary School

An opportunity for teachers to work together to extract from contemporary sources the practices, materials, and philosophy which seem applicable to the specific situations in which the individual teachers will work.
3511 Curriculum Construction and Organization of Subject Matter — A Seminar
The student is permitted to devote his attention exclusively to a pertinent curriculum problem either in the elementary or secondary school field.

3512 Curriculum Problems in Science Education — A Seminar
The student is permitted to devote his attention exclusively to a pertinent curriculum problem in science education either in the elementary or secondary school field.

3513 The Curriculum in the Elementary School
Particular attention given to selection and organization of materials in reference to curriculum development of the elementary school.

3514 Child Development in the Elementary School
Consideration of the bearing of the needs of children upon the elementary school program.

3515 Workshop in Child Development in the Elementary School
Class and group discussions, study, gathering and evaluating materials, surveying contemporary practices, all pertaining to the growth and development of children, with emphasis on implications for the modern elementary school.

3516 The Psychology of Individual Differences in the Secondary School
A study of emotional and mental motivation patterns with emphasis on diagnosis and prediction during adolescence.

3517 Psychology of Personality Development of Secondary School Student
Factors helping and hindering normal development of the secondary school student. Heritage and the role of life experience. Case history and practical applications.

3518 Counseling and Vocational Guidance in the Secondary School
Principles and methods used in counseling and vocational guidance in the secondary school. The counseling techniques used in school, home, personal life and social situations. The use of tests, interviews, and other techniques in vocational selection and training.

3519 Principles of Psychological Testing in the Secondary School
Construction and Administration. Primarily for students specializing in counseling and guidance. Prerequisite: An introductory course in tests and measurements.

3520 Workshop in Guidance in the Secondary School
Designed for administrators, counselors, teachers, senior-class or organizational sponsors. Students will choose their own problems, and those with allied interests will be grouped together to facilitate individual research.
3522 Supervised Practice in Counseling
A minimum of one hour daily for five days a week during one semester will be
spent in a local high school under the immediate direction of a counselor and
also under the supervision of an instructor in the Department of Education of
Texas Western College.

3523 Educational Trends
A critical consideration of selected trends in Education.

3524 Public School Supervision
The purpose is to acquaint school supervisors with the modern philosophy of
school supervision along with the techniques which have been found useful in
the performance of the supervisory function.

3525 The Administration of Teaching Personnel
A course in ethics of the various relationships between (1) teachers and other
school employees, and (2) the numerous "outside groups, interests, individuals,
and officials."

3526 Public School Finance
Consideration is given to such matters as public school revenue, budget making
and administration, accounting procedures and records, and school bonds.

3527 Public School Administration and Organization
Problems confronting the administrative office in local schools, such as relation
of superintendent with school board and community, organization of schools,
development of curriculum, and selection and promotion of teachers.

3528 Organization and Administration of the
Elementary School
Problems confronting the elementary school principal will be studied. For ex-
ample, teacher schedules, classroom schedules, teachers' meetings, organization
of the staff, supervision, curriculum, development and related problems will be
considered.

3529 Workshop in Educational Administration
Students will choose their own problems, and those with allied interests will be
grouped together to facilitate individual research.

3530 Workshop in School Supervision
Students will choose their own problems, and those with allied interests will be
grouped together to facilitate individual research.

3531 Principles of Public School Relations
Principles, techniques, and methods used in school public relations. Relationships
include the school board and the public, the superintendent in the public relations
program, school personnel and the public, the public relations of professional
organizations.

3532 Organization and Administration of the Secondary School
The study of problems pertaining to teachers' meetings, organization of the staff,
supervision, curriculum development, and related problems.

3598-99 Thesis Course for Master's Degree
Prerequisite: Twelve semester hours of advanced courses in Education, and
permission of chairman of the department.
## Engineering and Drawing

**Mr. F. A. Decker, Chairman**

**Professors** Decker, Thomas, Coleman, Barnes; Associate Professors Raymond, Hassler; Assistant Professors Cervenka, Yarborough, VanZant; Instructor Gomez

### Engineering

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<tr>
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<th>Former Number</th>
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<tr>
<td>1101</td>
<td>Elementary Engineering Problems</td>
<td>[ 101</td>
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<tr>
<td>2212</td>
<td>Concrete Mixtures ($2)</td>
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<tr>
<td>2213</td>
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<tr>
<td>3215</td>
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<tr>
<td>3319</td>
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<tr>
<td>3321</td>
<td>Elements of Electrical Engineering</td>
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</tr>
<tr>
<td>3322</td>
<td>Route Surveying ($2)</td>
<td>[ 322</td>
</tr>
<tr>
<td>4331</td>
<td>Electrical Circuits and Machines ($4)</td>
<td>[ 431</td>
</tr>
</tbody>
</table>

**Description**

- **1101 Elementary Engineering Problems**: Study of the slide rule; simple engineering problems are solved using slide-rule techniques. Required of all freshman engineering students. *Prerequisite*: Mathematics 4115.
- **2212 Concrete Mixtures ($2)**: Design and testing of portland cement concrete, sheet asphalt, and asphaltic concrete. One lecture and three laboratory hours per week. *Prerequisite*: Mathematics 4103-04 and Physics 4215.
- **2213 Plane Surveying**: Care and adjustment of surveying instruments, land surveying, leveling, traverses, determination of meridian, topographic and photogrammetric surveying, mapping, notekeeping, computations, and precision. *Prerequisite*: Mathematics 4115-16 and Drawing 2102. (Formerly included in Engineering 614.)
- **3215 Statics**: Forces in space, friction, centroids, centers of gravity, moment of inertia, radius of gyration and kinetics of rigid bodies in rectilinear translation. *Prerequisite*: Drawing 2102, Physics 4215, and registration in Mathematics 3214.
- **2216 Elementary Plane Surveying ($2)**: Care and adjustment of surveying instruments, land surveying, traverses, leveling, notekeeping, computations, and precision. One lecture and three laboratory hours per week. *Prerequisite*: Mathematics 4115-16, and Drawing 2102.
- **4314 Field Surveying ($4)**: Summer work; practical field course covering the topics outlined in Engineering 2213. Thirty-two hours of field work per week for six weeks. *Prerequisite*: Engineering 2213 and junior standing. (Formerly included in Engineering 614.)
- **3319 Elements of Electrical Engineering**: Analysis of the direct-current circuit; resistance, conductance, measuring instruments, ferromagnetic circuits, permanent magnets, generated and induced emf's, inductance, core losses, network theorems, and non-linear circuits. *Prerequisite*: Physics 4216 and Mathematics 3214.
- **3321 Elements of Electrical Engineering**: The electric field, capacitance; the magnetic field, inductance; electromagnetic forces and dynamics; transients. *Prerequisite*: Engineering 3319.
- **3322 Route Surveying ($2)**: Theory and practical application of simple, reverse and compound curves; spirals and earthwork; right-of-way; cross sections; and estimates. Two lectures and three laboratory hours per week. *Prerequisite*: Engineering 2213 and 4314.
- **4331 Electrical Circuits and Machines ($4)**: Direct- and alternating-current circuits and machinery; rectifiers; motor starting and controlling devices; distribution systems; protective devices; motor applications; hoisting systems; and power factor correction. For non-electrical engineering students. Three lectures and three laboratory hours per week. *Prerequisite*: Physics 4215-16, and Mathematics 3213-14.

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4334 Mechanics of Materials ($4)
Stresses and strains, in tension, and in shear; riveted and welded joints; torsion of shafts; resilience; and study of beams and columns. Three lectures and three laboratory hours per week. Prerequisite: Engineering 3215.

3335 Reinforced Concrete
The theory of reinforced concrete, the design of elementary beams, columns, slabs, footing and retaining walls. A study of the current design specifications. Prerequisite: Engineering 4334.

2388 Dynamics
Principles of dynamics and application to engineering problems; motion of a particle, translation, rotation, plane motion, work and energy, impulse, and momentum. Prerequisite: Engineering 3215.

4339 Electronics ($4)
Experimental techniques and elementary theory of circuit elements. Includes linear passive elements, linear electronic and transistor circuits. Also includes nonlinear electronic elements such as trigger circuits. Three lecture and three laboratory hours per week. Prerequisite: Physics 4216, and Mathematics 3213-14. (May not be counted in addition to Physics 4339.)

4340 Theory and Application of Electron Tubes ($4)
Theory and applications of a wide variety of electron tubes and circuits. Includes analysis of steady state and transient response in electronic systems by means of equivalent circuits. Also included are power supplies, feedback amplifiers, television and radio circuits, microwaves, and recent electronic developments. Three lectures and three laboratory hours per week. Prerequisite: Engineering 4339. (May not be counted in addition to Physics 4340.)

3343 Elementary Structural Analysis ($2)
Analysis of simple framed structures, roof trusses, girders and bridges. A study of moving loads and influence lines. Two lectures and three laboratory hours per week. Prerequisite: Engineering 4334.

3349 Heat Engineering
Thermodynamics, properties of gases, saturated and superheated vapors, calorimeters and mechanical mixtures; fuels, combustion, and flue gas analysis; boilers, engines, and their auxiliaries; air compressors. Prerequisite: Mathematics 3213-14, and Physics 4215.

3350 Heat Engineering ($2)
Condensers, pumps, turbines, internal-combustion engines, and the use and calibration of pressure, temperature, and velocity measuring instruments used in mechanical engineering. Two lectures and three laboratory hours per week. Prerequisite: Engineering 3349.

3354 Fluid Mechanics
Physical properties of fluids, hydrostatics, energy and momentum equations, metering instruments, flow of liquids through pipes, orifices, and over weirs, and flow in open channels. Prerequisite: Physics 4215, Mathematics 3213-14, and Engineering 3215.

1355 Hydraulics Laboratory ($2)
Flow of water through weirs, orifices, flumes, pipes, and related appurtenances; meters and gauges; field trips. Three laboratory hours per week. Prerequisite: Engineering 3354.

2356 Hydrology
Study of precipitation, evaporation, storage, ground water, stream flow, and the phenomena of water in all its states in relation to the hydrologic cycle. Prerequisite: Engineering 1355.
3357 Alternating-Current Circuits
Instantaneous current and power; effective current and voltage; average power; vector algebra; single-phase circuit analysis; non-sinusoidal waves. Prerequisite: Engineering 3321.

3358 Alternating-Current Circuits ($4)
Coupled circuits; polyphase circuits; measurements; determination of circuit parameters; transmission line calculations; wave filters; symmetrical components; short-circuit calculations; transients. Three lectures and three laboratory hours per week. Prerequisite: Engineering 3357.

4366 Direct-Current Machines ($4)
Theory, construction, testing, and application of direct-current motors and generators; starting, control, and regulating devices. Three lectures and three laboratory hours per week. Prerequisite: Engineering 3357.

3423 Kinematics and Dynamics of Machinery ($2)
Motion of machine parts; velocities and accelerations; study of linkages, gears, cams, belts, and chains; forces acting upon machine parts taking into account their masses and inertia. Two lectures and three laboratory hours per week. Prerequisite: Engineering 2338.

3426 Engineering Economics
Application of economics to engineering and industrial problems which require a knowledge of engineering for their solution. Prerequisite: Economics 3101 and at least 24 semester hours of engineering courses.

1427 Reinforced Concrete Design ($2)
The design of complete reinforced concrete structures, including the study of current design specifications. Three laboratory hours per week. Prerequisite: Engineering 3335.

3440 Highway Engineering
Location, design, construction and maintenance of roads and highways; planning surveys; traffic engineering; economics of highway transportation. Prerequisite: Engineering 2213, 4314, and 3448.

3441 Public Water Supplies ($2)
Sources, storage, treatment, and distribution of water for domestic and commercial use, including discussion of the planning, design, financing, construction, and maintenance of water supply system. Two lectures and three laboratory hours per week. Prerequisite: Engineering 2358 and Chemistry 4103-04.

3442 Sewerage and Sewage Disposal ($2)
Sewer systems, their planning, construction, design, and maintenance; and treatment and disposal of sewage. Two lectures and three laboratory hours per week. Prerequisite: Engineering 3441.

3444 Measurements and Instrumentation ($2)
Experimental procedure, errors, and accuracy; methods of measuring current, electromotive force, resistance, capacitance, inductance, frequency, flux, hysteresis of iron, and calibration of the instruments employed; study of transducers; and instrumentation methods. Two lectures and three laboratory hours per week. Prerequisite: Engineering 4358, and 4339.

3446 Contracts and Specifications
Elements of contracts and specifications, including discussions of the legal problem of contractual relations. Prerequisite: Senior standing.
3447 Lines and Networks

General transmission line circuit parameters, the exact transmission line equations, characteristic impedance, wave length, and velocity of propagation; the power transmission line and power circuit diagrams; the high frequency transmission line lossy and lossless; circle diagrams and the Smith chart; short lines as circuit elements; impedance matching, networks, and filters. Prerequisite: Engineering 4358 and Mathematics 3326.

3448 Soil Mechanics ($2)

Soil stability, stress distribution, compressibility, lateral earth pressure, settlement of structures, and choice of foundation types. Two lectures and three laboratory hours per week. Prerequisite: Engineering 3215 and senior standing.

1451 Water Analysis ($2)

Laboratory analysis of water as practiced at water works. Includes interpretation and use of analyses in respect to design and operation of water treatment plants. Three laboratory hours per week. Prerequisite: Chemistry 4103-04 and registration in Engineering 3441.

1452 Sewage Analysis ($2)

Laboratory analysis of sewage and trade wastes. Includes interpretation of analyses in respect to the design and operation of sewage and waste treatment plants. Three laboratory hours per week. Prerequisite: Engineering 1451 and registration in Engineering 3442.

3460 Indeterminate Structures

An introduction to statically indeterminate structures; slope and deflection and moment distribution in continuous beams and rigid frames; a study of the deformation of trussed structures by angle changes, and virtual work. Prerequisite: Engineering 3343.

3461 Structural Design and Theory ($2)

Structural design in concrete, steel and timber structures, including the complete analyses of structures. One lecture and six laboratory hours per week. Prerequisite: Engineering 3335 and 3460.

3464 Servomechanisms

Theory and application of servomechanisms to control problems. Prerequisite: Engineering 4358 and 2338, Physics 4339, and Mathematics 3326.

4467 Alternating-Current Machines ($4)

Theory, construction, testing, and application of transformers and alternating-current generators. Three lectures and three laboratory hours per week. Prerequisite: Engineering 3357, 4358, and 4365.

4468 Alternating-Current Machines ($4)

Theory, construction, testing, and application of synchronous motors, converters, and induction motors; single-phase motors; starting, control, and regulating devices. Three lectures and three laboratory hours per week. Prerequisite: Engineering 4467.

3470 Machine Design ($2)

Forces, stresses, and resultant design of various machine elements. Two lectures and three laboratory hours per week. Prerequisite: Engineering 2338 and 4334, and Metallurgy 3305.

3471 Advanced Engineering Problems ($2)

Original investigation of special problems in the student's field, the problem to be selected by the student with the approval of the chairman of the department. Prerequisite: Senior standing and consent of the chairman of the department.
DRAWING

2100 Mechanical Drawing ($2)
Introductory course for freshman engineering students who do not present mechanical drawing for entrance. Intended to serve as preparation for Drawing 2101. Use of instruments, drafting technique, lettering, orthographic projection, geometrical construction, conventions, and symbols. Two lectures and four hours of supervised drawing per week. Credit may not be used to satisfy requirements for engineering degrees.

2101 Engineering Drawing ($2)
Freehand lettering, orthographic projection, auxiliary and sectional views, dimensioning, cans, gears, assembly and detail drawing, and pictorial methods. Two lectures and four hours of supervised drawing per week. **Prerequisite:** One year of high-school mechanical drawing or Drawing 2100.

2102 Descriptive Geometry ($2)
Principal, auxiliary, and oblique views; straight- and curved-line problems; planes, intersection and development of surfaces; single-curved, warped, and double-curved surfaces; mining problems; perspective drawings. Two lectures and four hours of supervised drawing per week. **Prerequisite:** Drawing 2101 and registration in Mathematics 2110.

2210 Shades and Shadows, and Perspective ($2)
General method of oblique projection applied to the determination of shades and shadows on elementary and architectural forms; applications of one, two, and three-point perspective; development of the perspective plan and shades and shadows in perspective. Two lecture and four hours of supervised drawing per week. **Prerequisite:** Drawing 2102.

3211 Architectural Drawing ($2)
Principles of details of architectural construction in the various building materials. Student is required to apply the principles discussed in lectures and observed on occasional field trips by detailing foundations, walls, windows, doors, stairs, roofs, floors, chimneys, cabinet work, etc. Two lectures and seven hours of supervised drawing per week. **Prerequisite:** Drawing 2102.

3212 Architectural Drawing ($2)
Continuation of architectural drawing 3211 with special emphasis placed on the incorporation of details of composition into a united structure. Working drawings and specifications of simple buildings will be required. An integrated approach to the major architectural elements of space composition, planning, and structure will be stressed throughout the course. Two lectures and seven hours of supervised drawing per week. **Prerequisite:** Drawing 3211.
Dr. C. L. Sonnichsen, Chairman

Professors Sonnichsen, Braddy, Leach; Associate Professor Moses;
Assistant Professors Ball, Burlingame, James, Jones, Leech, Past, Ponsford;
Instructors Collingwood, Douglas, Ehrmann, Francis, Fucate, Gregor, Hardy,
Hitchcock, Hoffman, Paredes, Perez, Smith, Thorburn, Waddell;
Part-time Instructors Steele, Stuart, Walker.

ENGLISH

For the degree of Bachelor of Arts twelve semester hours in English are required—
English 3101-02 and English 3211-12, 3213-14, or 3215-16. English 3101-02 and
English 3369 are required for the degree of Bachelor of Science in Mining Engineering;
English 3101-02 and English 3211-12, 3213-14, or 3215-16 for the degree of Bachelor
of Science in the Sciences. English majors are advised to take English 3211-12, but may
elect English 3213-14, or 3215-16 instead of English 3211-12. English 3211-12, English
3213-14, or English 3215-16 may be presented as prerequisite to any advanced course
in English.

Drugs 3357 and 3358 may be counted for English credit.

For Undergraduates

3100 Pre-Freshman English  [001]
For beginning freshmen whose English is below the standard required for ad-
mission to English 3101.

3101-02 Freshman English  [601]
Practice in organizing information, clarifying thought, improving written ex-
pression. Required of all freshmen.

3211-12 Outline History of English Literature  [612]
Survey of English literature from the beginning to the present time with em-
phasis on major works and authors. Prerequisite: English 3101-02.

3213-14 English and American Literature of Today  [6129]
A course designed for students not expecting to specialize in English. The reading
includes novels, short stories, plays, poetry, and various types of non-fiction.
Prerequisite: English 3101-02.

3213 English and American Literature of Today  [3129]
The first semester of English 3213-14 offered for students in need of three hours
independent credit in literature. Prerequisite: English 3101-02.

3215 World Literature in Ancient and Medieval Times  [315]
Prerequisite: English 3101-02.

3216 World Literature from the Renaissance to the Present  [316]
Prerequisite: English 3101-02.

For Graduates and Undergraduates

3310 American Literature  [NEW]
A study of the principal American writers from the beginning to 1820. Prerequi-
site: English 3211-12, 3213-14, or 3215-16.

3311 American Literature  [336]
A study of the most important poets and prose writers from 1820 to 1870. Prere-
quisite: English 3211-12, 3213-14, or 3215-16.

3312 American Literature  [337]
A study of the most important poets and prose writers from 1870 to the present. Prerequi-
site: English 3211-12, 3213-14, or 3215-16.

* Leave of Absence.
3314 The Development of the American Drama
Drama from the Colonial and Revolutionary Periods to modern times. Special
attention is given to such outstanding American playwrights as Bird, Baker,
Fitch, Howard, Crehers, Anderson, Hellman, O'Neill, Tennessee Williams and
Arthur Miller. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3317 The English Language
Investigation of the growth, structure, and relationships of the English Language
with special emphasis on the development of modern English. Attention will be
given to the theory of language and its functions in human life and progress; the
great language groups; development from the Anglo-Saxon to modern times.
Prerequisite: English 3211-12, 3213-14, or 3215-16.

3318 The English Language
A continuation of English 3317. English in recent times. Dialects; usage; in-
fluence of scientific developments, war, radio, etc.; foreign elements; word build-
ing; other topics leading to an understanding and appreciation of the student's
native language. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3320 Shakespeare: The Earlier Plays
Detailed study of some of the plays composed before 1601, with a rapid reading
of others belonging to the same period. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3321 Shakespeare: The Later Plays
Detailed study of some of the great tragedies, followed by a rapid reading of
other plays written after 1600. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3322 Elizabethan and Jacobean Drama
Development of the comedy, the tragedy, and the chronicle history from earlier
types of the drama in England. Plays of Lyly, Marlowe, Greene, Beaumont and
Fletcher, Dekker, Jonson, Middleton, Webster, and their contemporaries related
to the literary fashions of the times. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3325 English Poetry and Prose, 1600-1660
Representative metaphysical, classical, Cavalier, and religious poets, including
Donne, Jonson, Herrick, Herbert, and others; prose works by Bacon, Browne,
Fuller, Walton, Burton, and others. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3326 English Poetry and Prose, 1660-1700
The literature of the Restoration, exclusive of the drama, with emphasis on the
work of Pepys, Dryden, Bunyan, Hobbes, Milton, and others. Prerequisite:
English 3211-12, 3213-14, or 3215-16.

3329 Early Eighteenth-Century Prose and Poetry
The background of the English Classical Period in the writers of the Restoration.
The philosophic, religious, social, and literary ideas and ideals of the period. The
work of Defoe, Addison and Steele, Swift, Pope, and their contemporaries. Prerequire-
quisite: English 3211-12, 3213-14, or 3215-16.

3330 The Development of the American Drama
The decline of Neo-Classicism and the rise of Romanticism. Johnson, Boswell,
Goldsmith, and Burke will be especially considered on the one hand; Thomson,
Gray, Collins, Young, Chatterton, Cowper, Blake and Burns on the other. Prerequire-
tive: English 3211-12, 3213-14, or 3215-16.

3331 English Romantic Poetry, The Earlier Phase
Rapid survey of Romanticism in the eighteenth century, followed by a more de-
tailed consideration of the work of Burns, Scott, Coleridge, and Wordsworth.
Prerequisite: English 3211-12, 3213-14, or 3215-16.

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3332 English Romantic Poetry, The Later Phase [339]
Consideration of the work of Byron, Shelley, Keats, and some of their contemporaries. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3335 Early Nineteenth-Century Prose [343]
The prose of Lamb, Landor, Coleridge, Hazlitt, DeQuincey, Macaulay, and their contemporaries considered in relation to the intellectual and social backgrounds of their time. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3336 Later Nineteenth-Century Prose [344]
The prose of Carlyle, Newman, Ruskin, Arnold, and their contemporaries, together with an examination of the religious, critical, and social movements of the later Victorian period. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3339 Victorian Poetry [322]
Consideration of the poetry of Browning primarily, and study of such minor poets as Arnold, Clough, James Thompson, and others. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3340 Victorian Poetry [323]
Consideration of the poetry of Tennyson primarily, and study of such minor poets as Swinburne, Morris, D. Rossetti, Christina Rossetti, and others. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3344 Contemporary Poetry [334]
The social and intellectual movements which arose in England and America between late Victorian times and the immediate past, and the expression of these movements in verse. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3347 An Outline History of the English Novel [327]
Prose fiction in England from the Middle Ages to the nineteenth century, particular attention being given to the novels of Richardson, Fielding, Smollett, Walpole, Burney, Jane Austen, and Scott. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3348 An Outline History of the English Novel [328]
A continuation of English 3347, with study of typical works of Dickens, Thackeray, the Brontes, George Eliot, Hardy, and Meredith. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3350 The English Novel since 1900 [357]
A survey of the English novel since 1900, concentrating on such figures as H. G. Wells, Arnold Bennett, John Galsworthy, Somerset Maugham, Aldous Huxley, J. B. Priestley, D. H. Lawrence, James Joyce, and Virginia Woolf. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3353 The Short Story [341]
The literature and technique of the short story, its development from earliest times; typical specimens from the short-story literature of England, America, Russia, France, and other countries. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3355 The Drama in England since 1660 [331]
Representative plays of the Restoration, of the eighteenth and nineteenth centuries, and of such modern playwrights as Jones, Fierro, Barker, St. John Hankin, Shaw, Coward, Galsworthy, Maugham, Dane, etc. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3361 Writing [325]
A course for students seriously interested in developing their power of written expression. Prerequisite: English 3211-12, 3213-14, or 3215-16 and consent of the instructor.
ENGLISH, SPEECH AND DRAMA

3362 Non-Fiction Writing
Study and practice in the techniques of writing contemporary non-fiction. Prerequisite: English 3211-12, 3213-14, or 3215-16 and consent of the instructor.

3367 Fictional Techniques
Study and practice in the techniques of contemporary fiction. Prerequisite: English 3361 or consent of the instructor.

3368 Short Story Writing
Study and practice in the techniques of the contemporary short story with particular attention to plotting. Prerequisite: English 3367 or consent of instructor.

3369 Technical Writing
For engineering students and others specializing in technical subjects. Training in assembling and evaluating technical information, outlining, preparing reports and specifications, and expressing effectively the student's own ideas. Prerequisite: English 3101-02 and junior standing.

3371 Life and Literature of the Southwest
A study of the social background of the Southwest and its reflection in literature. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3372 Introduction to Folklore
Survey of the types and characteristics of folk literature with particular emphasis on the folklore of the Southwest and Mexico. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3373 Life and Literature of the South
Literature of the Old and New South, especially as it reflects the institutions and traditions of the region. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3411 Milton
An introduction to the work and times of John Milton. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3413 Chaucer: The Canterbury Tales
An introduction to the work and times of Geoffrey Chaucer. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3415 Literary Criticism
The development of literary criticism as seen in the works of leading critics from Plato to the present. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3416 American Literary Criticism
The development of critical thought in America from 1783 to the present, with emphasis on the status and problems of literary criticism in the twentieth century. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3420 Problems in Writing
Individual conferences with the instructor on work in progress by advanced writing students. Prerequisite: Six hours of writing courses or the equivalent, and consent of the instructor. May be repeated for credit.

3431 The Folk Ballad
A study of European balladry, particularly British and Spanish ballads and their American offshoots. The role of frontiers in the development of the heroic ballad, with the Texas-Mexican border as a focal point. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3432 The Folk Tale
Traditional tales, both oral and written, of Europe, Asia, and America. Theories, type and motif classification, and techniques for studying oral tales. Prerequisite: English 3211-12, 3213-14, or 3215-16.

3511 Methods of Research and Bibliography
The basic course for graduate work in English.
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3515 Graduate Reading Course [391]
Reading of a selected list of English and American masterpieces. Each student will work independently and no regular classes will be held, but discussion groups will be met regularly by members of the English staff. A three-hour written examination will be scheduled during the regular examination period. Students who make a grade of B or better will be excused from taking the Master's Oral in the English Major.

3520 Studies in Poe [392]
3525 Studies in Whitman [393]
3530 Studies in the Life and Literature of the Southwest [394]
3535 Studies in American Thought [396]
3598-99 Thesis Course [698]
Confer with the department head immediately after registration.

SPEECH AND DRAMA

Students wishing to major in this area may place special emphasis on either Speech or Drama. Those planning to teach in the public schools are advised to take courses in both Speech and Drama.

As part of the twenty-four-hour requirement, students who wish to emphasize Speech are required to take Speech 3101, Speech 3103, Drama 3113, and either Speech 3215 or 3219. Those who specialize in Drama are required to take Speech 3103, Drama 3113, Drama 3214, and six hours of Rehearsal and Performance.

English 3314 and 3355, and Education 3410 and 3411 may be counted for credit in Drama.

Speech For Undergraduates

3101 Basic Principles of Speech [301]
Emphasis on the development of poise and confidence in extemporaneous discourse, directness of approach, the conversational spirit, appropriate body action, the use of the voice.

3102 Platform Speaking [309]
Planning, organizing, and delivering speeches intended to inform, to entertain, and to inspire, including speeches for various types of special occasions. Prerequisite: Speech 3101 or 3103 or 3107 or 3120.

3103 Voice and Diction [303]
A course intended to develop clear articulation and enunciation, correct pronunciation, proper vowel placement, and control of the speaking voice. Required of all Speech and Drama majors and strongly recommended for Radio majors. May not be counted for credit in addition to Speech 3107.

3107 Speech for Foreign-Language Students [307]
Practice in the use and comprehension of oral English and in the acquisition of sounds and rhythms of standard speech. Open to any student interested in the correction of a speech defect. May not be counted in addition to Speech 3103.

3120 Beginning Oral Interpretation [302]
Practice in the oral interpretation of literature and study of the techniques involved.

3215 Argumentation and Debate [310]
The principles and techniques of public discussion and debate. Training in phrasing and analyzing current questions; outlining and briefing cases for debate; selecting and using evidence; organizing refutation and rebuttal; together with a study of proof, applied logic and the common fallacies. Practice in formal public debate. Prerequisite: Sophomore standing.

3216 Argumentation and Debate [311]
A continuation of Speech 3215. Prerequisite: Speech 3215.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>3219</td>
<td>Business and Professional Speaking</td>
<td>A practical course designed to help the student meet situations in the business and professional world. Stress will be laid on the principles of organization and presentation of material and on the techniques of after-dinner speeches, sales talks, introductions, public discussions, political speeches, etc. Prerequisite: Six hours of Speech.</td>
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<tr>
<td>3305</td>
<td>Oral Interpretation</td>
<td>A course for developing an adequate mental and emotional response to the meaning of literature with emphasis on improvement in voice, pronunciation, and enunciation. Prerequisite: Six hours of Speech or Junior standing.</td>
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<tr>
<td>3306</td>
<td>Techniques of Public Discussion</td>
<td>A course intended to develop skill in leading and participating in discussion groups of all kinds. Attention is given to forums, panels, round tables, and symposiums, and to actual practice in the discussion of current problems. Prerequisite: Six hours of Speech or junior standing.</td>
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<tr>
<td>3333</td>
<td>Direction of Speech Curriculum and Activities</td>
<td>For teachers of speech in elementary and secondary schools, emphasizing the development of an effective speech program, methods of criticism, correction of speech difficulties, and direction of speech activities. Prerequisite: Six hours of Speech or Junior standing.</td>
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<tr>
<td>3110</td>
<td>Introduction to Fine Arts</td>
<td>The enjoyment of the Arts through an understanding of their inter-relationship and of the expressive elements common to Music, Art, and the Drama. Not counted in addition to Art Methods 3110 and Music Literature 3110.</td>
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<tr>
<td>3113</td>
<td>An Introduction to Drama</td>
<td>A beginning course designed to familiarize the student with the major areas of theatre art, including acting, directing, lighting, costuming, playwriting, technical production, scenic design, types and styles of drama.</td>
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<tr>
<td>1111</td>
<td>College Players</td>
<td>The campus acting and producing organization. Members are required either to act or to do technical work in the major production, and in addition must appear in one student-directed play. May be taken four semesters for credit.</td>
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<tr>
<td>3121</td>
<td>Beginning Drama Workshop</td>
<td>A lecture-laboratory course in play production involving all phases of dramatic art and leading to the public presentation of major dramas. Registration in this course enrolls the student as a member of the company for the annual Summer Play Festival. May be repeated for credit.</td>
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<tr>
<td>2130</td>
<td>Rehearsal and Performance</td>
<td>Evaluation of acting and crew work in major departmental productions, experimental theatre productions, and laboratory workshop productions. A minimum of six laboratory hours weekly for one semester.</td>
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<td>3213</td>
<td>Contemporary Theatre</td>
<td>Analysis of methods of design, lighting, costuming and acting used in current theatre productions. Two lecture and four workshop hours per week. Prerequisite: Drama 3113.</td>
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<tr>
<td>3214</td>
<td>Acting</td>
<td>A workshop course in which a student may develop his ability to analyze a character and create a role. Two lecture and four workshop hours per week. Prerequisite: Six semester hours of Speech and/or Drama or Sophomore standing.</td>
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<tr>
<td>3218</td>
<td>Dramatic Script Writing</td>
<td>The principles of script writing for the stage, radio, and television. Drama majors will be required to write an original one-act play. Radio and Television majors will be required to write an original half-hour script. Prerequisite: English 3101-02 and Sophomore standing. May be repeated for credit.</td>
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ENGLISH, SPEECH AND DRAMA

Former Number

2230 Rehearsal and Performance

Prerequisite: Drama 2130 with a grade of at least B and sophomore standing. A minimum of six laboratory hours weekly for one semester.

1311 College Players

May be taken four semesters for credit.

3320 Advanced Drama Workshop

A lecture-laboratory course in play production involving further work in the rehearsal and production of major dramas. Students enrolled will be given leading assignments in the Summer Play Festival productions. May be repeated for credit. Prerequisite: Six hours of Drama courses, or the equivalent, and junior standing.

3321 Advanced Acting

Detailed study of characterization and styles of acting through assignment of individual roles and group rehearsal of scenes. Two lecture and four workshop hours per week. Prerequisite: Drama 3214 and junior standing. May be repeated for credit.

2330 Advanced Rehearsal and Performance

Prerequisite: Drama 2230 with a grade of at least B and junior standing. A minimum of six laboratory hours weekly for one semester.

3332 Technical Production and Design

Detailed study of the technical problems of theatre production. Methods of constructing and handling scenery, lighting, backstage organization, designer's drawings, properties, and sound effects. Two class and four workshop hours per week. Prerequisite: Six hours of Drama courses and junior standing.

3340 A History of Costume

A study of costumes from the earliest times to the present and their use on the stage. Practical application in designing and executing costumes for actual production. Prerequisite: Junior standing.

3357 The Development of the Early Theatre

A survey of the development of theatre art from the earliest times through the later Elizabethans. Discussions include plays, playwrights, actors, costumes, and technical devices of each period. Prerequisite: English 3211-12, 3213-14, or 3215-16 and junior standing.

3358 The Development of the Modern Theatre

A survey of the development of theatre art from the Restoration to Broadway. Goethe, Ibsen, Maeterlinck, Pirandello, Chekhov, Synge, Shaw, O'Neill, Anderson, and others are studied as well as the actors, costumes, and technical devices in each period. Prerequisite: English 3211-12, 3213-14, or 3215-16 and junior standing.

3425 Directing

Study of techniques in direction, emphasizing style, type of play, mood, dramatic values and effects. Each student is required to direct a short play and prepare a complete production script of his project. Two class and four workshop hours per week. Prerequisite: Drama 3113 and junior standing.

2430 Advanced Rehearsal and Performance

Prerequisite: Drama 2330 with a grade of at least B. A minimum of six laboratory hours weekly for one semester.

3432 Advanced Technical Production

Detailed study of the technical problems of theatre production through participation in actual production situations. Two class and four workshop hours per week. Prerequisite: Drama 3332.
Students intending to major in geology should consult with the department before committing themselves to a particular program of study. Those wishing preparation in the field of mining geology will find a comprehensive four year program set forth in the degree plans in the front of this catalog.

For Undergraduates

3101 Physical Geology ($2) [301]
A critical study of the principles of physiography and dynamic and structural geology. Three lectures and two laboratory hours per week. (For engineering and science major students three laboratory hours will be required each week.)

3102 Historical Geology ($2) [302]
A critical study of the principles of stratigraphy, paleogeography and organic developments. Three lectures and two laboratory hours per week. (Three laboratory hours will be required each week of students majoring in engineering or science.)

3210 Principles of Geomorphology ($2) [310]
Analysis of geomorphic processes and land forms with special reference to conditions and surface expression in North America and their interpretation from topographic and geologic maps and aerial photographs. Two lectures and three laboratory hours. Prerequisite: Geology 3101 and 3102.

3211 Introduction to Geophysics [NEW]
A general survey of the fundamentals of geophysics and the application of these techniques in prospecting for mineral deposits, petroleum, natural gas, and ground waters. Prerequisite: Mathematics 4116.

3216 Mineralogy [316]
Crystallography and blow pipe analysis; a study of the crystallographic, chemical and physical characteristics of minerals and mineral determination by blow pipe methods. Classification of minerals. One lecture and six laboratory hours per week. Prerequisite: Chemistry 3102 (Chemistry 4104 for engineering students and science majors; or Chemistry 4103-04 in advance, or concurrently for engineering students and science majors with sophomore standing).

2217 Mineralogy ($2) [217]
Determinative mineralogy. Largely devoted to the identification of minerals by physical characteristics. Six laboratory hours per week. Prerequisite: Geology 3216.

3217 Mineralogy ($2) [317]
Determinative mineralogy. Same as Geology 2217 with an additional hour of lecture per week. Prerequisite: Geology 3216.
4218 Invertebrate Paleontology ($4)  [418]
A study of the structure and classification of invertebrates and their development and geologic significance. Two lectures and six laboratory hours. Prerequisite: Geology 3101 and 3102.

4219 Palaeontological Stratigraphy ($4)  [419]
A comprehensive study of the stratigraphy of North America and especially of West Texas and the Southwest. The last two hours count as advanced. Two lectures and six laboratory hours per week. Prerequisite: Geology 4218.

For Undergraduates and Graduates

4321 Advanced General Geology ($4)  [421]
Certain topics of general geology such as petrology, structural geology and stratigraphy are expanded in an advanced and quantitative manner. Three lectures and three laboratory hours per week. Prerequisite: Geology 2217 or 3217, and Geology 3101 and 3102.

3322 General Economic Geology  [322]
A study of the occurrence of mineral deposits and ore deposits. Prerequisite: Geology 2217 or 3217.

4323 Structural Geology ($4)  [423]
A study of the principles and theories of structural geology. Special attention is given to primary and secondary rock structures particularly with reference to those important in mining, petroleum and engineering operations. (Three lectures and three laboratory hours per week.) Prerequisite: Geology 4321 and Drawing 3101, or permission of the chairman of the department.

3325 Sedimentary Rocks ($2)  [325]
A study of the sedimentary rocks to be carried on both in the field and the laboratory. Students registering for this course must furnish their own transportation. Two lectures and one afternoon in the field or laboratory per week. Prerequisite: Twelve hours of Geology.

4327 Petrology and Petrography ($4)  [427]
The determination, origin and subsequent history of minerals and rocks as revealed in mineral grains and thin sections by the petrographic microscope. Three lectures and three laboratory hours per week. Prerequisite: Geology 4321 in advance or concurrently.

3461 Advanced Economic Geology ($2)  [361]
Mining Geology, ore guides, methods of examination, preparation of reports, study of ore minerals under the microscope, etc. Two lectures and three laboratory hours per week. Prerequisite: Geology 3322 or senior standing.

2462 Geology of the Southwest  [262]
A detailed study of the regional, stratigraphic, structural, and economic geology of Texas, New Mexico, Arizona and Northern Mexico. Prerequisite: Senior standing.

4463 Geology of Petroleum and Natural Gas ($4)  [463]
A study of the origin, migration and accumulation of petroleum and natural gas. Three lectures and three laboratory hours per week. Prerequisite: Geology 4219,4321 and 4323; or permission of the chairman of the department.

2464 Field Geology ($2)  [264]
A field study of an area near the college and the application of quantitative standards to the mapping and geologic field studies. A typed report and satisfactory geologic map is required. One lecture and one afternoon in the field per week. Prerequisite: Six semester hours of advanced courses in geology.
6465 Field Geology (summer) ($4)
A six week summer course in field geology. The work will involve the preparation of topographic and geologic maps, cross-sections and columnar sections, and detailed structural studies of a region of sedimentary and igneous rocks. Plane table and other mapping techniques will be used. A report will be required of each student. Five hours of lecture and thirty-two hours of field work per week for one summer session. Prerequisite: Senior standing or permission of the chairman of the department.

0421 Geology Field Trip (Transportation: $50.00)
A survey trip of about two weeks over regions of geologic interest. Required for graduation in the Bachelor of Science in Mining Engineering. Prerequisite: Senior standing.

GEOGRAPHY
(See Page 111 for Historical Geography)

3103 Elements of Geography ($2)
A study of the major geographic realms emphasizing the relation of man to the various natural elements of his environment. Three lectures and two laboratory hours per week.

3104 Elements of Geography ($2)
A continuation of Geography 3103. Three lecture hours and two laboratory hours per week. Prerequisite: Geography 3103.
Health and Physical Education

Dr. L. G. Sears, Chairman

Mr. Mike Brumbelow, Coordinator of P.E., Intramurals and Athletics

Professors Sears, Brumbelow; Associate Professors Waters, McCarty, Olsen;

Assistant Professors Collins, Craig; Instructors Glabwin, Moore

The service courses are provided (1) to promote vigorous, mental, emotional, social and physical health; (2) to further the education of the individual through physical activities; (3) to develop motor skills; and (4) to prepare for leisure time activity. Definite instruction is given in class periods and students are graded on skills, knowledge, and achievement. Class instruction is supplemented by a varied program of intramural sports for men and for women which gives an opportunity for additional participation and recreation.

The service courses for men are designed to provide vigorous, strenuous, and aggressive activities that will be of lasting value. All men students will be given instruction in the following activities: Touch football, tumbling, gymnastics, speedball, volleyball, tennis, basketball, baseball, track, swimming, and other minor sports. Students may elect golf, horseback riding and pistol and rifle instruction.

The service courses for women are designed to provide activities that are mentally and physically stimulating, as well as promoting grace, vigor and poise through group and individual instruction in dancing, swimming, field hockey, archery, volleyball, tennis, tumbling, and other minor sports. Students may elect golf, horseback riding and pistol and rifle instruction.

A student must complete the service courses and Health Education 3101 (for men) or 3102 (for women) during the first two calendar years he or she attends Texas Western College. (Note: This allows fulfilling the requirements during the Summer Sessions.)

HEALTH EDUCATION

For Undergraduates

3101 Personal Hygiene (Men) [301]

Study of personal, home and community health problems. Emphasis and stress on physical fitness, prevention of disease, safety, establishment of proper health habits, and knowledge to use effectively medical science.

3102 Personal Hygiene (Women) [302]

Study of personal, home and community health problems. Emphasis and stress on physical fitness, prevention of disease, safety, establishment of proper health habits, and knowledge to use effectively medical science.

3211 Health Service for Elementary School Children [312]

The scope of health service with emphasis upon the purpose, technique, and adaptation of health examinations of school children. Prerequisite: Sophomore standing.

For Undergraduates and Graduates

3301 Community Hygiene [320]

Consideration of health of people as a group and with the social and governmental agencies which are concerned with environmental control and health protection. Three hours of lecture per week and special field trips. Prerequisite: Junior standing or permission of the chairman of the department.

3302 School Health Problems [330]

Major problems of the organization and administration of school health programs will be analyzed. Three hours of lecture and special field trips. Prerequisite: Junior standing or permission of the chairman of the department.

3303 Modern Problems in Health Education [339]

A study of the normal functioning of every integral part of the human body. Care and prevention of communicable diseases will be discussed and the value of the new drugs in the treatment of such. This course will try to give the individual a concept in the modern method for a healthful life. Prerequisite: Junior standing or permission of the chairman of the department.
HEALTH AND PHYSICAL EDUCATION

**Former Number**

### 3304 Principles of Health Education

Individual and community health problems will be discussed. Hygienic effects to be realized from an organized health program and a discussion of the prevention of communicable diseases in schools, communities, and cities will be presented. **Prerequisite:** Junior standing or permission of the chairman of the department.

### 3305 Safety Education

Emphasizes the problem of safety in the world today. A part of the course deals with general problems of safety education. Strong emphasis is given to the place of safety education in the public schools. Considerable time is devoted to a plan of safety instruction in the elementary, junior, and senior high school. **Prerequisite:** Twelve semester hours of Health and Physical Education or permission of the chairman of the department.

### 3306 Methods and Materials in Health Education

The field of health education, problems in administering the program, teaching aids for the health teacher, the teacher's part in health protection. **Prerequisite:** Junior standing or permission of the chairman of the department.

### 3307 Methods and Materials in Health Education

The scope of Health Education in the Elementary School. Problems in administering the school health education program. Teaching aids and methods for the teacher responsible for health instruction. The teacher's part in the health protection of children. **Prerequisite:** Junior standing or permission of the chairman of the department.

### PHYSICAL EDUCATION

**For Undergraduates**

#### 1102 Service Course for Freshmen Women ($2)

Three hours per week. If student elects horseback riding, $12.00 additional per month; golf, $25.00 additional per semester. May be repeated for credit.

#### 1101 Service Course for Freshmen Men ($2)

Three hours per week. If student elects horseback riding, $12.00 additional per month; golf, $25.00 additional per semester. May be repeated for credit.

#### 1201 Service Course for Sophomore Men ($2)

Three hours per week. If student elects horseback riding, $12.00 additional per month; golf, $25.00 additional per semester. May be repeated for credit.

#### 1202 Service Course for Sophomore Women ($2)

Three hours per week. If student elects horseback riding, $12.00 additional per month; golf, $25.00 additional per semester. May be repeated for credit.

#### 3101 Principles and Philosophy of Physical Education

A study of the history, principles and philosophy of physical education and its relationship to the objectives of general education.

#### 3102 Methods in Physical Education

Theory and practice in Physical Education activities that are applicable to the elementary and junior high-school boy, with special emphasis on elementary tumbling, apparatus, calisthenics, pyramid building, stunts, and games. Open to men only.

#### 3103 Fundamentals of Minor Sports for Women

Rules, playing regulations, teaching procedure for the following: Tennis, badminton, archery, ping pong, swimming, and horseshoes. Open to women only.

#### 3104 Fundamentals of Major Sports for Women

Rules, playing regulations, teaching procedure for the following: Basketball, volleyball, softball, speedball, soccer and field hockey. Open to women only.
HEALTH AND PHYSICAL EDUCATION
Former Number

3201 Organization and Administration of Physical Education [318]
The place of Physical Education in the total educational situation will be presented, along with fundamental aspects of a well-rounded Physical Education program. Particular emphasis on the administrative problems underlying a functional program. Prerequisite: Physical Education 3101 and 3102 for men, 3103 and 3104 for women.

3202 Kinesiology [319]
The mechanical and anatomical study of the Physical Education program as a basis for the analysis of activities in coaching, the selection and adaptation of activities in curriculum construction, and in corrective procedures. Prerequisite: Physical Education 3101 and 3102 for men, 3103 and 3104 for women.

3203 Curriculum Construction [321]
A study of the principles of curriculum construction, the philosophy of play, content, progression and organization of the play program for all levels of the educational program. A curriculum to meet a specific situation will be outlined. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3204 Physical Education for Elementary Schools [321]
Philosophy of play, content, progression and organization of the play program for elementary and junior high schools. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

For Undergraduates and Graduates

3401 Coaching Football [331]
Coaching methods in football. Conditioning, practice schedules, and fundamentals are to be stressed. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3301 Techniques, Methods and Materials of Instructions in Rhythms [331]
Country, folk, tap and modern dance for the elementary grades. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3402 Coaching Basketball [332]
Coaching methods in basketball. Conditioning, practice schedules, and fundamentals are stressed. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3302 Techniques, Methods and Materials of Instruction in Rhythms for High School Grades [332]
A class in rhythmical materials in social, country, folk, tap and modern dance. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3403 Coaching Baseball and Track [333]
Coaching methods in baseball and track, conditioning, practice schedules and fundamentals are to be stressed. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3404 Organization of Community Recreation [350]
Methods of organizing and directing community recreation. The nature and scope of a public recreation program, the various agencies providing recreation and the problems for administering a comprehensive program. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

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HEALTH AND PHYSICAL EDUCATION

Former Number

3405 Recreational Leadership

Students will be given an opportunity to assemble a wide variety of recreational materials suitable to the varied interests of children, adolescents and adults. Actual leadership experience will be provided. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3406 Methods and Materials in Teaching Physical Education for Women

Theory and practice in the technique of sports and activities included in the Physical Education program for the elementary school. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department. Open only to women.

3407 Corrective Physical Education

The need for emphasis on prevention and correction of defects as a part of the Physical Education program. The specific exercise treatment for certain functional and structural conditions in co-operation with the school physician. Three hours of lecture per week and special field trips. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3303 Tests and Measurements in Health and Physical Education

A study of tests will be made, both in Health and Physical Education as to their purpose and use, scoring and interpretation. Prerequisite: Twelve semester hours in Physical Education or permission of the chairman of the department.

3304 Current Practices in Physical Education

A laboratory and demonstration course presenting Physical Education instruction materials and methods. Students will be used in demonstrations. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3408 Football and Basketball Officiating

Opportunity will be provided for a student to learn and interpret the rules and playing regulations, the mechanics of officiating and the psychological aspects of officiating football and basketball. Three hours of lecture per week and/or field experience in officiating. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3411 Administration of Athletics in Schools and Colleges

A study will be made of current controversies and problems in the conduct of athletics, organization of athletic departments, selection of staff, sports program, purchase and care of athletic equipment, management of varsity and intramural athletics, maintenance of facilities and equipment. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3409 Athletic Injuries, Training and First Aid

In addition to the standard first aid course as outlined for the American Red Cross, the recognition and prevention of injuries in Physical Education and Athletics as well as the treatment and care for the usual athletic injuries are emphasized. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department.

3410 Undergraduate Seminar

Directed study in selected areas of Physical Education. This may be substituted for a deficiency in the required advanced physical education courses in the Physical Education major. Prerequisite: Twelve semester hours of Physical Education or permission of the chairman of the department. May be repeated for credit.
HEALTH AND PHYSICAL EDUCATION

Former Number

For Graduate Students Only

Prerequisite: Twelve semester hours of advanced courses in Health and Physical Education.

3501 Seminar in Health and Physical Education [390]
A seminar with emphasis on research in health and physical education in both the elementary and secondary school fields. The course will include methods of research, selecting a problem and preparing a written report on the study of the problem. May be repeated for credit.

3502 Critical Analysis of Professional Literature [392]
Designed for advanced students in the field of health, physical education, recreation and safety. Major emphasis will be placed upon health and physical education. Thorough study and consideration will be given to the literature in the field which is likely to have the greatest influence on programs, procedures and practices in health, physical education, recreation and safety in the school and community.

3503 Supervision of Health and Physical Education [394]
The purpose of this course is to present and discuss the responsibilities of the supervisor of health and physical education in the school and community. Observation, techniques, standards of judging instruction, the supervisory conferences, cooperative supervision, basic foundation of curriculum construction and lesson planning. Emphasis is placed on the common problems met by the supervisors in health and physical education in elementary and secondary schools.
History, Government and Sociology

Dr. Rex W. Strickland, Chairman
Professors Waller, Strickland, Gregory, Porter; Associate Professor Timmons;
Assistant Professors Quinn, McNeely, Myres, Fuller;
Instructors Connor, Brooks, Vowell, Bailey, Bloom, Hoogenboom.

HISTORY

Government 3326 may be counted for History in satisfying the major or minor requirements.

For Undergraduates Only

3101 History of the United States
Survey of the factors that have affected the growth of American democracy: European background, American environment, development of social and political institutions, conflict with imperial control and separation, constitution making—state and national, Jeffersonian republicanism and Jacksonian democracy, the Civil War.

3102 History of the United States
Reconstruction, the Industrial Revolution and its influence upon American industry, economic imperialism, American participation in world affairs, the First World War and after, economic depression. The New Deal, and the Second World War.

3106 History of Western Civilization (to 1715)
Ancient civilizations, Greece and Rome, Christianity; medieval civilization in the West, eastern Europe; the Renaissance, Protestant Reformation, dynastic and religious wars, the expansion of Europe, divine right monarchy, triumph of parliamentary government in England.

3107 History of Western Civilization (since 1715)
International affairs in the eighteenth century, the Enlightenment, French Revolution and Napoleon, revolution and counter-revolution, the industrial revolution, the western democracies in the nineteenth century, central and eastern Europe, the intellectual revolution, imperialism, World War I, democracies and dictatorships, revolt against colonialism, World War II and after.

3212 The Ancient World
A survey of the ancient civilizations—Babylonian, Chaldean, Assyrian, Persian, and Egyptian; more intense study of the Greek history with its art and culture and its spread over the Mediterranean world; Roman history with its system of law, its early beginnings and expansion over Europe, rise and decline of the Roman Empire. Prerequisite: Sophomore standing or six semester hours of History.

3213 Medieval Europe
Decline of the Roman Empire, Germanic kingdoms, Eastern Roman Empire, rise of Islam and the Crusades, the medieval church, rise of cities, feudalism, the origin of the universities, culture of the Middle Ages. Prerequisite: Sophomore standing or six hours of History.

3217 A General Survey of the History of Texas
Prerequisite: Sophomore standing or six semester hours of History.

For Graduates and Undergraduates

3323 Europe, 1870-1920
A survey of the different countries of Europe and their internal development to 1920. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

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3324 Europe after 1920 [324]
Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3325 History of the United States, 1607-1787 [325]
Settlement and development of the Colonies, representative principles of government, westward expansion of the Colonies with the resulting economic and political problems, mercantilism and the British Imperial policy, colonial participation in the English and French conflicts in America, the American Revolution, state making and constitutional development during and after the Revolution. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3326 History of the United States, 1787-1829 [326]
Confederation and Constitution, formulation of foreign policy, Jeffersonian Democracy and Hamiltonian Federalism, expansion and development of Jacksonian Democracy, rise of nationalism and conflict over states' rights. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3327 A Social and Intellectual History of the United States [NEW]
The American Character and the molding forces of environment and immigration, religion and philosophy, literature and art, science and scholarship, the liberal temper and the conservative defense. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3330 History of the Far East [330]
Modernization of the nations of the Far East with particular attention given to China and Japan. The social, political, economic, and intellectual aspects of this transformation are considered in the light of the impact of Western influences. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3331 Russian History [331]
From the earliest times to 1900 with special attention given to the institutions, Literature, Church and Foreign Policy. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3332 The Near East in Modern Times [332]
A study of the break-up of the Ottoman Empire in Western Asia; the Succession States; Arabic nationalism and the rise of Israeli; Modern Egypt: Iran and Iraq. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3333 History of Russia (since 1900) [NEW]
Will include the background of the Revolution of 1905, World War 1, and revolutions of 1917, with special emphasis on the Soviet State since 1917. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3335 History of the United States, 1829-1850 [335]
Jacksonian Democracy, expansion of the United States into the Southwest and Far West, development of the controversy over states' rights, slavery and cotton capitalism. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3336 History of the United States, 1850-1865 [336]
Slavery controversy; Rise of the Republican Party, new leaders; Civil War, its causes, economic and social factors, military operations, results. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

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HISTORY, GOVERNMENT AND SOCIOLOGY

3340 Renaissance and Reformation, 1300-1648
Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3341 The Old Regime, 1648-1789
Absolutism in France, Prussia, Austria, Russia, social and economic development, international relations, scientific and intellectual revolution, enlightened despotism. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3342 The French Revolution and Napoleon
Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3343 Liberalism and Nationalism, 1815-1870
The Metternichian system and its breakdown, the industrial revolution, the 1830 and 1848 movements, radicalism, the Second French Empire, unification in Italy and Germany, Russian development, international relations. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3347 Latin America: The Colonial Period
A survey of the history and institutional development of Spanish and Portuguese America in the Colonial period. Prerequisite: Twelve semester hours of History, or six semester hours of History and six hours of other social science.

3348 Latin America: The National Period
South America since 1810, with special emphasis upon Argentina, Brazil, Chile, the Monroe Doctrine and Pan-Americanism. Prerequisite: Twelve semester hours of History, or six semester hours of History and six hours of other social science.

3350 Diplomatic History of the United States, 1776 to the Present
The diplomatic relations of the United States emphasizing developments of the past fifty years and basic foreign policies of the nation. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3353 A Survey of Political and Social Britain from 1815-1895
Tory England, the beginnings of reform, leaders and events in the making of modern Britain. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3354 Britain and the Empire from 1895 to the Present
The Boer War, the Empire and foreign relations, the Liberal party and internal reform, the World War, the Treaty, Britain since 1919. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3355 History of the United States since the Civil War
Reconstruction, industrial development and regulation, sectionalism, grangers, greenbackers, populism, silver crusade, passing of the frontier, civil service reform, rise of imperialism. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

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HISTORY, GOVERNMENT AND SOCIOLOGY

Former Number

3356 Contemporary History of the United States [356]  
Rise of the United States as a world power, growth of trusts, imperialism and world trade, progressivism, Roosevelt and Wilson, World War and reconstruction, Republican prosperity, depression and world unrest. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3359 Trans-Mississippi West (to 1860) [359]  
American expansion into Texas and the Far Southwest; Santa Fe trade; Texas Revolution and Independence; Texas Republic; English and American rivalry in Texas and California; Mexican War and acquisition of California. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

3360 Trans-Mississippi West (after 1860) [NEW]  
The mining frontier; railroad expansion; day of the cattlemen; the farmer frontier; populist movement; reclamation and conservation. Prerequisite: Twelve semester hours of History, or six hours of History and six hours of other social science.

Graduate Courses  For Graduate Students Only  
Prerequisite for Graduate Courses: Twelve (12) semester hours of advanced courses in History.

3580 Studies in Regional History [390]
3581 Historical Method and Historiography [391]
3582 Studies in Modern European History [392]
3583 Studies in Latin-American History [393]
3584 International Aspect of Texas History, 1803-1850 [394]
3585 Studies in the Middle Period of American History: Selected Topics [395]
3598-99 Thesis Course for the Master's Degree [698]

GEOGRAPHY

3210 Cultural Geography [310]  
A study of other nations and other peoples, to better appreciate and understand their way of life. Racial and cultural backgrounds, political, social and economic developments and geographic physical factors are considered, initially by world regional patterns, followed by variations within political subdivisions. Prerequisite: Six semester hours of History, or sophomore standing. Not counted as laboratory science.

GOVERNMENT  For Undergraduates Only

3210-11 American Government [610]  
The government of the United States—national, state, and local with special emphasis upon the Constitutions of the United States and of Texas. Fulfills the legislative requirement of the State of Texas for a course on the Constitutions of the United States and of Texas. Prerequisite: Sophomore standing.

2210 Constitutions of the United States and Texas [210]  
This course is designed to meet teacher certification requirements for out-of-state graduate students. It will not satisfy any part of the Government requirements for the Bachelor's degree at Texas Western College. Prerequisite: Graduate standing, or consent of the chairman of the department.
<table>
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<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>3321</td>
<td>American State and Local Government</td>
</tr>
<tr>
<td></td>
<td>Origin and growth of state constitutions; organization and work of</td>
</tr>
<tr>
<td></td>
<td>state departments; local governments; relation between state and</td>
</tr>
<tr>
<td>3322</td>
<td>American State and Local Government</td>
</tr>
<tr>
<td></td>
<td>Organization, powers, functions, and business methods of state and</td>
</tr>
<tr>
<td></td>
<td>local administrative agencies; problems of integration, centralization,</td>
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<tr>
<td></td>
<td>budget and fiscal control. Plans for reorganization and cooperation</td>
</tr>
<tr>
<td></td>
<td>with federal and local agencies. Special reference to Texas.</td>
</tr>
<tr>
<td></td>
<td>Pre-requisite: Government 3210-11.</td>
</tr>
<tr>
<td>3323</td>
<td>The Governments of Great Britain and the Empire</td>
</tr>
<tr>
<td></td>
<td>Rise of English political institutions, a critical analysis of the</td>
</tr>
<tr>
<td></td>
<td>English and British systems of government; the larger problems of the</td>
</tr>
<tr>
<td>3324</td>
<td>The Governments of Continental Europe</td>
</tr>
<tr>
<td></td>
<td>The governments and politics of France, Italy, Switzerland,</td>
</tr>
<tr>
<td></td>
<td>Germany, and Russia, with some attention given to lesser European</td>
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<tr>
<td></td>
<td>countries. Pre-requisite: Government 3210-12.</td>
</tr>
<tr>
<td>3325</td>
<td>The Party System in The United States</td>
</tr>
<tr>
<td></td>
<td>An historical survey of the political party as a reflection of social</td>
</tr>
<tr>
<td></td>
<td>and economic thought in the United States. Attention will be given</td>
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<tr>
<td></td>
<td>to the role of the party in national politics and its relation to</td>
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<td></td>
<td>the functions of the Federal Government. Occasional reference will</td>
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<td></td>
<td>be made to the party systems of other democratic nations. Pre-</td>
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<tr>
<td></td>
<td>requisite: Government 3210-11.</td>
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<tr>
<td>3326</td>
<td>American Constitutional Development</td>
</tr>
<tr>
<td></td>
<td>(Constitutional Law, Constitutional History)</td>
</tr>
<tr>
<td></td>
<td>The impact of changing conditions upon the interpretation of the</td>
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<tr>
<td></td>
<td>United States Constitution from 1789 to the present. Major emphasis</td>
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<td></td>
<td>will be placed upon the process of judicial review and its effect</td>
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<tr>
<td></td>
<td>upon the executive and legislative branches of the American</td>
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<td></td>
<td>Government. Approximately one-third of the course will be</td>
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<td></td>
<td>concerned with constitutional problems raised since 1933. Pre-</td>
</tr>
<tr>
<td></td>
<td>requisite: Government 3210-11.</td>
</tr>
<tr>
<td>3330</td>
<td>International Politics</td>
</tr>
<tr>
<td></td>
<td>Principles and political problems involved in foreign policies and</td>
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<td></td>
<td>international relations of the states of the world with particular</td>
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<td></td>
<td>emphasis on nationalism and imperialism. Pre-requisite: Government</td>
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<tr>
<td></td>
<td>3210-11.</td>
</tr>
<tr>
<td>3331</td>
<td>International Organization and Administration</td>
</tr>
<tr>
<td></td>
<td>The development of the machinery and procedure of international</td>
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<tr>
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<td>government for the peaceful settlement of international disputes.</td>
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<tr>
<td></td>
<td>Pre-requisite: Government 3210-11.</td>
</tr>
<tr>
<td>3332</td>
<td>The Government and Politics of Mexico and the Caribbean Area</td>
</tr>
<tr>
<td></td>
<td>The constitutional development, governmental organization, and</td>
</tr>
<tr>
<td></td>
<td>contemporary political problems of representative states, with</td>
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<td></td>
<td>special attention to Mexico. Pre-requisite: Government 3210-12.</td>
</tr>
<tr>
<td>3333</td>
<td>The Government and Politics of South America</td>
</tr>
<tr>
<td></td>
<td>The governmental structure and politics of the principal South</td>
</tr>
</tbody>
</table>
HISTORY, GOVERNMENT AND SOCIOLOGY

Former Number

3334 American National Government and Administration
The making of the national government, the principles of the Federal system, Citizenship and Constitutional Rights, the organization of Congress, the National Executive and National Court System. Prerequisite: Government 3210-11.

3335 American National Government and Administration
A general view of the powers of Congress, National Executive and National Court System; the organization, personnel work of the Civil Service and of the Budget Bureau. Prerequisite: Government 3210-11.

3336 Elements of Political Theory
An introduction to the study of political theory through a presentation of some major political concepts, both ancient and modern. Emphasis will be placed on the contest in Western political thought between absolutism, modern totalitarianism, and constitutionalism. Prerequisite: Government 3210-11.

3337 American Political Thought
The origins and development of American principles of democracy and representative government. Attention will be given to the shifting intellectual and social context of our political tradition in order to show its influence upon the concepts of formal political theorists. Prerequisite: Government 3210-11.

3343 Foreign Policies of the United States
The historical development and present organization of the Department of State and of the Foreign Service; the nature of the foreign relations power and the conduct and control of American foreign relations. Prerequisite: Government 3210-11.

3344 The Conduct of American Foreign Affairs
Origin and development of fundamental principles of American diplomacy concerning neutrality, recognition, naturalization and expatriation, and promotion of trade and commerce with special attention devoted to post-war problems. Prerequisite: Government 3210-11.

SOCIOLOGY

For Undergraduates Only

3101 Introduction to Sociology
Study of the individual in group action. Includes broad consideration of heredity and environment, and a study of the major social institutions and processes.

3102 Social Problems
Physical and mental defectiveness considered from the sociological viewpoint; defects in social organization; poverty and dependency. Social controls applied to social problems.

3214 The Community
Methods of studying the community; social anatomy; a comparative study of communities; analysis of the underlying forces and social processes which make for natural groups and institutions to meet industrial, religious, educational, governmental, and leisure time needs; disorganization and reorganization of modern communities. Prerequisite: Sophomore standing or Sociology 3101 and 3102.

3215 Marriage and Family Life
A study of the factors involved in an adequate preparation for marriage, marital adjustment and parenthood. Prerequisite: Sophomore standing or Sociology 3101 and 3102.
Fields of Social Work

A survey of the various fields of social work now operating, both public and private in sponsorship, with particular attention to those organized on regional and national basis, and an examination of the methods used in the various fields considered. Prerequisite: Twelve hours in Sociology or junior standing and six hours in social sciences.

Juvenile Delinquency

A study of the causative factors in juvenile delinquency. Attention is given to the methods of social analysis, the clinical approach, the interrelation of physical, mental and social factors in delinquency. Prerequisite: Twelve hours of Sociology or junior standing and six hours of social sciences.

Comparative Cultures

A study of the folkways, changing mores, and the growth of democratic ideas in the United States and the Republic of Mexico. Special emphasis upon the fusion of cultures along the border. Prerequisite: Twelve hours of Sociology or junior standing and six hours in the social sciences.

Population Problems and Immigration

Population movements and their social control, problems of population, distribution, and assimilation, consideration of Americanization programs and immigration laws. Prerequisite: Twelve hours of Sociology or six semester hours of social science and junior standing.

Criminology

Causes, characteristics, and relief of crime, with consideration of mental, physical, economic and social factors in crime. A sociological analysis and evaluation of penal methods. Prerequisite: Twelve hours of Sociology or six semester hours of social science and junior standing.

The Family

A study of the development of the family as a social institution. Emphasis is placed upon the American family and the problems which confront it today. Prerequisite: Twelve hours of Sociology or six semester hours of social science and junior standing.

Child Welfare Problems

The development of the rights of the child in relation to parental rights, as evidenced in the child labor laws, juvenile court, adoption, mother's aid legislation, the changing status of the illegitimate child, and public organization for more effective administration of other laws relating to child dependency, delinquency and neglect. Prerequisite: Twelve hours of Sociology or six semester hours of social science and junior standing.
**Journalism, Radio and Television**

**Vincent Hicks; John Middagh, Co-Chairmen**  
**Associate Professors Hicks, Middagh; Instructors Hertzog, Jones;**  
**Lecturers Ralph Lowenstein, Bruce Brooks; Radio Consultant Karl O. Wyler;**  
**Director of Educational Programming Nicoll**

Realizing the need for professionally trained young men and women in the fields of journalism, radio and television, Texas Western College offers a complete major in each field with full four-year programs. The Department of Journalism, Radio and Television is organized on a professional basis. Its programs aim to provide students with that broad background in English, economics, political science, business, and related fields, plus a realistic professional training under seasoned journalists and widely experienced radio instructors. Upon approval by the Chairman of the Department, Business Administration 3350, 3351, and 3352 will be accepted for credit as part of a major or minor in Journalism.

### JOURNALISM  
**For Undergraduates**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3101</td>
<td>Introduction to Journalism</td>
<td>Orientation course into the background of newspaper work and other journalistic fields. Brief history of American newspapers. Designed to acquaint students with general newspaper practices.</td>
</tr>
<tr>
<td>3102</td>
<td>Introduction to News Writing</td>
<td>A beginning course covering basic principles of news writing and editing, making use of exercises and assignment materials necessary to practice and apply the principles.</td>
</tr>
<tr>
<td>3106</td>
<td>Introductory Course in Public Relations</td>
<td>Orientation course to acquaint the student with the various public relations media and how to use them. Set up on an elementary basis primarily for the non-journalism and radio major, this course presents the role of public relations in modern business, education, government, civic affairs, etc. Survey study of the principles and practices of public relations.</td>
</tr>
<tr>
<td>3107</td>
<td>Elementary Photography ($2)</td>
<td>Learning of the normal order of the photographic process. Discussion of lenses and cameras along with the actual photographic process; exposure, development, fixing and contact printing. Two lectures and four laboratory hours per week.</td>
</tr>
<tr>
<td>3108</td>
<td>Fields of Photography ($2)</td>
<td>A continuation of Elementary Photography with special emphasis on press photography. A survey of the various fields of photography including a practical working knowledge of high-speed cameras and their most effective uses. Two lectures and four laboratory hours per week. <strong>Prerequisite:</strong> Journalism 3107 or permission of the chairman of the department.</td>
</tr>
<tr>
<td>3201</td>
<td>News Gathering and Reporting</td>
<td>Instruction and practice in interviewing and writing: Discussion of news sources, news values, and various types of news stories; study of the organization of the newspaper staffs and the news gathering associations. Required of all students majoring in Journalism. Two lectures and four practice hours per week. <strong>Prerequisite:</strong> Sophomore standing including English 3101-02.</td>
</tr>
<tr>
<td>3202</td>
<td>News and Copy Reading</td>
<td>Theory of writing newspaper copy and writing headlines. Special instruction by leading newspaper men and women. Required of all students majoring in Journalism. Two lectures and four practice hours per week. <strong>Prerequisite:</strong> Sophomore standing including English 3101-02.</td>
</tr>
</tbody>
</table>
JOURNALISM, RADIO AND TELEVISION

Former Number

3203 Current Events  [316k]
A study of current events in the daily newspaper and interpretation of these current events in regard to the social welfare, future and progress of the world. Prerequisite: Sophomore standing.

3204 The American Newspaper  [317]
Critical examination of the newspaper as a social agency; the influence shaping its content and attitudes; the effect of the newspaper on public opinion, morality, popular taste, style, and standards of living. Prerequisite: Sophomore standing.

3303 The Special Article  [322]
Methods of gathering material for newspapers and magazine feature stories through interviews, research, and observation; study of feature story form and style; discussion of markets for literary material; practice in writing feature stories. Prerequisite: Journalism 3201 or 3202, or English 3211-12.

3305 News Editing  [324]
Study of newspaper style books; instruction in headline writing; study of newspaper make-up; practice in reading newspaper copy for errors in fact, English, and style; also practice in writing headlines and rewriting news stories. Required of all students majoring in Journalism. Two lectures and four practice hours per week. Prerequisite: Journalism 3201 or 3202.

3306 Teaching High-School Journalism, Supervision of School Publications  [323k]
Instruction in the teaching of high-school journalism and supervision of publications, both classroom and extracurricular. Lectures include selection of material, editing, production, and school public relations. Prerequisite: Junior standing.

3307 The Small Daily and Weekly Newspaper  [325]
Study of newspaper methods, make-up, advertising problems, and business management of the small-town newspaper. Prerequisite: Junior standing.

3312 Editorial Writing and Page Direction  [340]
Instruction and practice in writing newspaper editorials and page columns. Early emphasis on structure and style, make-up, and policies. Practice in writing the signed column. Required of all students majoring in Journalism. Prerequisite: Junior standing.

3313 Pictorial Journalism  ($2)  [341]
The development of modern day methods of photography, and its uses in the newspaper and magazine fields today. A study of picture editing, news cameras, covering picture assignments, photo-engraving, elements of picture layouts. Prerequisite: Journalism Junior standing.

3314 Printing Processes and Reproduction  [349]
Explanation and demonstration of processes: Letterpress, lithography, intaglio, photo-engraving, photo-offset, paper analysis, typesetting, binding. Two lectures and two hours workshop per week. Prerequisite: Journalism 3314, or print shop experience.

3315 Principles of Typography  [352]
Study of type and layout technique, with emphasis on practical problems that confront the newspaper editor and advertising manager. Two lectures and two workshop hours per week. Prerequisite: Journalism 3314, or print shop experience.

3350 Fundamentals of Advertising  [321k]
Relation of advertising to other business functions; study of campaigns, appropriations, and media; survey of activities of those engaged in advertising work. Prerequisite: Junior standing.
3351 Advertising, Copywriting and Special Layouts

Instruction and practice in the technique of preparing various types of advertising copy and layouts. Study of marketing media, direct mail advertising, circulars, and store layouts. Two class and two practice hours per week. Prerequisite: Journalism 3350.

3352 Public Relations

Principles, techniques, and methods used in public relations; necessity and significance in the free enterprise system. Relationships include national, state and local governments; employees; customers; suppliers; social and religious institutions. Prerequisite: Junior standing.

3401 Public Affairs in the News

Panel discussions, lectures and field visits comprise this course, which is primarily designed for the senior student needing advanced elective credit having a direct relationship to his major area of study. How the operations of government, politics, the courts, labor and business are reported and interpreted in the news will be studied. Prerequisite: Junior standing.

3418 Current Events in Relation to Classroom Teachers Use in Secondary School

A study of current events in the daily newspapers, national news magazines, and radio, and interpretation of these current events in regard to the social development of the secondary school pupil. Prerequisite: Junior standing.

COLLEGE PUBLICATIONS

For Undergraduates

1104-05 Publications

Work on the staff of one of the college publications. Members are required to be on the staff of at least one of the official college publications and to work at prescribed periods under supervision. Three hours per week for two semesters. May not be taken for credit at the same time a student is enrolled in Journalism 3201 or 3202. Prerequisite: Consent of the chairman of the department.

1204-05 Publications (second year)

Further work on the college publications with increased responsibility. Three hours per week for two semesters. Prerequisite: Journalism 1104-05 and consent of the instructor.

1304-05 Publications (third year)

Further work on the college publications with increased responsibility. Three hours per week for two semesters. Prerequisite: Journalism 1204-05 and consent of the instructor.

1404-05 Publications (fourth year)

Further work on the college publications with increased responsibility. Three hours per week for two semesters. Prerequisite: Journalism 1304-05 and consent of the instructor.

RADIO — TELEVISION

Television and radio courses are designed to accomplish a two-fold purpose: To give the student training and background in every phase of non-technical telecasting and broadcasting; and, to provide the skills and experience necessary for a position in the industry. Facilities are modern and complete. Texas Western College owns and operates its own Frequency Modulation radio station KVOF-FM, which provides a daily broadcast service to the El Paso city and county schools. KVOF-FM is staffed entirely by students working in modern control rooms and studios, using standard commercial equipment. The department also maintains campus carrier-current station KVOF, providing ten hours daily of programs slanted at dormitory residents. Remote broadcast lines are maintained to El Paso's commercial stations for,
the purpose of relaying college programs. Texas Western television facilities are new, modern, and complete, offering the prospective television student unsurpassed opportunities for learning every phase of this fascinating medium. Television studios and control rooms are situated in TELEVISION CENTER in Magoffin Auditorium. Using a complete RCA two-camera television chain, students write, produce and direct their own programs which are released by closed-circuit to TV receivers on the campus, and telecast by remote facilities over El Paso television stations. An investment of more than $150,000 is represented in the studios, lighting facilities, cameras, video controls and associated equipment to make Texas Western's TELEVISION CENTER one of the most complete educational television plants in the country. Upon approval by the Chairman of the Department, Education 3413, 3414, 3415, 3416, and 3417 will be accepted for credit as part of a major or minor in Radio.

For Undergraduates

3101 Survey of Radio and Television

A survey of the American System of Broadcasting including personnel, equipment, terms, station and network organization in television and radio. Practice given in station operational procedures.

3102 Introduction to Radio

An introductory course to acquaint the beginning student with basic studio and control room equipment and practices. Microphone types and techniques, control board operation, tape recordings. Introduction to educational broadcasting. 

3105 Radio-Television News Processing

A study of the leading world news telegraph services, news writing styles pertinent to radio broadcasting, and the techniques of processing news material for radio broadcast. Laboratory practice under actual radio newsroom conditions is made possible by use of 24-hour daily leased wire Associated Press facilities in the KVOF-FM newsroom.

3214 Introduction to Television

An introductory course to acquaint the student with the equipment terms and personnel of television. Radio and television announcing. The development of an effective, friendly radio and television personality. (Three lectures and three laboratory hours per week.) 

3215 Telecommunications ($2)

Writing for television and radio, program planning and building, audience surveys, audience promotion. Introduction to film techniques in television. Three lectures and three laboratory hours per week. 

3218 Dramatic Script Writing

Beginning principles of dramatic script writing for stage, radio and television. Drama majors will be required to write an original one-act play. Radio and television majors will be required to write an original half-hour script for either radio or television. 

3320 Television Production I ($2)

A practical approach to the presentation of spot announcements, news films and live programs as encountered in the daily operation of the average commercial television station. Beginning instruction in camera work, video and audio control. Survey of educational television. Two lectures and four laboratory hours per week. 

Former

Number

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### Journalism, Radio and Television

#### Former Number

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>3321</td>
<td>Television Production II (§2)</td>
<td>Advanced television production. Lighting and staging of television forums, quiz shows and dramatic materials. Skills of the technical director. Further camera training. Actual student participation in every phase of television studio and control activity. Two lectures and four laboratory hours per week. <strong>Prerequisite:</strong> Six hours of television-radio courses or junior standing.</td>
</tr>
<tr>
<td>3323</td>
<td>Production in Educational Television</td>
<td>Television production problems peculiar to educational television. A companion course to Education 3417, providing opportunity for participation in the production and direction of programs planned for in-school viewing. Content of the course will include basic instructions in staging, lighting, and camera work in the field of educational television. Class members will participate with the staff and crew for daily demonstration programs to be broadcast on the closed-circuit facilities of TWC-TV. Two lectures and four laboratory hours per week. <strong>Prerequisite:</strong> Six hours of television-radio courses or junior standing.</td>
</tr>
<tr>
<td>3330</td>
<td>Television-Radio Station Management (§2)</td>
<td>Complete survey of management problems in the television-radio industry. Information relating to network affiliation, staff training, public service policies, systems of records, legal restrictions. Survey of job opportunities. Counseling with industry personnel. Required of all television-radio majors. Two lectures and four laboratory hours per week. <strong>Prerequisite:</strong> Six hours of television-radio courses or junior standing.</td>
</tr>
<tr>
<td>3331</td>
<td>Seminar in Telecommunications</td>
<td>Studies in the literature of television and radio; current bibliography and publications; evaluation of philosophies; research problems in mass communications. Required of all television-radio majors. Recommended for students majoring or minorinng in education. Two lectures and four laboratory hours per week. <strong>Prerequisite:</strong> Six hours of television-radio courses or junior standing.</td>
</tr>
<tr>
<td>3413</td>
<td>Radio Listening as an Aid to Elementary Teaching</td>
<td>A survey course in the use of radio in the classroom. Survey of program material available and a study of methods and techniques in advance preparation and program follow-up. Survey of state “School of the Air.” How television will be used in the classroom. <strong>Prerequisite:</strong> Junior standing.</td>
</tr>
<tr>
<td>3414</td>
<td>Radio Listening as an Aid to Secondary Teaching</td>
<td>A survey course in the use of radio at the high school level. Program analysis and methods and techniques of coordinating educational and public service broadcasts with high school curriculum. Study of state “Schools of the Air,” survey of radio’s potentialities in education. A survey of things to come; television as an aid to teaching. <strong>Prerequisite:</strong> Junior standing.</td>
</tr>
<tr>
<td>3415</td>
<td>Preparation, Presentation of Radio Programs, Elementary Grades</td>
<td>Radio production techniques essential to the successful presentation of school programs. The program idea, writing, speaking on the microphone, timing. Survey of program material most welcomed by the stations. Practical studio experience and instruction in operation of station equipment in the Texas Western studio facilities. <strong>Prerequisite:</strong> Junior standing.</td>
</tr>
<tr>
<td>3416</td>
<td>Preparation and Presentation of Radio Programs, High School</td>
<td>Radio production techniques essential to the successful presentation of school programs. Putting the high school music organization on the air. Development of radio personality. Delayed broadcasting by tape recording. Possibilities of television. Practical studio experience and instruction in operation of station equipment in the Texas Western studio facilities. <strong>Prerequisite:</strong> Junior standing.</td>
</tr>
</tbody>
</table>
3417 Educational Television — A Seminar
The course is set up on a seminar level with the work divided to provide concentration in either the elementary or secondary school area. The class is conducted by means of closed circuit television and demonstrates an instruction technique that has had wide acceptance. Students see and hear the lectures and demonstrations in a television viewing room; instruction originates in the campus television studios. Opportunity is provided for students to do practice teaching over the closed circuit television system. **Prerequisite:** Senior standing and eighteen hours of education.

**Radio Station KVOF-FM**

For Undergraduates

1104-05 Radio Station KVOF-FM

Work on the staff of Radio Station KVOF-FM. Three hours per week for two semesters. **Prerequisite:** Consent of the chairman of the department.

1204-05 Radio Station KVOF-FM (second year)

Work on Radio Station KVOF-FM with increased responsibility. Three hours per week for two semesters. **Prerequisite:** Radio 1104-05 and consent of the instructor.

1304-05 Radio Station KVOF-FM (third year)

Work on Radio Station KVOF-FM with increased responsibility. Three hours per week for two semesters. **Prerequisite:** Radio 1204-05 and consent of the instructor.

1404-05 Radio Station KVOF-FM (fourth year)

Work on Radio Station KVOF-FM with increased responsibility. Three hours per week for two semesters. **Prerequisite:** Radio 1304-05 and consent of the instructor.
Mathematics and Physics

DR. E. J. KNAPP, Chairman

Professors KNAPP, BARNES; Associate Professors McMahan, Bentz; Assistant Professors RESLEY, GLADMAN, SCHOMAKER; Instructors THEDCILL, PATTERSON, SHEPHERD, KIRBY, MICULKA, SMART, KRUSCHWITZ, NEPRUD; Part-time Instructor PROJECTOR

MATHMATICS

Six semester hours of Mathematics are required for the degree of Bachelor of Arts. Students wishing a more complete course in Mathematics and students who plan to major or minor in Mathematics or Physics should take Mathematics 4115-16.

Students planning to major or minor in other sciences should check the degree requirements of their majors and minors in regard to Mathematics. Students majoring or minoring in Mathematics or Physics should take Mathematics 2110 in the second semester of the freshman year unless solid geometry is offered for entrance.

Some of the advanced courses are given in alternate years.

Physics 3451 and 3452 may be counted as Mathematics credit.

For Undergraduates

<table>
<thead>
<tr>
<th>Course</th>
<th>Number</th>
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<tbody>
<tr>
<td>3100 Advanced Arithmetic</td>
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</tr>
<tr>
<td>3101 Introductory Mathematics</td>
<td>[ 304</td>
</tr>
<tr>
<td>3102 Introductory Mathematics</td>
<td>[ 309</td>
</tr>
<tr>
<td>3104 Mathematics of Investment</td>
<td>[ 307</td>
</tr>
<tr>
<td>3106 Trigonometry</td>
<td>[ 306</td>
</tr>
<tr>
<td>2110 Solid Geometry</td>
<td>[ 208</td>
</tr>
</tbody>
</table>

Former

3100 Advanced Arithmetic

For students who are required by their major departments to take supplementary training in arithmetic. Credit may not be used to satisfy the mathematics requirement for a degree, except by majors in elementary education, or to serve as a prerequisite for any course in mathematics.

3101 Introductory Mathematics

An introductory course designed to fit the needs of liberal arts students who do not plan to study mathematics beyond a one-year course. The objectives are to give the student an appreciation of mathematics as a language for expressing ideas and an understanding of the simple important problems of algebra, trigonometry, and business mathematics. This course leads to Mathematics 3102, 3104, or 3106.

3102 Introductory Mathematics

A continuation of the study of elementary mathematics as introduced in Mathematics 3101 with emphasis on applications. Topics studied include algebra, trigonometry, elementary statistics, and business mathematics. Prerequisite: Three semester hours of Mathematics.

3104 Mathematics of Investment

Elementary course in the theory and application of the mathematics of finance. Topics covered include logarithms, progressions, simple and compound interest, annuities, amortization, perpetuities. May be applied toward the mathematics requirement or elective hours for the Bachelor of Arts Degree. Prerequisite: Three semester hours of Mathematics.

3106 Trigonometry

Prerequisite: Three semester hours of mathematics.

2110 Solid Geometry

Required of candidates for engineering degrees who do not present solid geometry for entrance. This course or high school solid geometry is required of all students beginning calculus. Counts toward academic degrees but not toward engineering degrees. Prerequisite: One year of high school geometry.

* On leave, 1956-57.
3113 Algebra
Review of secondary school and intermediate algebra for engineering students whose background in this subject is deficient. Not counted in addition to Mathematics 3101.

4115 Engineering Mathematics
Algebra, trigonometry, and analytical geometry combined to give the student a foundation for the study of calculus, the natural sciences, and engineering. The first five classes are devoted to a review of high school algebra. Students not possessing a satisfactory working knowledge of algebra at the end of this period are transferred to Mathematics 3113. Prerequisite: One year of high school geometry and one and one-half years of high school algebra.

4116 Engineering Mathematics
Continuation of Mathematics 4115. Prerequisite: Mathematics 4115.

3213-14 Calculus
In this course differential calculus and integral calculus are carried on together. In differential calculus, special attention is given to the derivation of formulas and to the application of derivatives to the solution of problems in maximum rates, velocity, acceleration, and geometrical applications. The work in integral calculus drills the student in the integration of functions occurring in mathematics and physics; in evaluating areas and volumes, and in the derivation and application of the fundamental formulas of hydrostatics. The last two hours counted as advanced. Prerequisite: Mathematics 2110 unless solid geometry is presented for entrance, and Mathematics 4116.

3325 Calculus
The topics of Mathematics 3214 are extended to include the differentiation and integration of a wider class of functions and the applications of these processes to the solution of a wider range of problems: Moments of inertia, series, partial differentiation, and multiple integrals. Prerequisite: Mathematics 3214.

3326 Differential Equations
Study of the common types of ordinary differential equations of geometry, mechanics, and electricity. Prerequisite: Mathematics 3214.

3421 Theory of Equations

3422 Modern College Geometry
A course in modern plane geometry involving an extension of some of the material of elementary geometry, together with an introduction to projective geometry. Properties of the triangle, properties of the circle, similarity, inversion, cross ratio, and principle of quality. Prerequisite: Mathematics 3214. Omitted 1957-58.

3435 Higher Mathematics for Engineers and Physicists
Designed to help the student in senior and graduate work in engineering, mathematics, physics and certain fields of chemistry. Line integrals and Green's Lemma, Surface integrals. Introduction to complex variables, analytic functions, Cauchy's theorem, Cauchy's integral formula, infinite series, residues and elementary mappings. Introductory vector analysis, gradient, directional derivative, Stoke's theorem, the divergence theorem. Prerequisite: Mathematics 3325.

3436 Higher Mathematics for Engineers and Physicists
Continuation of Mathematics 3435. Additional work with partial derivatives and infinite series, Fourier series, series solutions of differential equations, Bessel functions, Laplace transforms, the Gamma function. Prerequisite: Mathematics 3325.
PHYSICS

For Undergraduates

3100 Introduction to Physics
A lecture course for engineering students who do not present one unit of high
school physics for entrance.

3101-02 General Physics ($2)
Three lectures and two laboratory hours per week.

4103-04 General Physics ($4)
Mechanics, heat, electricity, magnetism, sound, and light. Physics 4103-04 and
3101-02 may not be counted for credit by the same student. Four lectures and
two laboratory hours per week.

3106 Elementary Theory of Sound
A study of sound as related to speaking, singing, and to musical instruments.
It includes physical principles of sound production, transmission, interference,
hearing, resonance, pitch, quality, musical intervals, stringed instruments, wind
instruments, acoustics of rooms, and associated electronic equipment.

6211 Physics ($4)
Mechanics, heat, wave motion, and sound. For students in civil and mining
engineering. Five lectures and three laboratory hours per week. Prerequisite:
Mathematics 3213 concurrently.

4212 Physics ($4)
Electricity, magnetism, and light. For students in civil and mining engineering.
Three lectures and three laboratory hours per week. Neither Physics 6211 nor
Physics 4212 may be counted for credit by a student who earns credit for Physics
3213 or 3214. Prerequisite: Physics 6211 and credit for or registration in Math-
ematics 3213 or 3214.

4213-14 Second-Year Physics ($4)
First semester: Light, electricity, and magnetism. Second semester: Mechanics,
heat, and sound. For students majoring in physics. Calculus is used throughout
the course. Three lectures and three laboratory hours per week. Prerequisite:
Mathematics 3213 concurrently and six hours of physics. May not be counted in
addition to 4215-16 or any other sophomore course in physics.

4215 Mechanics and Heat ($4)
Three lectures and three laboratory hours per week. Prerequisite: Mathematics
3213 concurrently and one unit of high school physics or three credit hours of
college physics.

4216 Electricity, Magnetism, and Wave Motion ($4)
Three lectures and three laboratory hours per week. Prerequisite: Mathematics
3213 or 3214 concurrently and Physics 4215.

For Undergraduates and Graduates

4317 Light, Sound, and Modern Physics ($4)
Three lectures and three laboratory hours per week. Prerequisite: Physics 4216
and Mathematics 3214.

3322 Heat
Advanced topics. Prerequisite: Mathematics 3214 and six semester hours of

3323 Light
Advanced topics. Prerequisite: Mathematics 3214 and six semester hours of
The Particles of Modern Physics
A study of gaseous ions, electrons, cathode rays, isotopes, alpha, beta, and gamma rays, positrons, neutrons, atomic nuclei, atomic fission, and the various accelerators of charged particles. The most recent developments and applications will be emphasized. **Prerequisite**: Mathematics 3214 and six semester hours of physics.

The Particles of Modern Physics
Continuation of Physics 3325. Further study of positrons, neutrons, cosmic rays, mesons, artificial radioactivity, and atomic fission. A short introduction to wave mechanics is given. **Prerequisite**: Mathematics 3214 and six semester hours of physics.

Electronics ($4$)
Experimental techniques and elementary theory of circuit elements. Includes linear passive elements, linear electronic and transistor circuits. Also includes nonlinear electronic elements such as trigger circuits. **Prerequisite**: Physics 3214 or Physics 4212. May not be counted in addition to Engineering 4339.

Theory and Applications of Electron Tubes ($4$)
Theory and applications of a wide variety of electron tubes and circuits. Includes analysis of steady state and transient response in electronic systems by means of equivalent circuits. Also included are power supplies, feedback amplifiers, television and radio circuits, microwaves, and recent electronic developments. Three lectures and three laboratory hours per week. **Prerequisite**: Mathematics 3214 and Physics 4339. May not be counted in addition to Engineering 4340.

Electricity and Magnetism
Maxwell's field equations are postulated and conventional laws of electricity and magnetism are derived from electromagnetic theory. Vector theory is developed in the course as needed. Three lectures per week. **Prerequisite**: Physics 3214 or 4212 and Mathematics 3214. Omitted 1957-58.

Electricity and Magnetism
Continuation of Physics 3341. Includes electromagnetic waves and radiation systems and Lorentz transformation of field vectors. Some elementary circuit theory is derived from electromagnetic theory. Three lectures per week. **Prerequisite**: Physics 3341. Omitted 1957-58.

Advanced Laboratory Practice in Electricity
A course covering theory and practice in the measurement of electrical and magnetic quantities. Certain phases of modern physics are discussed and dealt with in the laboratory. The sensitive galvanometer is studied in detail. Attention is given to various types of bridges. Measurements are made of such quantities as the charge on the electron, the ratio of charge to mass, and other quantities related to modern physics. Electrical discharge through gases and attendant phenomena are also studied. One lecture and three laboratory hours per week. **Prerequisite**: Physics 3214 or 4212. Omitted 1957-58.

Advanced Laboratory Practice in Electricity ($2$)
A continuation of Physics 2343. **Prerequisite**: Physics 3214 or 4212. Omitted 1957-58.

Electron Tube Circuits ($4$)
Continuation of Physics 4340. Three hours of lecture and three hours of laboratory per week. **Prerequisite**: Physics 4340. Omitted 1957-58.

Analytical Mechanics
Equilibrium and motion of a particle and a rigid body in two and three dimensions. May be counted as three advanced hours in Physics. **Prerequisite**: Mathematics 3214 and ten credit hours in Physics or six credit hours in Physics and Mathematics 3436.

Analytical Mechanics
Continuation of Mathematics 3451. May be counted as three advanced hours in Physics. **Prerequisite**: Mathematics 3451.
Military Science and Tactics

COL. JOHN ALFREY, Commandant
Professor ALFREY, Assistant Professors MAL HODGE, CAPT. OCHS;
Instructors M/SGT STUART, SFC BREWTON

Courses offered by this department are designed to produce junior commissioned officers who by their education, training, and inherent qualities are suitable for continued development as officers in the United States Army. Training in military leadership is emphasized. Instruction is provided in subjects common to all branches of the Army.

Students who qualify as "Distinguished Military Graduates" are eligible for appointment as commissioned officers in the Regular Army.

Military Science Courses are offered during the long session only, except that appropriate courses will be offered during the summer session for those students in the Co-operative Engineering Program.

The first two years (Military Science 2101-02 and 2201-02) form the Basic Course. The second two years (Military Science 3301-02 and 3401-02) form the Advanced Course. All Military Science courses are elective, but enrollment in either the Basic or Advanced Course constitutes an agreement by the student to complete the two years of the course in which he enrolls as long as he remains eligible.

ELIGIBILITY: Normally a student may enroll only in the Military Science Course that corresponds to his academic year in College, and he may be permitted to begin Military Science only if sufficient time remains in College to complete all Military Science Courses by the time he obtains a baccalaureate degree. Enrollment is limited to students who can qualify for a degree prior to becoming 25 years of age. Credit for as much as one semester of the Basic Course may be granted for high school ROTC and credit for as much as all of the Basic Course may be granted for previous active military service. In exceptional cases students may be authorized to complete the Military Science Courses in less than four years. Inquiries pertaining thereto should be directed to the PMS&T. Subject to the above requirements a student may enroll in the Basic Course providing he is a regularly enrolled student at Texas Western College, is a citizen of the United States, and is physically qualified. Upon completion of the Basic Course he may, subject to the above requirements, enroll in the Advanced Course providing he is selected by the President of the College and the Professor of Military Science and Tactics.

If accepted for the Advanced Course, the student will be required to execute a written agreement with the Government to continue the course as long as he remains in good standing in the College, and, upon graduation, to accept a commission in the United States Army Reserve if such a commission is tendered. Once enrolled, completion of the Advanced Course, including summer camp, is a prerequisite to graduation, unless the student is relieved of his contractual obligations by the Fourth Army commander.

SUMMER CAMP: Advanced Course students are required to attend a 6 weeks’ summer camp between their junior and senior academic years. A student may be authorized to postpone attendance at camp until the summer following his graduation if cogent reasons therefor exist. Such postponement will not preclude a student’s obtaining his degree at graduation time.

All regularly enrolled students are furnished necessary uniforms, texts, and equipment on a loan basis. A twenty-dollar deposit is required at the time of registration to cover loss or damage of the property. The Government pays all Advanced Course students a subsistence allowance of $4.90 per day for not more than 595 days and $98.00 per month for the six weeks summer camp. Veterans’ payments are not affected by the payment of the above allowances.

Students not meeting the requirements for formal enrollment may, with the permission of the President of the College and the Professor of Military Science and Tactics, enroll informally for academic credit only. They will not receive monetary allowances nor be issued Government uniforms.

Upon successful completion of the four-year program a student is tendered a commission in the United States Army Reserve, and, if he has had no prior active military service, will be required to serve a tour of active duty. The length of this tour will depend upon the requirements of the Army and will consist either of six months or two years. It will include a course of instruction at an officers’ basic school.
MILITARY SCIENCE AND TACTICS

Former Number

Basic Course

2101-02 Military Science I

Organization of the Army and Reserve Officers' Training Corps (ROTC), Individual Weapons and Marksmanship, American Military History, School of the Soldier and Exercise of Command. Two classroom hours and one drill hour per week. Academic credit: four hours.

2201-02 Military Science II

Map and Aerial Photograph Reading, Crew Served Weapons and Gunnery, School of the Soldier and Exercise of Command. Two classroom hours and one drill hour per week. Prerequisite: Military Science 2101-02 or equivalent military training. Academic credit: four hours.

Advanced Course

3301-02 Military Science III

Leadership, Military Teaching Methods, Organization, Functions, and Missions of the Arms and Services, Small Unit Tactics and Communications, School of the Soldier and Exercise of Command. Four classroom hours and one drill hour per week. Prerequisite: Junior standing, basic course or equivalent military training, and selection by Professor of Military Science and Tactics and President of College. Academic credit: six hours.

3401-02 Military Science IV

Operations, Logistics, Military Administration and Personnel Management, Service Orientation, School of the Soldier and Exercise of Command. Four classroom hours and one drill hour per week. Prerequisite: Military Science 3301-02. Academic credit: six hours.
## Mining and Metallurgy

**DR. J. C. RINTELEN, JR., Chairman**  
*Professors RINTELEN, THOMAS; Associate Professors INGERSOLL, NICHOLSON, GRAHAM (Professor Emeritus)*

### MINING

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3201</td>
<td>Elements of Mining</td>
<td>A study of prospecting, development, earth and rock excavation, explosives, tunneling, shaft sinking, timbering, boring, underground transport, and hoisting.</td>
<td>Geology 3216 and Physics 4215.</td>
</tr>
<tr>
<td>2101</td>
<td>History of Mining</td>
<td>Highlights of mining eras and mining districts.</td>
<td>Open to all students. Not given 1957-58.</td>
</tr>
<tr>
<td>1101</td>
<td>History of Mining</td>
<td>Highlights of mining eras and mining districts.</td>
<td>Open to all students.</td>
</tr>
<tr>
<td>1102</td>
<td>The Mineral Industry</td>
<td>An introductory course covering the mining industry. A study of production and uses of the most important metals and non-metallic industrial minerals.</td>
<td>Open to all students.</td>
</tr>
<tr>
<td>2301</td>
<td>Mining Methods</td>
<td>A comprehensive study of mining methods.</td>
<td>Mining 3201.</td>
</tr>
<tr>
<td>3302</td>
<td>Mine Surveying ($2)</td>
<td>Theory and practice of problems encountered in shaft plumbing, surveys for patenting mining claims, and other conditions peculiar to mine surveying. Two lectures and three laboratory hours per week.</td>
<td>Mining 2301, and Engineering 4314.</td>
</tr>
<tr>
<td>3303</td>
<td>Non-Metallic Mining</td>
<td>The mining and preparation of coal, potash, oil shale and other non-metallic minerals. The collection of by-products is considered.</td>
<td>Mining 2301.</td>
</tr>
<tr>
<td>2304</td>
<td>Mine Surveying; Summer Field Work ($2)</td>
<td>A practical field course in mine surveying. A complete survey and map of one of the mines in the vicinity of the College are required. Students are required to pay all expenses for their transportation and board while on this trip.</td>
<td>Mining 2301. Eight hours daily for two weeks, starting Monday two weeks prior to registration.</td>
</tr>
<tr>
<td>2401</td>
<td>Tunneling and Blasting</td>
<td>Methods of excavation and material handling in tunneling and hard-rock foundation. Handling of explosives, placement of charges, safety precautions, ventilation.</td>
<td>Junior standing.</td>
</tr>
<tr>
<td>3402</td>
<td>Mine Valuation and Report ($2)</td>
<td>A study of sampling, ore estimation and mining reports. In the laboratory the student is required, from a sampled mine or exploration, to determine the value of the property, select a mining method, suggest suitable equipment and write a detailed report.</td>
<td>Completion of the requirements for the Bachelor of Science Degree by the end of the following fall semester. One hour lecture and six laboratory hours per week.</td>
</tr>
<tr>
<td>3403</td>
<td>Management</td>
<td>Many of the applications of economics to mining are considered.</td>
<td>Completion of the requirements for the Bachelor of Science Degree by the end of the following fall semester.</td>
</tr>
<tr>
<td>3404</td>
<td>Mine Plant</td>
<td>A study of underground haulage, hoisting plant, compressed air plant, rock drills and pumping.</td>
<td>Senior standing.</td>
</tr>
</tbody>
</table>
MINING AND METALLURGY

3405 Mine Plant ($2)
A study of mine ventilation and mining law. Prerequisite: Senior standing. Two lectures and three laboratory hours per week.

0421 Mining Trip (Transportation fee: $50.00)
At the end of the senior year, graduating seniors spend the last two weeks of the second semester on a trip of inspection which will include visits to the mining and metallurgical departments of companies within the scope of the planned itinerary. Required for graduation. Prerequisite: Completion of the requirements for the Bachelor of Science degree by the end of the following fall semester.

METALLURGY

3101 Introduction to Metallurgy ($2)
An elementary course in the extraction of metals from ores, and the industrial application of metals and alloys. Two lectures and three laboratory hours per week. Open to all students.

3301 General Metallurgy
Introductory course covering a description of the various processes for treating all the ordinary metals. Prerequisite: Chemistry 4103-04, and Physics 4215 or Physics 3101-02.

4302 Ore and Coal Dressing ($4)
The principles governing the process employed in the liberation and separation of the minerals and coal dressing. In the laboratory the student becomes familiar with milling machinery and methods of separation. Three lectures and three laboratory hours per week. Prerequisite: Geology 2217 and Physics 4215 or 3101-02.

2303 Assaying ($2)
A study of slags and the determination by fire methods of gold, silver, and lead in mineral ores, and products of mills and smelters. One lecture and three laboratory hours per week. Prerequisite: Chemistry 4214.

3304 Non-metals
A survey course of the non-metallic and ceramic industries, not including coal, oil or sulphur. Emphasis is placed upon the present economic utilization of, and possible future demands for those minerals which are classed as non-metallic. Prerequisite: Chemistry 4103-04, and Physics 4215 or 3101-02.

3305 Engineering Metallurgy ($2)
A course in the metallurgy and metallography of commercial metals and alloys. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 4103-04, and Physics 4215 or 3101-02.

2306 Introduction to Ceramics
Study of the ceramic raw materials with their benefication, and the fuels, combustion, and silicate chemistry as related to industry. Prerequisite: Chemistry 4103-04, and Physics 4215 or 3101-02.

3306 Introduction to Ceramics ($2)
This course is the same as Metallurgy 2306, except that it includes a three-hour laboratory. Two lectures and three laboratory hours per week. Prerequisite: Chemistry 4103-04, and Physics 4215 or 3101-02.

3307 Electric Furnaces
A foundation course in electric smelting and the commercial applications of the electric furnace. Prerequisite: A physics course in electricity.

4308 Physical Metallurgy ($4)
A theoretical study of the metallic state concerned with the physical and mechanical characteristics of metals and alloys. Three lectures and three laboratory hours per week. Prerequisite: Chemistry 4460.
2401 Principles of Copper Smelting
Roasting, smelting, and refining in the pyrometallurgical reduction of a copper ore is given the primary attention, coupled with the calculation of furnace charges and slags. Offered subject to demand. **Prerequisite:** Metallurgy 3403.

2402 Ferrous Metallurgy
A course in the metallurgy and fabrication of iron, steel, and related alloys. One-third of the course will be devoted to calculations pertaining to the subject. **Prerequisite:** Chemistry 4103-04, Physics 4215 or 3101-02.

2402 Ferrous Metallurgy (II)
Same as Metallurgy 3402 except that the calculations are omitted. **Prerequisite:** Chemistry 4103-04, Physics 4215 or 3101-02.

2403 Non-Ferrous Metallurgy
The smelting and refining of non-ferrous metals. One-third of the course will be devoted to calculations pertaining to the above subjects. **Prerequisite:** Chemistry 4103-04, Physics 4215 or 3101-02.

2403 Non-Ferrous Metallurgy (II)
Intended for those students who select the mining option and is the same as Metallurgy 3403 except that the calculations are omitted. **Prerequisite:** Chemistry 4103-04, Physics 4215 or 3101-02.

2404 Hydrometallurgy (§2)
The leaching methods employed in metallurgy, and the electrodeposition of non-ferrous metals. Two lectures and three laboratory hours per week. **Prerequisite:** Metallurgy 3301.

2405 Metallurgical Laboratory ($2)
The student receives an individual problem, or problems, which he handles as research work. At times this work will consist of problems submitted to the College from various fields of metallurgy. Nine laboratory hours per week. **Prerequisite:** Metallurgy 4308 or 4302.

2405 Metallurgical Laboratory ($2)
This course handles part of the work covered by Metallurgy 3405 and is intended for those students who wish to do some research work but cannot devote the time necessary for full credit toward graduation. Six laboratory hours per week. **Prerequisite:** Metallurgy 4308 or 4302.

4407 Metallography ($4)
The metallography and heat treatment of various metals and alloys. Three lectures and three laboratory hours per week. **Prerequisite:** Metallurgy 4308.

4408 Advanced Ore and Coal Dressing ($4)
Advanced principles of ore dressing, ore testing, flowsheets, and mill design. Three lecture and three laboratory hours per week. **Prerequisite:** Metallurgy 4302.

3409 Corrosion
A study of corrosion, passivity, and protection of metals and alloys. **Prerequisite:** Chemistry 4103-04, and Physics 4215 or 3101-02.

0421 Metallurgical Trip (Transportation Fee: $50.00)
At the present time this trip will be taken with Mining 0421. When it is to the best interests of the metallurgical students to deviate from the route of the Mining 0421 trip, such changes will be made, but in the main, the two trips will be taken together. Required for graduation. **Prerequisite:** Completion of the requirements for the Bachelor of Science degree by the end of the following fall semester.
**Modern Languages**

**Registation Instructions:**

a) Native speakers — register for 4102, subject to placement
b) No previous courses in the language — register for 4101
c) Two units in high school — register for 4102 (review)
d) One, three, or four units — confer with Department for placement

Courses 4101-02 and 3201-02 should be taken without interruption and supplemented with Courses 3108, 3110, 3111, and 3114 as needed for fluency.

*Undergraduate courses indicated by an asterisk are given regularly on a three-year cycle and do not come up in the two years covered by this catalog.*

**FRENCH**

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<thead>
<tr>
<th>Course Code</th>
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<td>4101-02</td>
<td>Fundamentals of Reading, Writing and Speaking</td>
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<tr>
<td>3108</td>
<td>Conversational French</td>
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<td>3110</td>
<td>Civilisation française</td>
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<tr>
<td>3111</td>
<td>La France contemporaine</td>
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<tr>
<td>3201-02</td>
<td>Intermediate Readings in the Modern Period</td>
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<tr>
<td>3321</td>
<td>The Literary History of France*</td>
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<td>3332</td>
<td>The French Classical Period</td>
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<td>3333</td>
<td>Masterpieces of French Literature*</td>
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<td>3335</td>
<td>Modern Novel: Early Period</td>
</tr>
<tr>
<td>3336</td>
<td>Modern Drama: Early Period</td>
</tr>
</tbody>
</table>

*Former Number*
MODERN LANGUAGES

Former Number

3337 Modern Novel: Later Period*  [337]
3339 The Short Story*  [339]
3340 Modern Drama: Later Period*  [340]
3357 Advanced Composition and Grammar Review  [357]
Oral and written composition on topics of current interest; correspondence with students abroad and commercial letters. Prerequisite: French 3202.

3358 Contemporary French Literature  [358]
Twentieth century French literature: Barrès, Bazin, Bordeaux, Bourget, Duhamel, Gide, Remains, etc. Prerequisite: French 3202.

3377 The History of French Poetry: A Survey  [377]
Prerequisite: French 3202.

For Graduate Students Only
Prerequisite: Twelve hours of advanced courses in French.

3390 Seminar  [390]
3591 Graduate Reading Course  [391]

GERMAN

4101-02 Fundamentals of Reading, Writing and Speaking  [401]
Oral drill, dictation, grammar, reading of elementary and intermediate texts, conversation, written exercises. Three recitation and two workshop hours.

3106 Conversational German  [306]
Intended to broaden the vocabulary of German 4101 for conversational use. Prerequisite: With or after German 4101.

3110 German Civilization  [310]
Use of slides and films of everyday life to teach spoken German. Prerequisite: German 4101.

3201-02 Intermediate Readings in the Modern Period  [412]
Readings from the nineteenth and twentieth centuries. Oral and written summaries, some grammar review. Prerequisite: German 4102.

SPANISH

4101-02 Fundamentals of Reading, Writing and Speaking  [401]
Oral drill, dictation, grammar, reading of elementary and intermediate texts, conversation, written exercises. Three recitation and two workshop hours.

3201-02 Intermediate Readings in the Modern Period  [412]
Readings from the nineteenth and twentieth centuries. Oral and written summaries, some grammar review. Prerequisite: Spanish 4102.

3108 Conversational Spanish  [308]
Intended to broaden the vocabulary of Spanish 4101 for everyday use. A supplementary course for students who do not already speak Spanish. Extensive use of audio-visual aids. Prerequisite: With or after Spanish 4101.

3110 Cultura hispánica  [310]
Illustrated lectures in intermediate Spanish. Extensive use of travelogs, slides and films of everyday life to teach conversational Spanish. A supplementary course for students who do not speak Spanish. Prerequisite: Spanish 4101.

3111 España contemporánea  [311]
A conversational course in intermediate Spanish based on a study of the provinces of Spain. Extensive use of slides, films and travelogs to teach vocabulary and conversational usage. A supplementary course for students who do not already speak Spanish. Prerequisite: Spanish 4101.

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MODERN LANGUAGES

Former Number

3114 México contemporáneo [314]
A conversational course in intermediate Spanish based on a study of city and rural life in the various regions of Mexico. Extensive use of slides, films and travels to teach vocabulary and conversational usage. A supplementary course for students who do not already speak Spanish. Prerequisite: Spanish 4101.

3321 The Literary History of Spain [321]
A survey of Spanish culture and literature, stressing the parallel development of Spanish institutions, thought, and art forms. Conducted in Spanish. Prerequisite: Spanish 3202.

3324 The Literary History of Mexico [344]

3328 Golden Age Drama [328]
A study of the leading dramatists: Lope de Vega, Tirso de Molina, Calderón de la Barca, Ruiz de Alarcón, Moreto and others. Prerequisite: Spanish 3202.

3332 Classical Spanish Prose* [332]
A study of the Spanish picaresque, chivalresque and pastoral novels and shorter forms. Some consideration of mystic and satirical masterpieces. Outside reading reports. Prerequisite: Spanish 3202.

3333 Masterpieces of Spanish Literature [333]
Extensive readings from masterpieces of Spanish literature. At least four complete works including the Poema del Cid, Libro de Buen Amor, la Celestina, etc. Prerequisite: Spanish 3202.

3335 Modern Novel: Early Period* [335]
3337 Modern Novel: Later Period* [337]
3339 The Cuento and Short Story [339]
Shorter fictional forms in Spain and Spanish America from the time of Juan Manuel to the present. Prerequisite: Spanish 3202.

3341 Modern Spanish Drama* [341]
3357 Advanced Composition and Grammar Review [357]
Examination of the best modern Spanish business, epistolary, journalistic and polemic styles. Original composition on topics of current interest. Prerequisite: Spanish 3202.

3358 Contemporary Spanish Literature [358]
Spanish literature in the first half of the twentieth century, the "Generation of '98," etc. Prerequisite: Spanish 3202.

3360 The Regional and Historical Novel in South America [360]
A study of the famous regional and historical novels of South America, exclusive of Brazil. At least one representative author of each country or region. Special attention to major regional language differences. Outside reports. Prerequisite: Spanish 3202.

3361 Don Quijote [361]
The literary value and influence of the Quijote. Traditional and modern interpretations. The life and times of Cervantes. Collateral readings and reports. Prerequisite: Spanish 3202.

3362 The New World in Spanish Literature: 
(Northern Hemisphere) [362N]
A literary study of the diaries, accounts and biographies of the Spanish explorers in the New World: Columbus’ Diario de Navegación; Cortés’ Cartas de Relación; Cabeza de Vaca’s Naufragios; Castañeda’s Jornada de Cibola, etc. Special attention to the American Southwest. Prerequisite: Spanish 3202.
MODERN LANGUAGES

3363 The Literary History of Argentina*

3364 Contemporary Poets of Latin America
   The most significant works of the leading poets of Latin America. Emphasis on
   the postmodernist movement. Prerequisite: Spanish 3202.

3365 Contemporary Urban Novel of Latin America*

3366 The New World in Spanish Literature
   (Southern Hemisphere)
   A literary study of the diaries, accounts and biographies of the Spanish
   explorers and conquistadores in the New World: Comentarios de Cabeza de Vaca,
   El Inca Garcilaso de la Vega's Comentarios reales; Ercilla's La Araucana, etc.
   Prerequisite: Spanish 3202.

3377 History of Spanish Poetry
   A survey of Spanish poetry to the middle of the twentieth century. Prerequisite:
   Spanish 3202.

For Graduate Students Only

3590 Seminar
   Prerequisites Twelve hours of advanced courses in Spanish.

3591 Graduate Reading Course

3592 History of the Spanish Language (Phonology)

3593 History of the Spanish Language (Morphology)

3594 Cervantine Studies

3595 Seminar on the Latin American Novel

3596 Old Spanish Literature

3598-99 Thesis Course for the Master’s Degree
   Confer with the head of the department immediately upon registration.

RUSSIAN

4101 Written and Spoken Russian
   An intensive course designed to enable the more mature student to master the
   fundamentals of written and spoken Russian. Prerequisite: Completion of Course
   4102, or equivalent, in a foreign language with a grade of at least B, or per-
   mission of the head of the department. Two double recitation hours per week.

4102 Written and Spoken Russian
   A continuation of Russian 4101. Intermediate graded readings. Prerequisite:
   Russian 4101.

3108 Conversational Russian
   Intended to broaden the vocabulary of Russian 4101 for oral use. Attention
   also will be given to basic military terminology. Prerequisite: With or after
   Russian 4101.
The various curricula in the Department of Music have been designed to satisfy several objectives: Teacher training, professional training, and avocational interest.

The Bachelor of Arts degree curriculum without teaching credential is primarily for those with an avocational interest in music or as a basis for advanced study in the field of Fine Arts. The Bachelor of Music degree offers several possibilities for students with an avocational interest as well as those preparing for teaching or advanced study.

Students completing the course of study as outlined for teacher training will fulfill all requirements of the State Board of Education for full-time teaching in Texas Public Schools, either elementary or secondary, in the fields of instrumental or choral direction.

Information on scholarships is available through the Head of the Music Department. Students receiving scholarships are required to participate in all performances by ensembles of which they are members in order to continue their eligibility for scholarships.

The following courses of instruction may be adjusted to the particular needs of the individual through permission of the Head of the Music Department.

**THEORY**

<table>
<thead>
<tr>
<th>Course</th>
<th>For Undergraduates</th>
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</thead>
<tbody>
<tr>
<td>2111-12 Sight Singing and Dictation</td>
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<tr>
<td>3113-14 Essentials of Acoustics and Music Theory</td>
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<td>601</td>
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<tr>
<td>2211-12 Sight Singing and Dictation</td>
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<td>611</td>
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<td>3213-14 Harmony</td>
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<td>2311 Counterpoint</td>
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<td>221C</td>
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<tr>
<td>2312 Counterpoint</td>
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<td>221K</td>
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<tr>
<td>2313-14 Composition</td>
<td></td>
<td>459</td>
</tr>
<tr>
<td>2315 Form and Analysis</td>
<td></td>
<td>418a</td>
</tr>
</tbody>
</table>

**MUSIC**

DR. E. A. THERMODSCAARD, Chairman
Professor THERMODSCAARD; Associate Professors BROOCS, CARRICO;
Assistant Professors EIDRO, GODDARD, HENDERSON;
Special Instructors GAVAR, MERRILL, SIMPSON
MUSIC

Former Number

2316 Form and Analysis

Continuation of Music 2315. Prerequisite: Music 2315.

3411 Choral Arranging

A study of basic principles of writing, arranging, and editing choral music from two to eight parts. Emphasis upon music suitable for public school choral groups. Prerequisite: Music 3213-14.

3412 Instrumentation and Orchestration

A study of orchestral and band instruments by classification. The range capabilities and limitations, timbre, transposition, etc. Practical experience in scoring for various combinations of instruments from trios to full orchestra and band. Prerequisite: Music 3213-14 and four semester hours, or equivalent, of class instruments.

2413-14 Advanced Composition

A continuation of Music 2313-14 with emphasis upon modern music and larger forms. Prerequisite: Music 2313-14.

2415 Dance Band Arranging

A study of melodic, harmonic, and rhythmic devices and styles used in modern music; practical experience in scoring for various combinations of dance groups. Prerequisite: Music 3213-14 and 4 semester hours or equivalent, of class instruments.

LITERATURE

For Undergraduates

1141-42, 1241-42, 1341-42, 1441-42 Band Literature

A study of selected works in the field of band literature. Concurrent registration with band is required. Prerequisite: placement.

1151-52, 1251-52, 1351-52, 1451-52 Choral Literature

A study of selected works in the field of choral literature. Concurrent registration with choir or chorus is required. Prerequisite: placement.

1165-66, 1265-66 Chamber Music and Ensembles (§2)

A Brass Ensemble, Reed Ensemble, the All-Cirl Instrumental Ensemble, the Girls' Drum Corps, and Stringed Ensembles are available to instrumentalists. The Madrigal Club, Men's Choral Ensemble, Ladies' Choral Ensemble and the Symphonic Choir are available to vocalists, the latter primarily intended for the Evening School. Emphasis is upon the reading of music and the study of selected works characteristic to the performing group. Prerequisite: Preceding course or placement.

3110 Introduction to Fine Arts

The enjoyment of the arts through an understanding of their interrelationship and the expressive elements common to Music, Art and Drama. Differences in media of expression and in the tools of each art. Not counted in addition to Art 3110 and Drama 3110.

3121 Introduction to Musical Literature

A non-technical course for all students which, through directed listening, aims to increase the enjoyment and appreciation of potential music lovers. A brief survey of musical literature from the beginning of music through Modern Music, hearing recordings of representative works of each period, with major emphasis on the development of music up to the Classical Period.

3122 Trends in Musical Literature

A survey, through directed listening, of the trends found in the great musical literature of the world, from the beginning of music through Modern Music; major emphasis on understanding the literature and styles of the Classical through Modern Periods.

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MUSIC

Twentieth Century Music
The history and development of jazz, its representative music and performers, and its influence on serious music. Prerequisite: Music Literature 3121, or 3122, or concurrent registration. Alternated with 3121 and 3122.

For Undergraduates and Graduates

Music History
Chronological survey of the composers and their works through directed listening beginning with Greek Music and continuing through the Baroque period, with emphasis on the growth of our culture. Prerequisite: Six hours of Music and junior standing.

Music History
Chronological survey of the composers and their works through directed listening beginning with the Classic Period and continuing through contemporary music, with emphasis on the growth of our culture. Prerequisite: Six hours of music and junior standing.

Opera Workshop
Opera scores are studied to develop familiarity with operatic literature. Public performances are presented. This course is designed for voice majors and students interested in the opera field. Prerequisite: Junior standing and permission of the instructor.

Continuation of Music Literature 3323. Prerequisite: Previous course.

Continuation of Music Literature 3324. Prerequisite: Previous course.

Continuation of Music Literature 3423. Prerequisite: Previous course.

MUSIC EDUCATION

Administration of Band and Baton Twirling Camp Activities
Planning and executing Summer band and twirling camp activities. Lectures and laboratory experiences, private and group instruction, and ensemble participation for one week at off-campus resort. Four hours daily. Prerequisite: permission of instructor. Offered Summer Sessions only.

Church Music Materials, Organization and Direction
Basic problems in the administration and direction of a church music program: the multiple choir system, including adolescent and boy voices; organization of the rehearsal; the church year calendar and program building; conducting technique and choral diction. Prerequisite: permission of the chairman of the department. Offered Summer Sessions only.

Choral Methods, Techniques and Conducting
A study of choral organization and conducting, with primary emphasis on literature, program-building and rehearsal problems. Prerequisite: Junior standing and six semester hours of music.

Choral Methods, Techniques and Conducting
Continuation of Music 3331. Prerequisite: Music 3331 and permission of department head.

For Undergraduates and Graduates

For Undergraduates
3333 Conducting Methods and Materials

Designed for the student who has had no previous conducting experience. Posture, technique of the baton; fundamental principles in obtaining tone balance, color, shading, interpretation, score reading, etc. Program building and practical application of the conducting of smaller concert numbers. Prerequisite: Junior standing and four hours of music.

3334 Teaching of Music in the Elementary Schools

Consideration of music in relation to the child voice and song repertory, rhythm bands, dramatic play, discriminating listening. Discussion and presentation of curricular plans and materials. Required for Elementary Education Majors. Prerequisite: Junior standing. (Approved by Texas Education Agency toward legal requirements for teaching in elementary schools.)

3335 Teaching of Music in the Elementary Schools

Continuation of Music Education 3334, with emphasis on activities suitable for the classroom teacher. For Elementary Education Majors. Prerequisite: Music Education 3334, or equivalent musical training.

3336 Teaching of Music in the Elementary Schools

The study of procedures in the teaching of music in the grades, meeting the needs of the special music teacher. The child voice, its development and classification. Introduction of notation, song materials, rhythm bands, appreciation methods and creative music for children. For Elementary School Music Majors. Prerequisite: Junior standing in music education.

3337 Advanced Instruction in Playing Techniques for Elementary Teachers

Advanced methods in remedying individual playing faults characteristic of various performance levels. Lecture-demonstrations presented by outstanding teachers and performers. Class functions as demonstration group on all instruments. Credit varies according to work performed, value indicated by course number 1337, 2337, 3337. Prerequisite: Junior standing and permission of instructor. Offered Summer Sessions only.

3431 Advanced Conducting

Practical advanced training in choral and instrumental problems in conducting for students who have had considerable training or experience. Prerequisite: Music Education 3331, 3333 or advanced conducting experience.

3432 Methods of Instrumental Instruction and Supervision

The techniques of group instrumental instruction, organization and administration of school bands and orchestras, program building, instructional aids, planning and executing marching formations. Prerequisite: Junior standing in music education.

3433 Teaching of Music in the Junior and Senior High Schools

The study of procedures in the teaching of music in the upper level grades and in high school. Choral and instrumental music materials, organization of ensembles, teaching of music appreciation and theory, and integration with the entire school program; public school music as it is related to the life and needs of a community. Prerequisite: Junior standing in music education.

3434 Workshop in Advanced Choral Methods and Materials

Organization of various kinds of choral groups in high schools, churches, colleges and communities; group tone production; general music classes; study of various types of choral materials. Prerequisite: Junior standing in music education.

3435 Selected Problems in Music Education

The student may receive individual instruction and guidance in the area in which a specific need is demonstrated. Credit may be received in the elementary or secondary school field. Prerequisite: Junior standing and permission of the chairman of the department.
Church Music Materials, Organization and Direction

Continuation of 3136. Required of students planning to be "Ministers of Music." Prerequisite: Music Education 3136, or equivalent training and experience, and Senior standing. Offered Summer Sessions only.

Professional Laboratory Experience in the Elementary Grades [328L]

A minimum of 10 hours per week for one semester of laboratory observation and teaching experience in the elementary school classroom. For all-level teacher certification. Prerequisite: Senior standing in Music Education and permission of department chairman.

Professional Laboratory Experience in the Elementary Schools and Junior and Senior High Schools [328L]

A minimum of ten hours per week for one semester of laboratory observation and teaching experience. For all-level teacher certification. Prerequisite: Senior standing in Music Education and permission of department chairman.

Professional Laboratory Experience in the Junior and Senior High Schools [327L]

A minimum of 10 hours per week for one semester of laboratory observation and teaching experience in the Junior and Senior High Schools. For secondary school teacher certification. Prerequisite: Senior standing in Music Education and permission of department chairman.

Professional Laboratory Experience in the High School [327L]

A minimum of 10 hours per week for one semester of laboratory teaching experience in the secondary schools. For secondary school teacher certification. Prerequisite: Senior standing in Music Education and permission of department chairman.

For Graduate Students Only

Seminar: Problems in Music Education [390]

Educational research in the elementary and secondary school fields. Each student may conduct research on a problem of his own selection in his field of major interest. May be taken for credit in supervision, if desired. Prerequisite: 12 semester hours of advanced courses in Music.

Seminar: Problems in Music Education Extension of 3531. Prerequisite: Music 3531.

Workshop in Problems in Music Education [393]

Discussion of rehearsal and teaching problems and practical experience in working with instrumental groups of secondary and elementary levels. Two lectures and three laboratory hours per week. Prerequisite: 12 semester hours of advanced courses in Music.

Workshop in Musical Interpretation [394]

Teaching musicianship; class participation in the development of meaningful interpretation of selected works, instrumental and vocal, working with visiting soloists and groups; for conductors and performers. Prerequisite: 12 semester hours of advanced courses in Music.

Field Work in Music Education [395]

The student works individually on a selected topic with an assigned specialist in that area under supervision of department head. Prerequisite: 12 semester hours of advanced courses in Music.

Field Work in Music Education Continuation of Music Education 3535. Prerequisite: Music Education 3535.
MUSIC

Former Number

APPLIED MUSIC

Music Theory majors are required to minor in Applied Music. Students must satisfactorily pass a placement test to determine the level of study. A grade of "B" is required on the major instrument. For full description of the course of study for any Applied Music course consult the chairman of the department.

Ensembles—Band, Choir, Orchestra, Chorus, Varsitonians

A fully equipped symphony orchestra, a concert and marching band, a dance band—the Varsitonians, small chamber groups and two large choirs are maintained. These organizations are open to all students who wish to enjoy the performance of a great variety of music. On special occasions each year, several organizations are combined in large productions including operas and oratorios. Home concerts and concert tours are a part of the program. Consent of instructor is required for admission.

A large R.O.T.C. Band is available to students enrolled in Military Science. Band, Choir, or Chorus require concurrent registration with Band or Choral Literature.

1102 Goldiggers ($2)  [204]
(Accepted in lieu of P. E. 1102 during fall term.)
A course for girls in dancing, twirling, pom pom and marching activities; participation in football shows, including an all-expense-paid trip, and other public appearances. After one season of Goldigger participation, advanced students are eligible for positions in "The Rockets," a very select group within the Goldigger organization. Prerequisite: admission by try-out only.

1143-44, 1243-44, 1343-44, 1443-44 ($2)  [201, 211, 221, 231]
Three hours per week. Prerequisite: Preceding course or placement.

1155-56, 1255-56, 1355-56, 1455-56 Chorus ($2)  [205, 215, 225, 235]
A mixed singing organization open to all students interested in any kind of choral work. Audition is not required. Oratorios and operas are presented with orchestral accompaniment, occasionally in combination with the Texas Western Choir. Three hours per week. Prerequisite: Preceding course or placement.

Group Instruction

For Undergraduates

Class Voice, Piano, High Strings, Low Strings, Reeds, Brass, Percussion
Credit granted only when taken as a minor or elective. Open to all students interested in playing instruments or in singing. Group study of instruments listed, teaching methods and fundamentals. These courses will be designated as Voice 2171, Piano 2171, etc.

2171, 2172, 2271, 2272, 2371, 2372 ($4)  [206, 206x, 216, 216x, 226, 226x]
Two classes and six practice hours per week. Prerequisite: Preceding course or placement. (Exception: only $2.00 for Class Voice.)

3190 Diction
Italian, German, French, and English pronunciation in song. Open to all.

For Undergraduates and Graduates

2373-74 Piano Sight Reading Class ($2)  [227]
Emphasis on actual playing experience and sight reading at the piano. Two classes per week. Prerequisite: Junior standing and permission of instructor.

2493 Pedagogy of Voice
Psychological and physiological problems in voice-building; study of the boy voice, the "monotone," of registers in all voice classifications. Methods of voice development through song literature. Repertoire and effective interpretation. Prerequisite: Senior standing in music, or equivalent in vocal study and experience.
Individual Instruction

Junior and Senior courses on the secondary level may be used for undergraduate and graduate credit. These may be repeated for credit on the undergraduate level.

Individual lessons are intended for students who wish to specialize in voice, piano and orchestral instruments as well as for those who wish to play or sing for pleasure only. Students are expected to study on the campus with members of the College music faculty.

Students will perform before the Music Faculty at the close of each semester. The audition at the close of the second year also determines admission to upper division courses.

SECONDARY LEVEL

3491 Selected Problems in Applied Music ($5 & $45) [369]
Designed to meet the needs of students in specific areas omitted in previous studies. Required of students who have not taken courses on their major instruments at Texas Western College within three years of graduation. Two thirty-minute lessons and twelve practice hours per week. Prerequisite: Junior standing and permission of department head.

3492 Selected Problems in Applied Music ($5 & $45) [369K]
Two thirty-minute lessons and twelve practice hours per week. Prerequisite: Music 3491.

Piano, Organ

These courses will be designated as Piano 2181-82, Piano 2281-82, etc., Organ 2181-82, etc.

PRIMARY: For non-majors and students needing preparatory study; Undergraduate credit only.

2181-82, 2281-82, 2381-82 ($5 & $20) [405, 405L, 405M]
One thirty-minute lesson and six practice hours per week. Prerequisite: Preceding course or placement.

3181-82, 3281-82 ($5 & $40) [605, 605L]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

3381-82, 3481-82 ($5 & $45) [605M, 605N]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

SECONDARY: For majors in Theory, Music Education, and qualified students; for Undergraduates and Graduates.

2191-92, 2291-92, 2391-92, 2491-92 ($5 & $20) [409, 419, 429, 439]
One thirty-minute lesson and six practice hours per week. Prerequisite: Preceding course or placement.

3191-92, 3291-92 ($5 & $40) [609, 619]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

3391-92, 3491-92 ($5 & $45) [629, 639]
Two thirty-minute lessons and nine practice hours per week. Recital participation. Prerequisite: Preceding course or placement.
For Majors in Applied Music

4191-92, 4291-92 ($5 & $40)  [809, 819]
Two thirty-minute lessons and fifteen practice hours per week. Recital participation. Prerequisite: Preceding course or placement.

4391-92, 4491-92 ($5 & $45)  [829, 839]
Two thirty-minute lessons and fifteen practice hours per week. Recital participation. Prerequisite: Preceding course or placement.

Orchestral and Band Instruments


PRIMARLY: For non-majors and for students needing preparatory study; Undergraduate credit only.

2181-82, 2281-82, 2381-82 ($5 & $20)  [405, 405L, 405M]
One thirty-minute lesson and six practice hours per week. Prerequisite: Preceding course or placement.

3181-82, 3281-82 ($5 & $40)  [605, 605L]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

3381-82, 3481-82 ($5 & $45)  [605N, 605N]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

SECONDARY: For majors in Theory, Music Education, and qualified students; for Undergraduates and Graduates.

2191-92, 2291-92, 2391-92, 2491-92 ($5 & $20)  [409, 419, 429, 439]
One thirty-minute lesson and six practice hours per week. Prerequisite: Preceding course or placement.

3191-92, 3291-92 ($5 & $40)  [609, 619]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

3391-92, 3491-92 ($5 & $45)  [629, 639]
Two thirty-minute lessons and nine practice hours per week. Recital participation. Prerequisite: Preceding course or placement.

For Majors in Applied Music

4191-92, 4291-92 ($5 & $40)  [809, 819]
Two thirty-minute lessons and fifteen practice hours per week. Prerequisite: Preceding course or placement.

4391-92, 4491-92 ($5 & $45)  [829, 839]
Two thirty-minute lessons and fifteen practice hours per week. Recital participation. Prerequisite: Preceding course or placement.

Voice

During the first two years of vocal study there is considerable emphasis on voice building, using methods of the old Italian school. Varying amounts of song literature are studied depending upon the progress of the individual. Voice building is continued throughout the junior and senior years, although increasing emphasis is placed upon coaching.

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At the end of the senior year the student should be able to sing in three foreign languages, including in his repertoire four operatic arias, four oratorio arias, twenty classics and twenty standard modern songs.

PRIMARY: For non-majors and for students needing preparatory study; Undergraduate credit only.

These courses are designed for all students interested in singing and for those who require preparation for the college level course in voice. Students with vocal and hearing difficulties, including "monotones," are urged to take these courses. All students studying primary or secondary voice are expected to participate in one of the two college choirs.

2181-82, 2281-82, 2381-82 ($5 & $20) [405, 405L, 405M]
One thirty-minute lesson and six practice hours per week. Prerequisite: Preceding course or placement.

3181-82, 3281-82, ($5 & $40) [605, 605L]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

3381-82, 3481-82 ($5 & $45) [605M, 605N]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

SECONDARY: For music majors and all qualified students; for Undergraduates and Graduates.

2191-92, 2291-92, 2391-92, 2491-92 ($5 & $20) [409, 419, 429, 439]
One thirty-minute lesson and six practice hours per week. Prerequisite: Preceding course or placement.

3191-92, 3291-92 ($5 & $40) [609, 619]
Two thirty-minute lessons and nine practice hours per week. Prerequisite: Preceding course or placement.

3391-92, 3491-92 ($5 & $45) [629, 639]
Two thirty-minute lessons and nine practice hours per week. Recital participation. Prerequisite: Preceding course or placement.
Philosophy and Psychology

DR. C. C. CRAWFORD, Chairman
Professor CRAWFORD; Assistant Professors KELSEY, BOSWORTH, DAY, SHERMAN;
Instructor HACKETT

PHILOSOPHY

3101 Introductory Logic
The validities and fallacies of both deductive and inductive thinking.

3102 Introduction to Philosophy
The problems of matter, life, mind, truth and value.

3201 Ancient and Medieval Philosophy
Philosophic thought from Thales to Bacon and Hobbes. Prerequisite: Sophomore standing.

3202 Modern Philosophy
Philosophic thought from Descartes and Spinoza to the present. Prerequisite: Sophomore standing.

3211 Philosophies of Life
The historic philosophies of life and their moral, esthetic and religious values. Prerequisite: Sophomore standing.

3212 Latin-American Philosophy
Latin-American thought viewed against the background of continental, and especially Spanish, influences. Some philosophers to be considered: Ortega y Gasset, Unamuno, Vasconcelos, Caso and Reyes. Prerequisite: Sophomore standing.

(The prerequisite for each of the courses listed below is Junior standing.)

3301 Ethics
Man's internal and external relationships, in the individual, social, and universal orders respectively.

3311 Philosophy of Science
A study of the inter-relationships of the physical, biological, and psychological sciences.

3321 Philosophy of Civilization
The philosophies of the various phases of human culture, such as language, myth, ritual, art, politics, and history.

3322 Philosophy of Religion
A study of the origin, nature and validity of the concepts of religious thought.

3401 Symbolic Logic
Prerequisite: Philosophy 3101.

3402 Metaphysics
A study of being as such, and hence of the validity of the postulates of the sciences.

3411 Epistemology
A study of the ways of knowing and of the criteria of truth.

3412 Aesthetics
The philosophy of art.
## PHILOSOPHY AND PSYCHOLOGY

### For Graduate Students Only

**Prerequisite:** 12 semester hours of advanced courses in philosophy.

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<th>Course Title</th>
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<td>3501</td>
<td>Seminar</td>
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<tr>
<td></td>
<td>In the history of philosophy.</td>
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<tr>
<td>3502</td>
<td>Seminar</td>
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<tr>
<td></td>
<td>In problems of philosophy.</td>
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</tbody>
</table>

### PSYCHOLOGY

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite</th>
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<tr>
<td>3201</td>
<td>Introduction to Psychology</td>
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<tr>
<td></td>
<td>A survey of basic principles in general psychology. <strong>Prerequisite:</strong> Sophomore standing.</td>
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<td>3202</td>
<td>Applied and Business Psychology</td>
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<td>The application of psychological principles to modern business and industry, personal adjustment, and the professions. <strong>Prerequisite:</strong> Psychology 3201 or Junior standing in Business Administration or Engineering.</td>
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<tr>
<td>3206</td>
<td>Child Psychology</td>
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<td></td>
<td>Principles of growth and development from infancy to adolescence. <strong>Prerequisite:</strong> Psychology 3201.</td>
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<tr>
<td>3301</td>
<td>Advanced General Psychology</td>
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<td></td>
<td>Extension of basic principles in general psychology as to their origin and application. Special emphasis on contemporary problems in psychology. <strong>Prerequisite:</strong> Six semester hours of psychology including Psychology 3201.</td>
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<tr>
<td>3302</td>
<td>Psychology of Personality</td>
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<td>Personality development of the individual from adolescence to maturity. <strong>Prerequisite:</strong> Six hours of psychology including Psychology 3201.</td>
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<tr>
<td>3306</td>
<td>Personnel Psychology</td>
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<td>A survey of principles and methods used for selection and placement in personnel management and industry. <strong>Prerequisite:</strong> Six semester hours of psychology including Psychology 3201, or senior standing in Business Administration or Engineering.</td>
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<tr>
<td>3308</td>
<td>Principles of Counseling</td>
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<td>A survey of the basic principles underlying counseling techniques, with an introduction to the major systems of counseling. <strong>Prerequisite:</strong> Nine semester hours of psychology including Psychology 3201 and either Psychology 3311 or Psychology 3312.</td>
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<tr>
<td>3311</td>
<td>Clinical Psychology</td>
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<td></td>
<td>A study of clinical problems, case study methods and discussion of psychological tests used in common clinical situations. <strong>Prerequisite:</strong> Six semester hours of psychology including Psychology 3201.</td>
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<tr>
<td>3312</td>
<td>Abnormal Psychology</td>
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<td>A study of abnormal personality processes in terms of their origins, manifestations, and treatment. <strong>Prerequisite:</strong> Six semester hours of psychology including Psychology 3201.</td>
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<tr>
<td>3315</td>
<td>Social Psychology</td>
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<td></td>
<td>A study of the influence of social control of human behavior. <strong>Prerequisite:</strong> Six hours of psychology including Psychology 3201.</td>
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</tbody>
</table>
PHILOSOPHY AND PSYCHOLOGY

Former Number

3317 Psychological Statistics and Test Construction ($2)
A survey of the basic statistical concepts and techniques used in Psychology and the Social Sciences. Two lectures and two laboratory hours per week. Prerequisite: Six hours in psychology including Psychology 3201.

3401 Psychological Testing ($)
Introduction to and training in the administration, scoring, and interpretation of psychological tests. Two lecture and two laboratory hours per week. Prerequisite: Six semester hours of psychology including Psychology 3201. It is strongly recommended that this course be preceded by Psychology 3317.

3402 Practicum in Intelligence Testing ($2)
Instruction and practice in the administration, scoring, and interpretation of intelligence tests. Emphasis on the Wechsler-Bellevue and Stanford-Binet tests. Two lecture and two laboratory hours per week. Prerequisite: Psychology 3401.

3411 Physiological Psychology ($2)
Basic psychological processes in relation to structure and function. Two lectures and two laboratory hours per week. Prerequisite: Nine semester hours of psychology including Psychology 3201.

3412 Psychology of Speech Pathology ($2)
Basic psychological processes in relation to speech defects. Emphasis on origins, manifestations, therapy and testing techniques. Prerequisite: Psychology 3311.

3421 Comparative and Experimental Psychology ($2)
A survey of theories and techniques of experimentation on infrahuman and human behavior. Experiments will be performed to illustrate theories and techniques. Prerequisite: Nine semester hours of psychology including Psychology 3201 or 3317 or its equivalent.

3422 Practicum in Statistical Methods ($2)
Practice in test construction and use of modern calculating devices, (e.g. calculators and test-scoring machines). Two lecture and two laboratory hours per week. Prerequisite: Psychology 3317.

3441 Motivation and Learning
Consideration of the basic problems involved in motivation and in learning with special emphasis on the relation to personality. Prerequisite: Twelve semester hours in psychology including Psychology 3201.

3452 Independent Research
Independent student work under the supervision of the staff. Prerequisite: Fifteen hours of psychology including Psychology 3201.

3453 Independent Research
Continuation of Psychology 3452. Prerequisite: Psychology 3452.

3454 Independent Research
Continuation of Psychology 3453. Prerequisite: Psychology 3453.
### Degrees Conferred 1916-1956

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**Statistical Summaries**

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The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

Sam Houston

Cultivated mind is the guardian genius of Democracy, and while guided and controlled by virtue, the noblest attribute of man. It is the only dictator that freemen acknowledge, and the only security which freemen desire.

Mirabeau B. Lamar

The cover design was obtained by making prints from an adobe—the native "bricks" of the Southwest for more than four centuries. Mud, straw, pebbles create the textural design.