

BULLETIN

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1955-1956

Texas Western College

OF THE UNIVERSITY OF TEXAS

A Paso, Texas

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OF THE UNIVERSITY OF TEXAS

*Formerly the* COLLEGE OF MINES AND METALLURGY

*El Paso, Texas*

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ARTS *and* SCIENCES

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GRADUATE STUDY

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FRANCES CLAYTON  
*Assistant Librarian*  
B.A., Texas Western College  
M.L.S., The University of Texas

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

MRS. GLADYS CROWLEY  
*Assistant Nurse, Health Service*

JOE W. DALEY  
*Superintendent of Buildings and Grounds*

MRS. BARBARA FUGATE DEAN  
*Secretary to Dean of Arts and Science*

MRS. MARGARET J. FUGATE  
*Secretary to Chairman of Graduate Council*

MRS. YVONNE GREEAR  
*Secretary and Assistant to the Librarian*  
B.F.A., The University of Texas

MRS. HELEN HADDAD  
*Clerk, Office of Registrar*

MRS. JEAN HALLER  
*Clerk, Office of Business Manager*

MRS. LOLA HERBERA  
*Secretary, Department of Military Science and Tactics*

MRS. AUGUSTINA Y. HOLGUIN  
*Clerk, Bookstore*

MRS. LADELLE JETER  
*Clerk, Bookstore*

MRS. REBA JOHNSTON  
*Switchboard Operator*

ILA M. JONES  
*Bookkeeper, Office of the Business Manager*

JOHN KRESS, JR.  
*Assistant Cataloger, Library*

MRS. JUNE MARQUEZ  
*Clerk, Office of the Business Manager*

JAMES K. MARSHALL  
*Assistant to Business Manager*

GLORIA MARTINEZ  
*Clerk, Office of the Registrar*

THEODORE R. MEIER  
*Master Sergeant, U. S. Army*

MRS. MARY DOROTHY MILEY  
*Secretary to Dean of Women*

MRS. MARY LOU PETRELLO  
*Supervisor, Post Office*  
B.A., The University of Texas

MRS. EDITH F. RAKOCZI  
*Clerk, Office of Business Manager*

HOLLIS REYNOLDS  
*Manager, Student Union*  
B.A., Texas Western College

BETTY J. ROTH  
*Clerk, Office of Business Manager*  
B.A., Texas Western College

MRS. BETTY H. SANDERS  
*Secretary to Dean of Student Life*

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

MRS. NELL SKIPWITH  
*Assistant in Museum*

MRS. MILDRED SKOV  
*Cataloger, Library*  
B.A., Texas Western College

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

MRS. ANNETTE J. TAYLOR  
*Secretary, Placement Bureau*  
B.A., Woman's College of the University of North Carolina

MRS. NELL K. THOMPSON  
*Loan Librarian*

MRS. MILDRED D. TOROK  
*Secretary to the Faculty*

MRS. DURAE SONIAT WILLARD  
*Clerk, Office of the Registrar*  
B.M., Texas Western College

LUTHER HALL WILSON  
*Master Sergeant, U. S. Army*

MRS. MARION ZIENTEK  
*Clerk, Office of the Business Manager*

### Dormitory Staff

MRS. MARJORIE N. EPPLER  
*Assistant to Social Director, Bell Hall*

MRS. CHARLES FUQUA  
*Social Director, Worrell Hall*

MRS. WREN HOLLENBEAK  
*Social Director, Benedict Hall*

MRS. JOE RAMSEY  
*Social Director, Hudspeth Hall*

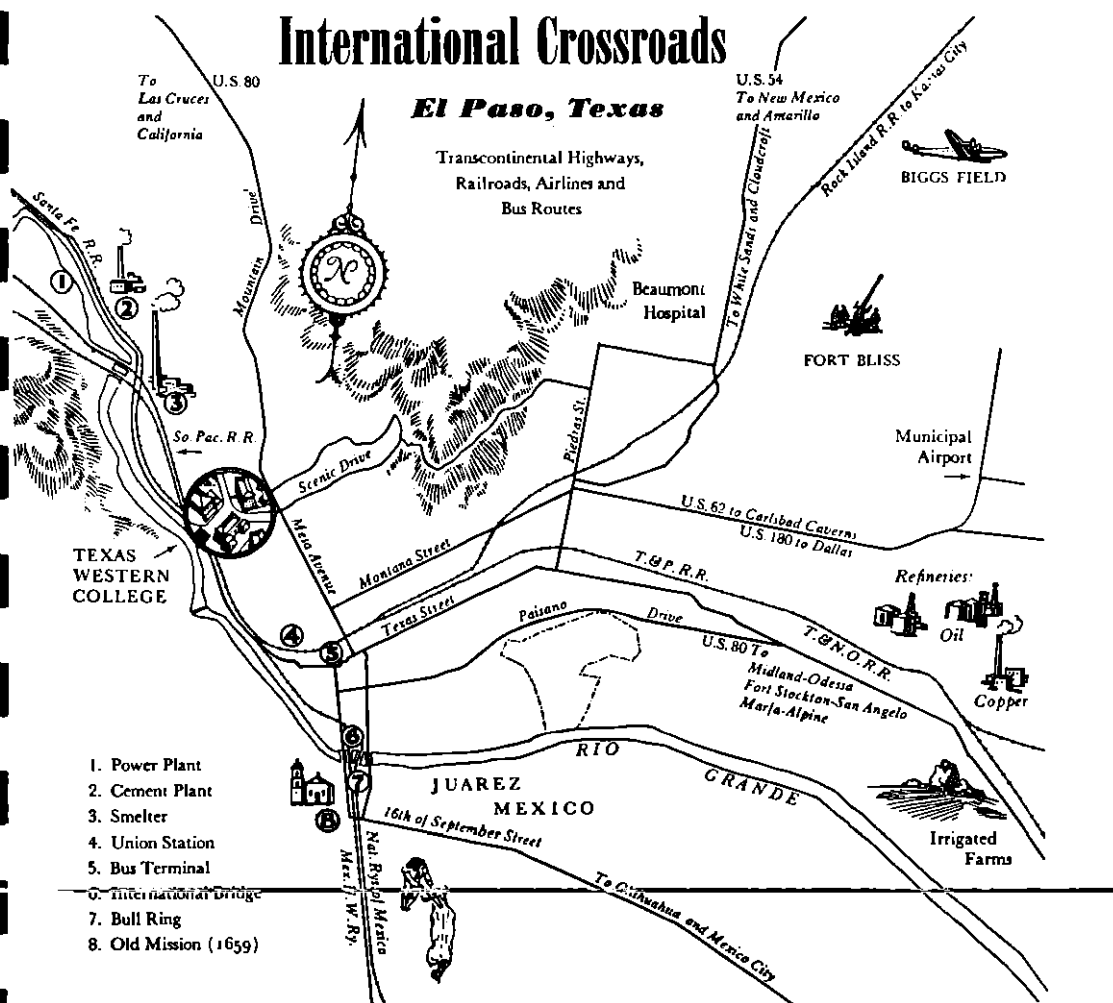
MARY L. WHITE  
*Social Director, Bell Hall*



# International Crossroads

## El Paso, Texas

Transcontinental Highways,  
Railroads, Airlines and  
Bus Routes



**T**EXAS 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 prospecting equipment. In opportunity for geological study, no school in the United States is more fortunately located.

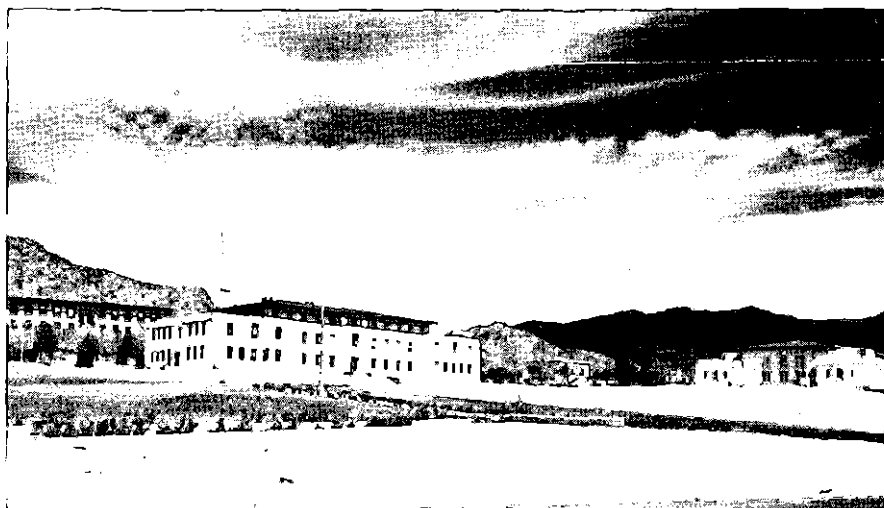
One of the largest custom smelters in the world is situated near the College. Within a short distance is also a most modern electrolytic copper refinery, which has a capacity of 20,000,000 pounds of copper in process. Nearby are located a large cement plant, several large brick plants and three oil refineries. The manufacture of lime, tile, and other non-metallics 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 sixth 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 residents 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, horseshows 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



PHYSICS BUILDING

SCIENCE BUILDING

STUDENT UNION

Bridge, offering the thrilling spectacle of bullfighting. 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 recently-opened 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-Pacific 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.

## **History**

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.

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

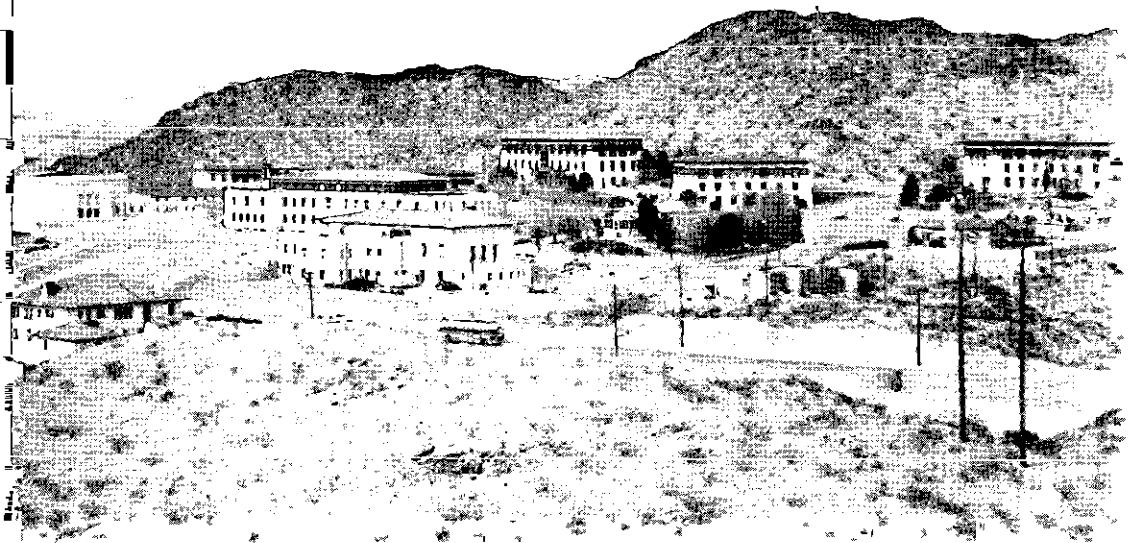


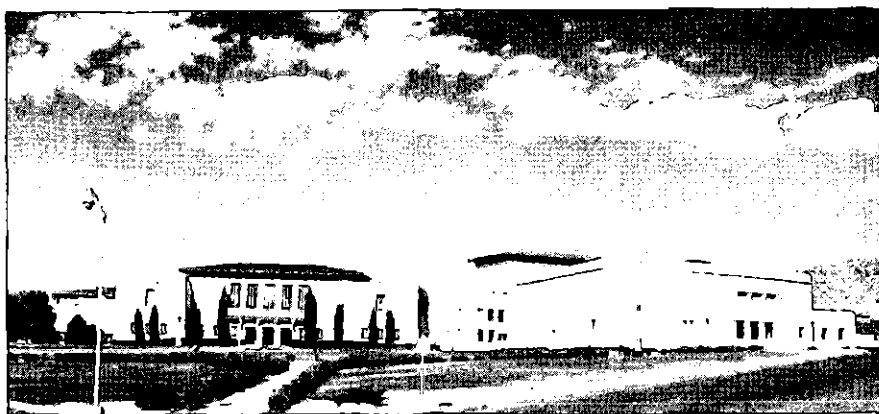


direct administrative authority in that office. From 1931 to 1950 the College operated directly under the Board of Regents. During the period September, 1950, to September, 1954, The University of Texas operated under a chancellorship system. In September, 1954, the office of Chancellor was abolished 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 more than 3000 students, offers the following degrees: Bachelor of Science in Mining Engineering with options in Mining, Mining-Geology, and Metallurgy; Bachelor of Science in Engineering with Civil and Electrical options; Bachelor of Arts; Bachelor of Science in the Sciences; Bachelor of Business Administration; Bachelor of Music; and Master of Arts. 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.





LIBRARY

MACOFFIN AUDITORIUM

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. 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, the El Paso County Medical Society Library and the William Beaumont Army Hospital Medical 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 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.

Within the past seven years there have been extensive additions to the College: A new science building; auditorium; Cotton Memorial Building; a student union; three new dormitories including Miners' Hall for Texas Western athletes; and a women's gymnasium. Also the Baptist Student Center was built for the College by the Baptist Convention of Texas. The latest addition is the new wing of the Engineering Building.

In addition to administrative and academic facilities there are available for curricular and extra-curricular activities, a swimming pool, riding stables, military science building, and a stadium. There are four sorority 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 an outstanding group of meteors. 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. Among these are birds, bills, and coins, widely varied cultural displays, hunting trophies, minerals, pottery, and weapons. The general public and students alike are welcomed at the museum.

### ***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.

If such work fits into student schedules, both as to time and type of study being carried on, advanced students will help in the more detailed study of such problems. While reasonable expedition will be used in the examination of samples, specimens and other material sent to the College, reports may be delayed because of the requirements of regular instructional activities.

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, either chemical or fire, 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.

## ***The Schellenger Foundation in Electricity***

THE RESEARCH LABORATORIES of the Schellenger Foundation in Electricity are 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 laboratories.

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 G. Barnes, *Chairman*

Floyd A. Decker

Oscar H. McMahan

William W. Raymond

President 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 Laboratories 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.

1955

## CALENDAR

1955

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER								
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S		
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4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10		
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18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24		
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30				25	26	27	28	29	30	31		
							30	31																					

**September**

- 7—*Wednesday*. Condition, advanced standing, and postponed examinations. Approved petition forms must be in the Office of the Registrar four days in advance.
- 9—*Friday*. Freshman convocation and guidance tests, 8:30 a.m., Magoffin Auditorium. This opens a program of freshman orientation and advisement.\*
- 10—*Saturday*. Physical examinations for transfer students who have 30 or more semester hours. A physical examination is required of each student who is registering for the first time. Benedict Hall for women and Holliday Hall for men.
- 12—*Monday*. General faculty meeting, 7:30 a.m., Cotton Memorial Auditorium.
- 12-13—*Monday and Tuesday*. Physical examinations for all beginning freshmen and for transfer students having less than 30 semester hours. Benedict Hall for women and Holliday Hall for men.
- 12—*Monday*, 8:45 a.m. Registration of students who have 90 or more semester hours including graduate students.
- 13—*Tuesday*. Registration of students who have at least 30 but not more than 89 semester hours.
- 14—*Wednesday*. Registration of students who have less than 30 semester hours and others who have not registered.
- 15—*Thursday*. Classes begin.
- 15-16—*Thursday and Friday*, 7-9:30 p.m. Registration for night classes.
- 17—*Saturday*, 8:30-11:30. Special registration for teachers. Registrar's Office.
- 26—*Monday*. Last day of registration for Fall Semester.

**November**

- 4—*Friday*. Mid-semester reports.
- 24-26—*Thursday through Saturday*. Thanksgiving holidays.

**December**

- 17—*Saturday*. Christmas recess begins at close of last class on Saturday.

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\*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.

**January**

- 3—*Tuesday*. Classes resume.  
 18-25—*Wednesday through Wednesday*. Final examinations for first semester.  
 27-28—*Friday and Saturday*. Freshman convocation and guidance tests, 8:30 a.m., Magoffin Auditorium.\*  
 28—*Saturday*. Physical examinations for transfer students who have 30 or more semester hours. A physical examination is required of each student entering for the first time.  
 30—*Monday*. Registration of students who have 90 or more semester hours, including graduate students.  
 31—*Tuesday*. Registration of students who have at least 30 but not more than 89 semester hours.  
 31—*Tuesday*. Physical examinations for all beginning students and for transfers having less than 30 semester hours. Benedict Hall for women and Holliday Hall for men.

**February**

- 1—*Wednesday*. Registration of students having less than 30 semester hours and all others who have not registered.  
 2—*Thursday*. Classes begin.  
 2-3—*Thursday and Friday*, 7-9:30 p.m. Registration for night classes.  
 3—*Friday*. Condition, postponed, and advanced standing examinations. Approved petition forms must be in the Office of the Registrar four days in advance.  
 4—*Saturday*, 8:30-11:30. Special registration for teachers. Registrar's Office.  
 13—*Monday*. Last day of registration for Spring Semester.

**March**

- 22—*Thursday*. Mid-semester reports.  
 30—*Friday through Monday*. Easter holidays.

**April**

- 1-2—Easter holidays.

**May**

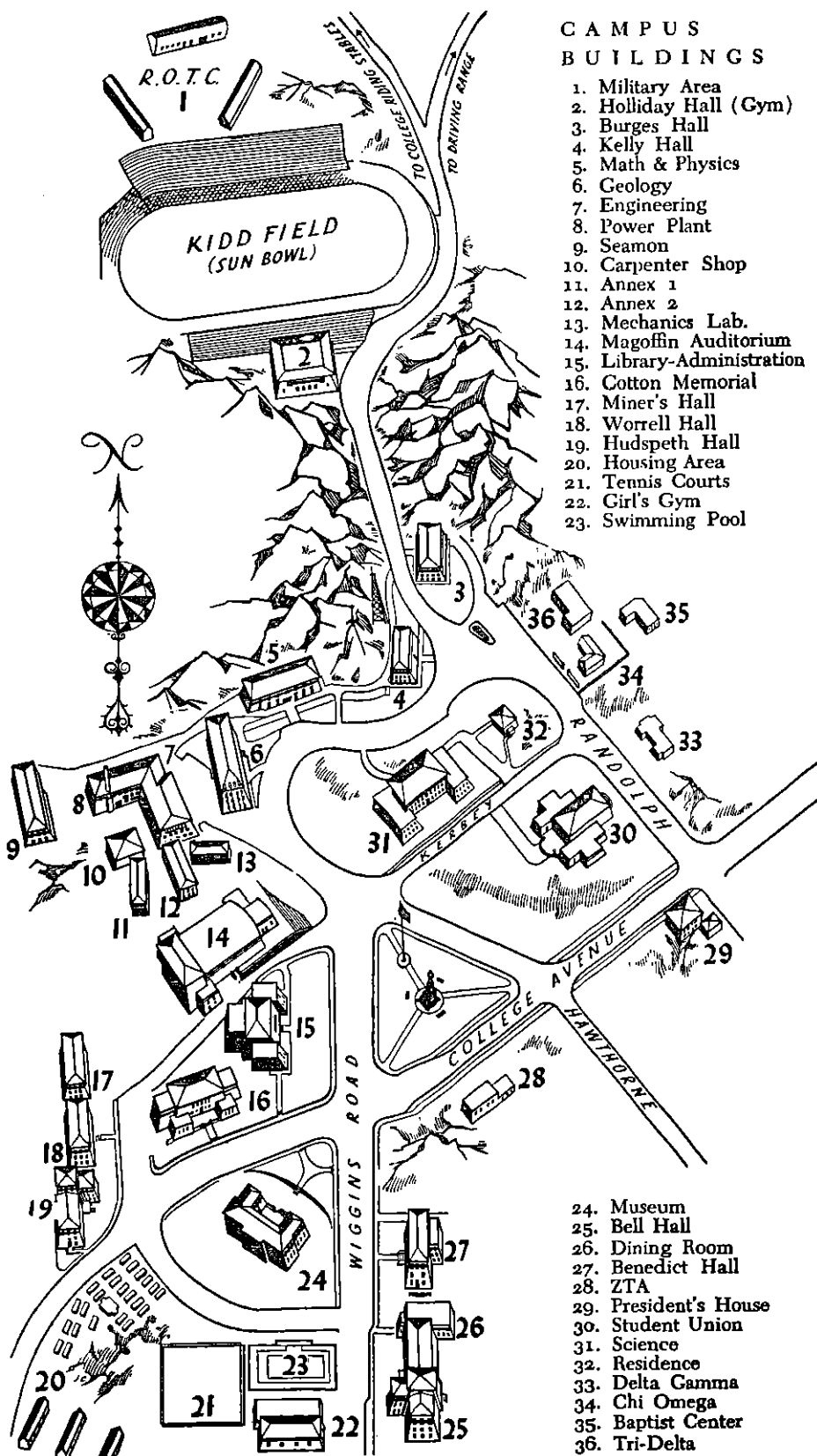
- 5—*Saturday*. Major examinations.  
 16-23—*Wednesday through Wednesday*. Final examinations.  
 27—*Sunday*. Commencement.

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

MAY							JUNE							JULY							AUGUST						
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Summer Session 1956— First Term: June 4—July 14 Second Term: July 16—Aug. 25





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## ***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 \$5.50 room deposit directly to the Business Manager, Texas Western College. For details about room rates, see page 30.

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### ***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 in order to get off to your college career on the right foot. Further information about admission and registration procedures will be found on the following pages and on page 35.

### ***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 veteran* 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.



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## 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 Library-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.

### Character

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

### Health

Each new student reports to the College Physician for physical examination during registration. An applicant must either be vaccinated by the College Physician or show by certificate that he has had smallpox or has been successfully vaccinated within the last three years.

### 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 registrar for a limited time after the regular registration listed in the Calendar. (See also page 38.)

**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 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

a. English	3
b. Mathematics	2
c. Foreign Language, Natural Science, Social Studies	4
d. Elective Units	6
TOTAL	15

##### Engineering Division

a. English	3
b. Algebra	2
Plane Geometry	1
Solid Geometry	1½
c. Foreign Language, Natural Science, Social Studies	4
d. Mechanical Drawing	1
e. Elective Units	3½
TOTAL	15

## [ADMISSION 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.

**Honor Graduates**—Any applicant ranking in the highest quarter of his graduating class may enter without conditions. (See Engineering exceptions, below.)

**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 305, in Solid Geometry by Mathematics 208, and in Mechanical Drawing by Drawing 203. 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 (1) making no grade below C in his first thirty semester hours of work completed at the College, or (2) making 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 Credit** — College work completed in another accredited institution with an over-all average grade of C may be transferred except in the Engineering Division where D's will ordinarily not be accepted. Subject to the grade average requirement, 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 unlisted institution is located.

Junior college credit (freshman and sophomore levels) will be accepted up to a maximum of sixty-six semester hours.

### 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.





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## **Expenses**

Average registration cost for **RESIDENT** liberal arts students runs from \$47.00 to \$54.00 per semester. This charge covers required fees only and does not include special fees for fine arts courses. Average registration cost for **RESIDENT** engineering students runs from \$47.00 to \$63.00 per semester. This charge covers required fees only. 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 Fiftieth 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 1 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, Army Reserve, National Guard, Air Force, Air Force Reserve, Navy, Naval Reserve, 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.

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.

## [EXPENSES]

### 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 the 12 months residence requirement.
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 or 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

\*Exception: A woman student of the College who is classified as a resident student and, while so classified, marries a non-resident student of the College will be permitted to continue to pay the resident fee for the two long sessions immediately following such marriage.

for naturalization in the United States, the 12 months period required to establish residence begins after his first citizenship papers are issued.

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 Fee

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.

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 citizens of Texas and who served in the Armed Forces in World War I or World War II or in certain of the auxiliary services, and were honorably discharged therefrom (except those who were discharged because of being over the age of thirty-eight 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 course and laboratory 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

**Special Examination** — A fee of \$1.00 is required of persons who wish to take an advanced standing examination or to remove a Pr or a condition by examination. 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.

**Student Activity Fee**—There is a Student Activity Fee of \$15.00 each semester of the long session and \$3.00 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 . . . . .	5.50

**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. Loss and damage items charged against general property deposits shall be credited to the department or other unit in which the loss or damage occurred.

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

[EXPENSES]

## 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.

Room reservations should be made in advance by sending a deposit of \$5.50 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 first.

The charges for room and board per person will be \$255.00 per semester. The entire amount may be paid on registration, or the student may pay \$63.75 during registration and the balance in three payments of \$63.75 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.

### Room Rent and Board

Per semester, per person . . .	\$255.00
Extra Dormitory Charges, per semester:	
Corner room, per person . . .	\$10.50
Single room (if available) . . .	21.25
Single corner room (if available) . . .	42.50

### Rooming and Boarding Houses

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 co-operate 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.

The detailed regulations governing student life in boarding houses, standards to be met by proprietors, etc., are published in separate form. Students and proprietors concerned are held individually responsible for and charged with the knowledge of these regulations. Copies can be obtained upon request from the Registrar or the Chairman of 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 rate currently ranging from fifty cents to one dollar 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.

**American Association of University Women**—The El Paso Branch of the American Association of University Women offers a scholarship of \$50 cash to a woman student in the College, senior level. The award of this scholarship is based on need and on scholastic record, and the money may be used in any manner to further the recipient's education.

**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.

**Baxter Polk Theatre Scholarship**—Established in 1953 in memory of Urbici Soler. An annual \$100 scholarship to be awarded to a man who is a drama major interested in making the theatre his profession.

**B.P.O. Elks Lodge No. 187, El Paso**—This organization provides two \$150 and two \$100 annual scholarships to Texas Western College students. Recipients are selected by the Lodge.

**El Paso Chapter, Associated General Contractors of America**—Established in 1953, 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 two scholarships each year to a woman student majoring in music. The financial benefit covers tuition and required fees for both semesters of one long session (\$100 per student).

[ SCHOLARSHIPS ]

*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 Symphony Association* — In September, 1948, the El Paso Symphony Association established three scholarships for worthy students majoring in music. One scholarship 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 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.

*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.

*Lucy Claire Hoard Memorial*—Established by the Delta Kappa Gamma Society, this scholarship which pays tuition and required fees is available to young women students studying for the teaching profession.

*Pan-American Optimist Club* — One scholarship each year is given to an entering freshman after recommendation to the College by the Executive Committee of the Club.

*Phelps Dodge Refining Corporation*—This company has established a scholarship of \$500 to be awarded annually to a student who will begin his junior year as a major in Metallurgy. The Dean of Mines and Engineering and the Chairman of the Department of Mining and Metallurgy will select as the recipient of this award a student who is worthy and needs financial assistance.

*Phi Alpha Theta* — The Texas Western chapter of this national honorary history fraternity has established a \$25 scholarship to be applicable on required tuition and fees. This scholarship is awarded by the Chairman of the Department of History to a senior student majoring in history.

*Popular Dry Goods Company* — Scholarships are available to worthy students interested in advertising, art and business.

*Radio Station K R O D* — A scholarship offered to a student interested in the field of Radio Education. The financial benefit covers tuition and required fees for both semesters of one long session.

*Radio Station K T S M* — 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.

*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 212, El Paso, or to Mr. J. J. Brown, 302 Walton Bldg., Austin 11, Texas.

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

*Scholarships for Foreign Students* — The Board of Regents has made available for the year 1955-1956 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.

*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 \$100 is awarded annually to some promising student who is majoring in music.

**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.

**Union-Fashion Clothing Company** — This company offers one scholarship each year to a worthy student. This scholarship pays up to \$100 on tuition and fees for the fall and spring semesters.

**The Vowell Scholarship** — This annual scholarship provides \$200 financial assistance to a worthy student. Primary consideration will be given to engineering student 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 B'rith provides two scholarships of \$50 each to be awarded to students of the Social Sciences and of Philosophy, respectively.

### Loan Funds

Various funds are available to students who need financial assistance to be able to begin or continue their college educa-

tions. 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.

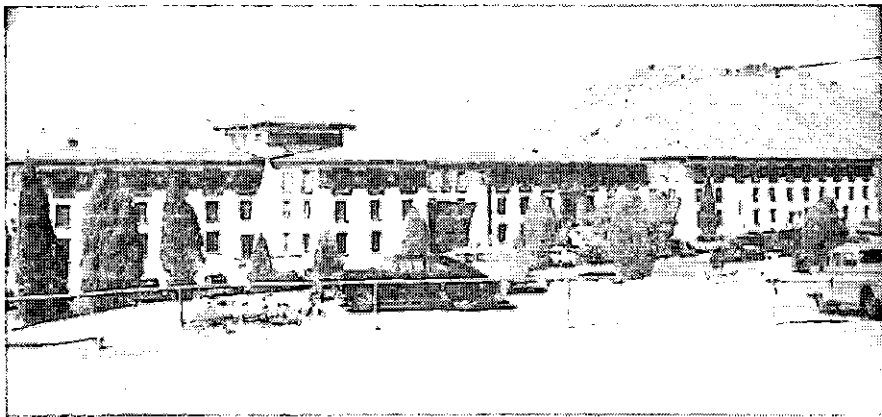
Applicants for loans will be expected to show need for assistance and must be able to supply satisfactory references. Applications should be made as early as possible before date of registration. For additional information, write or see the Business Manager of the College.

**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.

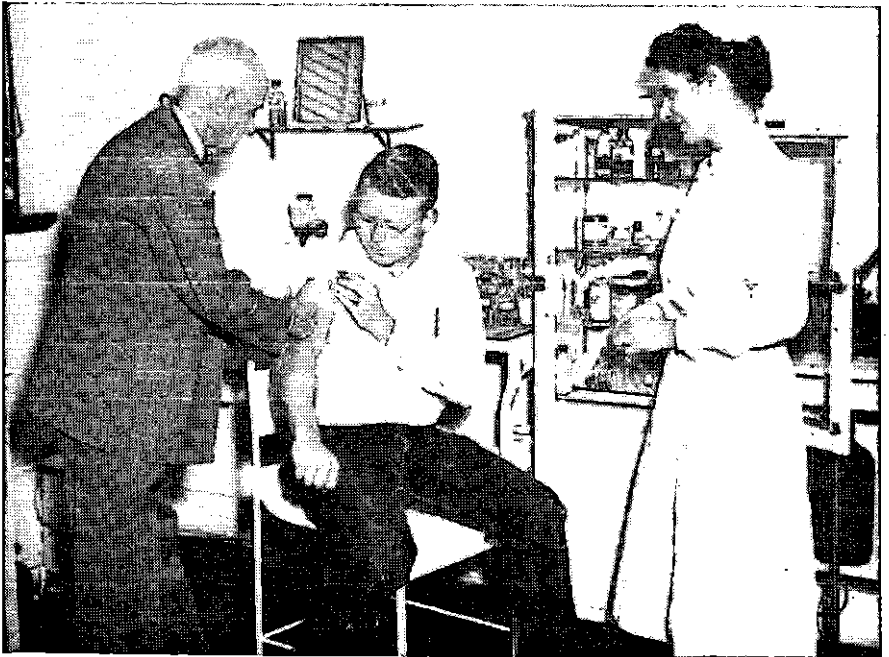
**Leah Gordon Memorial** — Established by Mrs. Bernice Gordon Schwartz, in memory of her mother. Loans from this fund are to be made to worthy students who desire to make nursing a career and shall be limited to actual amount of required tuition and fees.



MEN'S DORMITORIES ON WEST SIDE OF CAMPUS



*Resident students enjoy balanced healthful meals on a varied menu. Dining Hall seats 300, served by modern stuinless steel cafeteria table*



*Campus physician and registered nurses are on duty at the College Clinic-Infirmmary to protect the health of Texas Western students*

# ***Regulations Affecting Student Life***

## **Student Guidance**

Beginning students are given the opportunity of taking a series of tests in an effort to help them plan an effective college program. Results of these tests are placed in the hands of faculty advisers at the time of enrollment thus enabling the advisers to assist the student in the selection of courses in line with his interests, abilities, and future choice of career.

## **Health Service**

An adequate health office is maintained on the campus for the benefit of all students. The health officer examines the students, compiles records, is available in an advisory capacity and issues regular health bulletins. Minor medical and surgical treatment of an emergency nature is given in the health office.

A registered nurse is in attendance at the health office. She resides in the women's dormitory, attends to the health of the resident students, and supervises special diets.

A student who must be absent from classes due to illness is required to report said case of illness to the Health Officer of the College immediately.

## **Intramural Athletics**

A strong program of intramural sports for men and women — sponsored by the Department of Physical and Health Education, the Student Association, and the Dean of Student Life — offers competition and recreation for all students. An Intramural Council for men and one for women composed of student representatives from various participating organizations assist in planning and conducting the program.

## **Intercollegiate Athletics**

Rules and regulations governing intercollegiate athletics at Texas Western College are those effective in the Border Intercollegiate Athletic Conference. These rules and additional rules governing freshman participation in athletics are published in a booklet issued by the Border Intercollegiate Athletic Conference. Copies of this booklet may be secured from any coach or from the Faculty Representative to the Border Intercollegiate Athletic Conference.

## **Official Non-Athletic Extracurricular Activities**

It is the intention of the College to provide for its student population a group of non-athletic extracurricular organizations which will challenge the most diverse kinds of interest. Regardless of the field to which the student's specific interests run, he is likely to find an organization designed to stimulate those interests and in which his participation is invited. A list of all active organizations may be secured from the Dean of Student Life.

Rules and regulations governing the conduct of the affairs of student organizations are available in the office of the Dean of Student Life. Each student is charged with the knowledge and notice thereof.

## **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 is 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 characters. They will not be later admitted to the College unless they can prove moral desirability.

6. All students are expected to show respect for properly constituted 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 thereby drop his name 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 sus-

pension, 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 co-operate with the authorities.

### **Debts**

The College is not responsible for debts contracted by individual students or by student organizations, but the College will use all possible influence to encourage the payment of debts justly and regularly contracted by such persons. The College expects all students and student organizations to conduct themselves honorably in all commercial transactions.

### **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.

### **Bad Checks**

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. The College will not accept a check from a student who has once given a bad check.

# Scholastic Regulations

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## 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. Students select the courses to make up their schedules each semester and enroll in those courses during the official registration period at the beginning of the semester. No student is permitted to attend meetings of any class without being officially enrolled in that course. Exception may be made in limited cases of temporary registration delays. In such cases the student must secure official permission to attend his class until the difficulty is alleviated.

## Course-Numbering System

Courses are designated by three-digit numbers, indicating credit value in semester hours and scholastic level. In some cases a distinction is made between different courses of the same number by the addition of capital letters or Roman numerals (English 612 and English 612Q).

The first digit of a course number tells the amount of credit which will be awarded for successful completion of the course, for example: Geology 217 is a two-semester-hour course; English 320, a three-hour course; Business Administration 432, a four-hour course, etc. The second two digits show scholastic level as follows:

- 301-309 freshman courses
- 310-319 sophomore courses
- 320-389 upper division courses  
(advanced, junior-senior)
- 390-399 graduate courses

Two courses in the same department and having the same number may not both be counted, for example: Chemistry 601 and Chemistry 801.

## Two-Semester Courses

Courses requiring two semesters for completion are indicated in course descriptions by asterisks in parentheses following the titles, for example:

CHEMISTRY  
801 General Chemistry (\*)

In such cases one-half the total credit value of the course is awarded for each semester's work. No credit will be given for a degree until both semesters have been completed. When any course requires two semesters for completion, the first semester is prerequisite for enrollment in the second semester. On official records the first semester of two-semester courses is indicated by the small letter *a* following the course number, and the second semester by the small letter *b*.

## Course Fees

Laboratory fees and other special fees required for individual courses are indicated in course descriptions in per-semester cost following course titles, for example:

CHEMISTRY  
801 General Chemistry (\*) (\$4)

## 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

A section in a course may be changed to another section in the same course by (a) authorization by the head of the department concerned, (b) validation by the Business Office, and (c) filing 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 *Dr* or *Dr F* depending upon the student's standing in the course at the time.

## [SCHOLASTIC REGULATIONS]

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 *Dr F*.

### Late Registration

1. Each day missed will be counted as an absence unless work is made up before mid-semester.
2. Work missed because of late registration will be counted as zero unless the student definitely makes it up before mid-semester.

### 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 per-

mission 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 39 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.

### Scoring

Scoring will be based upon point values per semester hour as follows: A-4, B-3, C-2, D-1. For the purpose of determining scores and grade averages, not more than three one-hour courses in which grades are given can be counted in one semester.

### 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

*Credit Students*—A student is classified as a credit student if he is registered for credit.

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

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

*\*First Year Students*—Those who have attended less than two semesters.

*\*Second Year Students*—Those who have attended two semesters but not more than four semesters.

*\*Upper Division Students*—Those who have attended more than four semesters.

*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—

*\* A term of the summer session is counted as one-half semester.*

six semester hours; Arts and Science students: thirty or more, but less than sixty semester hours.

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

**Senior Students** — Engineering students: one hundred and four or more 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 handed in before this period begins.

In all examinations, account is taken of the student's use of English and of the form of the paper in general, the grade being lowered because of deficiencies in these regards as well as in the subject-matter proper.

Examinations are three hours in length and at the end of three hours all papers are taken up.

A student absent from a final examination without an excuse from the Dean is graded *F* and required to repeat the semester's work if credit is desired for the course. However, if compelled to be absent from the final examination on account of illness or other imperative cause, the student is entitled to take a postponed examination. (See Postponed Final Examinations.)

#### 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 *Px*.
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*.
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

The standing of the student in his work is expressed by grades made up from class work and from examinations. There are six grades: *A* (excellent), *B* (good), *C* (fair), *D* (low pass), *E* (failure, but with privileges of petitioning to continue the course and to take removal-of-condition examination), *F* (failure, and, if a semester grade, without further current privileges in the course).

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

1. A student who is passing a course at the time he drops it receives a grade of *Dr* in the course. A student who is failing a course at the time he drops it, receives a grade of *Dr F* in the course.
2. A student who is passing a course at the time he withdraws from school receives a grade of *Wd* in the course. A student who is failing a course at the time of his withdrawal receives a grade of *Wd F* in the course.

### 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 re-

move 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 601b), 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 higher course in the same subject until the course is taken again. If a student makes an *E* in a course, he may take up a higher 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 *Px* 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-*Px* 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 a 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 *Px*, the grade points for the course will be considered as if the grade



were *F* in calculating the standing of the student.

If *Px* 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. *Px* 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, his 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 3.0 without any grades of *Px*, *Inc*, *E*, *D*, 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.)

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.

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**

Reports are sent out to parents and guardians at the end of each semester for all students. Self-supporting students over

21 years of age, if they request it of the Registrar in writing, may have their reports sent to them instead of to their parents.

#### **Intra-Semester Reports**

On dates in November and March, as designated in the Calendar, reports are due in the Registrar's Office for the following students:

1. All students on the freshman list.
2. All students on the scholastic probation list.
3. All other students making less than a grade of *D* in a course.

Students may receive these grades from the Registrar if all grades for that mid-semester are *D* or better. If there are any failures among the student's grades for that mid-semester, these grades will be mailed to his parents or guardians.

#### **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**

To remain in good standing, a student must meet the following standard of work at semester report periods:

1. A student taking nine or more semester hours must pass nine semester hours with a score of not less than fifteen points.
2. A student taking less than nine semester hours must pass in all work taken with a grade point average of not less than 1.5.

Scoring will be based upon point values per semester hour as follows: *A*-4, *B*-3, *C*-2, and *D*-1. For the purpose of determining scores and grade averages, not more than three one-hour courses in which grades are given may be counted in each semester.

#### **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 in at least nine semester hours.

[SCHOLASTIC REGULATIONS]

### **Return to Good Standing**

A student on Scholastic Probation can return to good standing in the following ways:

1. By attaining the minimum requirement at the end of a semester in the long session.
2. By attending a summer session at Texas Western College and making a two-point average in at least nine semester hours.

### **Failure**

A student who is placed on Scholastic Probation and fails to attain the required minimum at the end of the next semester of the long session will be dropped from the rolls of the College.

A student not on probation who fails in all his courses at the end of any long-session semester will be dropped from the rolls of the College immediately, unless he be permitted to continue by his Dean.

### **Return after Failure**

A student who has failed out may re-enter only under Scholastic Probation, and in one of the following ways:

1. By remaining out of College for a long-session semester.
2. By attending an intervening summer session. If he makes a two-point average in nine semester hours, he will be permitted to attend the next long-session semester on Scholastic Probation.

### **Official Withdrawal**

A student who wishes to withdraw from school may do so with the consent of his Dean and clearance of all financial obligations by the Business Manager. In any course in which the student is passing at the time of withdrawal, he will receive a grade of *Wd*. In any course which the student is failing at the time of withdrawal, he will receive a grade of *Wd F*.

(a) Effect on student in good standing and receiving grades of *Wd*: loss of time.

(b) Effect on student in good standing and receiving all grades of *Wd F*: must satisfy the requirements of Return after Failure.

(c) Effect on student on Scholastic Probation: Student is continued on Scholastic Probation, unless he receives all grades of *Wd F*. In the latter case he must satisfy the requirements of Return after Failure.

### **Unofficial Withdrawal**

Withdrawal from school without consent of the student's Dean constitutes an unofficial withdrawal. In such cases the student will receive a grade of *Wd F* in each of the courses for which he was registered during that semester.

A student who unofficially withdraws will receive the grade of *Wd F* and must satisfy the requirements of Return after Failure.

**DEGREES OFFERED**  
**At Texas Western College**

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**General Requirements**

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**Division of Mines and Engineering**

ENGINEER OF MINES

BACHELOR OF SCIENCE IN MINING ENGINEERING  
(THREE OPTIONS)

BACHELOR OF SCIENCE IN ENGINEERING  
(TWO OPTIONS)

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**Division of Arts and Sciences**

BACHELOR OF ARTS

BACHELOR OF SCIENCE

BACHELOR OF BUSINESS ADMINISTRATION

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BACHELOR OF MUSIC

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**Graduate Division**

MASTER OF ARTS

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**Extension Division**

## **General Requirements for Undergraduate Degrees**

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### **Degrees Offered**

*Division of Mines and Engineering:* Engineer of Mines, Bachelor of Science in Mining Engineering, and Bachelor of Science in Engineering.

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

No honorary degrees 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.

### **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.

### **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 Course Required**

Government 610 satisfies the legal requirement of the State of Texas for the study of the Constitutions of the United States and Texas. Students who complete two years of Military Science in the College are not required to take Government 610b or Physical Education.

### **Grade Average**

The student must make an average of at least two points per semester hour in courses taken at the College which are required and counted toward his degree. An A grade on a semester hour will count as four points; a B grade as three points; a C grade as two points; a D grade as one point; an E, F, Px, or Inc as zero.

### **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 time for the removal of such conditional grades.

### **Second Degree**

No second bachelor's 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.

### **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 will petition the President 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 3. Metallurgy*

#### **BACHELOR OF SCIENCE IN ENGINEERING**

*Options: 1. Civil 2. Electrical*

### **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 Mining Engineering (Metallurgy Option)

PLAN 4, leading to the degree of Bachelor of Science in Engineering (Civil Option)

PLAN 5, leading to the degree of Bachelor of Science in Engineering (Electrical Option)

### **Special Requirements for Bachelor's Degrees**

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**

Uniform Freshman Year—First semester: Chemistry 801a, Drawing 301, Engineering 101, English 601a, Mathematics 802a, Physical Education or Military Science 401a, Physics 601a. Second semester: Chemistry 801b, Drawing 302, English 601b, Physical Education or Military Science 401b, Physics 601b.

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	Go. . . Government
Dr. . . . Drawing	Ma. . . Mathematics
Ec. . . . Economics	Me. . . Metallurgy
E. . . . . English	Mi. . . . Mining
En. . . Engineering	Ph. . . . Physics
Ge. . . . Geology	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)**

	<i>Semester Hours</i>
Chemistry 801, 311, 413 . . . . .	15
Drawing 301, 302 . . . . .	6
Economics 302 . . . . .	3
English 601, 324 . . . . .	9
Engineering 101, 614, 315, 431, 434, 238, 335, 350, 354 .	29
Geology 301, 302, 316, 217, 421, 322, 264 . . . . .	20
Government 610 . . . . .	6
Mathematics 803, 613, 325 . . . . .	17
Metallurgy 321, 423, 324, 326, 261 . . . . .	15
Mining 310, 221, 322, 224, 363, 364, 366, 368 . . . .	22
Physics 611, 413 . . . . .	10
Physical Education 301 . . . . .	3
Physical Education or Military Science . . . . .	3
Mining 074 . . . . .	0
<b>Total . . . . .</b>	<b>158</b>

**ARRANGEMENT OF COURSES**

**Freshman Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
Ch. 801a, General Chemistry . . . . .	4	Ch. 801b, General Chemistry . . . . .	4
Dr. 301, Engineering Drawing . . . . .	3	Dr. 302, Descriptive Geometry . . . . .	3
E. 601a, Rhetoric and Composition . . . . .	3	E. 601b, Rhetoric and Composition . . . . .	3
En. 101, Elementary Engineering Problems . . . . .	1	Ge. 302, Principles of Gen. Geology . . . . .	3
Ge. 301, Principles of Gen. Geology . . . . .	3	Ma. 803b, Engineering Mathematics . . . . .	4
Ma. 803a, Engineering Mathematics . . . . .	4	P. E. Service Course or M. S. 401b, Military Science . . . . .	1
P. E. Service Course or M. S. 401a, Military Science . . . . .	1	<b>Total . . . . .</b>	<b>18</b>
<b>Total . . . . .</b>	<b>19</b>		

**Sophomore Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
Ch. 311, Qualitative Analysis . . . . .	3	Ch. 413, Quantitative Analysis . . . . .	4
Ge. 316, Mineralogy . . . . .	3	Ge. 217, Mineralogy . . . . .	2
Go. 610a, American Government . . . . .	3	Go. 610b, American Government . . . . .	3
Ma. 613a, Calculus . . . . .	3	Ma. 613b, Calculus . . . . .	3
Ph. 611, Mechanics, Heat, Wave Motion, and Sound . . . . .	6	Mi. 310, Elements of Mining . . . . .	3
P. E. 301, Health Education . . . . .	3	Ph. 413, Electricity, Magnetism, and Light . . . . .	4
<b>Total . . . . .</b>	<b>21</b>	*P. E. Service Course . . . . .	1
		<b>Total . . . . .</b>	<b>20</b>

**Summer**

En. 614, Plane Surveying . . 6 Semester Hours

**Junior Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
En. 315 Statics . . . . .	3	Ec. 302, Principles of Economics . . . . .	3
Ge. 421, Advanced General Geology . . . . .	4	En. 238, Dynamics . . . . .	2
Ma. 325, Calculus . . . . .	3	E. 324, Technical Writing . . . . .	3
Me. 423, Ore and Coal Dressing . . . . .	4	Ge. 322, General Economic Geology . . . . .	3
Me. 326, Engineering Metallurgy . . . . .	3	Me. 321, General Metallurgy . . . . .	3
Mi. 221, Mining Methods . . . . .	2	Me. 324, Assaying . . . . .	3
<b>Total . . . . .</b>	<b>19</b>	Mi. 322, Mine Surveying . . . . .	3
		<b>Total . . . . .</b>	<b>20</b>

**Summer**

Mi. 224, Mine Surveying . . 2 Semester Hours

\*Not required if M.S. 401 has been completed

[DEGREE PLANS]

Senior Year			
FIRST SEMESTER	Semester Hours	SECOND SEMESTER	Semester Hours
En. 431, Electrical Circuits and Machines . . . . .	4	En. 335, Reinforced Concrete . . . . .	3
En. 434, Mechanics of Materials . . . . .	4	En. 350, Heat Engineering . . . . .	3
Ge. 264, Field Geology . . . . .	2	En. 354, Fluid Mechanics . . . . .	3
Me. 261, Non-Ferrous Metallurgy . . . . .	2	Mi. 364, Management . . . . .	3
Mi. 363, Mine Valuation and Report . . . . .	3	Mi. 368, Mine Plant . . . . .	3
Mi. 366, Mine Plant . . . . .	3	Mi. 074, Senior Trip . . . . .	0
Total . . . . .	18	Total . . . . .	15

PLAN 2 — Leading to the Degree of  
**Bachelor of Science in Mining Engineering**  
(Mining-Geology Option)

	Semester Hours
Chemistry 801, 311, 413, 323 . . . . .	18
Drawing 301, 302 . . . . .	6
Economics 302 . . . . .	3
English 601, 324 . . . . .	9
Engineering 101, 614, 315, 434, 335, 238, 350, 354 . . . . .	25
Geology 301, 302, 316, 217, 421, 322, 423, 427, 361, 463, 264 . . . . .	35
Government 610 . . . . .	6
Mathematics 803, 613, 325 . . . . .	17
Metallurgy 423, 324 . . . . .	7
Mining 310, 221, 322, 224, 363, 364 . . . . .	16
Physics 611, 413 . . . . .	10
Physical Education 301 . . . . .	3
Physical Education or Military Science . . . . .	3
Geology 074 . . . . .	0
Total . . . . .	158

ARRANGEMENT OF COURSES

*Freshman and Sophomore Years Same as for Plan 1*

Junior Year			
FIRST SEMESTER	Semester Hours	SECOND SEMESTER	Semester Hours
En. 315, Statics . . . . .	3	Ec. 302, Principles of Economics . . . . .	3
Ch. 323, Quantitative Analysis . . . . .	3	En. 238, Dynamics . . . . .	2
Ge. 421, Adv. Gen. Geology . . . . .	4	Ge. 322, Gen. Econ. Geology . . . . .	3
Ma. 325, Calculus . . . . .	3	Ge. 427, Petrology and Petrography . . . . .	4
Me. 423, Ore and Coal Dressing . . . . .	4	Ge. 463, Geology of Petroleum, the Fuels, and Non-Metals . . . . .	4
Mi. 221, Mining Methods . . . . .	2	Mi. 322, Mine Surveying . . . . .	3
Total . . . . .	19	Total . . . . .	19

Summer

Mi. 224, Mine Surveying . . 2 Semester Hours

Senior Year			
FIRST SEMESTER	Semester Hours	SECOND SEMESTER	Semester Hours
E. 324, Technical Writing . . . . .	3	En. 335, Reinforced Concrete . . . . .	3
En. 434, Mechanics of Materials . . . . .	4	En. 350, Heat Engineering . . . . .	3
Ge. 423, Structural Geology . . . . .	4	En. 354, Fluid Mechanics . . . . .	3
Ge. 264, Field Geology . . . . .	2	Ge. 361, Adv. Economic Geology . . . . .	3
Mi. 363, Mine Valuation and Report . . . . .	3	Me. 324, Assaying . . . . .	3
		Mi. 364, Management . . . . .	3
		Ge. 074, Senior Trip . . . . .	0
Total . . . . .	16	Total . . . . .	18

[ DECREE PLANS ]

**PLAN 3 — Leading to the Degree of  
Bachelor of Science in Mining Engineering  
(Metallurgy Option)**

	<i>Semester Hours</i>
Chemistry 801, 311, 413, 323, 460 . . . . .	22
Drawing 301, 302 . . . . .	6
Economics 302 . . . . .	3
English 601, 324 . . . . .	9
Engineering 101, 614, 315, 431, 434, 238, 350 . . . . .	23
Geology 301, 302, 316, 217, and 322 or 427 . . . . .	14 or 15
Government 610 . . . . .	6
Mathematics 803, 613, 325 . . . . .	17
Metallurgy 321, 423, 324, 361, 362, 263, 364, 265 472, 473, and 360 or 375 or 230 . . . . .	34 or 33
Mining 310, 221, 364 . . . . .	8
Physics 611, 413 . . . . .	10
Physical Education 301 . . . . .	3
Physical Education or Military Science . . . . .	3
Metallurgy 074 . . . . .	0
Total . . . . .	158

**ARRANGEMENT OF COURSES**

*Freshman and Sophomore Years Same as for Plan 1*

**Junior Year**

FIRST SEMESTER	<i>Semester Hours</i>	SECOND SEMESTER	<i>Semester Hours</i>
En. 315, Statics . . . . .	3	Ec. 302, Principles of Economics . . . . .	3
Ch. 323, Quantitative Analysis . . . . .	3	En. 238, Dynamics . . . . .	3
Ch. 460, Physical Chemistry . . . . .	4	E. 324, Technical Writing . . . . .	3
Ma. 325, Calculus . . . . .	3	*Ge. 322, Gen. Economic Geology . . . . .	3
Me. 423, Ore and Coal Dressing . . . . .	4	Me. 321, General Metallurgy . . . . .	3
Mi. 221, Mining Methods . . . . .	2	Me. 324, Assaying . . . . .	3
Total . . . . .	19	Me. 263, Adv. Ore Dressing . . . . .	2
		Total . . . . .	19

**Senior Year**

FIRST SEMESTER	<i>Semester Hours</i>	SECOND SEMESTER	<i>Semester Hours</i>
En. 434, Mechanics of Materials . . . . .	4	En. 431, Electrical Circuits and Machines . . . . .	4
En. 350, Heat Engineering . . . . .	3	†Me. 360, Ferrous Metallurgy . . . . .	3
Me. 361, Non-Ferrous Metallurgy . . . . .	3	Me. 364, Metallurgical Laboratory . . . . .	3
Me. 362, Hydrometallurgy . . . . .	3	Me. 473, Metallography . . . . .	4
Me. 265, Ore Dressing Laboratory . . . . .	2	Mi. 364, Management . . . . .	3
Me. 472, Physical Metallurgy . . . . .	4	Me. 074, Senior Trip . . . . .	0
Total . . . . .	19	Total . . . . .	17

†May elect Me. 375, Corrosion, or Me. 230, Introduction to Ceramics.

\*May elect Ge. 427, Petrology and Petrography



**PLAN 4 — Leading to the Degree of**  
**Bachelor of Science in Engineering**  
**(Civil Option)**

	<i>Semester Hours</i>
Chemistry 801 . . . . .	8
Drawing 301, 302 . . . . .	6
Economics 302 . . . . .	3
English 601, 324 . . . . .	9
Engineering 101, 212, 614, 315, 322, 326, 127, 431, 434, 335, 238, 340, 341, 342, 343, 346, 348, 350, 151, 152, 354, 155, 256, 360, 361 . . . . .	67
Geology 301 . . . . .	3
Government 610 . . . . .	6
Mathematics 803, 613, 325 . . . . .	17
Metallurgy 326 . . . . .	3
Mining 237 . . . . .	2
Physics 611, 413 . . . . .	10
Physical Education 301 . . . . .	3
Physical Education or Military Science . . . . .	3
Speech 301 . . . . .	2
*Approved Electives . . . . .	2
Total . . . . .	145

\*Electives are normally non-technical. They must meet approval of Department of Engineering.

**ARRANGEMENT OF COURSES**

**Freshman Year**

**FIRST SEMESTER**

	<i>Semester Hours</i>
Ch. 801a, General Chemistry . . . . .	4
Dr. 301, Engineering Drawing . . . . .	3
E. 601a, Rhetoric & Composition . . . . .	3
En. 101, Elementary Engineering Problems . . . . .	1
Ge. 301, Principles of General Geology . . . . .	3
Ma. 803a, Engineering Mathematics . . . . .	4
P. E. Service Course or M. S. 401, Military Science . . . . .	1
Total . . . . .	19

**SECOND SEMESTER**

	<i>Semester Hours</i>
Ch. 801b, General Chemistry . . . . .	4
Dr. 302, Descriptive Geometry . . . . .	3
E. 601b, Rhetoric & Composition . . . . .	3
Ma. 803b, Engineering Mathematics . . . . .	4
Sp. 301, Basic Principles of Speech . . . . .	3
P. E. Service Course or M. S. 401b, Military Science . . . . .	1
Total . . . . .	18

**Sophomore Year**

**FIRST SEMESTER**

	<i>Semester Hours</i>
Ec. 302, Principles of Economics . . . . .	3
Go. 610a, American Government . . . . .	3
Ma. 613a, Calculus . . . . .	3
Ph. 611, Mechanics, Heat, Wave Motion and Sound . . . . .	6
P. E. 301, Health Education . . . . .	3
Total . . . . .	18

**SECOND SEMESTER**

	<i>Semester Hours</i>
En. 315, Statics . . . . .	3
En. 212, Concrete Mixtures . . . . .	2
Go. 610b, American Government . . . . .	3
Ma. 613b, Calculus . . . . .	3
Me. 326, Engineering Metallurgy . . . . .	3
Ph. 413, Electricity, Magnetism and Light . . . . .	4
*P. E. Service Course . . . . .	1
Total . . . . .	19

Summer En. 614, Plane Surveying . . 6 Semester Hours

**Junior Year**

**FIRST SEMESTER**

	<i>Semester Hours</i>
En. 322, Route Surveying . . . . .	3
En. 434, Mechanics of Materials . . . . .	4
En. 238, Dynamics . . . . .	2
En. 354, Fluid Mechanics . . . . .	3
Ma. 325, Calculus . . . . .	3
Total . . . . .	15

**SECOND SEMESTER**

	<i>Semester Hours</i>
E. 324, Technical Writing . . . . .	3
En. 431, Electrical Circuits and Machines . . . . .	4
En. 335, Reinforced Concrete . . . . .	3
En. 343, Elementary Structural Analysis . . . . .	3
En. 155, Hydraulics Laboratory . . . . .	1
Approved Elective . . . . .	2
Total . . . . .	16

**Senior Year**

**FIRST SEMESTER**

	<i>Semester Hours</i>
En. 326, Engineering Economics . . . . .	3
En. 341, Public Water Supplies . . . . .	3
En. 348, Soil Mechanics . . . . .	3
En. 360, Indeterminate Structures . . . . .	3
En. 151, Water Analysis . . . . .	1
Mi. 237, Tunneling & Blasting . . . . .	2
En. 127, Reinforced Concrete Design . . . . .	1
Total . . . . .	16

**SECOND SEMESTER**

	<i>Semester Hours</i>
En. 346, Contracts & Specifications . . . . .	3
En. 342, Sewerage & Sewage Disposal . . . . .	3
En. 350, Heat Engineering . . . . .	3
En. 152, Sewage Analysis . . . . .	1
En. 256, Hydrology . . . . .	2
En. 361, Structural Design & Theory . . . . .	3
En. 340, Highway Engineering . . . . .	3
Total . . . . .	18

\*Not required if M. S. 401 has been completed.

[DEGREE PLANS]

**PLAN 5 — Leading to the Degree of  
Bachelor of Science in Engineering  
(Electrical Option)**

	<i>Semester Hours</i>
Chemistry 801 . . . . .	8
Drawing 301, 302 . . . . .	6
Economics 302 . . . . .	3
English 601, 324 . . . . .	9
Engineering 101, 315, 216, 419, 321, 323, 326, 432, 433, 434, 238, 350, 354, 857, 358, 466, 868, 370 . . . . .	65
Government 610 . . . . .	6
Mathematics 803, 613, 325, 326 . . . . .	20
Metallurgy 326 . . . . .	3
Physics 601, 612 . . . . .	12
Physical Education 301 . . . . .	3
Physical Education or Military Science . . . . .	3
*Approved Electives . . . . .	7
Total . . . . .	145

\*Electives are normally non-technical. They must meet approval of Department of Engineering.

**ARRANGEMENT OF COURSES**

**Freshman Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
Ch. 801a, General Chemistry . . . . .	4	Ch. 801b, General Chemistry . . . . .	4
Dr. 301, Engineering Drawing . . . . .	3	Dr. 302, Descriptive Geometry . . . . .	3
E. 601a, Rhetoric and Composition . . . . .	3	E. 601b, Rhetoric and Composition . . . . .	3
En. 101, Elementary Engineering Problems . . . . .	1	Ma. 803b, Engineering Mathematics . . . . .	4
Ma. 803a, Engineering Mathematics . . . . .	4	Ph. 601b, General Physics . . . . .	3
Ph. 601a, General Physics . . . . .	3	P. E. Service Course or M. S. 401b, Military Science . . . . .	1
P. E. Service Course, or M. S. 401a, Military Science . . . . .	1	Total . . . . .	18
Total . . . . .	19		

**Sophomore Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
Eco. 302, Principles of Economics . . . . .	3	En. 216, Elementary Plane Surveying . . . . .	2
Go. 610a, American Government . . . . .	3	En. 419, Elements of Electrical Engineering . . . . .	4
Ma. 613a, Calculus . . . . .	3	Go. 610b, American Government . . . . .	3
Ph. 612a, Light, Electricity, Magnetism . . . . .	3	Ma. 613b, Calculus . . . . .	3
P. E. 301, Health Education . . . . .	3	Ph. 612b, Mechanics, Heat and Sound . . . . .	3
Approved Elective . . . . .	4	*P. E. Service Course . . . . .	1
Total . . . . .	19	Approved Elective . . . . .	3
		Total . . . . .	19

**Junior Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
En. 315, Statics . . . . .	3	En. 323, Mechanisms . . . . .	3
En. 321, Elements of Electrical Engineering . . . . .	3	En. 857b, Alternating-Current Circuits . . . . .	4
En. 432, Electronics . . . . .	4	En. 466, Direct-Current Machines . . . . .	4
En. 857a, Alternating-Current Circuits . . . . .	4	Ma. 326, Differential Equations . . . . .	3
Ma. 323, Calculus . . . . .	3	En. 433, Theory and Application of Electron Tubes . . . . .	4
Total . . . . .	17	Total . . . . .	18

**Senior Year**

<b>FIRST SEMESTER</b>	<i>Semester Hours</i>	<b>SECOND SEMESTER</b>	<i>Semester Hours</i>
E. 324, Technical Writing . . . . .	3	En. 326, Engineering Economics . . . . .	3
En. 434, Mechanics of Materials . . . . .	4	En. 354, Fluid Mechanics . . . . .	3
En. 238, Dynamics . . . . .	2	En. 358, Heat Engineering . . . . .	3
En. 350, Heat Engineering . . . . .	3	En. 868b, Alternating-Current Machines . . . . .	4
En. 868a, Alternating-Current Machines . . . . .	4	En. 370, Machine Design . . . . .	3
Me. 326, Engineering Metallurgy . . . . .	3	Total . . . . .	16
Total . . . . .	19		

\*Not required if M. S. 401 has been completed.

# ***Division of Arts and Sciences***

## **GENERAL REQUIREMENTS FOR UNDERGRADUATE DEGREES**

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### **BACHELOR OF ARTS**

### **BACHELOR OF BUSINESS ADMINISTRATION**

### **BACHELOR OF SCIENCE IN THE SCIENCES**

### **BACHELOR OF MUSIC**

In the division of Arts and Sciences the College offers work leading to undergraduate degrees with majors in twenty-two departments, 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***

#### ***Major Subjects***

Art	Geology	Music
Biological Sciences	Government	Physical Education
Business Administration	Health Education	Physics
Chemistry	History	Psychology
Economics	Inter-American Studies	Radio
Education	Journalism	Spanish
English	Mathematics	Speech and Drama
French		

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#### ***Minor Subjects***

Art	Geology	Philosophy
Biological Sciences	Government	Physical Education
Business Administration	Health Education	Physics
Chemistry	History	Psychology
Economics	Journalism	Radio
Education	Mathematics	Sociology
English	Metallurgy	Spanish
French	Music	Speech and Drama

**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.

### Art

#### Semester Hours

- 24—ART including Art 301, 302, 320, 320K and six other advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

### Business Administration

#### Semester Hours

- 24—BUSINESS ADMINISTRATION including Business Administration 408, 409, 432, 620 and two other advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

\* Philosophy 331 is strongly recommended for Bachelor of Arts students.

### Economics

#### Semester Hours

- 24—ECONOMICS including Economics 302, 303, 310, 429, 343, 345 and two other advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

### Education

#### Semester Hours PLAN I — GENERAL

- 27—EDUCATION including 12 advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331, SOCIOLOGY 310 or 311, SPEECH 301.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

**Education****Semester PLAN II — HIGH SCHOOL****Hours**

27—EDUCATION including EDUCATION 300, 301, 316, 319C, 341, 355, 371T, 327, and 327T.

24—in the teaching subject, twelve of which must be advanced.

12—ENGLISH 601, and 612 or 612Q, or 315-316.

—FOREIGN LANGUAGE: completion of 612.

12—LABORATORY SCIENCES

6—MATHEMATICS

—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, PHILOSOPHY 331, SOCIOLOGY 310 or 311, SPEECH 301 or 303 or 307.

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

**Education****Semester PLAN III—ELEMENTARY SCHOOL****Hours**

30—EDUCATION 300, 301, 314, 318T, 320, 330T, 331T, 355K, 328, and 328T.

24—Art Methods 303, Music Education 375 and 375K, Music Literature 301K or 301L, P.E.: six semester hours, GEOGRAPHY 310, SPEECH 301 or 303 or 307.

12—ENGLISH 601, and 612 or 612Q, or 315-316.

—FOREIGN LANGUAGE: completion of 612.

12—LABORATORY SCIENCES

6—MATHEMATICS

—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, PHILOSOPHY 331, SOCIOLOGY 310 or 311.

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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.

\* Philosophy 331 is strongly recommended for Bachelor of Arts students.

**English****Semester****Hours**

24—ENGLISH including 601, 612 or 612Q or 315-316, and 12 advanced hours.

18—MINOR SUBJECT including six advanced hours.

—FOREIGN LANGUAGE: completion of 612.

12—LABORATORY SCIENCES

6—MATHEMATICS

—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

**Government****Semester****Hours**

24—GOVERNMENT including Government 610 and twelve advanced hours.

18—MINOR SUBJECT including six advanced hours

12—ENGLISH 601, and 612 or 612Q, or 315-316.

—FOREIGN LANGUAGE: completion of 612.

12—LABORATORY SCIENCES

6—MATHEMATICS

12—HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

[REQUIREMENTS for MAJORS]

### History

Semester  
Hours

- 24—HISTORY including History 301, 302, and 12 advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), ECONOMICS 302, \*PHILOSOPHY 330 or 331, GEOGRAPHY 310, and three semester hours of SOCIOLOGY.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

### Inter-American Studies

Semester  
Hours

- ECONOMICS 302, 303, 348, and three additional hours of advanced Economics. HISTORY 301, 302, 347, 348, or 349, and six† additional semester hours of lower division HISTORY, †SPANISH 801, 612, 357, and one of the following: 324, 360, 362N, 362S, 363, 364. PSYCHOLOGY 310 and PHILOSOPHY 330. Nine additional semester hours from Economics, Government, History and languages.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed).
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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.

\* Philosophy 331 is strongly recommended for Bachelor of Arts students.

† Sociology 336 may be substituted for three semester hours of History.

‡ A comprehensive examination in Spanish is required.

### Journalism

Semester  
Hours

- 24—JOURNALISM including Journalism 311, 312, 324, and 340 and 6 advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

### Mathematics

Semester  
Hours

- 24—MATHEMATICS including Mathematics 803, 613, and ten advanced hours. If student does not have admission credits in solid geometry from high school Mathematics 208 is also required.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

**Semester  
Hours****Modern Language**

- 24—Semester hours in one language including Course 801 and 612 (or placement) and twelve advanced hours.
- 18—MINOR SUBJECT including six advanced hours.  
—Completion of Course 612 in a second foreign language.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331, for Spanish majors: HISTORY 347 or 348 or 349; for French majors: HISTORY 342 or equivalent.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

**Semester  
Hours****Music**

- 24—MUSIC including 12 advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.  
—FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS or a second foreign language.  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in freshman and sophomore years.
- ELECTIVES to make a minimum total of 123 semester hours, including 8 semester hours of Choir or Band or Orchestra, 8 semester hours of Choral Literature, and a total of 30 semester hours in advanced courses, not more than 66 in major and minor subjects.

**Physical Education**

- 30—PHYSICAL EDUCATION including at least 12 advanced hours as follows:  
For men: P. E. 305, 306, 318K, 319K, 331, 332, 333, 356, 321 or 321L or 357 or 363 or 364, 365. For women: P. E. 307, 308, 318K, 319K, 321 or 321L, 331W, 332W, 333K, 356, 357.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- 18—For High School: EDUCATION 301, 316, 317, 327, 327T, and 3 additional hours of Education. For Elementary School: EDUCATION 301, 314, 318T, 328, 328T, and 3 additional hours of Education.
- 12—ZOOLOGY 301, 302; BIOLOGY 310, 311.
- 6—MATHEMATICS  
—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

**Pre-Law †**

- 28—LAW completed in the Law School of the University of Texas.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- 6—MATHEMATICS.  
—FOREIGN LANGUAGE: completion of 612.
- 6—CHEMISTRY or PHYSICS: laboratory.
- 6—BOTANY or GEOLOGY or ZOOLOGY: laboratory.
- 36—SOCIAL SCIENCES including GOVERNMENT 610, HISTORY 301 and 302, ECONOMICS 302, PHILOSOPHY 330 or 331, and 18 semester hours of other social sciences, 6 of which must be advanced. Not over 12 hours of a freshman social science may be counted.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in freshman and sophomore years.
- ELECTIVES six of which must be advanced, to make a total of at least 125 semester hours.

† 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.

\* Philosophy 331 is strongly recommended for Bachelor of Arts students.

† P. E. 389 may be substituted for any of these advanced courses.

### Pre-Medical †

Successful completion of the first year of work in a School of Medicine of the University of Texas at the end of the first year of attendance.

#### Semester Hours

- 18—ZOOLOGY 301, 302, 614, 320, 321.
- 27—CHEMISTRY 801, 311, 413, 821, 424.
- 8—PHYSICS 801.
- 6—MATHEMATICS: Mathematics 306 should be included unless one semester of trigonometry from high school has been presented in the admission requirements.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- 14—FRENCH 801 and 612, or GERMAN 801 and 612.
- 18—GOVERNMENT 610, HISTORY 301 and 302, ECONOMICS 302, PHILOSOPHY 330.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in freshman and sophomore years.

† 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

- 24—PSYCHOLOGY including Psychology 310 and twelve advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCE including ZOOLOGY 301 and 302.
- 6—MATHEMATICS
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \* PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

\* Philosophy 331 is strongly recommended for Bachelor of Arts students.

### Radio

#### Semester Hours

- 24—RADIO including Radio 302, 314, 315, 330, 331 and six other advanced hours.
- 18—MINOR SUBJECT including six advanced hours.
- 12—ENGLISH 601, and 612 or 612Q, or 315-316.
- FOREIGN LANGUAGE: completion of 612.
- 12—LABORATORY SCIENCES
- 6—MATHEMATICS
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \* PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.

### 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 601, and 612 or 612Q, or 315-316.
- FOREIGN LANGUAGE: completion of 612.
- 6—MATHEMATICS. Mathematics 803 required for majors in Chemistry and Physics and for minors in Physics.
- GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \* PHILOSOPHY 330 or 331.
- 6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 in major and minor subjects.



### **Speech and Drama**

Semester  
Hours

24—SPEECH including twelve advanced hours.

18—MINOR SUBJECT including six advanced hours.

12—ENGLISH 601, and 612 or 612Q or 315-316.

—FOREIGN LANGUAGE: completion of 612.

12—LABORATORY SCIENCES

6—MATHEMATICS

—GOVERNMENT 610: (Government 610b not required if two years of Military

\* Philosophy 331 is strongly recommended for Bachelor of Arts students.

Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 and minor subjects.

### **Bachelor of Science (Sciences)**

*Major Subjects:* Biology, Chemistry, Geology, Physics.

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

Semester  
Hours

—MAJOR: at least 30 semester hours including 15 semester hours of advanced courses. (Specified for CHEMISTRY: Chemistry 424, 821, 460, 461, six additional advanced semester hours in Chemistry, and German 801).

—MINOR: at least 18 semester hours including 6 semester hours of advanced courses.

6—another laboratory science as listed above.

—GOVERNMENT 610: (Government 610b not required if two years of Military Science are completed), HISTORY 301 and 302, ECONOMICS 302, \*PHILOSOPHY 330 or 331.

\* Philosophy 330 is strongly recommended for the Bachelor of Science degree.

12—ENGLISH 601, and 612, or 612Q, or 315-316.

—MATHEMATICS 803 (Exception: Mathematics 304 and 309 may be substituted for Mathematics 803 in the Biology major, ~~Geology major~~).

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (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 408, 409, 432, 620, 623, 337, and 354.

12—ENGLISH 601, and 612 or 612Q, or 315-316.

6—LABORATORY SCIENCES

6—MATHEMATICS

—SOCIAL STUDIES: GOVERNMENT 610 (Government 610b not required of students taking 3 semesters of Military Science); ECONOMICS 302, 303, 332; HISTORY 301 and 302; PHILOSOPHY, 3 semester hours; PSYCHOLOGY, 3 semester hours.

3—SPEECH

6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in freshman and sophomore years.

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

## **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**

- |   |  |
|---|--|
| <p>28—LAW completed at the Law School of the University of Texas.</p> <p>33—BUSINESS ADMINISTRATION 408, 409, 316, 432, 620, 337, 354, and six additional semester hours.</p> <p>12—ENGLISH 601, and 612 or 612Q, or 315-316.</p> <p>6—LABORATORY SCIENCES</p> <p>6—MATHEMATICS</p> <p>—GOVERNMENT 610: (Government 610b not required of students who complete two years of Military Science); ECONOMICS 302, 303, and 332; HISTORY</p> | <p>301 and 302; PHILOSOPHY, 3 semester hours; PSYCHOLOGY, 3 semester hours.</p> <p>3—SPEECH</p> <p>6—PHYSICAL EDUCATION: 3 semesters (not required of students taking 3 semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in freshman and sophomore years.</p> <p>—ELECTIVES to make a minimum total of 124 semester hours, including a total of 30 semester hours in advanced courses, not more than 66 in major and minor subjects.</p> |
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## **Bachelor of Music**

*Major Subjects:* Music Theory and Composition; Music Education: Elementary and High School Instrumental Supervision; Music Education: Elementary and High School Vocal Supervision; Applied Music: Orchestral Instruments; Applied Music: Organ, Piano; Applied Music: Voice.

*Note for majors in Music Education:* Elementary Education 330T is required of students planning to teach reading and the language arts; Elementary Education 331T is required of students planning to teach social studies, arithmetic, and science.

*Note for majors in Applied Music:* Students majoring in Applied Music may qualify for teaching by taking the Education courses listed under Music Education major requirements.

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

### **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 semester hours in addition to choral or band literature taken each semester in residence.
- (e) Choir, band, or orchestra each semester in residence. Only 8 semester hours may be offered.
- (f) Participation in recitals.
2. English 601, and 612 or 612Q, or 315-316.
3. Government 610 (Government 610b not required of students who have completed two years of Military Science), History 301 and 302.
4. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in the freshman and sophomore years.
5. Enough other courses to make at least 128 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.

**Music Education****INSTRUMENTAL SUPERVISION HIGH SCHOOL AND ELEMENTARY SCHOOL**

1. (a) Music theory — 25 semester hours.
- (b) Applied music—30 semester hours including 12 hours, secondary level, of a major instrument; 4 hours, or equivalent, of piano; 4 hours of voice and 10 hours of secondary instruments.
- (c) Music education — 15 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) Band or orchestra each semester in residence (only 8 semester hours may be offered). At least two semesters of choir must be included.
- (f) Participation in recitals.
2. English 601, and 612 or 612Q, or 315-316.
3. Government 610 (Government 610b not required of students who have completed two years of Military Science), History 301 and 302.
4. Speech—3 semester hours.
5. *For high school supervision:* Education 300, 301 and 316; *for elementary school supervision:* Education 300, 301, and 314.
6. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in the freshman and sophomore years.
7. Enough other courses to make at least 133 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.

**Music Education****VOCAL SUPERVISION HIGH SCHOOL AND ELEMENTARY SCHOOL**

1. (a) Music theory — 25 semester hours.
- (b) Applied music—30 semester hours including 12 hours, secondary level, of the 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.
- (c) Music education — 15 semester hours.
- (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).
- (f) Participation in recitals.
2. English 601, and 612 or 612Q, or 315-316.
3. Government 610 (Government 610b not required of students who have completed two years of Military Science), History 301 and 302.
4. Speech—3 semester hours.
5. *For high school supervision:* Education 301, 316, and 317; *for elementary school supervision:* Education 301, 314, and 318r.
6. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in the freshman and sophomore years.
7. Enough other courses to make at least 133 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.

### Applied Music

#### ORCHESTRAL INSTRUMENTS

1. (a) Music theory — 25 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) Band or orchestra each semester in residence (only 8 semester hours may be offered). At least two semesters of choir must be included.  
(f) Chamber music 4 semester hours, or equivalent.  
(g) Participation in recitals.
2. English 601, and 612 or 612Q, or 315-316.
3. Government 610 (Government 610b not required of students who have completed two years of Military Science), History 301 and 302.
4. Speech—3 semester hours.
5. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 301 (for men) or 302 (for women) as prescribed in the freshman and sophomore years.
6. 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.

### Applied Music

#### PIANO — ORGAN

1. (a) Music theory — 28 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 hours.  
(d) Music literature — 12 semester hours in addition to choral or band literature taken each semester in residence.  
(e) Choir, band, or orchestra each semester in residence (only 8 semester hours may be offered).  
(f) Participation in recitals.
2. English 601, and 612 or 612Q, or 315-316.
3. Government 610 (Government 610b not required of students who have completed two years of Military Science), History 301 and 302.
4. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 301 (for men) or 302 (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.

### 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 hours.  
(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).  
(f) Participation in recitals.
2. English 601, and 612 or 612Q, or 315-316.
3. Government 610 (Government 610b not required of students who have completed two years of Military Science), History 301 and 302.
4. Speech—3 semester hours (314 recommended).
5. Foreign language—Course 801.
6. Three semesters of Physical Education (not required of students taking three semesters of Military Science) and Health Education 301 (for men) or 302 (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 1b, 1d and 1e, and upon the quality of work done in applied music.

# GRADUATE DIVISION

## REQUIREMENTS FOR MASTER OF ARTS DEGREE

Texas Western College offers work leading to the degree of Master of Arts in the fields of Education, English, History, and Spanish. 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 Chairman of the Council. Prerequisite for entering upon graduate work is twenty-four semester hours of undergraduate work in the major subject; twelve semester hours for the minor. Work of the individual student after admission to the Division 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 requirement must be in Graduate Courses (390 or above). A graduate course is one whose prerequisites are admission to the Graduate Division without deficiencies in major and minor, or consent of the head of the department.

**Majors:** English, Education, History, Spanish.

**Minors:** Art, Biological Sciences, Business Administration, Chemistry, Economics, Education, English, French, Geology, History, Mathematics, Music Education, Physical Education, Physics, Sociology, Spanish, Speech and Hearing Therapy.

### Admission to Graduate Division

(1) Qualifications of Applicants: An applicant for admission to the Graduate Division must hold a bachelor's degree from the College, or the equivalent. Removal of any undergraduate deficiencies will be subject to action of the Graduate Council 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 applicant for admission to the Graduate Division must submit an official transcript of all previous college work to the Registrar for evaluation and file an application obtainable from the Chairman of the Council.

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

(4) Extension Division of Texas Western College: Not more than six semester hours from the Extension Division of Texas Western College may be accepted.

### 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 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.

### Aptitude Tests

To meet the approval of the Texas Education Agency, an aptitude test is required of all candidates for the M. A. Degree. After September 1, 1955, everyone, including graduates of Texas Western College, who seeks admission to the graduate Division with the M. A. 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. An examination fee of \$4.00 is required of each examinee who takes the Aptitude Test. A check for this amount, payable to the College, should accompany the request

## [ GRADUATE DIVISION ]

that the test be ordered for a particular date. The Graduate Record Examinations will be given three times each year — in October, March and July. The Aptitude Test should be taken before the admission to the Graduate Division, if possible, and certainly before the completion of 12 hours credit. To be admitted unconditionally to the Graduate Division, a student must make on the Aptitude Test a score which places him in the "upper half" as defined below. The "upper half" as used in these standards means a score on at least one part of the test (quantitative factor or verbal factor) in the highest quartile in comparison with the national norms (percentile score of 75 to 100) or scores on both parts of the test in the next highest quartile (percentile score of 50 to 75).

### **Graduate Load for Teachers**

In order to meet the requirements of the Texas Education Agency, 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.

### **Candidacy**

After completing one semester or one full summer session, an applicant for the Master's Degree must file a petition of candidacy, which will be acted upon by the department involved. If the petition is denied, a new application may be made at a later date.

### **Examination**

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

### **Scholastic Regulations**

General regulations pertaining to undergraduates, such as those concerning class attendance, changing or dropping courses, withdrawing, 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 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.

### **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. The master's degree will not be conferred in less than one academic year after the Graduate Council approves the student's application to do work on the graduate level. In the case of students doing part-time graduate work at the College 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.

### **Degree Plan 1 — With Thesis**

This plan requires 30 semester hours at advanced and graduate levels. The major must be a minimum of 18 semester hours, including a thesis (course 698, six semester hours) and nine semester hours of courses at the graduate level. A minor of not less than six nor more than twelve semester hours may be chosen in another field, or two minors of not less than six semester hours in each of two fields.

The thesis must be approved by the head of the department in which the work is done. Two completed copies of the thesis, neatly typed on required-quality bond paper in uniform large type double-spaced, must be presented to the Chairman of the Graduate Council not less than ten days before 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 698a during the preparation of the thesis and must register for course 698b during the semester or summer session in which all requirements for the degree are completed. If at the end of two years after the thesis subject has been approved and recorded a student has not completed his thesis work 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.

### **Plan 2 — Without Thesis**

This plan requires 36 semester hours at advanced and graduate level, 18 hours in graduate courses. A major of not less than 21 hours nor more than 27 hours is required. If the major contains 21 hours there may be one minor of 15 hours, or two minors, nine hours in one and six in the other. If the major contains more than 24 hours, the student may have only one minor of not less than 9 hours.

## **EXTENSION DIVISION**

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The Extension Division provides a number of services: Extension instruction service, consultant service, speakers for various occasions, and public information service.

### **Extension Instruction Service**

This service organizes off-campus classes for students unable to attend on the campus. These classes are usually given outside El Paso but are taught by members of the regular staff. Standard courses, as listed in the catalog, are offered according to the needs of particular groups. The College permits a student to acquire thirty semester hours by extension toward a Bachelor's Degree and six semester hours toward a Master's Degree, subject to approval by the Graduate Council.

**Veterans:** These extension courses, as part of the general program of Texas Western College, meet Veteran's Administration requirements for Korean and World War II veterans' training. Those planning to study under the "G.I. Bill" should apply at once to their local V. A. Office for Certificates of Eligibility and Entitlement. Transfer students, those who have not maintained regular attendance, and those planning to change educational objectives must obtain a supplementary certificate of approval.

**Fees:** The registration fee is \$7.00 per semester hour (\$21 for a three-hour course.) For a few laboratory courses there is an additional fee (\$2.00 to \$4.00, see course descriptions).

**Admission Requirements:** Extension course admission requirements are the same as for regular residence work (see page 25). Transfer students desiring to register for extension classes must have transcripts sent to the Registrar, Texas Western College, at least three weeks prior to registration, or stand possible loss of credit.

### **Consultation Service**

This service includes consultation with educators on curriculum development, instructional program improvement, guidance and testing, and school evaluations. College faculty members serve on visiting and coordinating committees and assist with surveys on all phases of school work.

### **Speaker Service**

Speakers are provided for conventions, commencements, and groups interested in various areas of human endeavor. The staff of the College includes authorities in literature, engineering, music, education and other fields.

### **Public Information Service**

This service includes consultation with high school students and others contemplating entrance into college. Literature and general information are provided.

## **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 three-digit numbers, indicating credit value in semester hours and scholastic level. In some cases a distinction is made between different courses of the same number by the addition of capital letters or Roman numerals (English 612 and English 612Q).

The first digit of a course number tells the amount of credit which will be awarded for successful completion of the course, for example: Journalism 204 is a two-semester-hour course; English 320, a three-hour course; Business Administration 409, a four-hour course, etc. The second two digits show scholastic level as follows:

- 301-309 freshman courses
- 310-319 sophomore courses
- 320-389 upper division courses (*advanced, junior-senior*)
- 390-399 graduate courses

Only one of two courses having the same last two digits may be counted, for example: Chemistry 601 and Chemistry 801.

### **TWO-SEMESTER COURSES**

Courses requiring two semesters for completion are indicated in course descriptions by asterisks in parentheses following the titles, for example:

CHEMISTRY  
801 General Chemistry (\*)

In such cases one-half the total credit value of the course is awarded for each semester's work. No credit will be given until both semesters have been completed. When any course requires two semesters for completion, the first semester is prerequisite for enrollment in the second semester. On official records the first semester of two-semester courses is indicated by the small letter *a* following the number, and the second semester by a small *b*.

### **COURSE FEES**

Laboratory and other special fees for individual courses are indicated on a per-semester basis in parentheses following course titles:

CHEMISTRY  
801 General Chemistry (\*) (\$4)



# ***Descriptions of Courses Offered***

## **Art**

MISS VERA WISE, *Chairman*

PROFESSOR WISE; ASSISTANT PROFESSOR HARRISON; INSTRUCTORS COOGLER,  
MASSEY, CARSON, HERTZOG; ASSISTANT INSTRUCTOR THONSON

The Art program permits students to specialize in the following directions: Painting, commercial art, art education, the crafts, interior decoration, and the graphic arts. The following are suggestions for courses aside from the requirements for all Art majors.

*Painting:* 306, 309N, 309L, 317K, 317L, 326, 327, plus graphics and advanced painting or drawing.

*Commercial Art:* 312, 312K, 328, 328L, 309N, 309L, 349, 352, plus painting and/or graphics.

*Art Education:* 303, 322, 322K or 323, 323K, 305, 305K, 310K, 310L, plus painting or advanced courses in the crafts.

*Crafts:* all of the courses offered in either jewelry and silversmithing or ceramics or a combination of both, plus life drawing, sketching and/or painting.

*Interior Decoration:* 315K, 315L, 336, 310K, 310L, 317K, 317L, and advanced courses in either painting or ceramics.

*Graphics:* 316, 316K, and/or 316M, 316N, 332, 306, 317K, 317L, and life drawing and advanced painting courses.

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

### **ART METHODS**

#### **303 The Teaching of Art in the Elementary Schools**

A course designed for elementary school teachers, to instruct them in regard to the teaching of art in the elementary school. Individual attention is given to unit work in art for the classroom. This course has been approved by the Texas Education Agency as counting towards certification of elementary teachers.

#### **304 Introduction to Fine Arts**

Enjoyment 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 304 and Speech 304. Formerly Art Methods 304M.

#### **315K Interior Decoration**

Study of the application of principles of Art to home decoration problems, including home planning, choice of furniture, and color theory in home decoration. No art training required. *Prerequisite:* Sophomore standing.

#### **315L Interior Decoration**

Study of home furnishing problems, including furniture design, woods, upholstery, materials and weaves, color and background, taste in choice and arrangement of all that goes into a home designed for modern living. No art training required. *Prerequisite:* Sophomore standing.

#### **320 Art History and Appreciation**

Art from early periods, Egyptian, Greek, Chinese, etc., through Byzantine and Renaissance. Art and its part in history and life through the ages. Lectures illustrated by pictures and color slides. *Prerequisite:* Junior standing. Additional work for graduate credit: Two projects based on phases of art studied in the course, with a term paper each, showing research in the field. Requisite for graduate credit: Completion in undergraduate school of Elementary Design 301 and 302, or the equivalent of these, plus six hours in advance of these courses: Total, twelve hours of art.

## [ART]

### 320k Art History and Appreciation

Art history from the Renaissance through French Impressionism to modern times; analyses of motives and techniques of artists from standpoint of understanding and appreciation. Lectures illustrated by pictures and color slides. *Prerequisite:* Junior standing. Additional work for graduate credit: Two projects based on phases of art studied in the course with a term paper each, showing research in the field. *Requisite:* for graduate credit: Completion in undergraduate school of Elementary Design 301 and 302, or the equivalent of these, plus six hours in advance of these courses: Total, twelve hours of art.

### 322 Elementary School Art (\$2)

A course in materials and methods for those preparing to teach art in the elementary schools. Actual work in materials: Crayon, opaque water color, linoleum blocks, clay, etc. Study of methods of developing creative ability of the child. *Prerequisite:* Junior standing and Design 301 in advance or concurrently. Additional work for graduate credit: Two projects, each consisting of plans for presentation of class room art work at a definite grade level, for a four to six week period. Purposes, demonstrations, illustrations, etc. to be included. *Requisite:* for graduate credit: Completion in undergraduate school of Elementary Design 301 and Design 302, or the equivalent of these, plus six hours in advance of these courses: Total, twelve hours of art.

### 322k Elementary School Art (\$2)

A continuation of 322. Stress on integrated art programs and group projects. *Prerequisite:* Junior standing and Design 301 in advance or concurrently. Additional work for graduate credit: Two projects for classroom work in addition to those fulfilling regular requirements at a definite grade level for a six week period study. *Requisite:* for graduate credit: Completion of Design 301 and 302 plus six hours in advance of these courses.

### 323 High School Art (\$2)

A course in materials and methods for those preparing to teach art in high schools. Block printing, textile decoration, weaving, ceramics, puppets, etc. Term projects. *Prerequisite:* Junior standing and Elementary Design 301 in advance or concurrently. Additional work for graduate credit: Two term papers, showing personal art work, presentation projects, bibliographical research, etc. *Requisite:* for graduate credit: Completion in undergraduate school of Elementary Design 301 and Design 302, or the equivalent of these, plus six hours in advance of these courses: Total, twelve hours of art.

### 323k High School Art (\$2)

A continuation of 323. Further exploration of materials and methods used in high school teaching of art. *Prerequisite:* Junior standing and Design 301 in advance or concurrently. Additional work for graduate credit: Two term papers plus art work in three mediums and presentation problems for each in high school classes. Bibliographical research. *Requisite:* for graduate credit: Completion in undergraduate school of Design 301 and 302, plus six hours in advance of these courses.

## DESIGN

*Each course consists of six hours workshop per week.*

### 301 Elementary Design (\$2)

A course stressing principles of art, color theory, value, composition and other design qualities. The organization of ideas into creative design. Tempera, water color, ink, etc. used.

### 302 Elementary Design (\$2)

Continued study of fundamental design principles and elements. Organization of material gained in sketching and research into design. Pencil, water color, tempera, ink, etc. used. *Prerequisite:* Elementary Design 301.

## DRAWING

*Each course consists of six hours workshop per week.*

### 306 Sketching (\$2)

The principles of freehand drawing and sketching, including study of formal composition, light, shadow, reflections, color, value, etc. Pencil, water color, casein, oil, etc. used.

- 309N Life Drawing from the Costumed Model (\$2)**  
Study of the human form, its balance, rhythm and plastic qualities. Special study of head, face and hands and of composition of the human figure in space.
- 309L Life Drawing (\$2)**  
Continuation of life drawing from the costumed model, studying the human form in various poses. *Prerequisite:* Life Drawing 309N for those majoring in painting or commercial art.
- 329 Life Drawing (\$2)**  
Drawing the human figure from the costumed model. Advanced study of construction of head, hands, feet and relationships within the body form. *Prerequisite:* Life Drawing 309L or consent of the head of the department.
- 329K Life Drawing (\$2)**  
Continuation of life drawing with advanced work emphasized in form, composition and drawing technique. *Prerequisite:* Life Drawing 309L or consent of the head of the department.
- 333 Composition and Advanced Figure Drawing (\$2)**  
The principles of composition adapted to life drawing and grouping of figures. Mural techniques and compositions in appropriate mural themes. *Prerequisite:* Junior standing and Elementary Design 302, and six hours of life drawing.

## CRAFTS

Unless otherwise stated each course consists of six hours of workshop per week.

- 305 Jewelry (\$2)**  
Design and construction of jewelry in silver and base metals. Emphasis on basic techniques, and elements and principles of design.
- 305K Jewelry (\$2)**  
Continuation of 305. *Prerequisite:* Jewelry 305 for craft majors.
- 308L Enameling (\$2)**  
Basic techniques in enameling. Enameling on copper, silver and gold, bowls, and other metal objects.
- 308M Enameling (\$2)**  
Continuation of enameling 308L. Emphasis on techniques in enameled jewelry.
- 310K Ceramics (\$2)**  
Expressive form in clay. Hand modeling, wheel throwing, ceramic sculpture. Emphasis on surface enrichment by use of texture and glazes. *Prerequisite:* Elementary Design 301 and Design 302, for craft majors or consent of the head of the department. Formerly Ceramics 304.
- 310L Ceramics (\$2)**  
Following Ceramics 310K, a continuation of expressive form in clay. Modeling ceramic sculpture, slip casting, terra cotta, wheel throwing, glazing. *Prerequisite:* Ceramics 310K or permission of head of the department. Formerly Ceramics 309.
- 324 Jewelry and Silversmithing (\$2)**  
The design and execution of jewelry. Introduction to silversmithing and fundamentals of cutting and polishing of semi-precious stones. Required of those majoring in the field. *Prerequisite:* Elementary Design 301; Design 302; Jewelry 305, and 305K.
- 325 Jewelry and Silversmithing (\$2)**  
Continuation of Jewelry and Silversmithing 324. Advanced techniques and emphasis on original design. *Prerequisite:* Jewelry and Silversmithing 324.
- 330 Ceramics (\$2)**  
Advanced study of clay form in modeling, wheel throwing and casting. Experimentation in clay bodies and glazes. Required of those majoring in the field. *Prerequisite:* Ceramics 310L.

[ART]

- 331 Ceramics (\$2)  
Continuation of Ceramics 330. *Prerequisite:* Ceramics 330.
- 334 Silversmithing and Enameling  
Advanced methods in silversmithing and enameling. Required of those majoring in the field. *Prerequisite:* Jewelry and Silversmithing 325.
- 334K Silversmithing and Enameling  
Continuation of experiments in advanced methods of silversmithing and of enameling. Required of those majoring in the field. *Prerequisite:* Silversmithing and Enameling 334.
- 335 Ceramics (\$2)  
Advanced study of clay forms involving all of the methods of construction. Production of work of professional standing the goal of this course. *Prerequisite:* Ceramics 331.
- 335K Ceramics (\$2)  
Continuation of Ceramics 335. Professional standards and exhibition work required. *Prerequisite:* Ceramics 335.
- 282-682 Crafts  
Individual research in crafts under the supervision of the instructor. *Prerequisite:* Twenty-four hours of design and crafts.

**GRAPHIC ARTS**

Unless otherwise stated, each course consists of six hours workshop per week.

- 312 Advertising Layout and Lettering (\$2)  
Presenting the fundamentals of advertising layout through application to newspaper, direct mail, magazine and point-of-sale advertising. Provides basic knowledge of hand lettering and arrangement of lettering, type and art for reproduction. *Prerequisite:* Elementary Design 302 in advance or concurrently.
- 312K Advertising Layout and Lettering (\$2)  
A continuation of study of advertising layout and lettering. *Prerequisite:* Advertising Layout and Lettering 312.
- 316 Graphics  
A creative study of technical processes in line etching; also block printing with wood and linoleum. *Prerequisite:* Design 302 or Life Drawing 309L, or consent of the head of the department.
- 316K Graphics  
Continuation of exploration of intaglio processes including aquatint and engraving. *Prerequisite:* Graphics 316.
- 316M Graphics  
Beginning study of lithographic processes in various techniques of black and white on stone. *Prerequisite:* Design 302 or Life Drawing 309L, or consent of the head of the department.
- 316N Graphics  
Advanced work on stone, color lithography and study of metal and paper plate procedure. *Prerequisite:* Graphics 316M.
- 328 Advertising Design and Production (\$2)  
Advanced problems in advertising layout; the use of color, the preparation of finished art suitable for reproduction. Adaptation of advertising design to brochures, packaging, direct mail, etc. Illustrational technique developed. *Prerequisite:* Advertising Layout and Lettering 312K or consent of the head of the department.
- 328L Advertising Design and Production (\$2)  
A continuation of the study of advertising design with professional standards emphasized. *Prerequisite:* Advertising Design and Production 328.
- 332L Graphics  
Advanced graphics emphasizing any one of the intaglio, block printing, or lithographic techniques. *Prerequisite:* Graphics 316K or 316N.

**349 Printing Processes and Reproduction**

Explanation and demonstration of processes: letterpress, lithography, photo-engraving, photo-offset, paper analysis, type-setting, binding. Preparation of manuscript, photographs, and art work for the printer. Two lectures and two hour workshop per week. May not be counted for credit in addition to Journalism 349 or English 350. *Prerequisite:* Junior standing.

**352 Typography**

History of the alphabet, period design, character of type styles, proportion, arrangement, tone, practical application to advertising and publications. Two lecture and two workshop hours per week. May not be counted for credit in addition to Journalism 352. *Prerequisite:* Art 349 or print shop experience.

**281-681 Graphics**

Individual research in graphics under the supervision of the instructor. *Prerequisite:* Twenty-four hours of design and graphics.

**PAINTING****317K Painting (\$2)**

The development of visual structure in painting. Landscape, composition in black and white and in color. Still life drawing and painting. *Prerequisite:* Elementary Design 302 or consent of the head of the department.

**317L Painting (\$2)**

A continuation of Painting 317. Landscape and still life painting. Experimentation in various techniques and mediums. *Prerequisite:* Painting 317K or consent of the head of the department.

**326 Painting (\$2)**

Landscape, still life, and other types of painting particularly adapted to the individual. Organization of material from sketches. *Prerequisite:* Painting 317K 317L. Additional work for graduate credit: The completion of three major projects in painting outside of class, subject to approval of instructor. Requisite for graduate credit: Completion in undergraduate school of Elementary Design 301 and 302, plus twelve hours in advance of these courses, making a total of eighteen hours of art.

**327 Painting (\$2)**

A continuation of Painting 326. *Prerequisite:* Painting 326. Additional work for graduate credit: The completion of three major projects in painting outside of class, subject to approval of instructor. Requisite for graduate credit: Completion in undergraduate school of Elementary Design 301 and 302 plus twelve hours in advance of these courses, making a total of eighteen hours of art.

**340 Painting Techniques (\$2)**

Exploration of ways of handling paint; learning the possibilities of paint; oil, tempera, watercolor, casein. The use of mixed techniques and mediums, preparation of canvas, gesso board. Major work in at least three mediums required. *Prerequisite:* Painting 326 or its equivalent. Additional work for graduate credit: The completion of three major paintings outside of class, in two chosen mediums, subject to approval of instructor. Requisite for graduate credit: Completion in undergraduate school of Elementary Design 301 and 302, plus twelve hours in advance of these courses.

**340K Painting Techniques (\$2)**

Continuation of 340, with more skillful use of mediums required. *Prerequisite:* 340, or its equivalent. Additional work for graduate credit: The completion of three major paintings outside of class in two chosen mediums, subject to the approval of the instructor. Requisite for graduate credit: Completion in undergraduate school of Design 301 and 302 plus twelve hours in advance of these courses.

**280-680 Painting**

Individual research in the painting field under the supervision of the instructor. *Prerequisite:* Twenty-four hours of painting and design.

## **Bible**

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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.

### 301 Survey of the Old Testament

A comprehensive study of the entire Old Testament.

### 302 Survey of the New Testament

A comprehensive study of the entire New Testament.

### 303 The Life of Christ

An historical study of the life and teachings of Christ.

### 304 The Life of Paul

An historical study of the life and missionary endeavors of the Apostle Paul.

### 310 Comparative Religion

An introduction to the study of religion, and an examination of primitive religion. Among the living religions, Zoroastrianism, Hinduism, Buddhism, Confucianism, Taoism, Shintoism, Judaism, and Christianity will be studied. *Prerequisite:* Sophomore standing.

### 321 The Social Teachings of the Bible

The teachings of the Old Testament and the New Testament on the more important social institutions and problems. The main emphasis will be on the ethical teachings concerning the family, the Christian's relation to the state, economic life and relations, race relations, war, and similar areas of practical Christian living. *Prerequisite:* Junior Standing.

## **Biological Sciences**

DR. A. H. BERKMAN, *Chairman*

PROFESSOR BERKMAN; ASSISTANT PROFESSORS MEYER, DUKE;

INSTRUCTORS CLAAR, MERWORTH

Biology 316 may not be used to satisfy the science requirement for the Bachelor of Arts Degree or the Bachelor of Science Degree.

### **BIOLOGY**

#### **312 Microbiology (\$2)**

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 306, Biology 606A. (Formerly Biology 303). This course is open only to pre-clinical nurses and students in a school of nursing.

#### **606 Anatomy and Physiology (\*) (\$2)**

Study of a typical animal cell; Mitosis and cell division; meiosis; survey of mammalian histology, the human skeleton, muscles of the body, circulatory and nervous systems; physiology. Two lectures and three laboratory hours per week. This course is open only to pre-clinical nurses and to students in a school of nursing.

#### **407 Nutritional Requirements of the Human Body (\$4)**

Nutritional needs of the normal human body. Three lectures and three laboratory hours per week. *Prerequisite:* Biology 606a and Chemistry 306. This course is open only to pre-clinical nurses and students in a nursing school.

#### **310 Biology of the Human Body (\$2)**

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 302. This course may not be counted for credit in addition to Zoology 614b.

#### **311 Introduction to Human Physiology (\$2)**

Body functions with emphasis on their relations to physical exercise. Three lectures and two laboratory hours per week. *Prerequisite:* Biology 310 or Zoology 614b.

#### **316 Heredity (Genetics)**

Principles of heredity in their application to animals, plants, and mankind. *Prerequisite:* Sophomore standing or six semester hours of a laboratory science.

#### **330 Technique in Histology and Cytology (\$2)**

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 621, or 821, or Bacteriology 629, or 12 semester hours of zoology, or botany, and permission by the chairman of the department.

### **BACTERIOLOGY**

#### **629 General Bacteriology (\*) (\$2)**

Principles of bacteriology; study and isolation of nonpathogenic and pathogenic forms; investigation of water, milk, and sewage; bacterial antagonism; immunology. Two 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.

[ BOTANY—ZOOLOGY ]

**BOTANY**

- 301 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. Two lectures and three laboratory hours per week.
- 302 General Botany (\$2)  
Life cycles and survey of mosses, ferns, and seed plants. Two lectures and three laboratory hours per week. *Prerequisite*: Botany 301.
- 311 Local Flora (\$2)  
Survey of the 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 301 and sophomore standing.

**ZOOLOGY**

- 301 General Zoology (\$2)  
Theoretical biology; survey of the invertebrates and their relationship to health problems and the economic phase of man's life. Two lectures and three laboratory hours per week.
- 302 General Zoology (\$2)  
General survey of the protochordates, cyclostomes, the dogfish, and the frog; Introduction to animal histology and genetics. Two lectures and three laboratory hours per week. *Prerequisite*: Zoology 301, or three semester hours of general biology.
- 614 Vertebrate Zoology and Comparative Anatomy (\*) (\$2)  
Comparative study of the anatomy of the dogfish, an amphibian (*Necturus*), the turtle, pigeon, and a mammal, with emphasis on development and relationship of such evolution to the developmental anatomy of man. Two lectures and four laboratory hours per week. *Prerequisite*: Zoology 302 or six semester hours of general biology.
- 320 Animal Cytology and Histology (\$2)  
Structure, differentiation, and functions of cells. Two lectures and three laboratory hours per week. *Prerequisite*: Zoology 614; for juniors and seniors, Zoology 302 completed with a grade not lower than C, and Zoology 614 concurrently.
- 321 Vertebrate Embryology (\$2)  
Development of the chick and mammalian embryos. Two lectures and three laboratory hours per week. *Prerequisite*: Zoology 614; for juniors and seniors, Zoology 302 completed with a grade not lower than C, and Zoology 614 concurrently.



## **Business Administration and Economics**

DR. WADE HARTRICK, *Chairman*

PROFESSOR HARTRICK, ASSISTANT PROFESSORS BLACK, BREWSTER, FREELAND, SAYLES, SMITH; INSTRUCTORS OLM<sup>o</sup>, PUTMAN, WALKER; LECTURERS ALLAN, BROCKMOLLER, BUCKNER, COWART, DICKINSON, GARRISON, MARTIN, RISTER, BROWNLOW, MIDDAGH, WINGO

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.

Experience has shown that students interested in particular fields of work will benefit by including certain courses in their degree plans. (a) For students interested in general economics: Economics 322, 331, 332, 337, 343, 344, and 359; and Business Administration 408 and 409. (b) For students interested in general business training: Business Administration 302, 303, 623, 331, 337, 338k, 342, 344, 357, and 359; and Economics 302 and 303. (c) For students interested in accounting: Business Administration 316, 317, 329, 330, 338k, 338m, 361, 362, 363, 364; and Economics 302 and 303. (d) For students interested in secretarial science: Business Administration 302, 303, 604, 620, 621, 334, 335, 359, 331, and 342; and Economics 302 and 303. (e) For students interested in foreign trade: Economics or Business Administration 337, 344, 348, 350, and 359. (f) Students wishing to teach subjects in economics or business in high school should plan their courses with the aid of the chairman of the department.

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**

#### **601 Introduction to Business (\*)**

A general survey of the various fields of opportunity in the business world with special emphasis on the aptitudes and the skills required; the methods and practices of businessmen; the contributions of business to our society.

#### **302 Elementary Typewriting (\$2)**

Care and operation of a typewriter, copy work, letter writing, and forms for beginners. Three classroom and five laboratory hours per week.

#### **303 Intermediate Typewriting (\$2)**

A continuation of Business Administration 302 designed to increase speed and accuracy; planning and preparing advanced copy work. Three classroom and five laboratory hours per week. *Prerequisite:* Business Administration 302 or permission of chairman of department.

#### **604 Elementary Shorthand (\*)**

(Formerly Business Administration 610)

Elementary principles of Gregg shorthand; reading, penmanship, and simple transcription.

#### **306 Mathematics of Business**

Fundamentals and application of principles of mathematics used in Accounting, Marketing, Finance, Insurance, and Production.

#### **408 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.

#### **409 Theory and Practice of Accounting (\$4)**

Continuation of Business Administration 408. 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 408.

\*Leave of absence.

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- 316 Intermediate Accounting, First Course  
Classification and codification of accounts, forms and contents of financial statements; theory involved in corporation accounting, actuarial accounting, consignment and installment sales, evaluation of investments, analysis of working capital. *Prerequisite:* Business Administration 409.
- 317 Intermediate Accounting, Second Course  
Theory involved in partnership accounting, venture accounts, accounting for receiverships, parent and subsidiary accounting, consolidated balance sheets, foreign exchange accounting, estates and trusts, budgets, public accounts, bank accounting. *Prerequisite:* Business Administration 316.
- 620 Business Letters and Report Writing (\*)  
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 612 or 612Q; junior standing; Business Administration 302 or by passing departmental examination.
- 621 Advanced Stenography (\*) (\$2)  
Training in advanced secretarial practice. Development of speed and accuracy in shorthand and typing; character study and practice dictation of technical phraseology; letter layouts; dictating machine practice. Three classroom and three laboratory hours per week for two semesters. *Prerequisite:* Business Administration 303 and 604 or permission of chairman of department.
- 321K Fundamentals of Advertising  
Relation to other business functions. Study of campaigns, appropriations, media, and practical advertising activities. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Journalism 321K.)
- 623 Business Law (\*)  
Textbook and case method. Law of contracts, agency, bailments, sales, mortgages, negotiable instruments; emphasis on Texas interpretation. *Prerequisite:* Economics 303 or Business Administration 409; junior standing.
- 326K Advertising, Copywriting and Special Layouts  
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 Administration 321K or Journalism 321K. (May not be counted for credit in addition to Journalism 326K.)
- 328 Governmental and Municipal Accounting  
A study of accounting principles as applied to governmental unit systems. Emphasis on budgetary and fund accounts. *Prerequisite:* Business Adm. 316.
- 329 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 409.
- 330 Auditing  
Auditing procedure, reports, and working papers used in financial investigations; balance sheet, detailed audits; verifications of assets, liabilities, nominal accounts. *Prerequisite:* Business Administration 316.
- 331 Business and Government  
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:* Business Administration 409 and junior standing. (May not be counted for credit in addition to Economics 331.)
- 432 Business Statistics (\$4)  
Quantitative methods of analysis, graphic and tabular presentations, organizing and describing data; frequency distribution, measures of central tendency, dispersion, skewness, time series analysis, correlation. Three classroom and three laboratory hours per week. *Prerequisite:* Six semester hours of mathematics and Junior standing. (May not be counted for credit in addition to Eco. 429.)

**333 Intermediate Statistics**

A continuation of the study of statistical methods and procedures with application to economic and business situations. Special emphasis on probability and theory of sampling; tests of significance and reliability; statistical induction; the normal curve; Chi-square test; analysis of variance; non-linear, multiple, and partial correlation; testing hypotheses. *Prerequisite:* Business Administration 432 or Economics 429 or the approval of chairman of department. (May not be counted for credit in addition to Economics 333.)

**334 Office Practice (\$2)**

Practice in use of dictating, bookkeeping, duplicating machines, and other types of office equipment; use and operation of telephone switchboard; filing, advanced dictation and transcription. Three classroom hours and three laboratory hours per week. *Prerequisite:* Business Administration 621 (may be taken concurrently) or the equivalent.

**335 Office Organization and Management**

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.

**337 Marketing**

Considers functions, middlemen, institutions, law, policies, and practices in marketing. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Economics 337.)

**338K 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 409.

**338M 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 338K.

**339 Business Salesmanship**

Economic problems of personal selling, planning and execution of an interview, product and market analysis, building good will, salesman and employer relationship. *Prerequisite:* Junior standing.

**341 Advanced Banking Theory and Practice**

Bank promotion and incorporation: organization and powers, directors, stockholders, clearing and collecting systems, credit analysis, banking departments, Federal Reserve System. *Prerequisite:* Economics 322 or Business Administration 354. (May not be counted for credit in addition to Economics 341.)

**342 Personnel Management and Production Problems**

Employment policies and managerial techniques, wage and salary payment, joint relations through labor unions and company representation plans, modern production principles, problems of small and large businesses. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Economics 342.)

**344 Fundamentals of Transportation and Traffic Management**

Development of American transportation system; state and federal legislation; classification and rate territories; freight classification; rate principles; shipping documents, services and freight claims. *Prerequisite:* Economics 303 and junior standing or permission of department chairman. (May not be counted for credit in addition to Economics 344.)

**344K Fundamentals of Transportation and Traffic Management (Cont'd.)**

Construction, filing, and circularization of tariffs; demurrage, embargoes, warehousing, materials handling, and packaging; weighing, routing, transit privileges, and payment of transportation charges. *Prerequisite:* Business Administration 344 or Economics 344 or permission of department chairman. (May not be counted for credit in addition to Economics 344K.)

**344L Advanced Transportation and Traffic Management**

Technical tariff and rate interpretation; through routes and rates, overcharges and undercharges, loss and damage; imports and exports traffic; classification

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- and rate committee procedure. *Prerequisite:* Business Administration 344K or Economics 344K or permission of department chairman. (May not be counted for credit in addition to Economics 344L.)
- 344M **Advanced Transportation and Traffic Management (*Cont'd.*)**  
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 344L or Economics 344L or permission of department chairman. (May not be counted for credit in addition to Economics 344M.)
- 345 **Business Cycles and Forecasting**  
History and theories; prediction of commodity prices, sales volume, industrial production, industrial growth and decay, security prices and business profits; professional forecasting services. *Prerequisites:* Economics 303; Economics 429 or Business Adm. 432. (May not be counted for credit in addition to Eco. 345.)
- 346 **Storage and Warehousing**  
Development of facilities, services, and practices by public and private warehouses; financial, transportation, and other aspects of industry. *Prerequisite:* Economics 303 and junior standing.
- 347 **Consumer Purchasing**  
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 303 and junior standing. (May not be counted for credit in addition to Economics 347.)
- 348 **Latin-American Resources and Trade**  
Considers historical background, economic and human resources, production, domestic and international trade of Mexico, Central America, Caribbean Lands, and South America. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Economics 348.)
- 349 **Labor Problems**  
History of United States labor movement, problems in employer-employee relationship, governmental agencies, legislation, current issues. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Economics 349.)
- 350 **Introduction to Foreign Trade**  
History, principles, and practices of the international movement of goods and services. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Economics 350.)
- 354 **Short-term Finance**  
Principles and important underlying theories of money and banking; history of precious metals, bimetalism, banking development, relation of money and credit to prices, foreign exchange principles. *Prerequisite:* Business Administration 409 and Economics 303. (May not be counted for credit in addition to Eco. 322.)
- 357 **Investments**  
Investment principles, investment banking, security analysis, security classification including rails, industrials, utilities, governments, and others. Principally considers investor's viewpoint. *Prerequisite:* Business Administration 409 and Junior standing. (May not be counted for credit in addition to Economics 357.)
- 358 **Public Relations**  
Principles, techniques, and methods used in public relations; necessity and significance in the free enterprise system. Relationships include national, state, and local government, employees, customers, suppliers, social and religious institutions. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Journalism 358.)
- 359 **Insurance Fundamentals**  
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 409 or Economics 303. (May not be counted for credit in addition to Eco. 359.)

- 360 Life Insurance**  
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 359. (May not be counted for credit in addition to Economics 360.)
- 360κ Property and Casualty Insurance**  
Policy contracts and uses of all fire insurance, inland and ocean marine, liability, automobile, casualty and surety coverage. *Prerequisite:* Economics 359 or B. A. 359 or permission of department chairman. (May not be counted for credit in addition to Economics 360κ.)
- 361 Advanced Accounting, First Course**  
Advanced phases of accounting for capital stock, surplus, surplus reserves, and corporate income *Prerequisite:* Business Administration 317.
- 362 Advanced Accounting, Second Course**  
The advanced accounting aspects of corporate reorganizations, liquidations, receiverships, corporate trusteeships, bankruptcies, estates and trust, partnerships, syndicates, and joint ventures. *Prerequisite:* Business Administration 361.
- 363 C.P.A. Problems**  
Solution of problems in regular C.P.A. examinations and by the American Institute of Accountants. *Prerequisite:* Twelve semester hours of courses in accounting.
- 364 C.P.A. Law Review**  
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 623.
- 365 Methods of Teaching Commercial Subjects**  
Subject matter and methods for teaching secretarial courses, bookkeeping, arithmetic, and allied high school subjects. *Prerequisite:* Business Administration 621 (may take concurrently) and 409; Education 317. (May not be counted for credit in addition to Education 321κ.)
- 367 Owning and Operating a Small Business**  
A study of steps essential in planning, organizing, and operating a single proprietorship or partnership enterprise. Special emphasis on meeting local, state, and federal requirements; locating, financing, insuring, accounting, and merchandising for profit. *Prerequisite:* Business Administration 409 or approval of Chairman of the Department.
- 369 Principles of Retailing**  
Survey of all phases of retailing, internal and external. *Prerequisite:* Business Administration 409 and 337.
- 378 Real Estate Principles and Practices**  
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:* Six hours of advanced Business Administration or permission of the department chairman. (May not be counted in addition to Economics 378).
- 378κ Real Estate Brokerage**  
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:* Six hours of advanced Business Administration or permission of the department chairman.
- 378M Real Estate Appraisal**  
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

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of the cost, market, and income capitalization approaches; correlation of data and final estimate; the appraisal report, testifying, and professional standards. *Prerequisite:* Business Administration 378 or permission of the department chairman.

679 Special Studies in Business Administration (\*)

Special studies in areas for which a separate course is not organized. Credit will vary according to work performed, value being indicated by course number 279, 379, 479, 679. *Prerequisite:* Eighteen hours of Business Administration and/or Economics, six of which must be advanced; consent of instructor and chairman of department.

ECONOMICS

302 Principles of Economics

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.

303 Principles of Economics

A continuation of Economics 302. *Prerequisite:* Economics 302.

310 Intermediate Economic Theory

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 303.

321 Public Finance and Taxation

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 303 and junior standing.

322 Money and Banking

Principles and important underlying theories of money and banking; history of precious metals, bimetalism, banking development; relation of money and credit to prices, foreign exchange principles. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Business Admin. 354.)

323 Economic History of the United States

Survey of American economic development from colonial time to present; analysis of factors which have shaped that development. *Prerequisite:* Economics 303 and junior standing.

429 Economic Statistics (\$4)

Quantitative methods of analysis, graphic and tabular presentations, organizing and describing data; frequency distribution, measures of central tendency, dispersion, skewness, time series analysis, correlation. Three classroom and three laboratory hours per week. *Prerequisite:* Junior standing and six semester hours of mathematics. (May not be counted for credit in addition to B. A. 432).

331 Business and Government

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 303 and junior standing. (May not be counted for credit in addition to Business Administration 331.)

332 Corporation Finance

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 303 and junior standing.

333 Intermediate Statistics

A continuation of the study of statistical methods and procedures with application to economic and business situations. Special emphasis on probability and

- theory of sampling; tests of significance and reliability; statistical induction; the normal curve; Chi-square test; analysis of variance; non-linear, multiple, and partial correlation; testing hypotheses. *Prerequisite:* Economics 429 or Business Administration 432 or the approval of chairman of department. (May not be counted for credit in addition to Business Administration 333.)
- 337 **Marketing**  
Considers functions, middlemen, institutions, law, policies, and practices in marketing. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Business Administration 337.)
- 340 **History of Economic Thought**  
A study of the development of principal economic doctrines and schools of economic thought. *Prerequisite:* Economics 303 and junior standing.
- 341 **Advanced Banking Theory and Practice**  
Bank promotion and incorporation, organization and powers, directors, stockholders, clearing and collecting systems, credit analysis, banking departments, Federal Reserve System. *Prerequisite:* Economics 322 or Business Administration 354. (May not be counted for credit in addition to Business Admin. 341.)
- 342 **Personnel Management and Production Problems**  
Employment policies and managerial techniques, wage and salary payment, joint relations through labor unions and company representation plans, modern production principles, problems of small and large businesses. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Business Administration 342.)
- 343 **Comparative Economic Systems**  
A consideration of economic foundations of the capitalistic and other systems; objective study of economic construction of Fascism, Nazism, Socialism, Communism, and Capitalism. *Prerequisite:* Economics 303 and junior standing.
- 344 **Fundamentals of Transportation and Traffic Management**  
Development of American transportation system; state and federal legislation; classification and rate territories; freight classification; rate principles; shipping documents, services and freight claims. *Prerequisite:* Economics 303 and junior standing or permission of department chairman. (May not be counted for credit in addition to Business Administration 344.)
- 344κ **Fundamentals of Transportation and Traffic Management (Cont'd.)**  
Construction, filing, and circularization of tariffs; demurrage, embargoes, warehousing, materials handling, and packaging; weighing, routing, transit privileges, and payment of transportation charges. *Prerequisite:* Business Administration 344 or Economics 344 or permission of department chairman. (May not be counted for credit in addition to Economics 344κ.)
- 344L **Advanced Transportation and Traffic Management**  
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 344κ or Economics 344κ or permission of department chairman. (May not be counted for credit in addition to Economics 344L.)
- 344M **Advanced Transportation and Traffic Management (Cont'd.)**  
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 344L or Economics 344L or permission of department chairman. (May not be counted for credit in addition to Economics 344M.)
- 345 **Business Cycles and Forecasting**  
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 303; Economics 429 or Business Administration 432. (May not be counted for credit in addition to Business Administration 345.)

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**347 Economics of Consumption**

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 303 and junior standing. (May not be counted for credit in addition to Business Administration 347.)

**348 Latin-American Resources and Trade**

Considers historical background, economic and human resources, production, domestic and international trade of Mexico, Central America, Caribbean Lands, and South America. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Business Administration 348.)

**349 Labor Problems**

History of United States labor movement, problems in employer-employee relationship, governmental agencies, legislation, current issues. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Business Administration 349.)

**350 Introduction to Foreign Trade**

History, principles, and practices of the international movement of goods and services. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Business Administration 350.)

**357 Investments**

Investment principles, investment banking, security analysis, security classification including rails, industrials, utilities, governments, and others. Principally considers investor's viewpoint. *Prerequisite:* Economics 303 and junior standing. (May not be counted for credit in addition to Business Administration 357.)

**359 Insurance Fundamentals**

The economics 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:* Economics 303 or B. A. 409. (May not be counted for credit in addition to Business Administration 359.)

**360 Life Insurance**

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:* Economics 359 or B. A. 359 or permission of department chairman. (May not be counted for credit in addition to Business Administration 360.)

**360K Property and Casualty Insurance**

Policy contracts and uses of all fire insurance, inland and ocean marine, liability, automobile, casualty and surety coverages. *Prerequisite:* Economics 359 or B. A. 359 or permission of department chairman. (May not be counted for credit in addition to Business Administration 360K.)

**378 Real Estate Principles and Practices**

Fundamentals of the real estate business. The economics of real property. Ownership, titles, and interests in real estate; liens, taxes, contracts, leases, deed; financing and investment; valuation and appraisal principles; subdivision, home ownership, and housing; insurance, ethics, licensing requirements, and operating procedures. *Prerequisite:* Six hours of advanced Business Administration or permission of the department chairman. (May not be counted in addition to Business Administration 378.)

**679 Special Studies in Economics (\*)**

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 279, 379, 479, 679. *Prerequisite:* Eighteen hours of Business Administration and/or Economics, six of which must be advanced; consent of instructor and chairman of department.



## Chemistry

DR. W. W. LAKE, *Chairman*

PROFESSORS LAKE, HANCOCK; ASSISTANT PROFESSORS BALL, DE HAAN;

INSTRUCTORS O'NEAL, SCRUGGS

The minimum course requirements in Chemistry for the Bachelor of Science Degree are Chemistry 801, 311, 413, 424, 821, 460, 461, and six additional advanced hours in Chemistry.

**601 General Chemistry (\*) (\$2)**

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.

**801 General Chemistry (\*) (\$4)**

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.

**305 General Chemistry**

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 801 and who plan to register for that course the next succeeding semester. Two lectures, one demonstration hour, and two laboratory hours per week. May not be used as a prerequisite for any chemistry course other than 801.

**306 Chemistry for Nurses (\$2)**

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.

**307 Chemistry for Nurses (\$2)**

A continuation of Chemistry 306. Three lectures and two laboratory hours per week. *Prerequisite:* Chemistry 306.

**311 Qualitative Analysis (\$2)**

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 801 with a grade of not less than C in each semester.

**413 Quantitative Analysis (\$4)**

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 311.

**621 Organic Chemistry (\*) (\$2)**

A study of the fundamental types of carbon compounds. Two lectures and three laboratory hours per week. *Prerequisite:* Chemistry 801.

**821 Organic Chemistry (\*) (\$4)**

A study of the fundamental types of carbon compounds. Three lectures and five laboratory hours per week. *Prerequisite:* Chemistry 413.

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323 Quantitative Analysis (\$2)

The quantitative chemical analysis of ores and metallurgical products. One lecture and six laboratory hours per week. May not be counted in addition to Chemistry 424. *Prerequisite:* Chemistry 413.

424 Quantitative Analysis (\$4)

A continuation of Chemistry 413. Two lectures and six laboratory hours per week. May not be counted in addition to Chemistry 323. *Prerequisite:* Chemistry 413.

460 Physical Chemistry (\$4)

Properties of substances in the gaseous, liquid, and solid state; solutions; thermochemistry. Three lectures and three laboratory hours per week. *Prerequisite:* Chemistry 413, Mathematics 613, and Physics 601 or 812.

461 Physical Chemistry (\$4)

Homogeneous and heterogeneous equilibria; kinetics of reaction, electrochemistry, and chemical thermodynamics. Three lectures and three laboratory hours per week. *Prerequisite:* Chemistry 460.

362 Biochemistry (\$2)

Chemistry of food substances, digestion, vitamins, enzymes, absorption, and blood. Two lectures and three laboratory hours per week. *Prerequisite:* Chemistry 621 or 821.

363 Biochemistry (\$2)

Immunochemistry, chemistry of respiration, hormones, intermediary metabolism, etc., with emphasis on cell metabolism. Two lectures and three laboratory hours per week. *Prerequisite:* Chemistry 362.

368 Principles of Colloid Chemistry (\$2)

Chemical and physical conditions of the colloid state. Two lectures and three laboratory hours per week. *Prerequisite:* Chemistry 460.

375 Corrosion

A study of corrosion, passivity, and protection of metals and alloys. *Prerequisite:* Permission of the Chairman of the Chemistry Department. Not counted in addition to Metallurgy 375.

296, 396, 496, 596, 696 Introduction to Research (\$2 or \$4)

Credit will be granted, up to six semester hours, for research satisfactorily 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.

## Education

DR. F. E. FARQUEAR, *Chairman*

PROFESSORS FARQUEAR, PUCKETT; ASSOCIATE PROFESSOR FOSTER;  
ASSISTANT PROFESSORS BURNS, CONDON, MEADOWS, REYNOLDS

The Education program is intended to provide opportunity for the prospective teacher to obtain (a) orientation in the general field of education, (b) an over-view of the fundamental principles in philosophy of the elementary or secondary schools, and (c) specific training in the technique of instruction in the field or subject which is selected. Students who plan to teach in secondary or elementary schools are advised to take the appropriate plan as indicated under the Education major. Courses marked with a dagger (†) may be taken by permission of the chairman of the department.

- 300 Introduction to Education (Formerly Education 305)  
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.
- 301 Introduction to Educational Psychology (✎)  
A study of the learning process and the conduct of children. *Prerequisite:* Education 300.
- 314 Psychology of the Elementary School Child (✎)  
The changes which take place in the life of the child as related to the processes of elementary education. *Prerequisite:* Education 300 and 301. Not counted in addition to Psychology 314.
- 316 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 300 and 301. Not counted in addition to Psychology 318.
- 318τ Introduction to Elementary School Curriculum (✎)  
An introduction to the curriculum in the elementary grades. *Prerequisite:* Education 300 and 301.
- 319c Introduction to the Curriculum in the Secondary School (✎)  
An introduction to the development of the curriculum in the secondary school. *Prerequisite:* Education 300 and 301.
- 320 Children's Literature in the Elementary School (†)  
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:* Education 314 and 318τ.
- 321κ Methods of Teaching Commercial Subjects in the Secondary School  
Subject matter and methods for teaching secretarial courses, bookkeeping, arithmetic, and allied subjects in high school. *Prerequisite:* Business Administration 621 and 314, and Education 371τ. Not counted in addition to Business Administration 380.
- 323κ Teaching High-School Journalism, Supervision of School Publications  
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:* Education 371τ and junior standing. May not be counted for credit in addition to Journalism 323K.

[ EDUCATION ]

**327 Observation of Teaching in the High School**

The principles of teaching and the observation of class work. One hour daily five days a week. *Prerequisite:* Eighteen hours of Education, including 316, 319c, 371r, senior standing, and permission of department chairman.

**327r Student Teaching in the High School**

The construction of lesson plans and teaching under supervision. One hour daily for five days a week. *Prerequisite:* Education 327 (in advance or concurrently), senior standing, and permission of department chairman.

**328 Observation of Teaching in the Elementary School**

The principles of teaching and the observation of class work. A minimum of five hours weekly in the elementary classroom will be required during the semester, more time being assigned if necessary. Two lectures and five laboratory hours per week. *Prerequisite:* Eighteen hours of Education, including 314, 318T, 330T, 331T, senior standing, and permission of department chairman.

**328r Student-Teaching in the Elementary School**

The construction of lesson plans, and teaching under supervision. One hour daily for five days a week. *Prerequisite:* Education 328 (in advance or concurrently), and senior standing, and permission of department chairman.

**329k Classroom Management in the Elementary School**

The use of records and group techniques to improve human relations in the classroom. *Prerequisite:* Twelve semester hours in Education.

**330r Introduction to Teaching in the Elementary School (†)**

Methods for the elementary school, with emphasis centered upon reading and language arts. *Prerequisite:* Education 314 and 318r.

**331r Methods and Materials of Instruction in the Elementary School (†)**

Methods for the elementary school, with emphasis upon social studies, arithmetic, and science. *Prerequisite:* Education 314, 318r.

**332 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. *Prerequisite:* Eighteen semester hours in Education. May not be counted for credit in addition to Radio 332.

**332k 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. *Prerequisite:* Eighteen semester hours in Education. May not be counted for credit in addition to Radio 332k.

**333 Preparation and Presentation of Radio Programs**

Elementary Grades. 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. *Prerequisite:* Eighteen semester hours in Education. May not be counted for credit in addition to Radio 333.

**333k Preparation and Presentation of Radio Programs**

High School Level. Radio production techniques essential to the successful presentation of school programs. Putting the high school music organization on the air. Development of a radio personality. Delayed broadcasting by tape recording. Possibilities of television. Practical studio experience and instruction in operation of station equipment in the Texas Western College radio studio facilities. *Prerequisite:* Eighteen semester hours of Education. May not be counted for credit in addition to Radio 333K.

- 336r **Current Curriculum Trends and Problems in the Secondary School**  
Present theory and practice of curriculum revision in the secondary schools, and the function of the school in present society. *Prerequisite*: Twelve hours of Education.
- 339r **The Education of Exceptional Children in the Elementary School**  
Consideration given to the philosophy of the education of exceptional children and to the psychology and educational treatment of typical pupils in elementary schools. *Prerequisite*: Twelve semester hours of Education.
- 341 **Principles in 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 316 and 319c.
- 348k **Teaching of Arithmetic in the Elementary School**  
Consideration given to recent research studies in the teaching of arithmetic as well as to recommend techniques. *Prerequisite*: Twelve semester hours of Education.
- 349 **Teaching of the Social Studies in the Elementary Grades**  
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. *Prerequisite*: Twelve hours in Education.
- 355 **Introduction to Mental and Educational Measurements 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, including 316 and 319c. Not counted in addition to Psychology 355.
- 355k **Introduction to Educational Tests and Measurements 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, including 314 and 318r.
- 355k **Introduction to Educational Tests and Measurements 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*: Nine hours of Education and junior standing, or graduate standing.
- 356 **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. *Prerequisite*: Twelve semester hours of Education. May not be counted in addition to Speech 356.
- 357 **Mental Hygiene and Problems of Children in the Elementary School**  
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. *Prerequisite*: Twelve semester hours of Education. May not be counted in addition to Psychology 357.
- 357k **Clinic in Speech Correction in the Elementary School**  
Practice in the diagnosis and treatment of speech defects. *Prerequisite*: Twelve semester hours of Education, including Education 356. Not counted in addition to Speech 357.

[ EDUCATION ]

359 Philosophy of Education (†)

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 in Education and junior standing, or graduate standing.

371T Principles of Teaching in the Secondary School

Types of teaching in the secondary school. *Prerequisite:* Education 316 and 319c.

388T Workshop in Instructional Problems

This course is devoted to the 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. *Prerequisite:* Eighteen semester hours of Education.

389T Workshop in Instructional Problems

An extension of Education 388T. *Prerequisite:* Eighteen semester hours of Education. Must be taken concurrently with Education 388T.

389 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. *Prerequisite:* Twelve semester hours in Education.

GRADUATE COURSES

*Prerequisite* for courses listed below: Admission to Graduate Division without deficiencies in the major or minor.

698 Thesis Course for Master's Degree (\*)

*Prerequisite:* Twelve semester hours of advanced courses in Education, and permission of chairman of the department.

390I 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.

390II Problems in Education—A Seminar

An extension of 390I. *Prerequisite:* Education 390I.

390III Problems in Education—A Seminar.

*Prerequisite:* Education 390II and permission of the department chairman.

391 Educational Statistics—Beginning Course

May not be counted for credit by students who have credit for another course in statistics.

391T 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.

392 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.

**692K 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.

**393 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.

**393T Workshop in Instructional Problems**

Extension of Education 393.

**393K 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.

**394 Curriculum Construction and Organization of Subject Matter—A Seminar**

The student permitted to devote his attention exclusively to a pertinent curriculum problem either in the elementary or secondary school field.

**394s 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.

**394T The Curriculum in the Elementary School**

Particular attention given to selection and organization of materials in reference to curriculum development of the elementary school.

**395 Child Development in the Elementary School**

Characteristics of the growth period of children in the elementary school. Consideration of the bearing of the needs of children upon the elementary school program.

**395K 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.

**395M Psychology of Speech Pathology**

Basic facts, principles and methods of understanding the personality and behavior of individuals who possess speech defects with particular reference to methods of reeducation, adjustment and testing techniques. Not counted for credit in addition to Speech 360 or Psychology 360.

**395N The Psychology of Individual Differences**

A study of emotional and mental motivation patterns with emphasis on diagnosis and prediction during adolescence through early childhood. For the major in Counseling and Guidance only. (Not counted in addition to Psychology 379.)

**395s Factors in Pre-school Child Development**

The development of the child from the embryonic period through the fifth year. Emphasis upon the sequential nature of motor and emotional development, the growth of understanding and personality. *Prerequisite:* Education 356. For graduate major in Special Education in Speech Therapy only. (Not counted in addition to Psychology 366.)

[ EDUCATION ]

- 395r 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. Not counted in addition to Psychology 378.
- 396 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. May not be counted for credit in addition to Psychology 354.
- 396k Principles of Psychological Testing**  
Construction and Administration. Primarily for students specializing in counseling and guidance. *Prerequisite:* An introductory course in tests and measurements. Not counted in addition to Psychology 353.
- 396m 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.
- 396N Workshop in Guidance in the Secondary School**  
An extension of Education 396m.
- 396R Educational Trends**  
A critical consideration of selected trends in Education.
- 397 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.
- 397k 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."
- 397L Public School Finance**  
Consideration is given to such matters as public school revenue, budget making and administration, accounting procedures and records, and school bonds.
- 397m 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.
- 397N Workshop in Educational Administration**  
Students will choose their own problems, and those with allied interests will be grouped together to facilitate individual research.
- 397s Workshop in School Supervision**  
Students will choose their own problems, and those with allied interests will be grouped together to facilitate individual research.
- 397r 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, etc. (May not be counted for credit in addition to Journalism 358.)



## **Engineering and Drawing**

MR. F. A. DECKER, *Chairman*

PROFESSORS DECKER, THOMAS, BARNES; ASSOCIATE PROFESSOR COLEMAN;  
ASSISTANT PROFESSORS BALLENTINE, RAYMOND, HASSLER, BILLINGS;  
INSTRUCTOR CERVENKA

### **ENGINEERING**

- 101 **Elementary Engineering Problems**  
Study of the slide rule; simple engineering problems are solved using slide-rule techniques. Required of all freshman engineering students.
- 212 **Concrete Mixtures (\$2)**  
Design, control, and testing of portland cement concrete, sheet asphalt, and asphaltic concrete. One lecture and three laboratory hours per week. *Prerequisite:* Chemistry 801 and Physics 611.
- 614 **Plane Surveying (Summer Work) (\$4)**  
Care and adjustment of surveying instruments, lands surveying, traverses, leveling, determination of meridian, topographic and photogrammetric surveying, mapping, notekeeping, computations, and precision. Five hours of lecture and thirty-two hours of field work per week for six weeks. *Prerequisite:* Mathematics 803, Drawing 302, and junior standing.
- 315 **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 302, Physics 612b or 611, and registration in Mathematics 613b.
- 216 **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 803 and Drawing 302.
- 419 **Elements of Electrical Engineering (\$4)**  
Direct-current electric circuit; analysis of electric networks; electric and magnetic fields; inductance; capacitance; and measuring instruments. Three lectures and three laboratory hours per week. *Prerequisite:* Physics 612a and registration in Mathematics 613b.
- 321 **Elements of Electrical Engineering**  
Advanced electric and magnetic field theory; magnetic forces; magnetically generated voltages; ferromagnetic circuits; transients; boundary electromotive forces; and non-linear circuits. *Prerequisite:* Engineering 419.
- 322 **Route Surveying (\$2)**  
Theory and practical application of simple, reverse and compound curves; spirals and earthwork; rights-of-way; cross sections; and estimates. Two lectures and three laboratory hours per week. *Prerequisite:* Engineering 614. (Offered 1954-'55 as Engineering 318).
- 323 **Mechanisms (\$2)**  
Motion of machine parts; velocities and accelerations; study of linkages, sliding and rolling contact, gears, trains, cams, belts, chains, and hoists. Two lectures and three laboratory hours per week. *Prerequisite:* Engineering 315.
- 326 **Engineering Economics**  
Application of economics to engineering and industrial problems which require a knowledge of engineering for their solution. *Prerequisite:* Economics 302 and at least 24 semester hours of engineering courses.
- 127 **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 335.

- 431 **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 612a or 413, and Mathematics 613.
- 432 **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 612 or Physics 413 and Math 613. (May not be counted in addition to Physics 437.)
- 433 **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 432. (May not be counted in addition to Physics 438.)
- 434 **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 315.
- 335 **Reinforced Concrete**  
The theory of reinforced concrete, the design of elementary beams, columns, slabs, footings and retaining walls. A study of the current design specifications. *Prerequisite:* Engineering 434.
- 238 **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 315.
- 340 **Highway Engineering**  
Location, design, construction and maintenance of roads and highways; planning surveys; traffic engineering; economics of highway transportation. *Prerequisite:* Engineering 614 and Junior standing.
- 341 **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 354 and Chemistry 801.
- 342 **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 341.
- 343 **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 434.
- 346 **Contracts and Specifications**  
Elements of contracts and specifications, including discussions of the legal problem of contractual relations. *Prerequisite:* Senior standing.
- 348 **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 315 and senior standing.

[ ENGINEERING ]

350 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 613, and Physics 611 or 612.

151 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 sewage and waste treatment plants. Three laboratory hours per week. *Prerequisite:* Chemistry 801 and registration in Engineering 341.

152 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 151 and registration in Engineering 342.

354 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 611 or 612, Mathematics 613, and Engineering 315.

155 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 354.

256 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 354.

857 Alternating-current Circuits (\*) (\$4)

Single and polyphase circuits; instantaneous and effective current and voltage, power, vector algebra, wave analysis, coupled circuits, measurements, transmission line calculations, wave filters, symmetrical components, short-circuit calculations, and transients. Three lectures and three laboratory hours per week. *Prerequisite:* Engineering 321 concurrently.

358 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 350.

360 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 343.

361 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 335 and 360.

466 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 857a.

**868 Alternating-current Machines (\*) (\$4)**

Theory, construction, testing, and application of alternating-current generators, transformers, induction motors, synchronous motors, converters, and rectifiers; starting, control, and regulating devices. Three lectures and three laboratory hours per week. *Prerequisite:* Engineering 857 and 466.

**370 Machine Design (\$2)**

Forces, stresses, and resultant design of various machine elements. Two lectures and three laboratory hours per week. *Prerequisite:* Engineering 238 and 434, and Metallurgy 326.

**371 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.

**074 Inspection Trip (Transportation: \$50.00)**

At the end of the senior year, graduating civil and electrical engineers spend the last two weeks of the second semester on a trip of inspection which will include visits to various points of engineering interest. Required for graduation. *Prerequisite:* Completion of the requirements for the Bachelor of Science degree by the end of the following fall semester.

**DRAWING****301 Engineering Drawing (\$2)**

Freehand lettering, orthographic projection, auxiliary and sectional views, dimensioning, cams, gears, assembly and detail drawings, and pictorial methods. Two lectures and seven hours of supervised drawing per week. *Prerequisite:* One year of high-school mechanical drawing or Drawing 203.

**302 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 seven hours of supervised drawing per week. *Prerequisite:* Drawing 301, and registration in Mathematics 208.

**203 Mechanical Drawing (\$2)**

Introductory course for freshman engineering students who do not present mechanical drawing for entrance. Intended to serve as preparation for Drawing 301. 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.

**310 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 lectures and seven hours of supervised drawing per week. *Prerequisite:* Drawing 302.

**311 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 302.

**312 Architectural Drawing (\$2)**

Continuation of architectural drawing 311 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 311.

## **English, Speech and Drama**

DR. C. L. SONNICHSEN, *Chairman*

PROFESSORS SONNICHSEN, BRADY; ASSOCIATE PROFESSORS LEACH, MOSES; ASSISTANT  
PROFESSORS BALL, JAMES, JONES, LEECH, PAST, PONSFORD; INSTRUCTORS  
COLLINGWOOD, DOUGLAS, EHMANN, FRANCIS, \*FUCATE, HARDY,  
NORRIS, PEREZ\*, SMITH, WADDELL

### **ENGLISH**

For the degree of Bachelor of Arts twelve semester hours in English are required—English 601 and English 612, 612Q or 315-316. English 601 and English 324 are required for the degree of Bachelor of Science in Mining Engineering; English 601 and English 612, 612Q or 315-316 for the degree of Bachelor of Science in the Sciences. English majors are advised to take English 612, but may elect English 612Q or English 315-316 instead of English 612. English 612, English 612Q or English 315-316 may be presented as prerequisite to any advanced course in English.

**601 Freshman English (\*)**

Practice in organizing information, clarifying thought, improving written expression. Required of all freshmen.

**612 Outline History of English Literature (\*)**

Survey of English literature from the beginning to the present time with emphasis on major works and authors. *Prerequisite:* English 601.

**612Q English and American Literature of Today (\*)**

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 601.

**312Q English and American Literature of Today**

The first semester of English 612Q offered for engineering students and others in need of three hours independent credit in literature. *Prerequisite:* English 601.

**315 World Literature in Ancient and Medieval Times**

*Prerequisite:* English 601.

**316 World Literature from the Renaissance to the Present**

*Prerequisite:* English 601.

**320 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 612, 612Q, or 315-316.

**321 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 612, 612Q, or 315-316.

**322 Victorian Poetry**

Consideration of the poetry of Browning primarily, and study of such minor poets as Arnold, Clough, James Thompson, and others. *Prerequisite:* English 612, 612Q, or 315-316.

**323 Victorian Poetry**

Consideration of the poetry of Tennyson primarily, and study of such minor poets as Swinburne, Morris, D. Rossetti, Christina Rossetti, and others. *Prerequisite:* English 612, 612Q, or 315-316.

\*Leave of absence.

[ ENGLISH ]

324 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 612, 612Q, or 315-316.

325 Writing

A course for students seriously interested in developing their power of written expression. *Prerequisite:* English 612, 612Q, or 315-316 and consent of the instructor.

326 Non-Fiction Writing

Study and practice in the techniques of writing contemporary non-fiction. *Prerequisite:* English 612, 612Q, or 315-316.

327 An Outline History of the English Novel

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 612, 612Q, or 315-316.

328 An Outline History of the English Novel

A continuation of English 327, with study of typical works of Dickens, Thackeray, the Brontës, George Eliot, Hardy, and Meredith. *Prerequisite:* English 612, 612Q, or 315-316.

329 English Romantic Poetry, the Earlier Phase

Rapid survey of Romanticism in the eighteenth century, followed by a more detailed consideration of the works of Burns, Scott, Coleridge, and Wordsworth. *Prerequisite:* English 612, 612Q, or 315-316.

330 English Romantic Poetry, the Later Phase

Consideration of the works of Byron, Shelley, Keats, and some of their contemporaries. *Prerequisite:* English 612, 612Q, or 315-316.

331 The Drama in England since 1660

Representative plays of the Restoration, of the eighteenth and nineteenth centuries, and of such modern playwrights as Jones, Pinero, Barker, St. John Hankin, Shaw, Coward, Galsworthy, Maugham, Dane, etc. *Prerequisite:* English 612, 612Q, or 315-316.

332 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, Boker, Fitch, Howard, Crothers, Anderson, Hellman, O'Neill, Tennessee Williams and Arthur Miller. *Prerequisite:* English 612, 612Q, or 315-316. Will not be counted in addition to Speech 342.

334 Contemporary Poetry

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 612, 612Q, or 315-316.

336 American Literature

A study of the chief American poets and prose writers between the Revolution and the Civil War. *Prerequisite:* English 612, 612Q, or 315-316.

337 American Literature

A study of the most important poets and prose writers in America from the Civil War to the present. *Prerequisite:* English 612, 612Q, or 315-316.

- 339 **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. *Prerequisite:* English 612, 612Q, or 315-316.
- 340 **Later Eighteenth-Century Prose and Poetry**  
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. *Prerequisite:* English 612, 612Q, or 315-316.
- 341 **The Short Story**  
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 612, 612Q, or 315-316.
- 342 **Life and Literature of the Southwest**  
A study of the social background of the Southwest and its reflection in literature. *Prerequisite:* English 612, 612Q, or 315-316.
- 343 **Early Nineteenth-Century Prose**  
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 612, 612Q, or 315-316.
- 344 **Later Nineteenth-Century Prose**  
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 612, 612Q, or 315-316.
- 345 **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 612, 612Q, or 315-316.
- 346 **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 612, 612Q, or 315-316.
- 347 **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 612, 612Q, or 315-316. Not counted in addition to Drama 317.
- 348 **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, Odets, and others are studied as well as the actors, costumes, and technical devices in each period. *Prerequisite:* English 612, 612Q, or 315-316. Not counted in addition to Drama 328.
- 350 **Book Design and Production**  
Background history, character of type, paper and binding; explanation of various printing processes and methods. Two lectures and two workshop hours per week. *Prerequisite:* Junior standing. May not be counted in addition to Art/Journalism 349.
- 353 **Fictional Techniques**  
Study and practice in the techniques of contemporary fiction. *Prerequisite:* English 325, or consent of the instructor.

[ ENGLISH ]

- 354 **Short Story Writing**  
Study and practice in the techniques of the contemporary short story with particular attention to plotting. *Prerequisite:* English 353 or consent of the instructor.
- 355 **The American Novel**  
A study of the representative American novels and novelists from 1787 to the present. *Prerequisite:* English 612, 612Q, or 315-316.
- 356 **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 612, 612Q, or 315-316.
- 357 **The English Novel since 1900**  
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 612, 612Q, or 315-316.
- 358 **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 612, 612Q, or 315-316.
- 359 **The English Language**  
A continuation of English 358. English in recent times. Dialects; usage; influence of scientific developments, war, radio, etc.; foreign elements; word building; other topics leading to an understanding and appreciation of the student's native language. *Prerequisite:* English 612, 612Q, or 315-316.
- 360 **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.
- 365 **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 612, 612Q, or 315-316.
- 370 **Milton**  
An introduction to the work and times of John Milton. *Prerequisite:* English 612, 612Q, or 315-316.
- 375 **Literary Criticism**  
The development of literary criticism as seen in the works of leading critics from Plato to the present. *Prerequisite:* English 612, 612Q, or 315-316.
- 376 **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 612, 612Q, or 315-316.
- 380 **Chaucer: The Canterbury Tales**  
An introduction to the work and times of Geoffrey Chaucer. *Prerequisite:* English 612, 612Q, or 315-316.



## GRADUATE COURSES

*Prerequisite:* Admission to the Graduate Division with no deficiencies in the major or minor; or consent of the department head.

### 390 Methods of Research and Bibliography

### 391 Graduate Reading Course

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.

### 392 Studies in Poe

### 393 Studies in Whitman

### 394 Studies in the Life and Literature of the Southwest

### 396 Studies in American Thought

### 698 Thesis Course for the Master's Degree (°)

Confer with the departmental 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 major requirement students who wish to emphasize Speech are urged to take Speech 301, Speech 303, Drama 312, and either Speech 310 or Speech 319.

Those who specialize in Drama should take Speech 301, Speech 303, Drama 312, Drama 314, and six hours of College Players.

## SPEECH

### 301 Basic Principles of Speech

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.

### 302 Beginning Oral Interpretation

Practice in the oral interpretation of literature and study of the technique involved.

### 303 Voice and Diction

A course intended to develop clear articulation and enunciation, correct pronunciation, proper vowel placement, and control of the speaking voice. Required of all Speech majors and strongly recommended for Radio majors. May not be counted for credit in addition to Radio 303.

### 305 Basic Principles of Speech

A continuation of Speech 301. Composition and delivery of original speeches with emphasis on *finding subjects and materials, organization, outlining, composition, and practice in public presentation. Prerequisite:* Speech 301, 302, 303, or 307.

[ SPEECH — DRAMA ]

- 307 **Speech for Foreign-Language Students**  
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 Radio 303 or Speech 303.
- 309 **Platform Speaking**  
Planning, organizing and delivering speeches intended to inform, to entertain, and to inspire, including speeches for various types of special occasions. *Prerequisite:* Speech 301, 302, 303, or 307.
- 310 **Argumentation and Debate**  
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.
- 311 **Argumentation and Debate**  
A continuation of Speech 310. *Prerequisite:* Speech 310.
- 319 **Business and Professional Speaking**  
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.
- 320 **Oral Interpretation**  
A course for development of an adequate mental and emotional response to the meaning of literature with emphasis on improvement in voice, pronunciation, and enunciation, and on greater general effectiveness in speech. *Prerequisite:* Six hours of Speech or junior standing.
- 323 **Techniques of Public Discussion**  
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.
- 360 **Psychology of Speech Pathology**  
A study of the basic facts, principles and methods involved in understanding the personality and behavior of individuals who possess speech defects, with particular reference to methods of reeducation, adjustment, and testing techniques. *Prerequisite:* Junior standing in Speech, or six hours of Psychology, or eighteen hours of Education and permission of the chairman of the Department. (Not counted in addition to Education 395M or Psychology 360.)
- 366 **Factors in Pre-School Child Development**  
The development of the child from the embryonic period through the fifth year. Emphasis on the sequential nature of motor and emotional development, the growth of understanding and personality. *Prerequisite:* Speech 356. (Not counted in addition to Education 395S or Psychology 366.)

**DRAMA**

- 304 **Introduction to Fine Arts**  
The enjoyment of the Arts through an understanding of their interrelationship and of the expressive elements common to Music, Art, and the Drama. Differences in media of expression and in the tools of each art. Not counted in addition to Art Methods 304M and Music Literature 304.

**306 Beginning Drama Workshop**

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.

**312 Introduction to Theatre**

General survey of the major fields of theatre art. Introduction to various types and styles of plays. Laboratory study of elementary stage technique. Two lecture and four workshop hours per week. *Prerequisite:* Sophomore standing or six semester hours of Speech. Required of all Drama majors.

**313 Contemporary Theatre**

Analysis of methods of design, lighting, costuming and acting used in current theatre productions. Two lecture and four workshop hours per week. *Prerequisite:* Speech 312. Required of all Drama majors.

**314 Acting**

A workshop course in which a student may develop his ability to analyze a character and create a role through individual assignments and group rehearsal of scenes. Two lecture and four workshop hours per week. *Prerequisite:* Sophomore standing or six semester hours of Speech.

**318 Dramatic Script Writing**

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 for either radio or television. *Prerequisite:* English 601 and sophomore standing.

**322 Radio Drama**

The technique of acting before the microphone and of directing radio drama. Finished productions are broadcast over campus station KVOF-FM as well as over El Paso stations. May not be counted in addition to Radio 322. *Prerequisite:* Six hours of Speech and junior standing.

**326 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.

**327 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:* Junior standing. Not counted in addition to English 347.

**328 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, Odets, and others are studied as well as the actors, costumes, and technical devices in each period. *Prerequisite:* Junior standing. Not counted in addition to English 348.

**330 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:* Speech 314 and junior standing. This course may be repeated for credit.

[ DRAMA ]

331 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:* Junior standing and Speech 312.

332 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, Boker, Fitch, Howard, Crothers, Anderson, Hellman, O'Neill, Tennessee Williams and Arthur Miller. Will not be counted in addition to English 332. *Prerequisite:* English 612, 612Q, or 315-316.

336 Technical Production and Scene 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 Speech and junior standing. Not counted in addition to Art 336.

337 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:* Speech 336.

340 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 of costumes for actual production. *Prerequisite:* Junior standing.

341 The Drama in England since 1660

Representative plays of the Restoration, of the eighteenth and nineteenth centuries, and of such modern playwrights as Jones, Pinero, Barker, St. John Hankin, Shaw, Coward, Galsworthy, Maugham, Dane, etc. Will not be counted in addition to English 331. *Prerequisite:* English 612, 612Q, or 315-316.

**COLLEGE PLAYERS**

The campus acting and producing organization. It presents one or more major productions each term. Members are required either to act or to do technical work in connection with the major production, and in addition must appear in one student-directed play.

206 College Players (\*)

216 College Players (second year) (\*)

226 College Players (third year) (\*)

232 College Players (fourth year) (\*)

## **Geology and Geography**

DR. H. E. QUINN, *Chairman*

PROFESSORS QUINN, NELSON; ASSISTANT PROFESSOR STRAIN.

### **GEOLOGY**

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.

Students who elect to work for the Bachelor of Science Degree in the Sciences with a major in geology are advised to follow the program set forth in the degree plans of this catalog and in addition obtain adequate training in chemistry, at least an elementary course in physics, preferably physics through electricity, mathematics through calculus, a course in ordinary surveying, and drawing through descriptive geometry. The student should also elect the English course in technical writing, and a course in public speaking. Students intending to major in the paleontological field should be adequately grounded in the biological sciences.

#### **301 Physical Geology (\$2)**

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.)

#### **302 Historical Geology (\$2)**

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.)

#### **310 Principles of Geomorphology (\$2)**

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 301 and 302.

#### **316 Mineralogy**

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 601 (Chemistry 801 for engineering students and science majors; or chemistry 801 in advance or concurrently for engineering students and science majors with sophomore standing).

#### **217 Mineralogy (\$2)**

Determinative mineralogy. Largely devoted to the identification of minerals by physical characteristics. Six laboratory hours per week. *Prerequisite:* Geology 316.

#### **317 Mineralogy (\$2)**

Determinative mineralogy. Same as Geology 217 with an additional hour of lecture per week. *Prerequisite:* Geology 316.

#### **418 Invertebrate Paleontology (\$4)**

A study of the structure and classification of invertebrates and their development and geologic significance. Two lectures and six laboratory hours. *Prerequisite:* Geology 301 and 302.

#### **419 Paleontological Stratigraphy (\$4)**

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 418.

#### **421 Advanced General Geology (\$4)**

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 217 or 317, and Geology 301 and 302.

[ GEOLOGY--GEOGRAPHY ]

322 General Economic Geology

A study of the occurrence of mineral deposits and ore deposits. *Prerequisite:* Geology 217 or 317.

423 Structural Geology (\$4)

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 421 and Drawing 302; or permission of the chairman of the department.

325 Sedimentary Rocks (\$2)

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:* 12 hours of geology.

427 Petrology and Petrography (\$4)

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 421 in advance or concurrently.

361 Advanced Economic Geology (\$2)

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 322.

262 Geology of the Southwest

A detailed study of the regional, stratigraphic, structural, and economic geology of Texas, New Mexico, Arizona and Northern Mexico. One lecture and four laboratory hours per week. *Prerequisite:* Senior standing.

463 Geology of Petroleum and Natural Gas (\$4)

A study of the origin, migration and accumulation of petroleum and natural gas. Three lectures and three laboratory hours per week. *Prerequisite:* Geology 419, 421 and 323; or permission of the chairman of the department.

264 Field Geology (\$2)

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.

665 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.

074 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)

303 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.

304 Elements of Geography (\$2)

A continuation of Geography 303. Three lecture hours and two laboratory hours per week. *Prerequisite:* Geography 303.

## **Health and Physical Education**

DR. L. G. SEILS, *Chairman*

MR. MIKE BRUMBELOW, *Coordinator of P.E., Intramurals and Athletics*

PROFESSOR SEILS; ASSOCIATE PROFESSORS WATERS, MCCARTY; ASSISTANT PROFESSORS COLLINS, CRAIGO; INSTRUCTORS GLARDON, 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 301 (for men) or 302 (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.)

Majors in Physical Education are strongly urged to have one minor in Health Education and a second minor in another teaching field. Those who wish to qualify as physical education teachers or as coaches must meet the requirements established by the Texas State Department of Education. Full-time teachers must have 24 hours in Physical Education and Health Education.

All beginning classroom teachers who direct or teach any part of the Physical Education program must have at least six semester hours of college credit in professional teacher-training courses in that field.

### **HEALTH EDUCATION**

#### **301 Personal Hygiene (Men)**

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.

#### **302 Personal Hygiene (Women)**

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.

#### **312K Health Service for Elementary School Children**

The scope of health service with emphasis upon the purpose, technique, and adaptation of health examinations of school children. *Prerequisite:* Sophomore standing.

#### **320 Community Hygiene**

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.

#### **330 School Health Problems**

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.

339 Modern Problems in Health Education

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.

341 Principles of Health Education

Individual and community health problems will be discussed. Hygienic effects to be realized from an organized health program. Discussion and prevention of communicable diseases will be treated in schools, communities, and cities. *Prerequisite:* Junior standing or permission of the chairman of the department.

352 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.

360 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 of children. *Prerequisite:* Junior standing or permission of the chairman of the department.

360L 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**

202 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.

201 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.

203 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.

204 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.

305 Fundamentals of Major and Minor Sports

Rules, playing regulations, teaching procedure of the following sports: Football basketball, handball, tennis, baseball, speedball, and soccer. Open to men only.

306 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.



- 307 **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.
- 308 **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.
- 318k **Organization and Administration of Physical Education**  
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 305 and 306 for men, 307 and 308 for women. Formerly Physical Education 321k.
- 319k **Kinesiology**  
The mechanical 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 305 and 306 for men, 307 and 308 for women. Formerly Physical Education 324.
- 321 **Curriculum Construction**  
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.
- 321L **Physical Education for Elementary Schools**  
Philosophy of play, content, progression and organization of the play program for elementary and junior high schools. *Prerequisites:* Twelve semester hours of Physical Education or permission of the chairman of the department.
- 331 **Coaching Football**  
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. Formerly Physical Education 316.
- 331w **Techniques, Methods and Materials of Instructions in Rhythms**  
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. Formerly Physical Education 313.
- 332 **Coaching Basketball**  
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. (Formerly Physical Education 317.)
- 332w **Techniques, Methods and Materials of Instruction in Rhythms for High School Grades**  
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. Formerly Physical Education 315.
- 333 **Coaching Baseball and Track**  
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.

350 Organization of Community Recreation

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.

351 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.

353K 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. Fee \$2. Open only to women.

355 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.

356 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.

357 Current Practices in Health and Physical Education

A laboratory and demonstration course presenting the latest health instruction materials and physical activities. Students will be used in demonstrations. *Prerequisite:* Twelve semester hours of Physical Education or permission of the chairman of the department.

363 Football and Basketball Officiating, and Scouting

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 and scouting. 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.

364 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.

365 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.

389 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.

## GRADUATE COURSES

(Prerequisite for courses listed below: Admission to Graduate Division without deficiencies in the major and minor, or consent of the chairman of the department.)

### 390 Seminar in Health and Physical Education

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.

### 392 Critical Analysis of Professional Literature

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.

### 394 Supervision of Health and Physical Education

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. J. L. WALLER, *Chairman*

PROFESSORS WALLER, STRICKLAND, GREGORY; ASSOCIATE PROFESSORS PORTER,  
TIMMONS; ASSISTANT PROFESSORS QUINN, MCNEELEY;  
INSTRUCTORS CONNOR, MILLER

### **HISTORY**

**301 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.

**302 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.

**304 History of England**

Survey of the social, economic, political and intellectual development of Britain and the British Empire to 1660.

**305 History of England**

Survey of the social, economic, political and intellectual development of Britain and the British Empire, 1660 to the present.

**308 History of Europe, 1500-1815**

Brief survey of conditions at the end of the Middle Ages, rise of nationalities and absolutism, colonial expansion, social and economic progress, the Old Regime and the intellectual awakening, the French Revolution and the Napoleonic Era.

**309 History of Europe, 1815 to the Present**

Brief survey of conditions at the time of Napoleon's downfall, restoration and reaction, industrial revolution, growth of nationalism and democracy, unification of Germany and Italy, the Balkan States and the Near Eastern problems, economic imperialism, Political Socialism and State Socialism, The System of Alliances, World War I, Europe between the wars, World War II.

**312 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.

**313 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.

**317 A General Survey of the History of Texas**

*Prerequisite:* Sophomore standing or six semester hours of History.

**323 Europe, 1870-1920**

A survey of the different countries of Europe and their internal developments to 1920. *Prerequisite:* Twelve semester hours of History, or six hours of History and six hours of other social science.

- 324 **Europe after 1920**  
*Prerequisite:* Twelve semester hours of History, or six hours of History and six hours of other social science.
- 325 **History of the United States, 1607-1787**  
 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.
- 326 **History of the United States, 1787-1829**  
 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.
- 330 **History of the Far East**  
 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.
- 331 **Russian History**  
*Prerequisite:* Twelve semester hours of History, or six hours of History and six hours of other social science.
- 332 **The Near East in Modern Times**  
 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.
- 335 **History of the United States, 1829-1850**  
 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.
- 336 **History of the United States, 1850-1865**  
 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.
- 340 **Renaissance and Reformation, 1300-1648**  
*Prerequisite:* Twelve semester hours of History, or six hours of History and six hours of other social science.
- 341 **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.
- 342 **The French Revolution and Napoleon**  
*Prerequisite:* Twelve semester hours of History, or six hours of History and six hours of other social science.

[ HISTORY ]

343 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.

347 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 in History, or six semester hours of History and six hours of other social science.

348 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.

349 Latin America: The National Period

The History of Mexico, Central America, and the Caribbean area since 1810. *Prerequisite:* Twelve semester hours of History, or six semester hours of History and six hours of other social science.

350 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.

353 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.

354 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.

355 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.

356 Contemporary History of the United States

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.

359 Trans-Mississippi West

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.

## GRADUATE COURSES

Prerequisites for Graduate courses in History: Admission to the Graduate Division without deficiencies in the major and minor, or consent of the head of the department.

- 390 Studies in Regional History
- 391 Historical Method and Historiography
- 392 Studies in Modern European History
- 393 Studies in Latin-America History
- 394 International Aspect of Texas History, 1803-1850
- 395 Studies in the Middle Period of American History: Selected Topics
- 698 Thesis Course for the Master's Degree (\*)

## GEOGRAPHY

(See Page 102 for Physical Geography)

### 310 Cultural Geography

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

### 610 American Government (\*)

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.

### 323 The Governments of Great Britain and the Empire

Rise of English political institutions, a critical analysis of the English and British systems of government; the larger problems of the British Empire. *Prerequisite:* Government 610.

### 324 The Governments of Continental Europe

The governments and politics of France, Italy, Switzerland, Germany, and Russia, with some attention given to lesser European countries. *Prerequisite:* Government 610.

### 325 The Party System in The United States

An historical survey of the political party as a reflection of social and economic thought in the United States. Attention will be given to the role of the party in national politics and its relation to the functions of the Federal Government. Occasional reference will be made to the party systems of other democratic nations. *Prerequisite:* Government 610.

### 330 International Politics

Principles and political problems involved in foreign policies and international relations of the states of the world with particular emphasis on nationalism and imperialism. *Prerequisite:* Government 610.

### 331 International Organization and Administration

The development of the machinery and procedure of international government for the peaceful settlement of international disputes. *Prerequisite:* Government 610.

[ GOVERNMENT — SOCIOLOGY ]

- 332 **The Government and Politics of Mexico and the Caribbean Area**  
The constitutional development, governmental organization, and contemporary political problems of representative states, with special attention to Mexico. *Prerequisite:* Government 610.
- 333 **The Government and Politics of South America**  
The governmental structure and politics of the principal South American countries. *Prerequisite:* Government 610.
- 334 **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 610.
- 335 **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 610.
- 336 **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 610.
- 343 **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 610.
- 344 **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 610.

**SOCIOLOGY**

- 310 **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. *Prerequisite:* Sophomore standing.
- 311 **Social Problems**  
Physical and mental defectiveness considered from the sociological viewpoint; defects in social organization; poverty and dependency. Social controls applied to social problems. *Prerequisite:* Sophomore standing.
- 320 **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 bases; and an examination of the methods used in the various fields considered. *Prerequisite:* Sociology 310 and 311 or six semester hours of social science and Junior standing.
- 325 **Marriage**  
A study of the factors involved in an adequate preparation for marriage, marital adjustment and parenthood. *Prerequisite:* Sociology 310 and 311 or junior standing or six semester hours of social science and approval of Head of Department.



**333 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:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

**336 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:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

**345 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:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

**347 Population Problems and Immigration**

Population movements and their social control; problems of population, distribution, and assimilation, consideration of Americanization programs and immigration laws. *Prerequisite:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

**348 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:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

**349 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:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

**350 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:* Sociology 310 and 311 or six semester hours of social science and Junior standing.

## **Journalism, Radio and Television**

DEAN J. F. WILLIAMS, *Chairman*

PROFESSOR WILLIAMS; ASSISTANT PROFESSORS HICKS, MIDDAGH; INSTRUCTORS HERTZOG, PHILLPOT; RADIO CONSULTANT KARL W. WYLER; DIRECTORS OF EDUCATIONAL PROGRAMMING POLK, MITCHELL

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.

### **JOURNALISM**

#### **301 Introduction to Journalism**

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.

#### **302 Introduction to News Writing**

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.

#### **305 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. *Prerequisite:* Journalism 301 or Radio 301, or by consent of the chairman of the department. (May not be counted in addition to Radio 305.)

#### **306K Introductory Course in Public Relations**

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. May not be counted for credit in addition to Radio 306K.

#### **307 Elementary Photography (\$2)**

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.

#### **308 Fields of Photography (\$2)**

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. *Prerequisite:* Journalism 307 or permission of the chairman of the department.

#### **311 News Gathering and Reporting**

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. *Prerequisite:* Sophomore standing including English 601.

**312 News and Copy Reading**

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. *Prerequisite:* Sophomore standing including English 601.

**316κ Current Events**

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.

**317 The American Newspaper**

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.

**321κ Fundamentals of Advertising**

Relation of advertising to other business functions; study of campaigns, appropriations, and media; survey of activities of those engaged in advertising work. May not be counted for credit in addition to Business Administration 321K. *Prerequisite:* Junior standing.

**322 The Special Article**

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 311 or 312, or English 612.

**323κ Teaching High-School Journalism, Supervision of School Publications**

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. May not be counted for credit in addition to Education 323κ. *Prerequisite:* Junior standing.

**324 News Editing**

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 311 or 312.

**325 The Small Daily and Weekly Newspaper**

Study of news methods, make-up, advertising problems, and business management of the small-town newspaper. *Prerequisite:* Junior standing.

**326κ 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. May not be counted for credit in addition to Business Administration 326K. *Prerequisite:* Business Administration 321K or Journalism 321K.

**334τ 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. (May not be counted for credit in addition to Education 334τ.)

[ JOURNALISM — COLLEGE PUBLICATIONS ]

**340 Editorial Writing and Page Direction**

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.

**341 Pictorial Journalism (\$2)**

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:* Junior standing.

**349 Printing Processes and Reproduction**

Explanation and demonstration of processes: Letterpress, lithography, intaglio, photo-engraving, photo-offset, paper analysis, typesetting, binding. Two lectures and two hour workshop per week. May not be counted for credit in addition to Art 349 or English 350. *Prerequisite:* Junior standing.

**352 Principles of Typography**

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. May not be counted for credit in addition to Art 352. *Prerequisite:* Journalism 349, or print shop experience.

**358 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; employes; customers; suppliers; social and religious institutions. May not be taken for credit in addition to Business Administration 358. *Prerequisite:* Junior standing.

**COLLEGE PUBLICATIONS**

**204 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 311 or 312. *Prerequisite:* Consent of the chairman of the department.

**214 Publications (second year) (\*)**

Further work on the college publications with increased responsibility. Three hours per week for two semesters. *Prerequisite:* Journalism 204 and consent of the instructor.

**227 Publications (third year) (\*)**

Further work on the college publications with increased responsibility. Three hours per week for two semesters. *Prerequisite:* Journalism 214 and consent of the instructor.

**237 Publications (fourth year) (\*)**

Further work on the college publications with increased responsibility. Three hours per week for two semesters. *Prerequisite:* Journalism 227 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.

**301 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.

**302 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. *Prerequisite:* Radio 302 or consent of the chairman of the department.

**303 Voice and Diction**

A course intended to develop clear articulation and enunciation, correct pronunciation, proper vowel placement, and control of the speaking voice. (May not be counted for credit in addition to Speech 303.)

**305 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. *Prerequisite:* Journalism 301 or Radio 301, or by consent of the chairman of the department.

**306k Introductory Course in Public Relations**

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. (May not be counted for credit in addition to Journalism 306k.)

**314 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.) *Prerequisite:* Radio 302 or consent of the chairman of the department.

[ RADIO — TELEVISION ]

315 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. *Prerequisite:* Radio 314 or consent of the chairman of the department.

318 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. *Prerequisite:* Completion of English 601 and sophomore standing. (May not be counted in addition to Speech 318.)

320 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. *Prerequisite:* Six hours of television-radio courses or Junior standing.

321 Television Production II (\$2)

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. *Prerequisite:* Six hours of television-radio courses or Junior standing.

323 Television and Education

Set up on a seminar level, this course presents the role of television in modern education. Applications of television programs and techniques as audio-visual aids. Educational television stations studied. Planning and producing the educational television program for in-school viewing. Especially recommended for students majoring or minoring in education. Three lectures per week. *Prerequisite:* Junior standing.

330 Television-Radio Station Management (\$2)

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. Counselling with industry personnel. Required of all television-radio majors. Two lectures and four laboratory hours per week. *Prerequisite:* Six hours of television-radio courses or Junior standing.

331 Seminar in Telecommunications

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 minoring in education. Two lectures and four laboratory hours per week. *Prerequisite:* Six hours of television-radio courses or Junior standing.

332 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. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Education 332.)

332κ 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. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Education 332κ.)

- 333 Preparation, Presentation of Radio Programs, Elementary Grades  
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. *Prerequisite:* Junior standing. (May not be counted in addition to Education 333.)
- 333K Preparation and Presentation of Radio Programs, High School  
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. *Prerequisite:* Junior standing. (May not be counted for credit in addition to Education 333K.)

**RADIO STATION KVOF-FM**

- 204 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.
- 214 Radio Station KVOF-FM (second year) (\*)  
Work on Radio Station KVOF-FM with increased responsibility. Three hours per week for two semesters. *Prerequisite:* Radio 204 and consent of the instructor.
- 227 Radio Station KVOF-FM (third year) (\*)  
Work on Radio Station KVOF-FM with increased responsibility. Three hours per week for two semesters. *Prerequisite:* Radio 214 and consent of the instructor.
- 237 Radio Station KVOF-FM (fourth year) (\*)  
Work on Radio Station KVOF-FM with increased responsibility. Three hours per week for two semesters. *Prerequisite:* Radio 227 and consent of the instructor.

## **Mathematics and Physics**

DR. E. J. KNAPP, *Chairman*

PROFESSORS KNAPP, BARNES; ASSOCIATE PROFESSORS McMAHAN, BENTZ;

ASSISTANT PROFESSORS RESLEY, GLADMAN; INSTRUCTORS SCHUMAKER,

THREADGILL, PATTERSON, SHEPHERD, KIRBY, TERRELL

### **MATHEMATICS**

Six semester hours of Mathematics are required for the degree of Bachelor of Arts. Mathematics 304 and 306, 307, or 309 may be used to satisfy this requirement. Students wishing a more complete course in Mathematics and students who plan to major or minor in Mathematics or Physics should take Mathematics 803 in place of the courses mentioned above.

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 208 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.

#### **803 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 305. *Prerequisite:* One year of high school geometry and one and one-half years of high school algebra.

#### **304 Mathematical Analysis**

Introductory course for academic students unifying basic ideas of algebra, trigonometry, and analytical geometry by means of the function concept. Not counted for credit in addition to Mathematics 305.

#### **305 Algebra**

Review of secondary school and intermediate algebra for engineering students whose background in this subject is deficient. Not counted in addition to Mathematics 304.

#### **306 Trigonometry**

*Prerequisite:* Mathematics 304 or 305.

#### **307 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:* Mathematics 304 or 305.

#### **208 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.

#### **309 Mathematical Analysis**

Continuation of Mathematics 304. For students who do not plan to take other courses in mathematics. *Prerequisite:* Mathematics 304 or 305.



## 613 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 maxima, rates, velocity, acceleration, and geometrical applications. The work in integral calculus drills the student in the integration of forms occurring in mathematics and physics; in evaluating areas and volumes, and in the derivation and application of the fundamental formulas by hydrostatics. The last two hours counted as advanced. *Prerequisite:* Mathematics 208 unless solid geometry is presented for entrance, and Mathematics 803.

## 325 Calculus

The topics of Mathematics 613 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, approximations of definite integrals, partial differentiation, and multiple integrals. *Prerequisite:* Mathematics 613.

## 326 Differential Equations

Study of the common types of ordinary differential equations of geometry, mathematics, mechanics, and electricity. *Prerequisite:* Mathematics 613.

## 333 Theory of Equations

Theory of polynomials, cubic and quatic equations, approximate methods, determinants, symmetric functions, and other topics. *Prerequisite:* Math. 613.  
Omitted 1955-56.

## 335 Higher Mathematics for Engineers and Physicists

Designed to help the student in senior and graduate work in engineering, physics, mathematics, and certain fields of chemistry. Infinite series, Fourier series, solutions of equations, determinants, matrices, additional study of partial derivatives, cylindrical and spherical coordinates, Jacobians, Green's theorem. *Prerequisite:* Mathematics 325.

## 336 Higher Mathematics for Engineers and Physicists

Continuation of Mathematics 335. *Prerequisite:* Mathematics 335, or Mathematics 325 and 326.

## 337 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, similitude, inversion, cross ratio, and principle of duality. *Prerequisite:* Mathematics 613.  
Omitted 1955-56.

## 341 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 613 and ten credit hours in Physics or six credit hours in Physics and Mathematics 336. Not counted in addition to Physics 341.

## 342 Analytical Mechanics

Continuation of Mathematics 341. May be counted as three advanced hours in Physics. *Prerequisite:* Mathematics 341. Not counted in addition to Physics 342.

[ PHYSICS ]

**PHYSICS**

**601 General Physics (\*) (\$2)**

Three lectures and two laboratory hours per week.

**801 General Physics (\*) (\$4)**

Designed primarily for pre-medical students. Mechanics, heat, electricity, magnetism, sound, and light. Physics 801 and 601 may not be counted for credit by the same student. Four lectures and two laboratory hours per week.

**611 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 613 concurrently.

**612 Second-Year Physics (\*) (\$2)**

First semester: Light, electricity, and magnetism. Second semester: Mechanics, heat, and sound. For students majoring in physics or in engineering courses other than civil or mining engineering. Covers the content of Physics 611 and Physics 413 from a more rigorous viewpoint. May be offered in place of 611 and 413 by students who decide to major in civil or mining engineering. Calculus is used throughout the course. Three lectures and three laboratory hours per week. *Prerequisite:* Mathematics 613 concurrently and Physics 601.

**413 Physics (\$4)**

Electricity, magnetism, and light. For students in civil and mining engineering. Three lectures and three laboratory hours per week. Neither Physics 611 nor Physics 413 may be counted for credit by a student who earns credit for Physics 612. *Prerequisite:* Physics 611 and credit for or registration in Mathematics 613.

**232 Advanced Laboratory Practice in Electricity (\$2)**

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 612 or 413.

Omitted 1955-56.

**233 Advanced Laboratory Practice in Electricity (\$2)**

A continuation of Physics 232. *Prerequisite:* Physics 612 or Physics 413.

Omitted 1955-56.

**334 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 612 or 413 and Mathematics 613.

Omitted 1955-56.

**335 Electricity and Magnetism**

Continuation of Physics 334. 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 334.

Omitted 1955-56.

- 437 **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 612 or Physics 413.
- 438 **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 613 and Physics 437.
- 339 **Heat**  
Advanced topics. *Prerequisite:* Mathematics 613 and six semester hours of physics.  
Omitted 1955-56.
- 340 **Light**  
Advanced topics. *Prerequisite:* Mathematics 613 and six semester hours of physics.
- 341 **Analytical Mechanics**  
Equilibrium and motion of a particle and of a rigid body in two or three dimensions. May be counted as three advanced hours in Mathematics. (Not counted in addition to Mathematics 341.) *Prerequisite:* Mathematics 613 and ten credit hours in Physics or six credit hours in Physics and Mathematics 336.
- 342 **Analytical Mechanics**  
Continuation of Physics 341. May be counted as three advanced hours in mathematics. Not counted in addition to Mathematics 342. *Prerequisite:* Physics 341.
- 445 **Electron Tube Circuits (\$4)**  
Continuation of Physics 438. Three hours of lecture and three hours of laboratory per week. *Prerequisite:* Physics 438.  
Omitted 1955-56.
- 351 **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 613 and six semester hours of Physics.
- 352 **The Particles of Modern Physics**  
Continuation of Physics 351. Further study of positrons, neutrons, cosmic rays, mesons, artificial radioactivity, and atomic fission. A short introduction to wave mechanics is given. *Prerequisite:* Mathematics 613 and six semester hours of Physics.

## ***Military Science and Tactics***

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COL. JOHN ALFREY, *Commandant*

PROFESSOR ALFREY; ASSISTANT PROFESSORS LT. COL. FORD, MAJ. HODGE,

CAPT. BERG; INSTRUCTORS M/SGT MAGGIO, SFC HERRERA,

SFC PENNINGTON, SFC BREWTON

Courses offered by this department are the Senior Division ROTC courses for Artillery Units prescribed by the Department of the Army for civilian colleges. These courses are designed to produce junior commissioned officers who will be qualified for active duty in the U. S. Army upon graduation and will be capable of progressive and continued development as officers in the U. S. Army Reserve thereafter. In addition, a principle purpose of these courses is to provide an opportunity for students to qualify as "Distinguished Military Graduates" and thus upon graduation become eligible for appointment as commissioned officers in the Regular Army.

Other objectives of the program are to develop leadership qualities in the student, to cultivate in him an appreciation of his responsibilities in a national emergency, and to prepare him to accept the obligations of citizenship in his community. In accomplishing these objectives, the student is taught a wide variety of fundamental subjects that will be of assistance to him in any field of endeavor.

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 401 and 402) form the *Basic Course*. The second two years (Military Science 610 and 620) 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. Credit for as much as one year 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 between the ages of 14 and 22 years (24 years for veterans), 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 six 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 \$.90 per day for not more than 595 days and \$78.00 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 or be issued Government uniforms.

Upon successful completion of the four-year program the student is tendered a commission in the United States Army Reserve, Artillery Branch, and, if he has had no prior active military service, will be required to serve a tour of active duty, usually two years. Those students who are designated "Distinguished Military Graduates" may, upon their application, be offered commissions in the Regular Army.

Students who are matriculating in scientific or technical courses and desire to be commissioned in a pertinent Technical Service of the Army may apply to attend summer camp of the appropriate Service and ultimately be commissioned in that Service. A limited quota of such applications are accepted by the Department of Army annually.

## BASIC COURSE

### 401 Military Science I (\*)

Military Organization, Military Problems and Policy of the United States, National Defense Act and the ROTC; Maps and Aerial Photographs; Combat Formations; Tactics of Rifle Squad; Hygiene and First Aid; Weapons and Marksmanship; and Leadership, Drill, and Exercise of Command. Three classroom hours and one drill hour per week. Academic credit: four hours.

### 402 Military Science II (\*)

Characteristics, Capabilities and Limitations of Antiaircraft Artillery Automatic Weapons; Service of the Piece, Light Antiaircraft Fire Units; Introduction to Heavy and Medium Antiaircraft Artillery; Characteristics, Capabilities, and Limitations of 90-mm Antiaircraft Guns; Service of the Piece, 90-mm Antiaircraft Gun; Aerial Photo Reading; Introduction to Field Artillery; and Leadership, Drill, and Exercise of Command. Three classroom hours and one drill hour per week. *Prerequisite*: Military Science 401 or equivalent military training. Academic credit: four hours.

## ADVANCED COURSE

### 610 Military Science III (\*)

Communications; Organization; Field Artillery Tactics; Troop Movements; Basic Antiaircraft Artillery Gunnery; Motor Transportation; Antiaircraft Artillery Tactics; Map Reading; and Leadership, Drill, and Exercise of Command. Five classroom hours and one drill hour per week. *Prerequisite*: Junior standing, Basic Course or equivalent service or training; selection by the Professor of Military Science and Tactics and President of College; and Mathematics 304 and 306, or 803. Academic credit: six hours.

### 620 Military Science IV (\*)

Antiaircraft Artillery Matériel, Combat Intelligence; Supply and Evacuation; Gunnery; Antiaircraft Artillery Advanced Tactics; Field Artillery Tactics and Technique; New Developments; Command and Staff; Military Law and Boards; Psychological Warfare; Military Teaching Methods; Military Team; Military Administration; Map Exercise; Geographical Foundation of National Power; and Leadership, Drill, and Exercise of Command. Five classroom hours and one drill hour per week. *Prerequisite*: Military Science 610. Academic credit: six hours.

## **Mining and Metallurgy**

DR. J. C. RINTELEN, JR., *Chairman*

PROFESSORS RINTELEN, GRAHAM, THOMAS; ASSOCIATE PROFESSOR INGERSOLL

### **MINING**

#### **310 Elements of Mining**

A study of prospecting, development, earth and rock excavation, explosives, tunneling, shaft sinking, timbering, boring, underground transport, and hoisting. *Prerequisite:* Geology 316 and Physics 611.

#### **211 History of Mining**

Highlights of mining eras and mining districts. *Prerequisite:* Permission from the head of the Mining department.

#### **112 The Mineral Industry**

An introductory course covering the mining industry. A study of production and uses of the most important metals and non-metallic industrial minerals. Open to all students.

#### **221 Mining Methods**

A comprehensive study of mining methods. *Prerequisite:* Mining 310.

#### **322 Mine Surveying (\$2)**

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. *Prerequisite:* Mining 221 and Engineering 614.

#### **223 Coal Mining**

The extraction, cleaning, and marketing of coal, and the manufacture of coke and collection of all the by-products are considered. *Prerequisite:* Mining 221.

#### **323 Non-Metallic Mining**

The mining and preparation of coal, potash, oil shale and other non-metallic minerals. The collection of by-products is considered. *Prerequisite:* Mining 221.

#### **224 Mine Surveying; Summer Field Work (\$2)**

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. *Prerequisite:* Mining 322. Eight hours daily for two weeks, starting Monday two weeks prior to registration.

#### **237 Tunneling and Blasting**

Methods of excavation and material handling in tunneling and hard-rock foundation. Handling of explosives, placement of charges, safety precautions, ventilation. *Prerequisite:* Junior standing.

#### **363 Mine Valuation and Report (\$2)**

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. *Prerequisite:* 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.

#### **364 Management**

Many of the applications of economics to mining are considered. *Prerequisite:* Completion of the requirements for the Bachelor of Science Degree by the end of the following fall semester.

#### **366 Mine Plant**

A study of underground haulage, hoisting plant, compressed air plant, rock drills and pumping. *Prerequisite:* Senior standing.

## 368 Mine Plant

A study of mine ventilation and mining law. *Prerequisite:* Senior standing. Two lectures and three laboratory hours per week.

## 074 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**

## 310 Introduction to Metallurgy

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.

## 321 General Metallurgy

Introductory course covering a description of the various processes for treating all the ordinary metals. *Prerequisite:* Chemistry 801, and Physics 611 or Physics 601.

## 423 Ore and Coal Dressing (\$4)

The principles governing the processes 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 217 and Physics 611.

## 324 Assaying (\$2)

The determination by fire methods of gold, silver, and lead in minerals, ores, and products of mills and smelters. One lecture and six laboratory hours per week. *Prerequisite:* Chemistry 311.

## 325 Non-metallics

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 801, and Physics 611 or Physics 601.

## 326 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 801, Physics 611 or Physics 601.

## 230 Introduction to Ceramics

Study of the ceramic raw materials with their beneficiation, and the fuels, combustion, and silicate chemistry as related to industry. *Prerequisite:* Chemistry 801, and Physics 611 or Physics 601.

## 330 Introduction to Ceramics (\$2)

This course is the same as Metallurgy 230, except that it includes a three-hour laboratory. Two lectures and three laboratory hours per week. *Prerequisite:* Chemistry 801, and Physics 611 or Physics 601.

## 252 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 361.

## 353 Electric Furnaces

A foundation course in electric smelting and the commercial applications of the electric furnace. *Prerequisite:* A physics course in electricity.

[ METALLURGY ]

- 360 **Ferrous Metallurgy**  
A course in the metallurgy and fabrications of iron, steel and related alloys. One-third of the course will be devoted to calculations pertaining to the subject. *Prerequisite:* Metallurgy 321.
- 260 **Ferrous Metallurgy**  
Same as Metallurgy 360 except that the calculations are omitted. *Prerequisite:* Metallurgy 321.
- 361 **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:* Metallurgy 321.
- 261 **Non-Ferrous Metallurgy**  
Intended for those students who select the mining option and is the same as Metallurgy 361 except that the calculations are omitted. *Prerequisite:* Metallurgy 321.
- 362 **Hydrometallurgy (\$2)**  
The leaching methods employed in metallurgy, and the electro-deposition of non-ferrous metals. Two lectures and three laboratory hours per week. *Prerequisite:* Metallurgy 321.
- 263 **Advanced Ore Dressing**  
Engineering features of ore dressing, including computations and design of bins, milling machinery, and mill circuits. *Prerequisite:* Metallurgy 423.
- 364 **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 361 and Metallurgy 372.
- 264 **Metallurgical Laboratory (\$2)**  
This course handles part of the work covered by Metallurgy 364 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 361.
- 265 **Ore Dressing and Milling (\$2)**  
Ore testing and mill design six laboratory hours per week. *Prerequisite:* Metallurgy 263.
- 472 **Physical Metallurgy**  
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 460.
- 473 **Metallography (\$4)**  
The metallography and heat treatment of various metals and alloys. Three lectures and three laboratory hours per week. *Prerequisite:* Metallurgy 472.
- 074 **Metallurgical Trip (Transportation Fee: \$50.00)**  
At the present time this trip will be taken with Mining 074. When it is to the best interests of the metallurgical students to deviate from the route of the Mining 074 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.
- 375 **Corrosion**  
A study of corrosion, passivity, and protection of metals and alloys. *Prerequisite:* Permission of the Chairman of the Mining and Metallurgy Department. Not counted in addition to Chemistry 375.



## Modern Languages

DR. EDGAR T. RUFF, *Chairman*

PROFESSORS RUFF, BACHMANN; ASSOCIATE PROFESSOR SHARP;  
ASSISTANT PROFESSORS BEVANS, WEBB, GABRIEL, TAPPAN.

A student with no high school language will register for Course 801a; with two units he may continue by entering Course 801b in the same language; with one, three, or four units students will consult the department for placement.

Courses 801 and 612 should be taken without interruption and supplemented with Courses 308, 310, 311, and 314 if fluency is needed.

### FRENCH

- 801 Fundamentals of Reading, Writing and Speaking (\*)  
Oral drill, dictation, grammar, reading of elementary and intermediate texts, conversation, written exercises. Three recitation and two workshop hours.
- 612 Intermediate Readings in the Modern Period (\*)  
Readings from the nineteenth and twentieth centuries. Oral and written summaries, some grammar review. *Prerequisite:* French 801.
- 308 Conversational French  
Intended to broaden the vocabulary of French 801a for conversational use. A supplementary course for students who do not already speak French. Extensive use of audio-visual aids. Conducted in elementary French. *Prerequisite:* With or after French 801a.
- 310 Civilisation française  
Illustrated lectures in intermediate French. Extensive use of travelogs, slides and films of everyday life to teach conversational French. Intended as a supplement to required courses for students who do not already speak French. *Prerequisite:* French 801a.
- 311 La France contemporaine  
A conversational course in intermediate French based on a study of the provinces of France. Extensive use of slides, films, and travelogs to teach vocabulary and conversational usage. A supplementary course for students who do not already speak French. *Prerequisite:* French 801a.
- 321 The Literary History of France  
A survey of French culture and literature, stressing the parallel development of French institutions, thought and art forms. Conducted in French. *Prerequisite:* French 612.
- 335 Modern Novel: Early Period  
Reading of such eighteenth century novelists as Lesage, l'Abbé Prévost and Bernardin de Saint-Pierre and of the nineteenth century novelists up to 1850. *Prerequisite:* French 612.
- 336 Modern Drama: Early Period  
The French drama of the nineteenth century, the Romantics and post-romantics: de Vigny, Hugo, Dumas, Musset, etc. *Prerequisite:* French 612.
- 337 Modern Novel: Later Period  
A study of the French Novel during the last half of the nineteenth century. Emphasis on the naturalistic novel. *Prerequisite:* French 612.
- 340 Modern Drama: Later Period  
The French drama of the nineteenth century, the Naturalists and Symbolists: Becque, Cœuret, Brieux, Rostand, Maeterlinck, etc. *Prerequisite:* French 612.

### GRADUATE COURSES

*Prerequisite:* Admission to the Graduate Division with no deficiencies in the major or minor, or consent of the head of the department.

- 390 Seminar  
391 Graduate Reading Course

### GERMAN

- 801 Fundamentals of Reading, Writing and Speaking (\*)  
Oral drill, dictation, grammar, reading of elementary and intermediate texts, conversation, written exercises. Three recitation and two workshop hours.

[ GERMAN — SPANISH ]

- 308 **Conversational German**  
Intended to broaden the vocabulary of German 801a for conversational use. *Prerequisite:* With or after German 801a.
- 310 **German Civilization**  
Use of slides and films of everyday life to teach spoken German. *Prerequisite:* German 801a.
- 612 **Intermediate Readings in the Modern Period (\*)**  
Readings from the nineteenth and twentieth centuries. Oral and written summaries, some grammar review. *Prerequisite:* German 801.

**SPANISH**

- 801 **Fundamentals of Reading, Writing and Speaking (\*)**  
Oral drill, dictation, grammar, reading of elementary and intermediate texts, conversation, written exercises. Three recitation and two workshop hours.
- 612 **Intermediate Readings in the Modern Period (\*)**  
Readings from the nineteenth and twentieth centuries. Oral and written summaries, some grammar review. *Prerequisite:* Spanish 801.
- 308 **Conversational Spanish**  
Intended to broaden the vocabulary of Spanish 801a 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 801a.
- 310 **Cultura hispánica**  
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 801a.
- 311 **España contemporánea**  
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 801a.
- 314 **México contemporáneo**  
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 travelogs to teach vocabulary and conversational usage. A supplementary course for students who do not already speak Spanish. *Prerequisite:* Spanish 801a.
- 332 **Classical Epoch Prose**  
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 612.
- 333 **Masterpieces of Spanish Literature**  
A survey of masterpieces of Spanish literature, including *El Libro de Buen Amor*, *La Celestina*, etc. At least four important works will be read in class. Outside reading reports. *Prerequisite:* Spanish 612.
- 335 **Modern Novel: Early Period**  
The Spanish novel of the first half of the nineteenth century: Fernán Caballero, Alarcón, Valera, Pereda, Pérez Galdós, Pardo Bazán, etc. *Prerequisite:* Spanish 612.
- 337 **Modern Novel: Later Period**  
The Spanish novel of the latter part of the nineteenth century; Palacio Valdés, Blasco Ibáñez, Baroja, León, Pérez de Ayala, Concha Espina, etc. *Prerequisite:* Spanish 612.
- 339 **The Cuento and Short Story**  
A study of the various types of shorter fictional forms in Spain and Spanish America, from the time of Juan Manuel to the present. Emphasis on the modern period. *Prerequisite:* Spanish 612.
- 341 **Modern Spanish Drama**  
The Spanish drama from the end of the eighteenth to the end of the nineteenth centuries. Combines previous courses 336 and 340. *Prerequisite:* Spanish 612.

- 357 **Advanced Composition and Grammar Review**  
Examination of the best modern Spanish business, epistolary, journalistic and polemic styles. Original composition on topics of current interest. *Prerequisite:* Spanish 612.
- 358 **Contemporary Spanish Literature**  
Spanish literature in the first half of the twentieth century, the "Generation of '98," etc. *Prerequisite:* Spanish 612.
- 361 **Don Quixote**  
The literary value and influence of the *Quijote*. Traditional and modern interpretations. The life and times of Cervantes. Collateral readings and reports. *Prerequisite:* Spanish 612.
- 362s **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: Cabeza de Vaca's *Comentarios*, El Inca Garcilaso de la Vega's *Comentarios reales*, Ercilla's *La Araucana*, etc. *Prerequisite:* Spanish 612. (May be taken in addition to Spanish 362N.)
- 363 **The Literary History of Argentina**  
A survey of the principal movements and writers in Argentine literature. Conducted in Spanish. *Prerequisite:* Spanish 612.
- 364 **Contemporary Poets of Latin America**  
A survey of the most significant works of the leading poets of Latin America. Emphasis on the postmodernist movement. *Prerequisite:* Spanish 612.
- 365 **Contemporary Urban Novel of Latin America**  
A survey of the increasing tendency of Latin American writers to portray life in rapidly growing population centers. *Prerequisite:* Spanish 612.
- 377 **History of Spanish Poetry**  
A survey of Spanish poetry to the middle of the twentieth century. *Prerequisite:* Spanish 612.

#### GRADUATE COURSES

*Prerequisite:* Admission to the Graduate Division with no deficiencies in the major or minor, or consent of the head of the department.

- 390 **Seminar**  
Spanish and Spanish American literary or linguistic problems to be announced by the instructor at the beginning of each semester.
- 391 **Graduate Reading Course**
- 392 **History of the Spanish Language (Phonology)**
- 393 **History of the Spanish Language (Morphology)**
- 394 **Cervantine Studies**
- 395 **Seminar on the Latin American Novel**
- 396 **Old Spanish Literature**
- 698 **Thesis Course for the Master's Degree (\*)**  
Confer with the head of the department immediately upon registration.

#### RUSSIAN

- 401 **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 801, or equivalent, in a foreign language with a grade of at least B, or permission of the head of the department. Two double recitation hours per week.
- 402 **Written and Spoken Russian**  
A continuation of Russian 401. Intermediate graded readings. *Prerequisite:* Russian 401.
- 308 **Conversational Russian**  
Intended to broaden the vocabulary of Russian 401 for oral use. Attention also will be given to basic military terminology. *Prerequisite:* With or after Russian 401.

## Music

DR. E. A. THORMODSGAARD, *Chairman*

ASSOCIATE PROFESSOR BRIGGS; ASSISTANT PROFESSORS: CARRICO, EIDBO;

INSTRUCTORS: GODDARD, HENDERSON

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 Texas Education Agency 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

- 402 Sight Singing and Dictation (\*) (Formerly 401)  
Rhythmic, melodic and harmonic dictation; one through four-part sight singing. Theory 601 taken concurrently. Two lectures and one workshop hour per week.

- 601 Essentials of Music (\*)  
Properties of sound; the keyboard; voices, their qualities and range; time and rhythm; triad study; key feeling and tonality; sight singing; non-harmonic devices; simple modulation; harmonic and melodic dictation; beginning part writing; keyboard practice. Open to all students. Three lectures and one workshop hour per week.

- 418 Form and Analysis (\*) (Formerly 248, 249)  
Detailed study of form and analysis of representative works beginning with song forms and including the larger forms. *Prerequisite:* Music 601.

- 611 Harmony (\*)  
Continuation of melodic and harmonic dictation and part writing; harmonic analysis and simple forms; seventh chords; altered chords; keyboard practice. Three lectures and two workshop hours per week. *Prerequisite:* Music 601.

- 221c Counterpoint (Formerly 221)  
Continuation of melodic and harmonic dictation; mixed chords; foreign modulation. Survey of sixteenth and eighteenth century contrapuntal techniques as exemplified in Palestrina and Bach. Introduction to Composition. Two lectures per week. *Prerequisite:* Music 611.

- 221k Counterpoint  
Continuation of Music 221. *Prerequisite:* Music 221c.

- 250 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 611 and 4 semester hours, or equivalent, of class instruments.

- 352 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 611 and four semester hours, or equivalent, of class instruments.

## 357 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 611.

## 459 Composition (\*)

Modern styles of composition, including techniques from the Schillinger System, are integrated with traditional theory and composition in a practical course covering the smaller forms in vocal and instrumental music. *Prerequisite:* Theory 611 or equivalent.

## 460 Advanced Composition (\*)

A continuation of Music 459 with emphasis upon modern music and larger forms. *Prerequisite:* Music 459.

## LITERATURE

## 202, 212, 222, 232 Choral Literature (\*)

A study of selected works in the field of choral literature. Concurrent registration with choir or chorus is required. *Prerequisite:* placement.

## 202M, 212M, 222M, 232M Band Literature (\*)

A study of selected works in the field of band literature. Concurrent registration with band is required. *Prerequisite:* placement.

## 208, 218, 228, 238 Chamber Music and Ensembles (\*) (\$2)

A Brass Ensemble, Reed Ensemble, the All-Girl 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.

## 301K 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.

## 301L 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.

## 304 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 304 and Drama 304.

## 331 Music History

Chronological survey of the composers and their works through directed listening beginning with Greek Music and continuing through the early Romantic Period. *Prerequisite:* Six hours of music and junior standing.

## 334 Music History

Chronological survey of the composers and their works through directed listening beginning with the late Romantic Period and continuing through contemporary music. *Prerequisite:* Six hours of music and junior standing.

## 346 Opera Workshop

Opera scores are studied to develop familiarity with operatic literature. Public performances are presented. This course is designed for voice majors and stu-

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dents interested in the opera field. *Prerequisite:* Junior standing and permission of the instructor.

347 Opera Workshop

Music 346 continued. *Prerequisite:* Junior standing and permission of instructor.

**MUSIC EDUCATION**

327K Observation of Music Teaching in the High School

Principles of teaching and observation of class work in music. Five hours per week. (Not counted in addition to Education 327.) *Prerequisite:* Education 316 and 317 and senior standing.

327L Student Teaching of Music in High School

Constructing flexible lesson plans and teaching music under supervision. Five hours per week. (Not counted in addition to Education 327T.) *Prerequisite:* Music 327K (or concurrently) and senior standing.

328K Observation of Music Teaching in the Elementary Schools

Principles of teaching and observation of class work in music. Two lectures and minimum of five hours per week in the classroom. (Not counted in addition to Education 328.) *Prerequisite:* Education 318T and senior standing.

328L Student Teaching of Music in the Elementary Schools

Constructing flexible lesson plans and teaching music under supervision. Five hours per week. (Not counted in addition to Education 328T.) *Prerequisite:* Music 328K (or concurrently) and senior standing.

630 Piano Methods and Materials (\*)

An intensive study of the materials and methods of teaching piano, primarily designed for students planning teaching careers. Practice teaching emphasized in the second semester. *Prerequisite:* Junior standing including six semester hours of piano.

351 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.

351T Choral Methods, Techniques and Conducting

Continuation of Music 351. *Prerequisite:* Music 351 and permission of department head.

352K 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.

375 Teaching of Music in the Elementary Schools (Formerly Music 310)

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.)

375K Teaching of Music in the Elementary Schools

Continuation of Music Education 375. For Elementary Education Majors. *Prerequisite:* Music Education 375, or equivalent musical training.

376 Teaching of Music in the Elementary Schools

The study of procedures in the teaching of music in the first six grades. The child voice, its development and classification. Introduction of notation, all kinds of song materials, rhythm bands, appreciation methods and creative music for children. For Elementary School Music Majors. *Prerequisite:* 318T and four hours of music.

**376κ 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. General treatment of choral and instrumental music, music appreciation, theory and integration. Public school music as it is related to the life and needs of a community is fully studied. *Prerequisite:* Education 317 and six hours of music.

**377 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:* Education 317 and nine hours of music.

**378 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 and 6 hours of music.

**380 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.

**381 Advanced Conducting**

Practical advanced training in choral and instrumental problems in conducting for students who have had considerable training or experience. *Prerequisite:* Consent of the Head of the Department.

**389 Classroom Use of Audio-Visual Equipment and Materials in the Elementary Schools**

(Not counted in addition to Education 389.) *Prerequisite:* Twelve semester hours in Music or Education and permission of the department head.

**GRADUATE COURSES****390 Seminar: Problems in Music Education**

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:* Admission to the Graduate Division without deficiencies in major or minor, or consent of the Head of the Department.

**390κ Seminar: Problems in Music Education**

*Extension of 390. Prerequisite:* Music 390.

**392 Graduate Courses in Applied Music (\$5 + \$45)**

Two thirty-minute lessons and twelve practice hours per week. *Prerequisite:* Admission to the Graduate Division without deficiencies in major or minor, or consent of the Head of the Department.

**392κ Graduate Courses in Applied Music (\$5 + \$45)**

Two thirty-minute lessons and twelve practice hours per week. *Prerequisite:* Music 392.

**393 Workshop in Problems in Music Education**

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:* Admission to Graduate Division without deficiencies in major or minor, or consent of the department head.

**394 Workshop in Musical Interpretation**

Teaching musicianship; class participation in the development of meaningful interpretation of selected works, instrumental and vocal, working with visiting

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soloists and groups; for conductors and performers. *Prerequisite:* Admission to Graduate Division without deficiencies in major or minor, or consent of department head.

395 Field Work in Music Education

The student works individually on a selected topic with an assigned specialist in that area under supervision of department head. *Prerequisite:* Admission to Graduate Division without deficiencies in major or minor, or consent of department head.

395k Field Work in Music Education

Continuation of Music Education 395. *Prerequisite:* Music Education 395.

**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 must be maintained in the major instrument. For full description of the course of study for any Applied Music course consult the chairman of the department.

**Group Instruction**

**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 206, Piano 206, etc.

206, 206k, 216, 216k, 226, 226k (\$5 + \$5)

Two classes and six practice hours per week. *Prerequisite:* Preceding course or placement. (Exception: only \$2.00 for Class Voice.)

227 Piano Sight Reading Class (\*) (\$2)

Emphasis on actual playing experience and sight reading at the piano. Two classes per week. *Prerequisite:* Junior standing and permission of instructor.

**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.

201, 211, 221, 231 (\*) (\$2)

Three hours per week. *Prerequisite:* Preceding course or placement.

205, 215, 225, 235 Chorus (\*) (\$2)

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.

**Individual Instruction**

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. Those who desire to continue their study with instructors not on the College staff are required to pass satisfactory auditions before the music faculty in order to obtain credit. These arrangements must be made with the chairman of the department at the time of registration.

At the completion of the second year, candidates for the major in Applied Music must satisfactorily pass an audition before being admitted to upper division courses.



Courses numbered 400 through 439 may be completed in two Summer Sessions. However, only one half of each course numbered 600 through 839 may be completed in two Summer Sessions; these courses will be designated as 609AX and 609AY, etc.

**369 Selected Problems in Applied Music (\$5 + \$45)**

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 the Head of the Department.

**369K Selected Problems in Applied Music (\$5 + \$45)**

Two thirty-minute lessons and twelve practice hours per week. *Prerequisite:* Music 369.

**Piano, Organ**

These courses will be designated as Piano 405, Piano 405L, etc.; Organ 405, Organ 405L, etc.

**PRIMARY:** For non-majors and students needing preparatory study.

**405, 405L, 405M (\*) (\$5 + \$20)**

One thirty-minute lesson and six practice hours per week. *Prerequisite:* Preceding course or placement.

**605, 605L (\*) (\$5 + \$40)**

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

**605M, 605N (\*) (\$5 + \$45)**

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.

**409, 419, 429, 439 (\*) (\$5 + \$20)**

One thirty-minute lesson and six practice hours per week. *Prerequisite:* Preceding course or placement.

**609, 619 (\*) (\$5 + \$40)**

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

**629, 639 (\*) (\$5 + \$45)**

Two thirty-minute lessons and nine practice hours per week. Recital participation. *Prerequisite:* Preceding course or placement.

**For Majors in Applied Music**

**809, 819 (\*) (\$5 + \$40)**

Two thirty-minute lessons and fifteen practice hours per week. *Prerequisite:* Preceding course or placement.

**829, 839 (\*) (\$5 + \$45)**

Two thirty-minute lessons and fifteen practice hours per week. Recital participation. *Prerequisite:* Preceding course or placement.

**Orchestral and Band Instruments**

(Flute, Oboe, Clarinet, Bassoon, Saxophone, Violin, Viola, Violoncello, String Bass, Cornet or Trumpet, French Horn, Trombone or Baritone, Tuba, Percussion, Harp)

These courses will be designated as Flute 405, Flute 405L, etc.; Oboe 405, Oboe 405L, etc.

**PRIMARY:** For non-majors and for students needing preparatory study.

**405, 405L, 405M (\*) (\$5 + \$20)**

One thirty-minute lesson and six practice hours per week. *Prerequisite:* Preceding course or placement.

**605, 605L, (\*) \$5 + \$40)**

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

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605M, 605N (\*) (\$5 + \$45)

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.

409, 419, 429, 439 (\*) (\$5 + \$20)

One thirty-minute lesson and six practice hours per week. *Prerequisite:* Preceding course or placement.

609, 619 (\*) (\$5 + \$40)

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

629, 639 (\*) (\$5 + \$45)

Two thirty-minute lessons and nine practice hours per week. Recital participation. *Prerequisite:* Preceding course or placement.

**For Majors in Applied Music**

809, 819 (\*) (\$5 + \$40)

Two thirty-minute lessons and fifteen practice hours per week. *Prerequisite:* Preceding course or placement.

829, 839 (\*) (\$5 + \$45)

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.

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.

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.

405, 405L, 405M (\*) (\$5 + \$20)

One thirty-minute lesson and six practice hours per week. *Prerequisite:* Preceding course or placement.

605, 605L (\*) (\$5 + \$40)

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

605M, 605N (\*) (\$5 + \$45)

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

**SECONDARY:** For music majors and all qualified students.

409, 419, 429, 439 (\*) (\$5 + \$20)

One thirty-minute lesson and six practice hours per week. *Prerequisite:* Preceding course or placement.

609, 619 (\*) (\$5 + \$40)

Two thirty-minute lessons and nine practice hours per week. *Prerequisite:* Preceding course or placement.

629, 639 (\*) (\$5 + \$45)

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 PROFESSOR KELSEY;  
 INSTRUCTORS BOSWORTH, HACKETT

### **PHILOSOPHY**

#### **312 Logic**

Introduction to essentials of correct thinking; deductive and inductive reasoning, fallacies and argumentation, scientific methodology. *Prerequisite:* Sophomore standing.

#### **314 Problems of Philosophy**

An introduction to the main general problems of Philosophy such as those of matter, mind, life, truth and value. *Prerequisite:* Sophomore standing.

#### **316 Philosophies of Life**

Study of the various classical philosophies of life and their moral, religious, and esthetic values. *Prerequisite:* Sophomore standing.

#### **318 Marriage and the Family**

A practical study of the factors which make for stability of family life. Special emphasis is placed on the ethical aspects of the conjugal and domestic relationships. *Prerequisite:* Sophomore standing. May not be counted for credit in addition to Sociology 325 and Sociology 349.

#### **319 Ancient and Medieval Philosophy**

History of philosophic thought from Thales to Bacon and Hobbes. *Prerequisite:* Philosophy 314.

#### **320 Modern Philosophy**

History of philosophic thought from Descartes and Spinoza to the present. *Prerequisite:* Philosophy 314.

#### **330 Ethics of Human Relationships**

General ethics, including such subjects as the following: the "dimensions" of the human being; the dignity and worth of the person; the psychology of human motivation; the norms of morality; moral law and moral obligation; the order of rights and duties; property right, collective bargaining, and the wage contract; man in the family and in the state; the international order. *Prerequisite:* Junior standing.

#### **331 Integration of the Fields of Knowledge**

An attempt to show the interrelationship of the several branches of human knowledge; the close bond existing among the physical, biological, and social sciences; our quest to synthesize such knowledge so as to evolve therefrom a clearer perspective as to the purpose of God and the universe, man's place in the world and his ultimate destiny. *Prerequisite:* Junior standing.

#### **332 Philosophy of Civilization**

A comprehensive study of the development of civilization and culture, of the theories of the meaning of history, of man's place in the world today and his potential destiny. (Formerly Philosophy 317). *Prerequisite:* Junior standing.

#### **333 Philosophy of Religion**

A study of the origin, nature, validity and concepts of religious thought in general. *Prerequisite:* Junior standing.

[ PSYCHOLOGY ]

**PSYCHOLOGY**

**310 Introductory Psychology**

A survey of basic principles in general psychology. *Prerequisite:* Sophomore standing.

**312 Business and Applied Psychology**

A study of the psychological principles applied to modern business, industry, law, medicine, education, and the arts. *Prerequisite:* Psychology 310 or junior standing in Business Administration.

**314 Child Psychology**

The psychology of the infant and the child with special reference to mental development. *Prerequisite:* Psychology 310. (Not counted in addition to Education 314.)

**318 Psychology of Adolescence**

The nature and the development of the individual through the adolescent period as related to the processes of secondary education. *Prerequisite:* Psychology 310. (Not counted in addition to Education 316.)

**340 Personnel Psychology**

A survey of psychological principles and methods in personnel administration. *Prerequisite:* Six hours of Psychology including Psychology 310 or senior standing in Business Administration.

**341 Advanced General Psychology**

Extension of basic principles in general psychology as to their origin and application. Special emphasis on contemporary problems in psychology. *Prerequisite:* Six semester hours of Psychology including Psychology 310.

**343 Clinical Psychology**

A study of clinical problems, case study methods and discussion of psychological tests used in common clinical situations. *Prerequisite:* Six semester hours of Psychology including Psychology 310.

**350 Psychological Statistics (\$2)**

A survey of the basic statistical concepts, techniques and methods used in Psychology and Education. Two lectures and two laboratory hours per week. *Prerequisite:* Six hours of Psychology including Psychology 310. (Formerly Psych. 315).

**351 Social Psychology**

A study of social phenomena from the psychological point of view; motivation, attitudes, propaganda, group behavior and control. *Prerequisite:* Six semester hours of Psychology including Psychology 310.

**352 Abnormal Psychology**

Study of the gifted, mentally defective, neurotic, delinquent, criminal and psychotic with particular attention to factors in development and distinctive manifestations of these deviations from the normal. *Prerequisite:* Six semester hours of Psychology including Psychology 310.

**353 Psychological Testing (\$2)**

Practicum training in administration, scoring and interpretation of psychological measurements. Two lectures and two laboratory hours per week. *Prerequisite:* Psychology 310 and 350 or its equivalent. (Not counted in addition to Ed. 396x).

**354 Vocational Guidance and Counseling**

A study of principles, methods and techniques used in counseling and guidance interviews as applied to school, home, personal, social and industrial situations. *Prerequisite:* Six semester hours of Psychology including Psychology 310. (Not counted in addition to Education 396). (Formerly Psychology 339).

- 355 **Mental and Educational Measurement**  
Introduction to principles and methods of measuring intelligence and achievement. Elements of test construction and validation. *Prerequisite:* Six semester hours of Psychology including Psychology 310. (Not counted in addition to Education 355.)
- 357 **Mental Hygiene**  
The fundamentals of a preventive approach to mental illness. Emphasis on the normal personality. *Prerequisite:* Six semester hours of Psychology including Psychology 310. (Not counted in addition to Education 357.)
- 360 **Psychology of Speech Pathology**  
A study of the basic facts, principles and methods of understanding the personality and behavior of individuals who possess speech defects, with particular reference to methods of reeducation, adjustment and testing techniques. *Prerequisite:* Junior standing in Speech, or six semester hours of Psychology, or eighteen hours of Education and the permission of the chairman of the department. (Not counted in addition to Education 395M or Speech 360.)
- 361 **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 310.
- 362 **Comparative and Experimental (\$2)**  
Survey of methods and theories of experimentation on infrahuman and human behavior. Experiments will be performed to illustrate methods and theories. Two lectures and two laboratory hours per week. *Prerequisite:* Nine semester hours of Psychology including Psychology 310 and 350 or its equivalent.
- 366 **Factors in Pre-School Child Development**  
The development of the child from the embryonic period through the fifth year. Emphasis upon the sequential nature of motor and emotional development, growth of understanding and personality. *Prerequisite:* Nine semester hours of Psychology including Psychology 310. (Not counted in addition to Speech 366 or Education 395S.)
- 371I **Independent Research**  
Independent student work under the supervision of the staff. *Prerequisite:* Twelve semester hours of Psychology including Psychology 310 and 350, or its equivalent. 371I may be repeated for credit, e.g., 371II, etc.
- 378 **Psychology of Personality Development**  
A study of the factors of personality development of the individual considering heritage and life experience. Case history and practical applications. *Prerequisite:* Six semester hours of Psychology including Psychology 310. (Not counted in addition to Education 395T.)
- 379 **Emotional and Mental Differences**  
A study of emotional and mental motivation patterns with emphasis on diagnosis and prediction during adolescence through early adulthood. *Prerequisite:* Nine semester hours of Psychology including Psychology 310. (Not counted in addition to Education 395N.)
- 390I **Graduate Independent Research**  
Independent graduate work under supervision of the staff. *Prerequisite:* Eighteen semester hours of Psychology or permission of the instructor. 390I may be repeated for credit, e.g., 390II, etc.



## **Degrees Conferred in May, 1954**

### **Engineer of Mines**

CISNEROS, VINCENTE, JR.

### **Bachelor of Science in Mining Engineering**

ATWATER, LEIGH R. B., JR.	LEVY, VICTOR
COLLISON, JEROME NULTON, JR.	LITTLE, ROBERT K.
DALRYMPLE, CHARLES G.	LUNDY, JAMES HARWOOD, JR.
ESPARZA, HECTOR J.	MARTINEZ, ROMULO M.
FATHEREE, JOHN DUMONT, JR.	MCCOWN, ALBERT RICHARD
FURMAN, JULIUS S.	PERDUYN, JAMES ALBERT
HEARON, TOM EVERETT	PULTE, JOHN EARL

### **Bachelor of Science in Engineering (Civil)**

BOYER, JACK P.	MALONEY, JAMES PARKER
CANO, OSCAR HECTOR	MARQUEZ, JESUS JR.
DAVIS, WILLIAM V.	MARTCH, W. E.
GALLARDO, ALFONSO	MATTHEWS, B. J.
GILES, GEORGE RICHARD	NEVAREZ, FRANK
GRAY, GLEN R.	QUINN, WILLIAM F.
	SIMENTAL, ENRIQUE

### **Bachelor of Science in Engineering (Electrical)**

ADAMS, J. MACK	GREEN, RALPH T.
BLACK, HERMAN W.	MURDOCK, EDWIN A.
DILLMAN, GEORGE P.	PEÑA, ALBERT, JR.
DRYDEN, JAMES D.	SNARE, ROBERT C.
FUENTES, FERNANDO	VICKERS, EDWIN DANIEL, JR.
	WONG, LAWRENCE

### **Bachelor of Arts**

ACOSTA, ESPERANZA	CHRISTAKIS, ALICE
ABRAHAM, OLGA JEAN	COBOS, JULIETTE
AGER, JAMES DALE	CONKLIN, CAROL ANN
ANDERSON, BARBARA ANN	DE LA TORRE, MARTHA OFELIA
ARAIZA, IRENE MARY	DESHA, PAUL GILBERT
BALL, JACKIE LORENE	DODSON, ALBERTA NELLIE
BARNES, MARGUERITE LANE	DURAN, ALEXANDER, JR.
BARRES, STEPHEN JOHN	DWYER, HUGH BARTEK
BLACK, REY D.	EDWIN, JOHN REED
BLOMBERG, IVAR HERMAN	EHRENSTEIN, PERRY ROBERT
BRYAN, STANLEY EDWARD, JR.	ELLIOTT, MARY ALICE LITTLEJOHN
BRYSON, MELVIN CONREY	ENLOE, MYRNA LOY
CANTRELL, NORMAND HARRIS	FENLEY, BELLE

[ GRADUATES ]

**Bachelor of Arts**

FLOSI, MARVIN L.	PEREZ, SARA ESTELLA
GALBRAITH, MARY CAROLINE	PITNEY, BETTY LOUISE
GALVAN, OSCAR GEORGE	PLUMBLEY, WILLIAM ROBERT
GARRETT, REBECCA TURNER	RAMSEY, CLEONIA BETH
GENO, ALICE HEGSTAD	REHIN, JOSEFINA
GALLANZA, HELEN BETTY	REYES, CARMEN
GISH, MARY JEANNE	RILEY, WILLIAM ALLEN
GOEBELT, FRANK JOSEPH	ROCHE, KATHERINE ROMAINE
GONZALEZ, HECTOR MARTIN	RODRIGUEZ, EMMA
GOODNOW, ROBERT KENT	ROSENBAUM, BARBARA
GOULDING, JOSEPH CARROLL	ROTH, BETTY JOAN
GRECCERSON, HILMA M.	RUIZ-ESPARZA, MARIA AURORA
GREGORY, JOAN MARIE	SALAZAR, RUBEN
GRIFFIN, GLEN CHARLES	SALMON, LANTHA ESTELLE
HARRISON, CONSTANCE G.	SALMANSON, IRWIN
HARVEY, T. W.	SANDERSON, ROBERT WALLER
HAWKINS, MINA FORD	SCHAEFER, PAUL, JR.
HILL, BETTY JOYCE GOERS	SCHOCK, LOLA JOAN
HOLT, CHARLOTTE PEGGY	SCOTT, ROBERT CHURCHILL, JR.
HUCHTON, PAUL JOSEPH, JR.	SERNA, DARIA
HURT, DORRIS JANE	SHINAUT, RICHARD KENNEDY
ISAACKS, WANDA WALKER	SKINNER, DOROTHY ALICE
JENKINS, MARTHA ANN	SKOV, MILDRED JANE WATERSON
JENSEN, DIANE	SMITH, ELIZABETH ANN KERR
JUVRUD, DUANE OWEN	SORD, BILL
KERR, NANCY SUE	SORENSEN, SHERARD HIGHLAND
LAMA, TONY EDWARD, JR.	STEUCKLER, PAUL FREDERICK
LAUFEN, GISELA MARIA	SURRATT, HELEN KAY
LAVIS, GLORIA GOLDMAN	THOMPSON, MARY MATHILDA
LILES, JOHN COUCH	THURSTON, HELEN ADELAID
MCDONALD, HARRIET BENNIE	TREJO, HUMBERTO FRUTOS
MAFFEI, DOLORES LORETTA	TURNER, THOMAS ALDEN
MILLER, ELIZABETH LOUISE	UMBENHAUER, NANCY MARIE
MILLER, PEGGY ANN	VARGAS, LUPE
MOORE, ROY ALLEN, JR.	VASQUEZ, HENRY FERMIN
MORRILL, DONALD PRENTISS	WALKER, NANCY LEA
ODELL, EUGENE PINKNEY, JR.	WILBANKS, NANCY ANN
PACET, JAMES SANBURN	WOELFEL, DOROTHY ANNETTE
PALMER, JIMMIE WHITTON	WRIGHT, JERRY THOMAS
PATTERSON, PATRICIA	WRIGHT, SUSAN ENDICOTT
PATTERSON, PATRICIA ANNE	



**Bachelor of Science in the Sciences**

ACEVEDO, BENITO MANUEL	HERNDON, WILLIAM C.
BARBA, CECILIA	MILLER, JOHN BRUCE
BLOUNT, CHARLES E.	PATRICK, THOMAS BOWEN
BRYAN, GEORGE ANTHONY, JR.	RAY, COLLEEN LOUISE
BUTTERWORTH, SAMUEL HUGHES, JR.	ROEPKE, RUSSELL LEWIS
HENDERSON, DAVID LLOYD	SADA, MARIA CECILIA

**Bachelor of Business Administration**

ACOSTA, DOLORES	MARTINEZ, VICTOR MANUEL
CARDONA, JULLAN	MENDOZA, JESUS
CHAVEZ, CAROLINA UZETA	MONROE, RALPH BROWN
DIRMAYER, ROBERT PINCKNEY	MURPHY, CHARLES DONALD
DUKE, GLORIA JEAN	NAGEL, CHARLES EVANS, JR.
FINNEGAN, ROBERT WILLIAM	O'LEARY, LAWRENCE DUNN
FLINK, ROBERT ALEXANDER	PRUSZKA, RICHARD LAWRENCE
FLORES, HILDA	PYE, GERALDINE
GREEN, JACK ROBERT	REED, THOMAS
HART, JAMES MONROE	STEVENS, CHARLENE
HEAVILON, JOAN DOLORES	STUART, WILLIAM HENRY
HERSKOWITZ, EDWARD BERT	SULLIVAN, WILLIAM GEORGE, JR.
HILL, JERRY PAUL	TODD, BILLY J.
INGRAM, RICHARD B.	TRAEDER, MAYNARD A.
JACKSON, THOMAS O.	VALDEZ, GILBERTO I.
KIDDER, TERRY WALTER	WOMELDORF, KENNON
MALDONADO, IGNACIO ARTURO	

**Bachelor of Music**

BOOTH, ROBERT H. W.	SONLAT, DURAE LINDA
DUNCAN, GENEVIEVE BROCK	STEVENSON, CURTIS ALLEN
HIGH, MARY LUCILE	TATTE, REILLY WILSON, JR.
HUNT, ROBERT CYRUS	TERRAZAS, JESUS, JR.
KARAFFA, MYRON IRVING	WELLS, BETTE COLLINS
	WHITEFIELD, CLAUDIA MAE

**Master of Arts**

AHO, WAYNE OLIVER	HARDIN, MIKE OLIVER
BEAN, MABEL WILMA	KELLY, CHARLESIA ALENE
BELL, MAXINE PLUMMER	KIELY, RUTH CONSTANCE
CARTNEY, BARBARA JEAN	MCKIE, JANET ALIDA
CLIFTON, LOLA MAE	MILLER, NANCY CORINNE
CORDOVA, CARLOS	THOMPSON, BETTY BROOME
DEL VALLE, LAURO	THURBER, MARY SMITH
ERICKSON, LILLIAN ALBERTA	TREVINO, ALICIA
GRANT, JOSEPH HAMILTON	VARNER, MARY HARDIE
GREBE, TILLIE MEYER	WALKER, ROSALIE WITH

### **Degrees Conferred in August, 1954**

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#### **Bachelor of Science in Engineering (Civil)**

CRESPO KRAUSS, EDUARDO

GARCIA, FERNANDO

#### **Bachelor of Science in Engineering (Electrical)**

ANDOW, ANGEL

MAHLER, JACK J.

BAIRD, JOHN K.

PERRY, ROBERT L.

HEARD, ROY L.

WILLIAMS, JACK L.

#### **Bachelor of Arts**

ALVAREZ, ANA AURORA

HERSHBERGER, CHARLES EUGENE

ANDERSON, GLORIA ANNE

HUGHES, EDWARD CLINTON

ARRIETA, MAURO

JABALIE, MARY LORRAINE

BOWMAN, PATRICIA

JEMENTE, CARMEN CHAVEZ

BRADLEY, CLARA R.

LACKEY, STANLEY FRANKLIN

BRANDON, JACK ALLEN

LEPPING, MARIAN BARBARA

BREWER, STANLEY WILLIAM

LIZARRAGA, ALEJANDRO M.

BROOKS, ANN

MCCAMANT, MARY LOUISE

CANDELARIA, FREDERICK HENRY

MACFADYEN, ISABEL COTTER

CAROLINE, ROBERT ALTON

MADRID, LUCILLE

CARSON, JOHN FRANCIS

MAYNES, DELIA FERNANDEZ

CARVAJAL, HOWARD HARMAN, JR.

NEWMAN, FLETCHER CAMPBELL

CHAN, EDDIE CHIN SUN

NUNEZ, CELIA

CHILDERS, JAMES HARRY

ORTIZ, RODOLFO

CULLINANE, DANIEL BERNARD

O'SHAUGNESSY, GERRIE SUE

DILLON, CARL EVERETT

PAYAN, ERNESTO MOLINA

DUNN, JAMES EARL

PEREA, RODOLFO

EHRENSTEIN, CAROLYN LE MASTER

PETONE, JOAN THERESA

ESTRADA, RODOLFO

RENDALL, JOYCE FONCYNE

FUSELIER, JOSEPH C., JR.

RICKS, NADINE WILSON

GONZALEZ, SAUL

RILEY, CLOVIS BENJAMIN

HAMLYN, MARY JANE WOODRUFF

ROSALES, CAROLINA

HARRIS, LAVERN DALE

SANTRY, THOMAS D., JR.

HERNANDEZ, NORMA GONZALEZ

WENDLER, PAUL GRAFTON

WREAN, ANN HUNTER

#### **Bachelor of Science in the Sciences**

ANDERSON, SHERROD VAN

LANE, JOHN FRANKLIN

CHAVEZ, CARL ALFONSO

MENDOZA, MARIA DEL CARMEN

KUSTOFF, THELMA YVONNE

STANFIELD, JOHN CHARLES

***Bachelor of Business Administration***

BOYD, SIDNEY HAMPTON  
DAWKINS, LOLA B.  
DYOUB, JOSE  
HELANDER, ADRIAN  
MARSH, FRANK DANIEL, JR.

MELSON, FRANCES ELIZABETH  
MOORE, JAMES W.  
PATE, GILBERT ALAN  
SAM, ROBERT GEORGE  
VEYTIA, GEORGE HUMBERTO

***Bachelor of Music***

COCKS, FRANCES LOUISE  
DONGES, EVELYN RUTH

FAIRLEY, BEVERLY HOPE  
LEWIS, GENE RAY  
LONDON, EDWARD FRANCIS, JR.

***Master of Arts***

ADAMS, AGNES LEIGHTON  
ARCHER, FAYE BISHOP  
ARMSTRONG, SALLIE DIXON  
ATER, PAULINE RAGSDALE  
BAXTER, ELISA YIP  
BISHOP, EUGENIA LUCYLE  
BLANCETT, RICHARD P.  
BREWTON, MURRAY  
BROOM, MILDRED PEAKE  
CASAS, SABÁS DAVID  
CHAVEZ, TOM  
COOLEY, WALTER CLARENCE  
CRUZE, EDYTHE SUNDQUIST  
DAVIS, LYMAN CLARK  
DAVIS, SALLIE RUTH  
DELGADO, DAVID  
DENNY, JOHN WILLIAM  
FRANCO, ADALBERTO REDE  
FRIEDMAN, ARTHUR  
FULPS, WELTON JAMES  
GARY, QUEEN MURPHY  
GILBERT, M. W., JR.  
GILLEY, ESTHER  
GUNTER, WILLIAM FRANKLIN  
HOUSER, WINIFRED GOODLOE  
KELLEY, MARCUERITE WILSON

KOWALEWSKI, ALFINIA MARY  
LOFTIN, LOREET  
LOPEZ, HORTENSIA  
MACDOUGALL, JOSEPH FRANCIS  
McCORMACK, ELLEN TERESA  
MISKIEL, KATHERINE CHARLOTTE  
MULHERN, DONALD JOSEPH  
NABHAN, JAMES JEROME  
NOLD, LUCILLE VOELZEL  
OLIVER, BETTY JEAN  
PATERSON, ESTHER REEVES  
PIÑON, ALFRED  
POLLITT, FLORENCE BURCHARD  
REDMAN, RUTH ANN  
REID, MARJORIE M.  
ROGERS, NANNIE ESTES  
SLOGERIS, ALMIRA  
STAFFORD, HOWARD ALLEN  
STUECKLER, PAUL FREDERICK  
SZOKE, ELIZABETH K.  
VALENTINE, MARY VIRGINIA DAVIS  
WAKEFIELD, VIVIAN WEAVER  
WALKER, ROBERTA RUTH  
WEBB, JAMES RICHARDS  
WILLIAMS, KATHERINE BUCKLEY

## Statistical Summaries

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### S T U D E N T S

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		LONG SESSION, 1953-1954		
		Men	Women	Total
Engineering				
Postgraduates	3	-----	3	
Seniors	67	-----	67	
Juniors	57	-----	57	
Sophomores	109	-----	109	
Freshmen	380	-----	380	
Non-credit	17	-----	17	
Total	633	-----	633	
Arts and Sciences				
Postgraduates	360	260	620	
Seniors	165	115	280	
Juniors	222	142	364	
Sophomores	285	168	453	
Freshmen	875	462	1337	
Non-credit	82	65	147	
Total	1989	1212	3201	
Total Individual Students	2622	1212	3834	

	SUMMER SESSION, 1952		
	Men	Women	Total
Students registered in the first term_____	764	549	1313
Students registered in the second term_____	674	423	1097
Total_____	1438	972	2410
Total Individual Students in Summer Session_____	949	677	1626

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*W. A. Whiteley*

**SUPPLEMENTARY BULLETIN**

**Catalog (No. 5501) 1955--1956**

**COURSES SCHEDULED FOR THE SPRING SEMESTER, 1956,  
BUT NOT DESCRIBED IN THE CURRENT CATALOG.**

**BIBLE 308 - Elementary New Testament Greek.**

Continuation of Bible 307. Prerequisite: Bible 307.

**BUSINESS ADMINISTRATION 307 - Business Machines (\$2.00).**

**BUSINESS ADMINISTRATION 390 - Development of Major American Industries.**

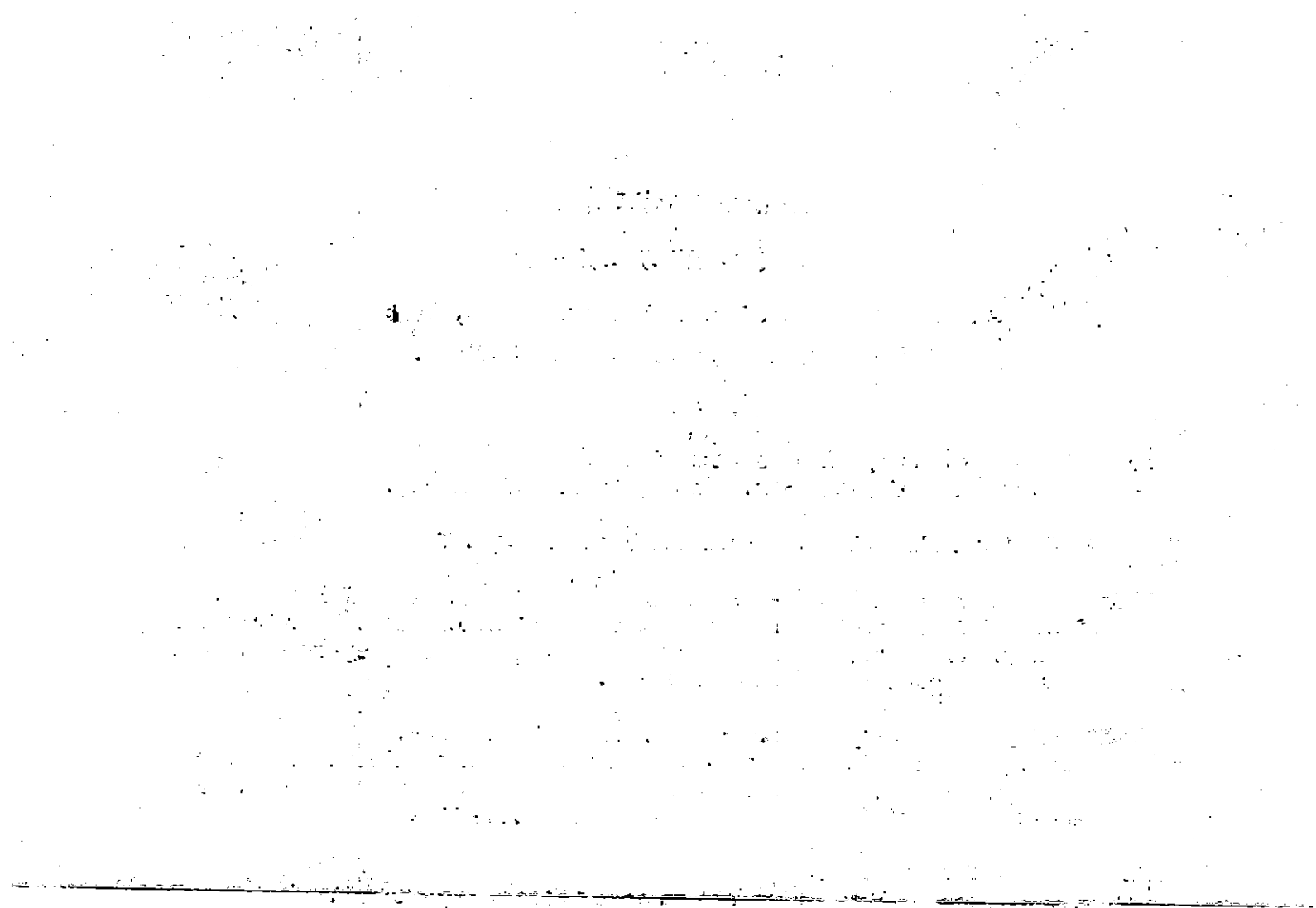
Prerequisite: Admission to the Graduate Division without deficiencies in major or minor, or consent of the Chairman of the Department. Not counted in addition to Economics 390.

**ECONOMICS 390 - Development of Major American Industries.**

Prerequisite: Admission to the Graduate Division without deficiencies in major or minor, or consent of the Chairman of the Department. Not counted in addition to Business Administration 390.

**MINING 111 - History of Mining**

Prerequisite: Permission from head of Mining Department.



## **SUPPLEMENTARY BULLETIN**

Catalog (No. 5501) 1955 - 1956

### **Courses Scheduled for the Fall Semester, 1955, but not described in the current Catalog**

#### **BIBLE 307 — Elementary New Testament Greek.**

An intensive study of New Testament Greek, with reading in the first epistle of John. There will be a study of vocabularies; declension of nouns, adjectives, and pronouns; the conjugation of verbs; oral drill; grammar; and written exercises.

#### **BUSINESS ADMINISTRATION 307 — Business Machines (\$2.00).**

A course designed to teach the operation of business machines, particularly adding machines and calculators. Speed and accuracy, necessary for a working knowledge of the machines, are developed by solving practical business problems. The problems include the four fundamental processes, as applied to good business usage.

#### **BUSINESS ADMINISTRATION 355 — Credits and Collections.**

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 409, or Economics 303 and Junior standing, or consent of Department Chairman.

#### **BUSINESS ADMINISTRATION 390 — Development of Major**

**American Industries.**

A study of the beginning, development, and current status of major American industries. Considers techniques, processes, management, personalities and companies involved. Prerequisite: Admission to the Graduate Division without deficiencies in major or minor, or consent of the Chairman of the Department. Not counted in addition to Economics 390.

#### **ECONOMICS 390 — Development of Major American Industries.**

A study of the beginning, development, and current status of major American industries. Considers techniques, processes, management, personalities and companies involved. Prerequisite: Admission to the Graduate Division without deficiencies in major or minor, or consent of the Chairman of the Department. Not counted in addition to Business Administration 390.

#### **EDUCATION 398E — Organization and Administration of the**

**Elementary School.**

Problems confronting the elementary school principal will be studied. For example: teacher schedules, classroom schedules, teachers' meetings, organization of the staff, supervision, curriculum development and related problems will be considered. Prerequisite: Admission to Graduate Division without deficiency in the major or minor.

#### **GOVERNMENT 210 — Constitutions of the United States and Texas.**

This course is designed to meet teacher certification requirements for out-of-state graduate students. It will not satisfy any part of the Government requirement for the Bachelor's degree at Texas Western College. Prerequisite: Graduate standing, or consent of the Chairman of the Department.

### **CHANGES AND CORRECTIONS**

Catalog, page 57, Bachelor of Science, Mathematics:

Change "Geology Major" to "Geology Minor".

Catalog, page 83, Education 301, 314, 316, 318T, 319C:

Strike out asterisk (\*).



¶ *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 and pebbles create the textural design.*

