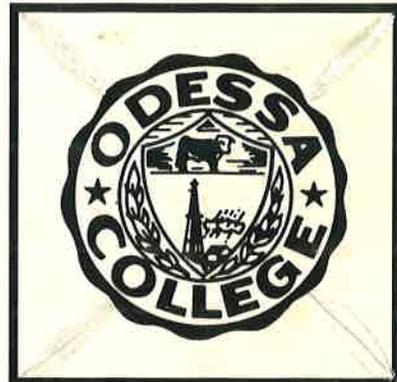


3

Master Hurst

Odessa College

Catalog 1973-1974



**Odessa College —
The Place To Begin
If You Really Want
To Get Somewhere!**

Odessa College

Bases
332-4946



1973-1974

Approved and Accredited by

The Association of Texas Colleges
The Texas Education Agency
The Southern Association of Colleges and Schools
Coordinating Board, Texas College and University System
Texas Educational Theatre Association
Southwest Theatre Conference
American Theatre Association
Texas Association of Music Schools
National Association of Schools of Music
National League for Nursing

Member

American Association of Community and
Junior Colleges
Texas Association of Public Junior Colleges
Texas Association of Junior Colleges
Southern Association of Junior Colleges
National Junior College Athletic Association
Western Junior College Athletic Conference
American Library Association
Texas Junior College Press Association
Texas Intercollegiate Press Association
Radiologic Technology Association of
America
Texas Association of Schools of Art

Volume Twenty-Seven

Spring 1973

Odessa College



For information regarding admission write or telephone:

**Dean of Student Affairs
Odessa College
Box 3752
Odessa, Texas 79760
915 337-5381**

Information and regulations printed in this Catalog are subject to change. The Board of Trustees and the administrative staff may extend, expand, and possibly delete courses and programs outlined.

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Academic Calendar

**1973-
1974**

AUGUST							SEPTEMBER							OCTOBER							
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1973

1974

FALL SEMESTER 1973

- August 27 & 28, 1973 Faculty Meeting
- August 29, 1973 Freshman Orientation
- August 30, 1973 Registration
- September 3, 1973 Labor Day
- September 4, 1973 First Day of Classes
- September 10, 1973 Last Day to Register for
Five Classes or Less
- September 19, 1973 Last Day to Register for
Three Classes or Less
- November 21, 1973 Thanksgiving Recess Begins
at 5:00 p.m.
- November 26, 1973 Classes Resume
- December 17, 18, 19, 20 & 21, 1973 Final Exams
- December 21, 1973 End of Semester

MID-WINTER INTERIM SESSION, 1973-74

- December 27, 1973 First Day of Classes
- January 9, 1974 End of Session

SPRING SEMESTER 1974

- January 10, 1974 Registration
- January 14, 1974 First Day of Classes
- January 18, 1974 Last Day to Register for
Five Classes or Less
- January 29, 1974 Last Day to Register for
Three Classes or Less
- April 5, 1974 at 5:00 p.m. Spring Vacation Begins
- April 14, 1974 Easter Sunday
- April 15, 1974 Classes Resume
- May 6, 7, 8, 9 & 10, 1974 Final Exams
- May 10, 1974 End of Semester

SUMMER SESSION 1974

First Six Weeks 1974

June 3, 1974 Registration
 June 4, 1974 First Day of Classes
 July 4, 1974, Thursday Fourth of July Holiday
 July 12, 1974 Final Exams
 July 12, 1974 End of First Six Weeks

Second Six Weeks 1974

July 15, 1974 Registration
 July 16, 1974 First Day of Classes
 August 23, 1974 Final Exams
 August 23, 1974 End of Second Six Weeks

FALL SEMESTER 1974

August 26 & 27, 1974 Faculty Meetings
 August 28, 1974 Freshman Orientation
 August 29, 1974 Registration
 September 2, 1974 Labor Day
 September 3, 1974 First Day of Classes

1974

JUNE						
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History of Odessa College

The beginning of Odessa College can be traced back to 1946 when members of the community felt there was a need for the establishment of a junior college. The college became a reality on August 29, 1946, when Ector County voters created the Odessa Junior College District.

The first Odessa College classes were conducted in the fall of 1946 in the Odessa High School building, which is now Crockett Junior High. The College started with only six teachers, three administrators and 184 students. By the fall of 1971 the College had eleven administrators, 200 faculty members, and over 3,500 students. During the second year of operation, Odessa College built its first permanent facility on a tract of land which was eventually to become the permanent site of the present day campus.

In the summer of 1949, the Ector County school district decided the college should be separated from the district. The trustees created the Odessa Junior College District. And in the fall of 1949, the college doors opened on its permanent campus.

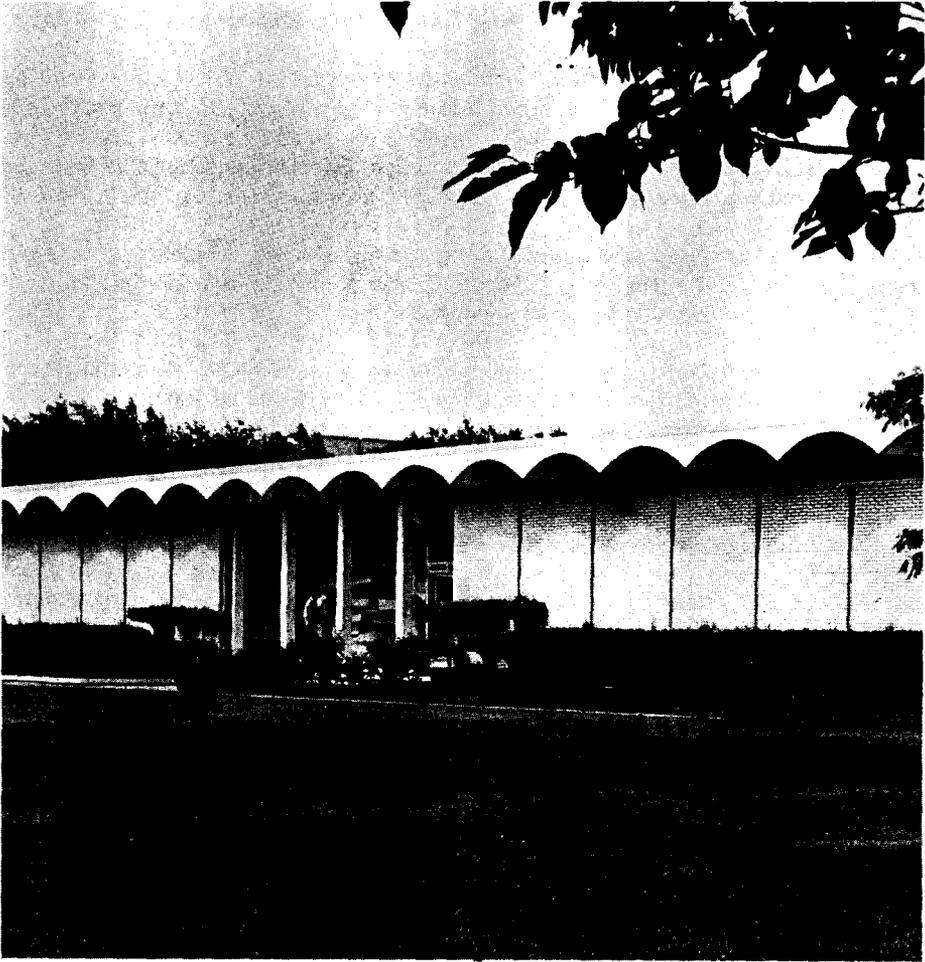
The planning and construction of the present campus over the years, the development of balanced transfer and career curricula, the recruitment of a professional staff, and the selection of a student body were all accomplished with service to the students and the communities being the prime objective.

In 1969, the Board of Regents approved a request from the Midland Independent School District to join the Odessa College District and on February 24, 1969, Midland voters approved a plan to join the OC District, and a branch campus was planned for Midland. Classes were to meet in Robert E. Lee High School. A short time later, the Odessa College District was renamed the Permian Junior College System.

The addition of the Midland campus, allowed the Permian Junior College System to grow rapidly, with students taking courses at both campuses. However, during the 1971-72 academic year it was determined that the two campuses which comprised the system had different goals and could not fully pursue them if they remained together.

A special bill was placed before a special session of the Texas State Legislature requesting that the two campuses be allowed to disannex; approval was immediate. In December, 1972, the proposition to allow disannexation was placed before the Midland people. They voted to establish the Midland Junior College District and build their own college plant. The Odessa College District was again a separate entity.

Currently, Odessa College has twenty buildings spread over an 80-acre campus in the heart of Odessa. There are more than 100 classrooms and laboratories in the facilities. The physical plant, including buildings, land, and equipment, has been valued at 15.9 million dollars. During its first 25 years the System has had an enrollment of 132,000 attending academic courses, evening college classes and special short courses.



Philosophy and Purpose

The comprehensive community college is dedicated to providing an education to those people who are seeking an understanding of the world and universe around them. In order to serve these needs, the college must necessarily adhere to an open admissions policy. The implication of this policy is restricted only by the physical and financial resources of the college, and the fact that all who attend must meet requirements which seek to assist students attain their educational goals.

The objectives of the college are:

1. To offer programs in occupational-technical training providing students with comprehensive skills and knowledge required in specialized fields.
2. To provide the first two years of college and pre-professional programs, preparing students within a field of study for further education at a four year college or university.
3. To provide a general education program for all people, preparing them for more effective involvement in society; as well as provide opportunities for increased personal and cultural enrichment.
4. To provide opportunities for adults including non-high school graduates, who wish to begin or to continue a college education.
5. To provide adults in the community an opportunity to continue their education, resulting in upgrading their occupational skills, cultural enlightenment and personal satisfaction.
6. To provide an educational environment which enables every student an opportunity to maximize his potential through complete student services.
7. To encourage and continue the use of facilities and programs for educational and cultural purposes by all citizens of the community.

Schedule of Tuition and Fees

All tuition and fees are due in full at the time of registration. No student may be enrolled in classes until his obligations are paid in full. All tuition and fees are subject to change without notice.

1. TUITION*

Sem Hours	District		Out-of-District			Out-of-State		**A.D.	***Foreign
	Resident Tuition	Building Use Fee	Tuition	Fee	Building Use Fee	Tuition	Building Use Fee	Nursing Tuition	Student Tuition
1	\$25.00	\$ 1.00	\$25.00	\$ 6.00	\$ 2.00	\$ 17.00	\$ 2.00	\$20.00	\$200.00
2	25.00	2.00	25.00	6.00	4.00	34.00	4.00	20.00	200.00
3	25.00	3.00	25.00	6.00	6.00	51.00	6.00	20.00	200.00
4	25.00	4.00	25.00	6.00	8.00	68.00	8.00	20.00	200.00
5	25.00	5.00	25.00	6.00	10.00	85.00	10.00	21.00	200.00
6	25.00	6.00	25.00	6.00	12.00	102.00	12.00	25.00	200.00
7	28.00	7.00	28.00	7.00	14.00	119.00	14.00	29.00	200.00
8	32.00	8.00	32.00	8.00	16.00	136.00	16.00	33.50	200.00
9	36.00	9.00	36.00	9.00	18.00	157.00	18.00	37.50	200.00
10	40.00	10.00	40.00	10.00	20.00	170.00	20.00	42.00	200.00
11	44.00	11.00	44.00	10.00	22.00	187.00	22.00	46.00	200.00
12	48.00	12.00	48.00	10.00	24.00	200.00	24.00	50.00	200.00
13	52.00	13.00	52.00	10.00	26.00	200.00	26.00	50.00	200.00
14	56.00	14.00	56.00	10.00	28.00	200.00	28.00	50.00	200.00
15	60.00	15.00	60.00	10.00	30.00	200.00	30.00	50.00	210.00
16	64.00	15.00	64.00	10.00	30.00	200.00	30.00	50.00	224.00
17	68.00	15.00	68.00	10.00	30.00	200.00	30.00	50.00	238.00
18	72.00	15.00	72.00	10.00	30.00	200.00	30.00	50.00	252.00
19	76.00	15.00	76.00	10.00	30.00	200.00	30.00	50.00	266.00
20	80.00	15.00	80.00	10.00	30.00	200.00	30.00	50.00	280.00
21	84.00	15.00	84.00	10.00	30.00	200.00	30.00	50.00	294.00

*It is the student's responsibility to register under the correct resident classification. If there is any question concerning his status and classification as a resident of Texas or the college district, it must be clarified prior to the time of his enrollment in Odessa College.

**A.D. Nursing students are subject to out of district fees and building use fees according to their resident classification.

***Foreign students are subject only to building use fees.

II. DEPOSITS AND SPECIAL FEES

A. * STUDENT ACTIVITY FEE

1. 11 Hours or More \$ 10.00
2. Less Than 11 Hours: Optional 10.00

B. ADVANCED STANDING

1. Examination 15.00

C. **LATE REGISTRATION AND SCHEDULE CHANGE FEES

1. First five days of classes 2.00
2. Remaining registration period 5.00
3. Schedule change fee (per course added) 2.00

D. COURSE FEES AND DEPOSITS

- Applied Music (½ hr. full-time student) 5.00
- Applied Music (1 hr. full-time student) 10.00
- Applied Music (½ hr. part-time student) 30.00
- Applied Music (1 hr. part-time student) 60.00
- Auto Mechanics 8.00
- Biology 8.00
- Business Machines 8.00
- Career Pilot Technology Laboratory 300.00
- Ceramics 5.00
- Chemistry 8.00
- Earth Science 5.00
- Electricity/Electronics 8.00
- Electronic Data Processing & Equipment Rental 15.00
- Foreign Language (141-142) 5.00
- General Property Deposit (Refundable) 10.00
- Geology 5.00
- Home Economics 5.00
- Machine Shop & Equipment Rental 15.00
- Nursing (161) 2.50
- Physical Education (Per Activity Course) 5.00
- Physics 5.00
- Radio Broadcasting Laboratory 8.00
- Reading 2.50
- Refrigeration and Air Conditioning 8.00
- Sculpture 5.00
- Typewriting 8.00
- Welding and Equipment Rental 40.00

E. MISCELLANEOUS FEES

1. Library Fee 2.00
2. Make-up Examination 5.00
3. Testing Fee 2.00
4. Transcript (First One Free) 1.00
5. Vehicle Registration (Day) 2.00
6. Vehicle Registration (Evening)50

F. REFUND OF TUITION

Refund of tuition and fees is made under the following regulations:

1. During the first week of class in a long semester, a refund of 50 per cent of the tuition charged:
2. During the second week, 20 per cent of the tuition charged; and
3. After the second week of classes, no refunds of tuition charged.
4. Refunds of 100 percent when classes are cancelled.

Upon request to the Dean of Student Affairs, a check covering all eligible refunds will be mailed to the address left by the student.

*This fee is to provide the cost of the college newspaper, picture, fine arts productions, and athletic events.

** **LATE REGISTRATION** for five classes or less shall be permitted for a period of five class days. Late registration for three classes or less shall be permitted for a period of seven additional class days.



Student Personnel Services

COUNSELING AND GUIDANCE SERVICE

Students are always welcome at the Counseling Center which is located in the Student Affairs Office, Baskin Hall, Rooms 105-106. Professional counselors are in their offices from 8:00 A.M. until 9:00 P.M. to serve students, whatever their need.

Odessa College, as a community college, attempts to provide educational opportunities for individuals who vary greatly in interests, age, and goals. Through its counseling services, the College strives to help each student achieve to his maximum capacity and develop to his potential. In this effort, academic, career, and personal counseling services are offered.

Implicit among the responsibilities of a community college is that of career planning for students not in the transfer program. To meet this need the Student Affairs Office has both a testing center and an occupational information library. Achievement, ability, aptitude, interest, and personality tests are available to assist the student in choosing a vocation.

Counselors are available for academic counseling and assistance with transfer programs. To assist students with transfer programs, the Student Affairs Office utilizes survey files and current catalogues of many senior colleges. Students are invited to take advantage of assistance offered in course selection and transfer to senior institutions.

At Odessa College concern for each student and his welfare holds priority. Counselors are available at all times to listen, to advise, to assist as the need indicates. Students are encouraged to come to the Counseling Center with personal problems, whatever their nature may be.

The Student Affairs Office was established for the purpose of meeting student needs. The Office makes every effort to fulfill this responsibility.

ADMISSIONS INFORMATION

Admission to the College is administered by the Dean of Student Affairs.

Entrance requirements are stated in terms of units. A unit represents nine months of study in a subject in secondary schools, usually representing one-fourth of a year's work. For admission to the College at least eighteen acceptable high school units are generally submitted. For this purpose, a unit is a subject accredited by the Texas Education Agency and counted by the applicant's high school toward his graduation. Single units in a foreign language may be counted toward the eighteen. The eighteen units presented for admission should include the following:

Subjects	Units
English	3
Math	2
Social Studies	2½
Science	2
Physical Education	2
Electives	6½

(or as required by high school for graduation)

Admission or readmission to the college does not guarantee admission to a specific program in the college parallel or occupational-technical areas. Consult the department chairman, program director, or the appropriate counselor for additional admission requirements to the program of your choice.

ENTRANCE EXAMINATIONS

The College will accept the following entrance tests for admission: ACT, SAT (CEEB), or SCAT. All of these tests are administered on the college campus, and the dates for these tests are announced periodically.

METHODS OF ADMISSION

The units as outlined above are usually obtained either by graduation from an accredited school or by individual approval.

1. Graduation from an accredited school. Graduates of schools on the approved list issued by the Texas Education Agency or any regional accrediting association are credited with the subjects which they have completed at the accredited school. In order to determine such units, it is necessary that the student have sent to the Dean of Student Affairs of the College not later than ten days before registration a transcript of the work earned at his respective high school. Such a record should be mailed by the principal of the high school directly to the Dean of Student Affairs at the College. Valuable time will be lost if this transcript is not in the hands of the Dean of Student Affairs at least ten days before official

registration begins at the College. Without the transcript, official registration cannot be completed.

Students who are graduates of a junior-senior high school with two separate three-year programs will be admitted to the College upon presentation of a transcript showing at least fifteen admission units earned in the senior high school, including the units as listed above, plus three unspecified units from the junior high school.

2. Admission by approval. Most public supported institutions of higher education admit applicants over 21 years of age without having the specified number of high school units. Students not having the specific number of high school units may consult with the Dean Of Student Affairs concerning admission to the college. He should proceed as follows:

a. He must make special application to the Dean Of Student Affairs and take an approved guidance-entrance test.

b. He must indicate, when interviewed by the Dean Of Student Affairs, that he has sufficient ability and seriousness of purpose to do college work with profit to himself and satisfaction to the college.

Applicants who desire entrance to the College in this manner should make application well in advance of registration. This method of entrance is primarily for those students who have not recently attended school.

ADMISSION REQUIREMENTS FOR OCCUPATIONAL AND ADULT STUDENTS

A student is admitted to career and adult education classes of the College if it appears that the prospective student can profit by enrolling in such courses. No specific high school credits are required for admission to such courses. Such courses may not be applied toward graduation from the College until entrance requirements of the College have been met. Some senior colleges will not accept transferred hours until entrance requirements have been met.

The College offers a wide variety of adult education and special interest courses. Admission requirements, fees, and student regulations differ from those in the regular academic program. Information on these courses may be obtained from the office of the Dean of Occupational and Technical Education, Odessa College.

STUDENTS FROM OTHER COLLEGES

A student seeking to enter the college after attendance at another college must present the following:

1. Evidence of honorable dismissal, and
2. A complete transcript, including admission units.

The transfer student will save himself and the College time and trouble by sending these records to the Dean of Student Affairs well in advance of registration. Students are not properly enrolled in the College until these records have been presented.

A student who has been dismissed from another institution and whose records do not meet the standards of the College may be refused entrance to the College, or he may be admitted only on scholastic probation or under any other condition which the Dean of Student Affairs deems advisable.

Credit is allowed for work done in institutions which are fully approved by the regional accrediting agency in the section in which the College is located. Credit will be allowed for good work done in other institutions in accordance with the practice of the College in such cases.

PREREGISTRATION

Preregistration means that the student, with the help of college counselors, will select the proper courses and complete all registration except for payment of fees. Preregistration takes place approximately two months prior to the time of regular registration. Exact information may be secured from the Dean of Student Affairs Office. Early preregistration will help the student secure the courses he wants.

REGISTRATION FOR COURSES

The only way to become a member of a class in the College is by registering for the course in the proper manner during the days set aside for registration, or by adding the course in the proper manner in the office of the Dean of Student Affairs after the days for regular registration have passed. In either case, the student becomes properly enrolled only after having been assigned to the class by the Dean, after the paying of his fees, and after receiving the proper class cards. A student may not receive credit for a course in which he has not been properly registered by the office of the Registrar.

ENGLISH ADMISSIONS

The student who enters Odessa College must take an examination for English placement. The scores derived will assist in determining whether or not the high school graduate will benefit from either English 130 or 131. Students who show evidence of advanced knowledge of English may take credit by examination for placement in approved courses. The entering student, after counseling by the office of the Dean of Student Affairs, will be guided as to the English course best suited to his needs.

EARLY ADMISSIONS PROGRAM

The Early Admissions Program enables high school seniors within four units of graduation to enroll concurrently in Odessa College while completing their high school requirements. Students in the program can profitably accelerate their progress in college and achieve their educational goals in less time and with less expense than in the traditional program.

To be eligible for the program the high school senior must be within four units of graduation and have the recommendation of his high school counselor, his high school principal, and the approval of his parents. He then may enroll in the regular manner through the Office of the Dean of Student Affairs at Odessa College.

Students in the Early Admissions Program may enroll in as many as two courses each semester. He will be expected to adhere to all policies of the college as well as those of his respective high school while in the program.

College credit earned under the program is held in escrow until the student completes his high school requirements. At that time all credit earned will be placed on his transcript, permitting the student to begin regular studies at an advanced level at Odessa College or at the college of his choice.

Letters from most Texas colleges and universities accepting transfer credit of courses completed under the Early Admissions Program have been received by the Office of the Dean of Student Affairs. Participating students have also been given approval by the University Interscholastic League to retain their eligibility in League activities.

Information on the Early Admissions Program can be obtained from the Office of the Dean of Student Affairs or through participating high school counselors.

STUDENT ASSISTANCE INFORMATION

SCHOLARSHIPS

The College offers scholarships to prospective students under several plans.

A scholarship of \$100 each is offered to valedictorians of the high schools in this area if taken advantage of in the first semester after high school graduation. The scholarships may be claimed at the beginning of the semester by presentation of a certificate from the high school principal where the student graduated.

Additionally, the following types of scholarships and tuition grants are available:

Tuition grants are awarded primarily for excellence in the field which they are given. Students should apply directly to the instructor in charge of the activity.

ODESSA COLLEGE

Athletics---		Art
	Basketball	Drama
	Golf	Journalism
	Gymnastics	Music
	Tennis	Senoritas De Las Rosas
	Track	Speech

Scholarships consist of the following types:

- Academic - Awarded for past academic performance. Covers only cost of tuition.
- Law Enforcement Education Program (LEEP) - Awarded to students in or planning to enter law enforcement and related areas.
- Nursing - Awarded for students in registered nursing.
- Tuition - for vocational nursing students.
- Need - Awarded to students demonstrating financial need. Covers only cost of tuition.

Applications are available in the Financial Aids Office Baskin Hall Room 105.

Deadlines for scholarship applications are:

Fall - August 1

Spring - November 15

LOAN FUNDS

The College has received from various sources an amount of money for the purpose of short term loans to students. These funds are administered by the Dean of Student Affairs, and applications for assistance from this source should be made in that office.

The College participates in the Hinson - Hazlewood College Student Loan Program (TOP). Under this plan students may borrow money for educational expenses from the State of Texas. Applications for this loan fund should be made in the office of the Dean of Student Affairs. There is no deadline for mailing applications. Federal Insured Loan Applications may also be picked up in the Financial Aid Office.



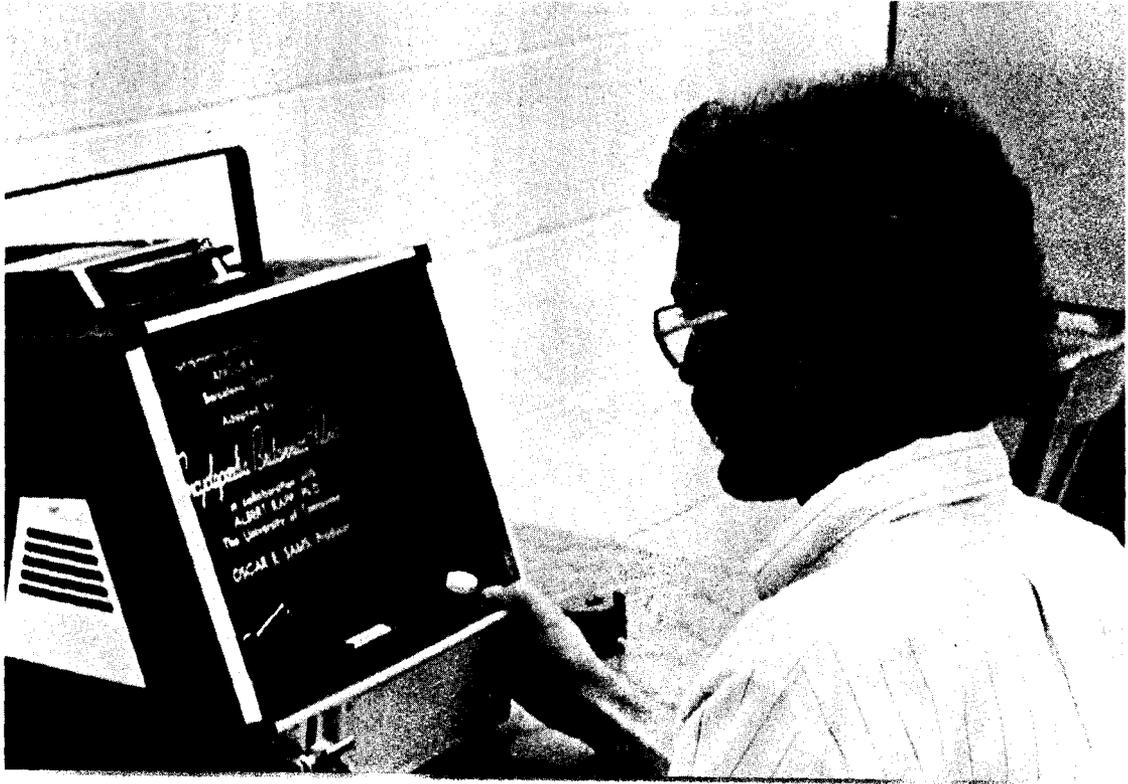
STUDENT EMPLOYMENT

The College participates in the College Work-Study Program. This program offers many opportunities for part-time employment on campus. Qualified students may be employed at the rate of \$1.60 per hour. Any student interested in this program should contact the Dean of Student Affairs.

The College also employs many students for part-time jobs in other than the Work-Study Program. Applications for employment for these jobs are processed in the office of the Dean of Student Affairs.

VOCATIONAL REHABILITATION

The Texas Education Agency, through the Vocational Rehabilitation Division, offers assistance for tuition to students who have certain physical disabilities, provided the vocational objective selected by the disabled person has been approved by a representative of the Division. Application for Vocational Rehabilitation assistance should be made to the nearest Rehabilitation Officer, or to the Director of Vocational Rehabilitation, 302 Walton Building, Austin, Texas 78710.



HOUSING AND FOOD

When possible, the College will assist students in securing suitable housing accommodations. Students should apply for assistance some time prior to registration at the College. Cost of board and room varies with the type of accommodations secured as well as convenience to the College. Dormitory facilities are available in Odessa. The Dean of Student Affairs should be contacted for information concerning housing. The college cafeteria operates five days per week.

INFORMATION CONCERNING DISCIPLINE

The Dean of Student Affairs is charged with the administration of discipline in the College. Through enrollment, the student signifies that he recognizes the authority of the College in governing his actions in relation to the College, and he automatically agrees to abide by any regulations set up by the College or its representatives.

DISCIPLINE

By enrolling in the College, the student does not give up either his rights or his obligations; he realizes that his obligations are as important as his rights. His actions outside of the College or off the College campus are the concern of the College. Violation of laws of the State of Texas, Odessa, or other laws render the student subject to disciplinary action on the part of the College. Refer to the Student Handbook for specific rules and regulations concerning student discipline.

DUE PROCESS

Odessa College provides each student the privilege of due process.

SUMMONS TO ADMINISTRATIVE OFFICES

A summons to the office of an administrative officer is imperative and must be taken care of immediately. A summons may be given in two ways: by a call from class or by mail. Failure to heed such a summons renders the student liable to disciplinary action.

PARKING REGULATIONS AT ODESSA COLLEGE

All parking regulations are in the Odessa College Student Information Book. Every student is responsible for knowing these regulations. Parking and traffic control at Odessa College are the responsibility of the Dean of Student Affairs of Odessa College.

CHANGE OF ADDRESS

If a student changes his residence after registration, he must notify the office of the Dean of Student Affairs and the Registrar immediately. The student is held responsible for any communication mailed to him from the college to the last address which he has supplied the College. Having moved from a previous address does not relieve the student of the responsibility of requests made to him through correspondence.

STUDENT LIFE AND ACTIVITIES INFORMATION

STUDENT GOVERNMENT

The Student Government of Odessa College is the governing body of the students at Odessa College with the Student Government officers being responsible to the Administration of the College.

The Student Government philosophy is to encourage greater involvement of students and participation of recognized organizations in the affairs of the College, to coordinate social planning for the various clubs and organizations and to participate in projects that promote the welfare of the College.

STUDENT ACTIVITIES

The Student Government, through its Activities Committee, coordinates the activities of the various organizations on campus and maintains an Activities Calendar. All requests for activities sponsored by recognized organizations are submitted to this Committee for approval.

A detailed list with descriptions of student organizations and rules and regulations pertaining to activities appear in the Student Information Book.



Evening and Summer Programs

THE EVENING COLLEGE

The Evening College classes represent an integral part of the total program, offering courses comparable to those in the regular day program. The Evening College functions primarily for individuals of the community who wish to carry less than a full college course load, and a wide variety of courses is offered for both college credit and for those who simply wish to broaden their educational backgrounds.

Instructors in the Evening College offer the same qualifications as those in the regular program and the same standards of instruction apply for both programs.

SUMMER SESSION

The summer session consists of two terms of six weeks each; classes are held both during the day and evening hours. Students may enroll in as many as seven semester hours in each six weeks session. Credit earned in a course is equivalent to that offered in the same course during a regular semester. Information regarding the Summer Session can be obtained from the Student Affairs Office of Odessa College.

ADULT AND CONTINUING EDUCATION

OC offers a wide variety of community interest and short-term non-credit courses for those who wish to broaden their educational experience, but are not interested in obtaining college credit. These courses may range from a one day workshop to a full nine month program, but typically are of shorter duration than the regular semester.

Almost any course that is in the public interest will be organized if twelve students ask to be enrolled, provided that a competent instructor and suitable facilities are available. There are no entrance requirements for continuing education courses, and any individual who can profit from the course may enroll.

A list of continuing education courses may be obtained from the college.

SPECIAL INTERIM SESSION

Odessa College offers special short term sessions to accommodate students who wish to complete a course during the interim period between the regularly scheduled semesters. A ten day midwinter interim session is held following the close of the Fall Semester and prior to the beginning of the Spring Semester. Students may complete a three semester hour course during this special session.

Academic Information

REQUIREMENTS FOR GRADUATION

In order to qualify for an Associate Degree, the student must have:

1. Completed a minimum of sixty-three (63) semester hours of credit, with no less than twelve of the last eighteen hours being earned at the Permian Junior College System;
2. Achieved a minimum average of "C" in all work;
3. Completed the Core Requirements as outlined under Degree Requirements elsewhere in this catalog.

SEMESTER HOURS AND COURSE LOAD

The normal course load that a student must carry during each regular semester will include no more than five academic courses, generally varying from sixteen to seventeen semester hours, depending on his area of endeavor. However, any student carrying twelve or more credit hours per semester is classified as a full time student. One hour courses may be taken in addition to five academic courses. Students may enroll for six academic courses with the permission of the Dean of Student Affairs.

A normal load during each six week term of the summer session will vary from three to seven semester hours. Generally, the maximum credit that a student may earn during the entire summer session is fourteen semester hours. In the mid-winter Interim Session one course may be taken for the normal amount of credit derived during a regular semester.

The maximum course load in the Evening College depends upon the individual circumstances and ability of the student. The normal load for an Evening College student who has full-time employment is six semester hours or two courses. The maximum load is nine semester hours or three courses.

Students who must work while attending classes or who have experienced previous difficulty in academic work should plan course loads in such a way that ample time will be given to all of these demands. Usually, two hours of student preparation are necessary for each class-hour of time. Therefore, an average student will plan on investing nine hours of his time for each three semester hour course in which he enrolls. The student will want to consult a college counselor to determine the best program possible.

GRADES

Grading is a measure of the student's ability to master specific objectives within a given course. A grade is based upon his level of performance in examinations, term papers, reports, class discussion, and usually in a final course examination.*

Grade Equated		Grade Points Per Semester
A	Excellent	4
B	Above average	3
C	Average	2
D	Passing, but poor	1
I	Incomplete	0
F	Failure	0
—	Audit (Not Taken For Credit)	0
W	Official withdrawal before the end of the first fourteen weeks	0
CR	Advanced Standing (credit by examination)	0

*It is the obligation of the student to know his standing and rating in college classes during the semester and to secure these ratings before registering for the next semester. He is expected at all times to be familiar with his scholastic status. The advisors and counselors will confer with students concerning unsatisfactory work during and at the end of the semester. The object of such conferences will be to determine the cause of unsatisfactory work, to advise the student for improvement, to offer any assistance which the College and instructors of the College might give the student as the case might demand.

GRADE REPORTS

Reports are sent out to students at the close of each semester.

Mid-Semester Progress Reports: At the close of the first six weeks of the semester, the Dean of Student Affairs will mail a report of the grades to all students whose progress for that period has not been satisfactory.

STUDENT CLASSIFICATION

A student who has taken 24 semester hours or less will be classified as a freshman student. A student with more than 24 hours will be classified as a sophomore student.

GRADE POINT AVERAGE AND SEMESTER HOURS

Grade Point Averages are computed on two bases: the Semester Grade Point Average and the Cumulative Grade Point Average. The Grade Point Average (G.P.A.) for any semester is determined by multiplying the number of semester hours for each course by the number of grade points corresponding to the final grade for the course. The total of all such products for the semester is then divided by the number of semester hours for that period. Incomplete grades are included in calculations of grade averages when the final grades have been recorded; the grade "W" is not included.

The Cumulative Grade Point Average is calculated by dividing the total number of grade points by the total number of semester hours attempted by the student in all terms.

SCHOLASTIC STANDARDS*

In order to remain in good academic standing, a student must maintain a minimum 1.5 grade point average. If it is evident from a student's record that he is failing to maintain satisfactory progress he will be placed on scholastic probation. The student will then be allowed to continue his college program on a conditional basis until his academic progress warrants removal from this status.

1. A student enrolled in nine or more hours per semester must pass a minimum of nine hours with at least a 1.5 grade point average.

2. A student enrolled in less than nine hours must accumulate a grade point average of at least 1.5 during that semester.

3. Students on scholastic probation who are enrolled in nine or more semester hours, and who pass nine semester hours with a grade point average of at least 1.5, will be removed from scholastic probation.

4. Students on probation, who enroll in less than nine hours will remain on probation until they satisfy the conditions of rule 3 above.

5. In order to be removed from scholastic probation, students who were originally enrolled in less than nine hours must pass the same number of hours for which they were enrolled during the semester they were placed on probation and must earn a grade point average of 1.5.

6. Students on suspension who enroll in summer school and who earn an average grade of "B" in two of 3 or 4-hour courses, or who earn three grades of "C" in 3 or 4-hour courses, will be permitted to enroll in the next semester on "continued scholastic probation."

7. Students placed on scholastic suspension are suspended for one long term, at the end of which time they must apply to the Dean of Student Affairs for readmission to the College.

8. The grade of "W" will be given for any course if the student withdraws from the course before the end of the fourteenth week.

9. After the fourteenth week, the grade of "F" will be given for any withdrawals.

10. All grades except the grades of "W" are utilized in calculating the student's grade point average.

Meeting the required standards during the second semester will remove the student from probationary status. However, if a student fails to meet the scholastic standards during the semester in which he is placed on probation, he is automatically dropped from the College for a period of one semester. If he is placed on probationary status a second semester for failure to meet scholastic standards after being readmitted to the College, he will be automatically dropped for a period of two semesters and must confer with the Dean of Student Affairs in order to be readmitted.

*Readmission to and/or continued probation in college does not guarantee admission to or continuance in a specific program.

INCOMPLETES

The conditional grade "I" may not be given unless the student has made a passing grade in all work which has already been completed. It is not a substitute for a failing grade. The deferring of the work required must be approved by the instructor: if the instructor does not approve of granting an extension of time, a complete grade will be given the student at the end of the semester. The incomplete work must be made up in the semester immediately following that in which the "I" was given. Unless the grade has been reported by the instructor by the close of the semester immediately following that in which the symbol "I" was given, the registrar will change the grade of "I" to the grade of "F".

WITHDRAWAL

An official withdrawal from the college takes place when the student withdraws through the Office of the Dean of Student Affairs, and secures clearance from the Business Office. In such cases the grade received by the student upon withdrawing will be a "W" if the withdrawal takes place before the fourteenth week. After that time the grade will be "F". All grades except the grades of "W" are utilized in calculating the student's grade point average.

CLASS ATTENDANCE AND ABSENCES

Students are required to attend classes regularly. The only excusable absences are those resulting from personal illness, emergencies arising within the family, or absence from the College on a college-sponsored trip. Application for an excused absence must be made with the instructor before the absence occurs or immediately upon returning to class. Other than college-sponsored trips, no College administrator will ordinarily grant excuses for absences.

Instructors will keep records of absences and when, in the opinion of the instructor, a student is excessively absent, he will notify the Dean of Student Affairs of the dates and number of absences. The Dean of Student Affairs will inform the student by a warning letter that his lack of attendance is endangering his academic progress. If the absences continue, the instructor may recommend to the Dean of Student Affairs that the student be withdrawn from the class in question with a grade of "W" being given. If the number of absences is excessive and if the student is also failing, the instructor may recommend in writing to the Dean of Student Affairs that the student be withdrawn from the class with a failing grade.

ADDING AND DROPPING

After official registration is completed, both day and evening students may add and drop courses only by completing proper forms in the Student Affairs Office before the twelfth class day. After that, a student desiring to withdraw from a class will first contact his instructor and initiate application for withdrawal.

ADVANCED STANDING POLICY AND REGULATIONS

- I. If, through independent or practical experience, a student has acquired a knowledge and understanding of the material in a course, he may petition to take an advanced standing examination in that course. The purpose of granting such credit is to enable the student who can demonstrate mastery of a particular body of subject matter to avoid needless repetition and delay, and to receive credits equivalent to his achievements as demonstrated by examination. The granting of such credits is governed by the following rules and regulations:

A. Determination of Eligibility to Take an Examination

1. The course for such credit as is requested should be listed in the catalog.
2. The student must have completed all the admissions requirements and procedures of Odessa College.
3. When an enrolled student in good standing wishes to take an examination for credit during any given semester, he must petition the Academic Dean. If he is currently enrolled in a course, he may become eligible to take the examination any time during the first three weeks of the semester. Any student petitioning for advanced standing after the first three weeks of either the Fall or the Spring Semester may do so only with special permission from the department chairman and the Academic Dean.

If a student is not currently enrolled at Odessa College, but plans to enroll and desires to take an advanced standing examination, he may petition the Academic Dean. The student should also realize that he will not receive credit for the advanced standing examination unless he does enroll.

4. The student who petitions for advanced standing must not have received a grade in the course nor should he be enrolled in a course which is more advanced than the course for which credit is requested. A student who takes an advanced standing examination and passes will receive credit only for that course. However, only those students achieving a comparable level of "C" or above in a specific examination will be eligible to receive credit.
5. The maximum number of credits that may be obtained by examination and credited toward a degree shall be fifteen (15). The maximum number of advanced credits allowed toward any certificate shall not exceed one-fourth ($\frac{1}{4}$) of the total number of credits required for the certificate.

II. Eligibility

- A.** Petitions for credit by examination shall be made to the Academic Dean.
- B.** The advanced standing tests will be administered by the office of the Dean of Student Affairs or the department chairman based upon the final approval of the petition by the Academic Dean.
- C.** Credits achieved by examination are not applicable to the meeting of such credit load requirements as Texas Opportunity Plan, Selective Service deferment, Veteran's or Social Security benefits, scholastic honors, residence requirements for graduation, or any other similar program. The student should realize that by taking advanced standing credit there may be a change in his full time enrollment status.
- D.** In order to receive advanced standing credit the student must take a number of resident credit hours equal to the number of advanced standing credit hours being challenged, during the same semester.
- E.** Regular scheduled examination times will be established and announced by the Dean of Student Affairs.
- F.** An examination for advanced standing credit may be taken one time only for each course for which credit is desired.

III. The Recording of Credit

- A.** If a student successfully completes all requirements for credit, the course for which credit by examination is applicable shall be posted on his transcript indicating, "credit by examination." Credits shall be entered, but shall not be considered in the computation of a student's grade point average; neither will a grade be entered for that course.

IV. Departmental Function

- A.** The department offering the courses in question shall determine to its satisfaction that the student has the background equivalent to that of students actually completing the course. In those instances where practical skills are as important as a theoretical understanding, the student may be required to demonstrate this practical competency to the satisfaction of the department.
- B.** Where the advanced standing examination is a commercially prepared test the CLEP (College Level Examination Program) will be used. If one is not available, an examination provided by the department will be used.

V. Fees.

- A.** Fees shall be assessed for each test taken and paid to the College Entrance Examination Board, or the Business Office. Current standard fees for CLEP and subject-area fees shall apply. The student must present a receipt for his fee at the time he takes his examination.

AUDITING

Permission to audit a course may be granted to students who are eligible for admission to the college and who already have received credit for the course. Auditing students are not required to meet course prerequisites listed in the catalog.

Students auditing a course may not under any circumstances claim credit for the course. A student who is registered for a course may not change from audit to credit or credit to audit status in the course after the scheduled add-drop period. Charges for auditing a course are the same as for regular registration.

EXAMINATIONS

Final examinations are given at the end of each semester or summer term. During the period no college-sponsored social activities are permitted.

Unless excused because of personal illness or other emergencies approved by the appropriate dean, the student is expected to take the final examination at the time designated on the examination schedule; otherwise the student is given a grade of "F" for the course. In any case, the postponed examination must be completed no later than the close of the next semester.

HONORS

The semester honor roll of Odessa College contains the names of those students whose grades are "B" or better in all courses. Further recognition is given superior students by membership in Phi Theta Kappa, the national junior college scholarship society. This system of awards stimulates interest and competition so as to bring out the best possible work from students.

TRANSCRIPT OF RECORD

The transcript of record is an official copy of the student's permanent record. Copies are available upon request. A transcript of a student's work will be supplied to the registrar of the college or university which the student expects to attend after graduation from the College. The first record is provided at no cost. A charge of one dollar will be made on all subsequent records.

TRANSFER OF CREDIT

The counselors and advisors at Odessa College should be contacted before registration in order to provide assistance to the student in planning a program.

All courses taken at Odessa College transfer to all other institutions at face value. No grades made at the College can be lowered by any other college. However, courses taken that are not required for graduation at the senior college will not apply and therefore should not be taken at this college.

Senior colleges vary in recognition of a grade of "D" in a course. Some senior institutions accept "D's" if the student's overall average is "C" or better. Certain senior colleges may require that the student repeat any course in which a "D" has been made.

Upon entrance at the College, or before, the student should select the senior institution to which he desires to transfer upon graduation. He should become familiar with the transfer requirements and then design a suitable program at Odessa College. In consultation with the advisors from the senior college applicability of grades and courses should be predetermined.

Generally speaking, senior colleges will not accept more than 66 hours in transfer. The student should avoid exceeding this number of hours. Senior colleges vary greatly in their practice regarding the allowance of credit for courses pursued at junior colleges.

No transcripts will be released by the College unless the student has cleared all of his records at the College.

GENERAL REQUIREMENTS OF SENIOR COLLEGES

The student should keep the following in mind when enrolling at the College:

1. Meeting entrance requirements at the College does not mean that the student meets entrance requirements at all colleges. If the student does not have proper credentials to meet entrance requirements at the senior college, this deficiency should be met in high school before graduation or later at Odessa College.

2. Maintaining an average of "C" or better at Odessa College is essential for the student who expects to transfer to a senior college; otherwise, he will endanger his entrance to the senior college. Certain senior colleges require better than a "C" average for transfer students.



Degree Requirements

ASSOCIATE IN ARTS DEGREE

To qualify for the Associate in Arts Degree (A.A.), the student must complete the following:

(Associate in Arts)	
English	2 years
Government	Govt. 231 and 232
History	Hist. 231 and 232
Psychology	Orientation 111
Physical Education	Four one-hour activity classes (except for approved substitutions)
Foreign Language	1 year
Science or Mathematics	1 year (or one additional year of foreign language)
Sophomore hours	18 or more, 12 of which must be taken at the college

A minimum average of "C" in all work as well as a minimum average of "C" in all courses of two semester hours or more.

A total of 63 semester hours.

Twelve of the last 18 hours, prior to the degree being granted, must be done in residency at the college.

Discharge of all financial obligations to the college.

ASSOCIATE IN SCIENCE DEGREE

To qualify for the Associate in Science Degree (A.S.), the student must complete the following:
(Associate in Science)

English	2 years, except where the student certifies that he plans to attend a senior college with a major requiring less than 12 hours
Government	Govt. 231 and 232
History	Hist. 231 and 232
Psychology	Orientation 111
Physical Education	Four one-hour activity classes (except for approved substitutions)
Science	A minimum of 12 semester hours, except where the student certifies that he plans to attend a senior college with a major requiring fewer than 12 hours.
Mathematics	1 year
Sophomore hours	18 or more, 12 or which must be taken at the college.

A minimum average of "C" in all work as well as a minimum average of "C" in all courses of two semester hours or more.

A total of 63 semester hours.

Twelve of the last 18 hours, prior to the degree being granted, must be done in residency at the College.

Discharge of all financial obligations to the college.

CERTIFICATE OF COMPLETION

1. One year of English.
2. Eighteen or more sophomore hours, 12 of which must be taken at the College.
3. A minimum average of "C" in all work as well as a minimum average of "C" in all courses of two semester hours or more.
4. Two one-hour activity classes of physical education except for approved substitutions.
5. A total of 63 semester hours.
6. Twelve of the last eighteen hours, prior to the degree being granted, must be done in residency at the College.
7. Orientation 111.

ASSOCIATE IN APPLIED SCIENCE DEGREE

To qualify for the Associate in Applied Science Degree (A.A.S.), the student must complete the following:

(Associate in Applied Science)

English and Speech

6 semester hours as specified in each program

Government

As specified in each program

Psychology

Orientation 111

Physical Education

2 one-hour activity classes (except for approved substitutions)

Science

As specified in each program

Mathematics

As specified in each program

Sophomore hours

18 semester hours or more, 12 of which must be taken at the college

All entrance requirements.

The course of study as prescribed for the major being pursued.

A minimum average of "C" in all work as well as a minimum average of "C" in all courses of two semester hours or more.

At least 63 semester hours. Not more than 15 semester hours may be earned by extension or correspondence unless taken from the college.

Twelve of the last 18 hours, prior to the degree being granted, must be done in residency at the College.

Discharge all financial obligations to the College.

CERTIFICATES OF TECHNOLOGY

Certificates of Technology are awarded for completion of requirements in certain occupational and technical curricula as prescribed in this catalog or as approved by the Dean of Occupational-Technical Education.

Suggested Degree Plans and Courses



Odessa College shall make every effort to assist the student in developing a program of courses which meets his particular needs. Nevertheless, it is the student's responsibility to ascertain the exact requirements of the college to which he shall transfer.

ART

The Department of Art provides an opportunity for all members of the community to develop their creative talent; it welcomes and encourages any individual who desires to explore and develop his art potential. Courses in art also are planned to provide adequate lower-division training for those students pursuing professional and semi-professional art degrees and careers; and to develop broad and general art abilities, knowledges, understandings, interests, and appreciations.

The right is reserved to retain student work for exhibition purposes.

Freshman Year

First Semester		S.H.	Second Semester		S.H.
Course No.			Course No.		
Engl 131	.....	3	Engl 132	.....	3
Hist 231	.....	3	Hist 232	.....	3
Lang 141	.....	4	Lang 142	.....	4
Art 131a	.....	3	Art 131b	.....	3
Art 132a, 137a, 133 or 130	.....	3	Art 132b, 137b, or 133	.....	3
PE 111	.....	1	PE 112	.....	1
Orientation 111	.....	1			

Sophomore Year

Third Semester		S.H.	Fourth Semester		S.H.
Course No.			Course No.		
Engl 231	.....	3	Engl 232	.....	3
Govt 231	.....	3	Govt 231	.....	3
Lang 231	.....	3	Lang 232	.....	3
Art 232a, 235a, or 231	.....	3	Art 232b, 235b, or 236	.....	3
Art 238a or 239a	.....	3	Art 238b or Art 239b	.....	3
PE 211	.....	1	PE 212	.....	1



- Art 130 Art Appreciation (3-0) 3 hours**
A general course in art appreciation open to all college students. An introduction to the visual arts, presenting the psychological foundations of creative behavior, aesthetic theory and philosophy, and an analysis of the principles, problems and techniques of the artist. Prerequisite: None.
- Art 131a Drawing I (2-4) 3 hours**
This course develops skills in drawing from life and nature. Pictorial composition, perspective, line, value, and wash drawings in a variety of media are included. Emphasis is on the development of hand-eye coordination. Prerequisite: None.
- Art 131b Drawing II (2-4) 3 hours**
Drawing 131b is a continuation of Drawing 131a with additional emphasis on developing sensitivity to art elements in the environment. Prerequisite: Art 131a.
- Art 132a Design I (2-4) 3 hours**
An introduction to the principles and elements of design is the concern of this course. The development of sensitivity to the principles and elements of design as they exist in the environment is stressed. Prerequisite: None.
- Art 132b Design II (2-4) 3 hours**
Design 132b is a continuation of Design 132a with emphasis on the creation of three-dimensional art products. Prerequisite: Art 132a.
- Art 133 Drawing III (2-4) 3 hours**
This course develops skill in drawing the human figure. Stress is on the handling of form, movement, and proportion. A variety of drawing techniques and media are studied in the course. Prerequisite: Art 131a or its equivalent.
- Art 137a Art History Survey I (3-0) 3 hours**
Western Man's art heritage from the prehistoric era through the Middle Ages is surveyed in this course. The relationship of great works of art to their respective culture and civilization is stressed. A variety of audio-visual media is used to illustrate the various periods, styles and personalities. Prerequisite: None.
- Art 137b Art History Survey II (3-0) 3 hours**
Art History 137b is a continuation of Art History 137a. Western Man's art heritage from the Renaissance to the present is included. Emphasis is on gaining an understanding of the varied forms of modern art through their relationship to contemporary society. Prerequisite: None.
- Art 231 Watercolor Painting (2-4) 3 hours**
An exploration of the various watercolor techniques and their application to a wide range of subject matter is made in this introduction to watercolor. Stress is on the development of basic skills in watercolor expression. Prerequisite: Art 131a or its equivalent.
- Art 232a Painting I (2-4) 3 hours**
This course is an introduction to various painting media (acrylic or oils) and modes of expression, with emphasis on the development of basic painting skills and aesthetic sensibilities. Prerequisite: Art 131a, or Art 132a or their equivalent.
- Art 232b Painting II (2-4) 3 hours**
Art 232b is a continuation of Art 232a with emphasis on aesthetic factors. Prerequisite Art 232a or its equivalent.
- Art 235a Contemporary Art-Crafts (2-4) 3 hours**
This is a course in the creation of functional art-craft products in a variety of materials including mosaic, enameling, textiles, and plastics with special attention to contemporary design concepts. Prerequisite: None.
- Art 235b Contemporary Art-Crafts (2-4) 3 hours**
This is a continuation of Art 235a with emphasis on advanced design concepts. Prerequisite: Art 235a.
- Art 236a Printmaking I (2-4) 3 hours**
An introduction to the making and printing of woodcuts, linoleum blocks, collagraph and serigraph (silk-screen) with emphasis on basic techniques and aesthetic factors. Prerequisite: Art 131a or Art 132a or their equivalent.

ART

Art 236b, Printmaking II (2-4) 3 hours

A continuation of experimentation with line etching and critical evaluation of the printmaking media with emphasis on creative work. Prerequisite: Art 236a

Art 238a Ceramics I (2-4) 3 hours

Techniques taught in this course include the making of pottery shapes by coil, slab, and wheel methods and the refining and use of native clays; bisque and glaze firing; and the mixing of glazes and their application to pottery. Prerequisite: None.

Art 238b Ceramics II (2-4) 3 hours

This is a continuation of Art 238a with emphasis on the creation of original ceramic forms. Prerequisite: Art 238a.

Art 239a Sculpture I (2-4) 3 hours

Basic instruction in the principles and techniques of sculpture is the concern of this course. A variety of materials including clay, metal, wood, and plastics are explored along with basic techniques of casting, welding, moulding and assemblage. Prerequisite: None.

Art 239b Sculpture II (2-4). 3 hours

Art 239b is a continuation of Art 239a with emphasis on advanced sculpture techniques and design concepts. Prerequisite: Art 239a.

ASTRONOMY

Despite the fact that mankind has been accumulating astronomical lore ever since the dawn of civilization, our knowledge of the universe continues to increase. Today the expenditure of vast amounts of time and money is enabling us to unlock the mysteries of the cosmos at an unprecedented rate. Indeed, scarcely a day goes by without some facet of astronomy being reported in the news media.

The astronomy courses offered at the college provide the educated layman with sufficient background knowledge to facilitate an intelligent appraisal of these newsworthy events. Moreover, since astronomy has always been an integral part of all civilizations, the serious student of the arts will find a course in astronomy a useful adjunct to an understanding of other cultures. Finally, because of the many ramifications of astronomy, it is most probable that the science major, regardless of his principal interest, will at some time in his career become concerned with a problem having astronomical implications.

ASTRONOMY

Astr 141 Descriptive Astronomy (3-3) . . . 4 hours

This course is a survey of the fundamentals of astronomy. Topics included are the concept of the celestial sphere, simple celestial coordinate systems, periodic changes of the heavens, and the solar system. Light and astronomical instruments are studied. The laboratory portion of the course includes optics, setting up and use of the telescope, astrophotography, plotting the movement of celestial bodies through the star field, and use of the planetarium instrument. Prerequisite or corequisite: Math 131.

Astr 142 Descriptive Astronomy (3-3) . . . 4 hours

This course is a continuation of Astronomy 141 in which the physical characteristics of stars (including the sun), interstellar matter, clusters, and galaxies are studied. The nature of light is discussed in detail. The course terminates with an introduction to cosmology. Laboratory work includes observation of sun-spots, astrophotography and the use of the planetarium instrument. Prerequisite or corequisite: Math 131.

AUTOMOTIVE MECHANICS

Maintaining and servicing modern automobiles has become an immense business and a very important activity in the American economy. The automotive service field is so widespread and fast growing that many excellent career opportunities are open to the man with the proper qualifications.

The Certificate in Automotive Mechanics is planned to develop specific skills for entry employment. The Associate in Applied Science Degree provides the necessary educational background for advancing to positions in the industry with even greater responsibility.

CERTIFICATE IN AUTOMOTIVE MECHANICS

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
AT 161	6	AT 162	6
AT 163	6	AT 164	6

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
AT 261	6	AT 262	6
AT 263	6	AT 264	6

Suggested Degree Plan For Automotive Mechanics

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
AT 161	6	AT 162	6
AT 163	6	AT 164	6
Math 132b	3	Engr 131	3
*PE 111	1	*PE 112	1
Orientation 111	1		
	<u>17</u>		<u>16</u>

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
AT 261	6	AT 262	6
AT 263	6	AT 264	6
Engl 131	3	Engl 132, Engl 233, or Spch 234	3
Govt. 232 or approved substitute	3	M.Mgt. 131	3
	<u>18</u>		<u>18</u>

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses. An Associate in Applied Science Degree will be awarded with the completion of the requirements of this degree as outlined above.

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AUTOMOTIVE MECHANICS

AT 161 Internal Combustion Engines (2-8) 6 hours
Theory and practice in the basic principles needed for repair and maintenance of internal combustion engines are the basis of this course. Related technical instruction emphasizes the proper use of tools, diagnosis, repair techniques and the principles of engine operation. Prerequisite: None

AT 261 Automobile Electrical Systems (2-8) 6 hours
Included in this course are theory and practice in the principles of operation, repair and maintenance of automobile electrical systems, including dynamometer operation, with major emphasis on engine tune-up and minor repair. Prerequisite: None

AT 162 Fuel Systems, Cooling and Emission (2-8) 6 hours
This is a basic course in the theory and practice in repair and maintenance of all common types of automobile fuel, cooling and lubrication systems, including the emission control systems as applied to the automotive engine. Prerequisite: None

AT 262 Transmission and Power Trains (2-8) 6 hours
This course provides related technical studies and practice on repair and maintenance of automotive transmissions, differentials, brakes and related assemblies. Prerequisite: None

AT 163 Automotive Metallurgy and Machine Shop (2-8) 6 hours
This combination laboratory and theory course enables a student to understand the use of precision machines in rebuilding engines and repairing engine components. Students will be taught basic welding techniques, common to commercial automotive shop needs. Prerequisite: None

AT 263 Automobile Air-Conditioning (2-8) 6 hours
The course is designed to provide relevant classroom, laboratory, and practical experiences in the principles, design, construction, installation and trouble-shooting of common automobile air-conditioners. Prerequisite: None

~~**AT 164 Automobile Body and Accessories (2-8) 6 hours**
This course is designed to provide students with experience in maintenance and repair of accessory units and common body servicing as it pertains to a mechanic, including theory and practice on automatic units. Prerequisite: None.~~

AT 264 Automobile Servicing and Shop Management (2-8) 6 hours
This course is designed to prepare students for entry employment and to provide practical experience in diagnosis and shop management. The course consists of relevant individual project assignments. Prerequisite: Students must have all other AT courses before they can be admitted to the course.

Out for 74/75

BIOLOGY

Courses in the Department of Biology are designed to meet the needs of those who are planning to pursue further study in the biological fields as in a teaching career, medical profession, microbiology, nursing, or other related categories as well as offer the career student an appreciation and understanding of the concepts of biology. The objectives embody the basic foundations that challenge the students' inquiry of man's place in the scheme of nature and of the rapid changes affecting them in this explosive biological age.

The term "biological science" refers to the following sciences: bacteriology, biology, botany, physiology, zoology, anatomy, ecology, genetics, etc.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
English 131	3	English 132	3
Biology 141	4	Biology 142	4
Math 134	3	Math 132	3
Chem 111 and 131	4	Chem 112 and 132	4
Foreign Language	4	Foreign Language	4
Orientation 111	1	PE 112	1
PE 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
English 231	3	English 232	3
Biology 244	4*	Biology 241	4*
Foreign Language	3	Foreign Language	3
History 231	3	History 232	3
Government 231	3	Government 232	3
PE 211	1	PE 212	1

*Courses in General Ecology 231 and Introductory Genetics 232 may be taken in lieu of Biology 241 and Biology 244 except for medical or paramedical fields.

DENTISTRY**

Entrance to a college of dentistry requires a minimum of sixty semester hours of acceptable college or university credit in addition to meeting the special entrance requirements of the chosen college. A student may satisfy the sixty semester hours of college credit and qualify for the Associate Degree in Science by following the suggested degree plan for Pre-Dentistry.

MEDICINE**

It is recommended by most colleges of medicine that a student complete a baccalaureate degree before entering the college of medicine. Since there is no baccalaureate degree in "Pre-Med," no particular major is specified so long as the courses which are required for entrance to the college of medicine are included. Provisions exist for a student to be admitted to a college of medicine upon completion of ninety semester hours of college credit provided he satisfies all other requirements for entrance to the college of medicine.

A student may complete specified courses in the first two years of college and qualify for the Associate Degree in Science by following the suggested degree plan for Pre-Medicine.

VETERINARY MEDICINE**

The minimum scholastic requirement for enrollment in the professional curriculum of veterinary medicine is the satisfactory completion of not less than sixty semester hours of acceptable college or university credit. In addition to this the student must meet any special entrance requirements that may exist for the college of veterinary medicine.

A student may complete the required course for the first two years and qualify for an Associate Degree in Science by following the suggested degree plan for Pre-Veterinary Medicine.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Math 134	3	Math 132	3
Chem 111 and 131	4	Chem 112 and 132	4
Biol 141	4	Biol 142	4
Hist 231	3	Hist 232	3
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Chem 241	4	Chem 242	4
*Biol 241	4	*Biol 244	4
Phys 141	4	Phys 142	4
Govt 231	3	Govt 232	3
PE 211	1	PE 212	1

*These courses are optional for Pre-Veterinary.

OPTOMETRY**

A student may enter a college of optometry after completing two years of required college courses and satisfying any special entrance requirements of the college of optometry.

A student may complete two years of required courses and qualify for the Associate Degree in Science by following the suggested degree plan shown below.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Biol 141	4	Biol 142	4
Chem 111 and 131	4	Chem 112 and 132	4
Math 134	3	Math 132	3
PE 111	1	PE 112	1
Orientation 111	1	Hist 232	3
Hist 231	3		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Biol 241	4	Biol 244	4
Phys 141	4	Phys 142	4
Govt 231	3	Govt 232	3
PE 211	1	PE 212	1
Approved Elective	3	Approved Elective	3

PHARMACY**

Entrance to a college of pharmacy may be gained after the completion of two years of college providing that the student has successfully completed certain required courses and can satisfy the special entrance requirements of the college of pharmacy.

A student may complete the two years of college required and qualify for the Associate Degree in Science by following the suggested degree plan shown below.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Biol 141	4	Biol 142	4
Math 134	3	Math 132	3
Hist 231	3	Hist 232	3
Eco 231	3	Eco 232	3
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Chem 111 and 132	4	Chem 112 and 132	4
Phys 141	4	Phys 142	4
Govt 231	3	Govt 232	3
Approved Elective	3	Approved Elective	3
PE 211	1	PE 212	1

**The student who expects to enter a profession in dentistry, law, medicine, optometry, pharmacy, veterinary medicine, or some related profession which requires graduation from a specialized college should check carefully the entrance requirements for the college to which he expects to transfer after two years at the College.

The College offers courses which are required in the first two years by most specialized colleges.

BIOLOGY

BIOL 133-134 Anatomy and Physiology

(2-3) 6 hours
This course deals with functional anatomy and basic principles of the different systems of the body and their physiological activities. A mammal is to be dissected. Biology 133 and 134 must be taken in sequence to acquire credit. Biology 133 must be taken before Biology 134. Prerequisite: Biology 141 and 142 except for Nursing students and Allied Health students.

BIOL 241 Comparative Vertebrate Anatomy

(3-5) 4 hours
A study of the anatomy of type chordates is undertaken from a comparative viewpoint. Lectures deal with the progressive development of the organs and organ systems. A representative animal from each class of the Vertebrata is dissected in the laboratory. Prerequisite: Biol. 141 and 142.

BIOL 141, 142 General Biology (3-3) . . . 8 hours

This course is an integrated study of plants and animals. It covers the principles and activities of protoplasm and the cell and a morphological and functional study of representative plants and animals and their evolutionary history. The first semester deals with an overall picture of the living world and the organizational aspects of living matter. The second semester deals with the operational character of living matter. The presentation of the latter is oriented toward analysis rather than mere description, and it culminates the various concepts of the molecular, cellular, and organismic biology presented in the first semester. The laboratory exercises are complementary and not supplementary to general biology, and these are of equal importance in the study of plant and animal morphology. Biology 141 is a prerequisite for Biology 142.

BIOL 231 General Ecology (3-0) 3 hours

Quantitative and qualitative concepts of plant and animal populations and communities in the various environments; systems of community classification; environmental factors and their integration with the biome; emphasis on man's role in the changing environment. Field trips required. Prerequisite: Biology 141-142 or Geology 141-142.

BIOL 232 Introductory Genetics (2-2) . . . 3 hours

Study of the physical and chemical basis of heredity. Laws of heredity and variation. Genetic material, mitotic and meiotic cell division. Radiation genetics—mutations. Application of genetic principles for human welfare—Genetics and Evolution. Genetic problems are emphasized. A Laboratory problem involving an experimental cross is required. Prerequisite: Biology 141-142.

BIOL 225 Marine Ecology (12-36) 2 hours

Field course in Marine Ecology—Cholla Bay, Puerto Penasco, Sonora, Mexico. Intersession course offered between Spring semester and Summer session for ten days. Emphasis to be on field observation and identification of shore and reef animals. Other segments of the marine environment to be studied will include the shore fishes, various planktonic forms, and the algae. Field collection, identification and preservation techniques presented along with systematic, life history, and ecological information. Daily lectures, laboratories, and field trips will be held. Surveys of the ecology and geology of the Chihuahuan and Sonoran Deserts will be made enroute to Puerto Penasco. A visit of one-half day is made at the Arizona-Sonoran Desert Museum.

BIOL 244 Microbiology (3-3) 4 hours

This course deals with microorganisms in general — their nature, their response to environment, and their influence on their surroundings. Emphasis is placed on the life activities of microorganisms which influence man and his environment, aspects of parasitism, infection, body defenses, and various means of preventing and controlling infection. Prerequisite: Biol. 141 and 142, except for Nursing and Allied Health students.

BUSINESS ADMINISTRATION

Business Administration is a very broad field of study and contains many possible majors. The courses offered include (1) those required by senior colleges at the freshman and sophomore level to obtain the degree of Bachelor of Business Administration, (2) career oriented courses of a technical nature for either one-year or two-year programs, and (3) practical courses to supplement education and experience that will be of timely value in occupational and personal endeavors.

A business major should be aware of the opportunities as well as the requirements and obligations in the various fields so that he can make his choice for study based on his own capabilities and interests. Suggested fields of study include accounting, business teaching, marketing, advertising, management, banking and finance, statistical analysis, insurance, pre-law, retailing, secretarial science and office administration.

The one-year and two-year programs offered at the College provide preparation for a business career in as short a period of time as possible with training of high quality. Many of the courses taken will be the same as those required by students enrolled in the senior college transfer program. Some of the courses will not be transferable to some senior colleges, but will be transferable to others. Some will not be transferable to any senior college, principally because they are taken at the freshman and sophomore level and the senior college requires these courses to be taken at a higher level.

Business Administration

Freshman Year

Course No.	First Semester	S.H.	Course No.	Second Semester	S.H.
Engl 131		3	Engl 132		3
Hist 231		3	Hist 232		3
Math 134		3	Math 136b		3
Science		4	Science		4
BA 131b		3	Spch 234		3
PE 111		1	PE 112		1
Orientation 111		1			

Sophomore Year

Course No.	Third Semester	S.H.	Course No.	Fourth Semester	S.H.
Engl 231, or Engl 232		3	Engl 232 or EDP 235		3
Govt 231		3	Govt 232		3
Math 247b		4	BA 242a		4
BA 241a		4	Eco 232		3
Eco 231		3	PE 212		1
PE 211		1	Approved Elective		3

To qualify for an Associate in Science degree the student will need to complete 4 additional hours of Science and a total of 6 hours of Sophomore English.

BUSINESS ADMINISTRATION

Accounting

First Semester		Freshman Year		Second Semester	
Course No.	S.H.	Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3	Engl 132	3
Math 134	3	Math 136b	3	Math 136b	3
BA 241a	4	BA 242a	4	BA 242a	4
Hist 231	3	Hist 232	3	Hist 232	3
BA 131b	3	PE 112	1	PE 112	1
Orientation 111	1	Approved Elective	3	Approved Elective	3
PE 111	1				

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Math 247b	4	EDP 235 or	
Gov 231	3	Approved Elective	3
Science	4	Govt 232	3
Engl 231 or Engl 232	3	Science	4
Eco 231	3	Psy 231 or Spch 234	3
PE 211	1	Eco 232	3
		PE 212	1

To qualify for an Associate in Science degree the student will need to complete 4 additional hours of Science and a total of 6 hours of sophomore English.

Office Education And Secretarial Science

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
BA 131s, 132s, 135s	3	BA 132s or 231s, 136s	3
Math 132b	3	Math 134	3
BA 131b	3	BA 132t or 231t	3
BA 131t or 132t	3	BA 231m	3
Orientation 111	1	PE 112	1
PE 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
EDP 131	3	BA 132e	3
Eco 231	3	Eco 232	3
BA 231t or 232t	3	BA 232t or	
Govt 231	3	Approved Elective	3
BA 241a	4	Govt 232	3
		BA 242a	4

BUSINESS ADMINISTRATION
Nine-Month Secretarial Certificate Program
Freshman Year

First Semester		S.H.	Second Semester		S.H.
Course No.			Course No.		
BA 131e		3	BA 132e		3
BA 131s or 132s		3	BA 132s or 231s		3
BA 131t or 132t		3	BA 132t or 231t		3
BA 131b		3	BA 241a		4
BA 231m		3	Math 132b		3
BA 133o		3	BA 121s		2

Nine-Month Clerical Certificate Program
Freshman Year

First Semester		S.H.	Second Semester		S.H.
Course No.			Course No.		
BA 131e		3	BA 132e		3
BA 241a		4	BA 242a		4
BA 231m		3	BA 131b		3
Math 132b		3	BA 132t or BA 132t		3
BA 131t or BA 132t		3	BA 133o		3

BUSINESS ADMINISTRATION

GENERAL BUSINESS

- BA 131b Introduction to Business (3-0) 3 hours**
 A general survey of the various fields of opportunity in business and industry is made with special emphasis on the aptitudes and the skills required to be successful in these areas. The course includes methods and practices of businessmen and the contribution of business to our society. Prerequisite: None.
- BA 131e Business English (3-0) 3 hours**
 This course is designed to give the student majoring in Secretarial Science or Business Administration a thorough course in grammar. Special emphasis will be placed on sentence construction, punctuation, capitalization, vocabulary, and spelling. Prerequisite: None
- BA 132e Business Correspondence (3-0) 3 hours**
 This course is designed to give the students who are majoring in Business Administration special training in business and professional terminology, spelling, punctuation, vocabulary building, grammar, and sentence structure as applied to the writing of effective business letters. Prerequisite: BA 131e or Engl 131.
- BA 133o Office Training (3-0) 3 hours**
 Instruction with correlated practice is provided in the standard system of filing used in modern business offices. The course includes the development of the skill in the use, care, and operation of the liquid duplicator and the

- mimeograph and mastery of the operation of voice-writing and transcribing equipment. Prerequisite: BA 131t, corequisite: BA 132t.
- BA 231m Business Machines (3-2) 3 hours**
 This course provides instruction and practice in the operation of rotary calculators, ten-key and full keyboard adding machines, printing calculators, and electronic desk calculators. Prerequisite: None.

ACCOUNTING

- BA 241a, 242a Principles of Accounting (3-3) 8 hours**
 These courses present the introduction to the principles of accounting for sole proprietorships, partnerships, and corporations; accounting for manufacturing and job orders; financial statements and their analysis. Four practice sets are worked during the year. Prerequisite: BA 241a is a prerequisite to BA 242a.
- BA 231a Intermediate Accounting (3-0) 3 hours**
 The recording and reporting process is studied with emphasis on the accounting principles underlying the balance sheet, income statement, and statement of retained earnings. Other topics studied include matching costs and revenue; intangible assets, deferred assets; insurance; cash, receivables, and investments. Prerequisite: BA 242a.

BUSINESS ADMINISTRATION

BA 232a Intermediate Accounting (3-0) . . . 3 hours
Topics for study include capital stock; correction of statements and books, surplus dividends, and reserves; comparative statements and ratio-analysis; statement of application of funds; profit variation. Prerequisite: BA 242a.

BA 234a Elementary Cost Accounting (3-0) 3 hours
Principles and techniques of accounting are studied to determine costs of material, labor, and burden under job costs and by continuous process and assembly systems. Consideration is given to prime costs, budgeting, controls, and decision making. Prerequisite: BA 242a.

BA 235a Federal Tax Accounting for Individuals (3-0) 3 hours
Topics concerning the theory of tax problems, income tax forms, current Federal Revenue Acts, and application of Federal Tax legislation to everyday personal and business questions are covered in this course. Prerequisite: BA 242a.

BUSINESS LAW

BA 231L Business Law (3-0) 3 hours
A study is made of legal implications of the average business transaction. Special attention is given to the laws of contracts, agency, employment, negotiable instruments, personal property, bailments, transportation, and sales of personal property. Prerequisite: None.

BA 232L Business Law (3-0) 3 hours
This course is a continuation of the principles of law with particular emphasis on insurance, suretyship and guaranty, partnerships and unincorporated organizations, corporations, real property, mortgages, leases, trusts and decedents' estates, bankruptcy, torts, and crimes. Prerequisite: None.

BA 232g Oil and Gas Law (3-0) 3 hours
General contracts, and oil and gas leases and their interpretation are studied. Special emphasis is given to titles, royalty, proration and conservation of oil and gas, regulations governing drilling operations, government lands, and to cases on oil and gas. Prerequisite: None.

MATHEMATICS FOR BUSINESS ADMINISTRATION

Math 132b Elementary Mathematics of Finance (3-0) 3 hours

Skill and accuracy is to be developed in the fundamental mathematical problems of business. Topics studied include cash sales, customer and payroll records, aliquot parts, percentage, interest, annuities, insurance, stocks, bonds, and graphs. Prerequisite: None.

Math 136b Mathematical Analysis for Business (3-0) 3 hours

This course is designed to develop quantitative methods of analyzing business problems. Topics studied include mathematical relationships, vectors and matrices, break-even interpretations, linear programming, probability, expected value, analysis of the normal curve probabilities as an aid to formulating business decisions, progressions, and annuities. Prerequisite: Math 134.

Math 247b Business Statistics (3-3) 4 hours

The course provides an introduction to the techniques of collection, presentation, analysis, and interpretation of numerical data. Application of correlation methods, analysis of variance, dispersion, sampling, quality control, reliability, mathematical models, and programming are stressed. Prerequisite: Math 136b.

INSURANCE

BA 235i Survey of Insurance (3-0) 3 hours

This course is designed as a first course in insurance covering risk management, fire and allied lines, legal liability, automobile insurance, the family automobile policy, garage liability, homeowner, and farmowners insurance.

BA 236i Survey of Insurance (3-0) 3 hours

This course is a comprehensive study in insurance covering general liability, workmen's compensation, crime and fidelity insurance as well as inland marine, commercial multiple peril, miscellaneous lines of glass, aviation, boiler and machinery, fundamentals of rating, insurance laws and the agent.

SECRETARIAL STUDIES

BA 121t Typewriting Skills for Non-Majors (1-2) 2 hours

This course is offered for the students in the Police Science Technology Program and other non-business programs. The purpose of the course is to teach touch-method typewriting skills to facilitate preparation of police reports. Letter forms, tabulations, and report forms are studied without stressing production speed. Prerequisite: None.

BA 131t Elementary Typewriting (3-2) . . . 3 hours

This course provides the development of skills in automation of the alphabetical keyboard, numbers, symbols, and service mechanisms by the touch method. An introduction of business letter forms, tabulations, manuscript displays, and reports is included. This course should not be taken for credit by students who have had typewriting in high school. Prerequisite: None

BA 132t Intermediate Typewriting (3-2) . . . 3 hours

This course is designed for those who have had typewriting in high school or who have had BA 131t. Practice includes composition of business letters, typing of business letters, tabulating materials, and typing of manuscripts. Prerequisite: BA 131t.

BA 231t Advanced Typewriting (3-2) 3 hours

This course is designed for students who desire to join typewriting speed and knowledge of business forms. It includes practice work in the

BA 232t Production and Statistical Typewriting (3-2) 3 hours

Each student will be required to plan, arrange, and complete office projects, with emphasis on statistical reports. Prerequisite: BA 231t.

BA 131s Elementary Stenography (3-3) . . . 3 hours

This course is designed for those students who wish to learn Gregg shorthand. Special attention is given to correct formation of shorthand characters, brief forms, phrasing, and the reading, writing, and transcription of well-written shorthand. Prerequisite: BA 131t.

BA 132s Intermediate Stenography (3-3) . . . 3 hours

This course is a continuation of BA 131s. Prerequisite: BA 131s.

BA 131C Elementary Machine Shorthand (Touch) (3-3) 3 hours

Mastery of Stenograph keyboard by touch system, phonetic applications, principles and rules of machine shorthand, prefix and suffix formations, number practice, punctuation accuracy drills, note reading, phrasing mastery, care of stenograph machine.

BA 132C Intermediate Machine Shorthand (Touch) (3-3) 3 hours

Review of basic theory; development of automatic recall on brief forms, derivatives and phrasing principles; development of speed and accuracy through drills and rests; drill on intermediate phonetic patterns, reading practice, simple reversal patterns.

BA 231s Advanced Stenography (3-3) 3 hours

The purpose of this course is to increase speed and accuracy in shorthand, typewriting, and transcription. Prerequisite: BA 132s.

BA 232s Dictation and Transcription (3-3) . . . 3 hours

This course is a continuation of BA 231s. A student should be able to acquire a speed of approximately 100-120 words per minute by the end of the course. Prerequisite: BA 231s.

BA 121s Secretarial Practice (2-1) 2 hours

A study is made of the secretarial profession. Communications in business and the financial and legal responsibilities of the secretary will be emphasized. This course is designed to develop knowledge and skill in office procedures. Prerequisite: BA 131t.

BA 233s Secretarial Procedures (3-0) 3 hours

This course is designed to develop proficiencies in fundamental office procedures and secretarial practices serving as a general review for the Certified Professional Secretaries' examination. Topics covered will include functional duties of stenographers and secretaries, communication skills, business principles and organization of work, basic accounting principles and computations and fundamentals of business law. Prerequisites: BA 132t and BA 132s.

BA 234s Secretarial Procedures (3-0) 3 hours

This course covers basic information on economics, office administration with emphasis on law, and understanding of human relations in office situations. The course is to serve as a general review of these topics in preparation for the Certified Professional Secretaries' examination. Prerequisite: BA 233s.

CAREER PILOT TECHNOLOGY

Deleted For
1974-75
Catalog

This program is designed to give the student a complete education in pilot technology which will enable him to earn a living in the aeronautical industry. The student will be qualified to enter the aeronautical industry at any level he chooses, or he may use his training to increase the area he serves as a salesman.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132, 233 or Spch 234	3
CPT 131	3	CPT 133	3
CPT 111	1	CPT 113	1
CPT 132	3	CPT 134	3
CPT 112	1	CPT 114	1
Math 131	3	Math 134	3
Orientation 111	1	I*PE 112	1
*PE 111	1	Psy 231	3

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
CPT 231	3	CPT 233	3
CPT 211	1	CPT 213	1
CPT 232	3	CPT 234	3
CPT 212	1	CPT 214	1
Govt 231 or Approved Substitute	3	Govt 232 or Geog 231 or Approved Subst	3
Approved Elective	3	Mgt 232	3
		Approved Elective	3

*H.Ed. 131 can be substituted for the two 1-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

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CAREER PILOT TECHNOLOGY

- CPT 131 Beginning Aeronautics (3-0) . . . 3 hours**
This course provides introductory instruction in pre-flight training, including elementary aerodynamics and a study of the many instruments used in various types of aircraft. The role and function of each instrument will be taught. Radio navigation and Federal Aviation regulations are significant components of this course. Prerequisite: None.
- CPT 111 Beginning Aeronautics Laboratory (0-2)1 hour**
Ten hours of dual flight instruction and ten hours of supervised solo instruction constitute the designated laboratory hours. Corequisite: CPT 131.
- CPT 132 Basic Aeronautics (3-0) 3 hours**
This is a study of meteorology, flight computers, and navigation. The student is prepared for the Federal Aviation Agency written and in-flight examinations for a private pilot's certificate. Corequisite: CPT 131.
- CPT 112 Basic Aeronautics Laboratory (0-2) 1 hour**
Laboratory experience requires ten hours of dual flight instruction and ten hours of solo flying in preparation to the Federal Aviation Agency check ride. Corequisite: CPT 132.
- CPT 133 Advanced Aeronautics (3-0) . . . 3 hours**
Advanced instruction in pre-flight training plus a more intensive study of aerodynamics and various flight instruments will be studied. The course content is on the level of Commercial Pilot Training. Prerequisite: CPT 132.
- CPT 113 Advanced Aeronautics Laboratory (0-2)1 hour**
Ten hours of supervised solo flight and ten hours of dual flight instruction are required as laboratory experience. Corequisite: CPT 133.
- CPT 134 Advanced Commercial Aeronautics (3-0) 3 hours**
This course covers advanced meteorology, flight computers, and navigation in preparation for the Federal Aviation Agency commercial written examination. Corequisite: CPT 133.
- CPT 114 Advanced Commercial Aeronautics Laboratory (0-2)1 hour**
This course includes ten hours of supervised solo flight and ten hours of dual instrument flight instruction. Corequisite: CPT 134.
- CPT 231 Basic Instructor Training (3-0) . 3 hours**
The advanced study of aerodynamics useful in flight instruction and the general psychology of learning and teaching flying will be covered. Prerequisite: CPT 134.
- CPT 211 Basic Instructor Training Laboratory (0-2)1 hour**
The student must complete ten hours of supervised solo flight and ten hours of dual flying instruction. Corequisite: CPT 231.
- CPT 232 Basic Instruments (3-0) 3 hours**
A review of all phases of commercial flight, lesson planning, and Federal Aviation Agency regulations will be studied in preparation for the Federal Aviation Agency instructors' written examination. Corequisite: CPT 231.
- CPT 212 Basic Instruments Laboratory (0-2) 1 hour**
The laboratory requirements include ten hours of supervised solo flight and ten hours of dual flight in preparation to the Federal Aviation Agency check ride. Corequisite: CPT 232.
- CPT 233 Basic Instruments (3-0) 3 hours**
This course introduces highly technical pre-flight, aerodynamics, and instrument training, including Federal Aviation Agency regulations on instruments. Specific emphasis is given to the interpolations of low in-route charts. Prerequisite: CPT 232
- CPT 213 Basic Instruments Laboratory (0-2) 1 hour**
The laboratory includes ten hours of dual flight instruction and ten hours of supervised solo flying, entirely by instruments. Corequisite: CPT 233.
- CPT 234 Advanced Instruments (3-0) . . . 3 hours**
The course of study will include instrument-level instruction in meteorology, flight computer, navigation, departure charts, and will prepare the student for the Federal Aviation Agency examination. Corequisite: CPT 233.
- CPT 214 Advanced Instruments Laboratory (0-2)1 hour**
The course includes ten hours of dual instruction in flying on instruments and ten hours of solo flying on instruments to qualify the student for the Federal Aviation Agency instrument rating. Corequisite: CPT 234

CHEMISTRY

The objectives of the Chemistry Department are to prepare pre-professional chemists, chemical engineers, and chemical education majors; also, to give an effective background in chemistry for work in biology, physics, home economics, agriculture, pre-medicine, and elementary education. A co-objective is to prepare students for careers in chemical technology, where emphasis is placed on applied chemistry for modern laboratory instrumentation.

The chemistry curriculum is intended to be general enough to fulfill these objectives for the major or the nonmajor's requirements for the first two years of college chemistry. Students are responsible for checking the catalog of the senior college to which they plan to transfer to determine which of these courses are compatible with the senior college degree program.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
English 131	3	English 233	3
Math 133	3	Math 231	3
Chemistry 131, 111	4	Chemistry 132, 112	4
Elective-Lab Science	4	Physics 143	4
History 231	3	History 232	3
PE 111	1	PE 112	1
Orientation 111	1	Chemistry 121	2

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Chemistry 241	4	Chemistry 242	4
Physics 241	4	Chemistry 243	4
Math 232	3	Physics 242	4
Lang. 141	3	Lang. 142	3
Govt 231	3	Govt 232	3
PE 211	1	PE 212	1

CHEMISTRY

Chemistry 121 Chemical Calculations (2-0) 2 hours
A calculation course designed for chemistry and chemical engineering majors, this course begins to answer the three fold question, "How, why, and how far do substances react?" Prerequisite: Chemistry 131.

~~**Chem 140 General Chemistry (3-3)** 4 hours
This course satisfies a need for integrated Science and Chemistry course which unites the basic facts of inorganic and organic chemistry into biological chemistry. Prerequisite: None.~~

Chemistry 111 Fundamentals of Chemistry Lab (0-3) 1 hour
Credit: 1 per semester. Illustrate and reinforce principles and concepts by use of quantitative experiments, emphasizing interpretation and reporting of data, and facility in handling scientific instruments. Prerequisite: Credit for or registration in Chemistry 131.

Chem 112 Fundamentals of Chemistry Lab (0-4) 1 hour
Credit: 1 per semester. Illustrate and reinforce principles and concepts by use of quantitative experiments, emphasizing interpretation and reporting of data, and facility in handling scientific instruments. Prerequisite: Credit for or registration in Chemistry 132.

Chemistry 131 General Inorganic Chemistry (3-0) 3 hours
Designed as a first course for students with some background in physical science, this course covers such topics as atomic structure, fundamental concepts, equations, and formulas. Prerequisite: May not apply toward degree until Chemistry 111 is successfully completed.

Chemistry 132 General Inorganic Chemistry (3-0) 3 hours
Topics studied during second semester include chemical dynamics, solutions, quantitative analysis of common cations and anions, electro-chemistry, radioactivity, nuclear structure and reactions, transition elements, and complex ions. May not apply toward degree until Chemistry 112 is successfully completed. Prerequisite: Chemistry 131.

Chemistry 145 Chemistry for Firemen (3-2) 4 hours
An introduction to the study of the effects of fire on combustible and non-combustible materials. Mechanical and hydraulic systems of importance to fire personnel will also be studied. *Prerequisite:*

None

Chem 241, 242 Organic Chemistry (3-4) . 8 hours
A mechanistic approach to an integrated study of aliphatic and aromatic hydrocarbon compounds and their derivatives is the basis of this two-semester course. Also included in the second semester are a brief introduction of biochemistry and instrumental analysis. Prerequisite: Chem 132 for Chem 241; Chem 241 for Chem 242.

Chem 243 Quantitative Analysis and Chemical Principles (3-4) 4 hours
The course is a study of the fundamental principles of elementary quantitative analysis, both theory and practice. Some topics covered are review of stoichiometric relationships, gravimetric analysis, volumetric analysis, electroanalytical chemistry, and optical methods of analysis. Prerequisite: Chem 132.

Chem 244 Quantitative Analysis and Chemical Principles (3-4) 4 hours
The fundamental principles of optical and electroanalytical quantitative analysis will be covered. The optical methods include ultraviolet, visible, infrared, emission, and x-ray spectroscopy; electroanalytical methods include potentiometry, polarography, electrodeposition, coulometry, and conductivity analysis. Corequisite: Chem 132 and Phys 142.

Chem 245 Physical Chemistry (3-3) 4 hours
This is an introductory course in physical chemistry with emphasis on the mathematical approach. Topics covered will include thermodynamics, dynamics, quantum chemistry, radiation chemistry, and chemical kinetics. Prerequisite: Chem 132 Corequisite: Physics 241.

Chem 246 Qualitative Organic Analysis (2-6) 4 hours
The course includes systems and methods of separation, purifications, and identification of organic compounds. Lecture is two hours per week, and laboratory is six hours per week. Prerequisite: Chem 241.

Chem 247 Chemistry for Instrumentation (3-4) 4 hours
This course is a study of the principles and application of modern instrumentation methods as they apply to the area of inorganic, organic, and physical chemistry. Topics will include spectroscopy, magnetic resonance, x-ray methods, chromatography, and radioactivity. Prerequisite: Chem 243.

Chem 130 General Chem

COMMUNICATION AND THEATRE

The Department of Communication and Theatre acknowledges those arts and skills fundamental to the human potential. Its purpose is to illuminate the impact of communication and theatre arts on contemporary behavior and to promote the successful functioning of individuals within a complex cultural milieu. The fields in this department are inherent to virtually all of man's occupational, political, and social endeavors. Therefore, the department seeks primarily to further the nature of man as an educated and cultured being, capable of adjusting and contributing to the world in which he lives.



MASS COMMUNICATION

JOURNALISM

Journalism courses at the College seek to give a practical foundation in basic communication skills necessary for admittance to a senior college major program in journalism. A variety of courses is offered, including reporting, editing, photography, and active production of school publications. As elective courses for non-majors, these courses serve as outlets for creative talent and school service. Also, these classes aid students in various other fields of endeavor.

Freshman Year

First Semester	S.H.	Second Semester	S.H.
Course No.		Course No.	
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Jour 131	3	MCom 130	3
Spch 131	3	Lang 142	4
Lang 141	4	Approved Elective	3
Orientation 111	1	PE 112	1
PE 111	1	Jour 112	1
Jour 111	1		

Sophomore Year

Third Semester	S.H.	Fourth Semester	S.H.
Course No.		Course No.	
Engl 231	3	Engl 232	3
Govt 231	3	Govt 232	3
Jour 231	3	Approved Elective	3
Lang 231	3	Lang 232	3
Phot 133	3	Phot 134 or approved elective	3
PE 211	1	PE 212	1
Jour 211	1	Jour 212	1

MCom 130 Introduction to Mass Communications (3-0) 3 hours
 Survey of basic factors affecting human interaction through mass communication, as well as an examination of the evolution of today's concepts in mass communications. Prerequisite: None.

Jour 111, 112, 211, 212 Publications (0-2) 1 hour
 Students can earn credit by working as staff members for the campus newspaper and magazine. Prerequisite: None.

Jour 131 News Editing and Reporting (3-0) 3 hours
 An introductory study of news gathering, news writing and copy editing for errors of fact and interpretation of English and newspaper style; headline writing; proof reading and page make-up are stressed. The course is taught through lecture and actual practice on the campus newspaper. Prerequisite: None.

Jour 231, 232 News Writing and Reporting (3-3) 3 hours
 A study of the gathering and reporting of news is emphasized in this course. The complete range of the reporter's work is covered by lecture, lab assignments, and work on the campus newspaper. Prerequisite: None.

PHOTOGRAPHY

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl. 131	3	Engl. 132	3
Hist. 231	3	Hist. 232	3
Phot. 133	3	Phot. 134	3
Spch. 131	3	Lang. 142	4
Lang. 141	4	Approved Elective	3
Orientation 111	1	PE 112	1
PE. 111	1	Jour. 112	1

Sophomore Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl. 231	3	Engl. 232q	3
Govt. 231	3	Govt. 232	3
Jour. 131	3	MCom.	3
Lang. 231	3	Lang. 232	3
Art 130	3	Art 132a	3
PE 211	1	PE 212	1
Jour. 211	1	Jour. 212	1

Phot 133 Basic News Photography (2-4) . . . 3 hours
 Basic darkroom procedures and a basic knowledge of photojournalism will be learned. Students will gain information on photocomposition and all major aspects of photo production. Prerequisite: None.

Phot 134 Advanced News Photography (204). 3 hours
 A detailed study of photography with emphasis on print and negative quality, composition and elements of good photojournalism. Special emphasis will be placed on advertising and fashion photography as well as news photography. Prerequisite: Phot. 133 or consent of instructor.

RADIO – TELEVISION

The ultimate aim of the radio-television program is to prepare the student for entry into the industry by providing him with two years of practical experience as well as academic training. The student can earn a third class radio engineer's license, endorsed for broadcast, during this two years of training.

An outstanding "plus" for the radio-television student at the College is the opportunity to work in the College-owned and operated FM radio station. KOCV-FM is an educational non-commercial radio station designed to entertain and enlighten area and campus listeners.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Govt 232	3	Hist 232	3
R/TV 131	3	R/TV 132	3
R/TV 111	1	R/TV 112	1
Spch 131	3	Spch 232	3
Mu 131	3	Dr 131	3
*PE 111	1	*PE 112	1
Orientation 111	1	Dr 111	1

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
R/TV 231	3	R/TV 232	3
R/TV 236	3	R/TV 233	3
Psy 231	3	Jour 131	3
R/TV 211	1	R/TV 212	1
Mgt 131	3	Approved Elective	3

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

An associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

ANNOUNCER-OPERATOR OPTION**

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Math 131 or more advanced	3	Math 134 or more advanced	3
ET 141	4	ET 142	4
Engl 131	3	ET 146	4
R/TV 131	3	R/TV 132	3
R/TV 111	1	R/TV	1
*PE 111	1	*PE 112	1
Orientation 111	1		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
ET 211	1	Engl 132, Engl 232 or Spch 234	3
ET 147	4	Govt 232	3
ET 243	4	ET 240	4
R/TV 211	1	R/TV 212	1
R/TV 231	3	R/TV 232	3
R/TV 236	3	R/TV 233	3

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

**This option is operated in conjunction with the Department of Electrical and Electronics Technology.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

RADIO-TELEVISION

R/TV 131 Survey of Radio and Television

(3-0) 3 hours

This is a survey of the American system of broadcasting including personnel, equipment, terms, station and network organization. The student is given practical experience in station operation procedures. Prerequisite: None.

R/TV 132 Fundamentals of Radio and Television

(3-0) 3 hours

This is a continuation of the history of broadcasting with emphasis on "inside" station operational procedures. Prerequisite: None.

R/TV 231 Announcing for Radio and Television

(3-0) 3 hours

The course deals with the principles of voice production and the techniques of interpretation as they relate to broadcasting. The student, working with tape recorders, learns to properly announce commercial copy, news, interviews, and panel discussions. Prerequisite: R/TV 131 or 132.

R/TV 232 Writing for Radio and Television

(3-0) 3 hours

Mass media writing techniques are studied. Continuity writing of announcements and commercials is mastered, along with dramatic scripts, news programs, and the documentary. Prerequisite: None.

R/TV 233 Radio and Television Production

(3-0) 3 hours

This is a study of radio production with emphasis on the problems posed by the documentary, panel, special event, music programs, and announcements. The course includes a study of television production techniques with emphasis on the creative aspects of the producer's problems. Prerequisite: R/TV 131 or 132.

R/TV 236 Voice and Diction for Radio and

Television (3-0) 3 hours

The course deals with basic principles of diction, voice development, and interpretation. Intensive application through classroom exercises and special projects is designed to meet individual vocal needs and professional objectives. It is necessary to master the International Phonetic Alphabet. Prerequisite: None.

R/TV 111, 112, 211, 212 Laboratory (0-5) 4 hours

These laboratory courses are for students who participate extensively in work at our campus radio station KOCV-FM. A minimum of one hour per day must be spent working at the station. Prerequisite: Approval of the faculty director to work at KOCV.

SPEECH COMMUNICATION

SPEECH

Because of their relevance to all professional and social endeavors, speech courses are designed primarily to strengthen the oral communication abilities of students from all disciplines and fields of interest. A range of courses is offered to provide the theory, principles, and practice necessary to meet a wide variety of communication needs. In addition, courses fulfill the fundamental academic requirements for speech majors and minors as well as requirements and elective options for students from other departments.

Speech courses need not be taken in any particular sequence. More than one speech course may be taken during a given semester.

Freshman Year			
First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Biol 141	4	Biol 142	4
Spch 131	3	Spch 236	3
Spch 113*	1	Spch 114*	1
PE 111	1	PE 112	1
Orientation 111	1	DR 131	3

Sophomore Year			
Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 132	3
Govt 231	3	Govt 232	3
Lang 141	4	Lang 142	4
Spch 233	3	Spch 232	3
R/TV 131	3	Spch 214*	1
Spch 213*	1	PE 212	1
PE 211	1		

*Laboratory preparation for intercollegiate participation in the various types of speech contests. Participation in tournaments is required for credit.

SPEECH

Spch 113, 114, 213, 214 Forensic Laboratory (0-2) 4 hours

These courses involve laboratory preparation for intercollegiate participation in debate, oratory, interpretation, persuasion, duet acting, and other types of speech contests. Participation in tournaments is required for credit. Prerequisite: None.

Spch 131 Fundamentals of Speech (3-0) . . . 3 hours

The introduction to public speaking and the principles of speech composition with the emphasis upon speech as a communicative act are covered in this course. The total speech act, which includes an analysis of voice and diction, the body as a tool of communication, and the types of speaking situations, is studied. Prerequisite: None.

Spch 232 Oral Interpretation (3-0) 3 hours

This course is an intensive study and practice in the analysis and oral interpretation of various types of literature — from fiction to drama to reader's theatre. Prerequisite: None.

Spch 233 Debate (3-0) 3 hours

The principles of argumentation and debate, with analysis and discussion of current public questions, are studied. Also included are the study of methods of research, briefing, inductive and deductive reasoning, strategy and refutation, and historic and contemporary debates. Prerequisite: Spch 131.

Spch 234 Business and Professional Speech (3-0) 3 hours

This course embodies the basic principles of speech applied to the speech needs of the professional man and woman. Practice is required in the construction and delivery of the various types of speeches and participation is necessary in group conferences, discussion, and interviews. Prerequisite: None.

Spch 236 Voice and Diction (3-0) 3 hours

This course deals with basic principles of diction, voice development, and interpretation. Intensive application through classroom exercises and special projects is designed to meet individual vocal needs and professional objectives. It is necessary to master the International Phonetic Alphabet. Prerequisite: None.



COMMUNICATION AND THEATRE

DRAMA

The Drama Department of the College offers fundamental courses in theatre arts to three types of students: (1) those preparing to teach drama, (2) those preparing for careers in professional theatre, and (3) those wishing to expand their avocational interests in the arts and literature of the theatre.

While the course work done in the department is basically that done in the first two years of senior colleges and universities, it is the responsibility of the student to become aware of the particular requirements of the school to which he will transfer.

The department is a member of the American Educational Theatre Association, the Texas Educational Theatre Association, and the Southwest Theatre Conference.

Each year the College theatre presents a season of major and studio productions in which all drama students participate. A musical is also produced annually in conjunction with the Music Department.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Dr 111	1	Dr 112	1
Dr 131	3	Dr 134	3
Dr 133	3	Dr 236	3
Science	4	Science	4
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Govt 231	3	Govt 232	3
Lang	4	Lang	4
Dr 211	1	Dr 212	1
Dr 233	3	Dr 232	3
Dr 231	3	Spch 232	3
PE 211	1	PE 212	1

DRAMA

DR 111, 112, 211, 212. Rehearsal and Performance (0-2) 4 hours
These courses are required of students registered for drama. They are laboratory courses in which drama students will be assigned to the cast or crews of each show. Prerequisite: None.

Dr 131 Introduction to the Theatre (3-0) . 3 hours
This course is a general survey of the major fields of theatre art and an introduction to various types and styles of plays. Practical experience in elementary stage technique is provided. Prerequisite: None.

Dr 133, 134 Basic Theatre Practice (3-6) . 6 hours
All basic aspects of stagecraft, costume, and make-up are covered in three lectures a week, with laboratory hours to be arranged, to provide practical experience on production crews. Prerequisite: None.

Dr 231 Acting (3-0) 3 hours
Basic skills and techniques of acting are developed with individual work in use of voice and body. Exercises in pantomime, improvisation, and scenes from plays stress character analysis and creation. Prerequisite: None.

Dr 232 Acting (3-0) 3 hours
Much individual work in acting techniques and

character creation is provided for the advanced student. Styles of acting are stressed through ensemble work in scenes from period plays. Prerequisite: Dr 231.

Dr 233 History of the Theatre (3-0) . . . 3 hours
This survey of the theatre, from its beginning to the present, is a study of the theatre in each period as a part of the total culture of the time. Plays of important authors are read. Prerequisite: None.

DR 234 History of the Theatre (3-0) . . . 3 hours
This course is a study of the modern theatre including American, English, and Continental plays. Prerequisite: None.

Dr 235 Stage Design and Craftsmanship (3-0) 3 hours
Perspective drawing, fundamentals of design and color harmony, scene design problems, designer's sketches, detail drawings, and techniques of scene painting are taught. Prerequisite: None.

Dr 236 Voice and Diction (3-0) 3 hours
The course deals with basic principles of diction, voice development, and interpretation. Intensive application through classroom exercises and special projects meet individual needs and professional objectives. It is necessary to master the International Phonetic Alphabet. Prerequisite: None.

DRAFTING TECHNOLOGY

Draftsmen make working plans and detailed drawings for engineering construction or manufacturing purposes. They usually work from sketches, specifications, or field notes furnished by an engineer, architect, or designer. Compasses, T-squares, triangles, scale, and special pencils and pens are the articles of equipment used.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engr 131	3	Engr 132 or Engr 232	3
Math 131	3	Math 134	3
Engr 131	3	Engr 133	3
Art 131a	3	DT 241a	4
*PE 111	1	*PE 112	1
Approved Elective	3	Approved Elective	3
Orientation 111	1		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Govt. 232 or Approved Substitute	3	Art 231 <i>Engr. 239</i>	3
DT 242a	4	DT 243a	4
Engr 111	1	DT 244	4
MT 161	6	DT 245 or DT 246	4

For 74-75



*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

DT 241b, 242b and DT 243b are taken as electives.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

DRAFTING TECHNOLOGY

DT 241a Architectural Drafting (2-4) . . . 4 hours
This course is an introductory course in the field of architectural drafting. Prerequisite: Engr. 131.

DT 241b Advanced Architectural Drafting (2-4) 4 hours
This course is a continuation of Drafting Technology 241a with emphasis on ~~industrial design~~.
Commercial + Industrial Construction

DT 242a Machine Drafting (2-4) 4 hours
This course deals with engineering sketches, conventional practices, detail and assembly drawings, machine fastenings, and pipe drawings. Prerequisite: Engr. 131.

DT 242b Advanced Machine Drafting (2-4) . . . 4 hours
This course is a continuation of Drafting Technology 242a. A thorough study of position dimensioning and tolerancing will be made.

DT 243a Technical Illustration (2-4) 4 hours
A study of pictorial drawings used in industrial catalogs, training aids, engineering designs, assembly sheets and promotional literature. Orthographics, axonometrics and perspectives are used extensively. Prerequisite: Engr 131.

DT 243b Advanced Technical Illustration (2-4) 4 hours
This course is a continuation of Drafting Technology 243a. The areas covered include inking, shading, and airbrush rendering.

DT 244 Piping Drafting (2-4) 4 hours
This course is a study of pipes and pipe fittings, symbols, and specifications of process systems. Drawings of flow diagrams, pumps, compressors, and various other mechanical equipment are prepared. Prerequisite: Engr. 131.

DT 245 Electronic Drafting (2-4) 4 hours
This is a basic course concerning drafting techniques as they are applied to the field of electronics. Electronic symbols and their application in printed and conventional circuits will be studied. Prerequisites: Engr 131.

DT 246 Structural Drafting (2-4) 4 hours
This course is a study of the design and development of details and specifications for industrial structures. Emphasis will be placed upon structural steel, pipe, and reinforced concrete. Prerequisite: Engr 131.

ELECTRICAL AND ELECTRONICS TECHNOLOGY

The Electrical and Electronics Technology curriculum places emphasis on transistors, integrated circuits and their application in such devices as power supplies, amplifiers, transceivers, television, microwave and digital logic devices. Power distribution, measuring instruments, machinery, and controls are also studied. There are two degree plan options. These options are General Electronics, and Electrical Power.

GENERAL ELECTRONICS OPTION

Note: Choice (A) is general Electronics and (B) has emphasis on electronic communications which leads to the first class FCC license.

First Year			
First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Math 131 or more advanced	3	Math 134 or more advanced	3
Engr. 131 *	3	Govt 233	3
ET 141	4	ET 142	4
Engl 131	3	ET 146	4
*PE 111	1	Engl 132, Engl 233 or Spch 234	3
Orientation 111	1	*PE 112	1

Second Year			
Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
ET 147	4	ET 241	4
ET 243	4	ET 245	4
ET 244	4	ET 242	4
(A) ET 246 or ET 248	4	(A) Technical Elective**	Min. 3
(B) ET 211	1	(B) ET 240	4
Elective	3		

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

**Technical electives may be: any Electrical or Electronics course not already required, DT 245, Engr. 133, Physics 136, AT 261, MT 161, R/AC 161, 162, MCT 234, Math 231 or higher.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

A certificate of technology will be awarded for completing the required ET ~~classes only~~.

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 70

ELECTRICAL AND ELECTRONICS TECHNOLOGY

ELECTRICAL POWER OPTION

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Math 131 or more advanced	3	Math 134 or more advanced	3
Engr 131	3	Govt 222	3
ET 141	4	ET 142	4
*PE 111	1	ET 146	4
Engl 131	3	Engl 132, Engl 200 or Spch 234	3
Orientation 111	1	*PE 111	1

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
ET 248	4	ET 249	4
ET 147	4	ET 230	3
ET 246	4	Elective	3
ET 244	4	MT or WT 161	6

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

A certificate of technology will be awarded for completing the required ET courses.

with a grade of C or better
ET 141, 142, 146, 244, 246, 248

ELECTRICAL AND ELECTRONICS TECHNOLOGY

ET 141 Electrical Circuits D.C. (3-3) 4 hours
In this course a study is made of the principles of direct current electricity and their application to electrical testing and circuitry. Specific topics include Ohm's law, series-parallel circuits, batteries, meters, magnetism, conductors, insulators, and color code. Prerequisite: None.

ET 142 Electrical Circuits A.C. (3-3) 4 hours
This is a study of the principles of alternating current and voltage, the application of basic laws and formulas to electrical circuits and testing, induction, capacitance, reactance, impedance, complex numbers, filters, and the use of the slide rule. Prerequisite: ET 141.

ET 146 Basic Electronics I (3-3) 4 hours
This is an introductory course on the fundamentals of vacuum tubes and solid state devices such as power supplies, amplifiers, and oscillators. Prerequisite: ET 142.

ET 147 Basic Electronics II (3-3) 4 hours
A continuation of ET 146, this course includes topics of transmitters, antennas, switching circuits, and receivers. Prerequisite: ET 146.

and operational Amplifiers

ET 211 Rules & Regulations (1-0) 1 hour
Preparation for the Federal Communication Commission's first class license examination. Prerequisite or corequisite: ET 243.

ET 230 Electric Power Distribution (3-0) . . . 4 hours
Methods and materials, principles, and National Electric Code rules covering the distribution of electricity are studied. Topics include single and polyphase systems, grounding, voltage drop, over current devices, and safety practices. The laboratory portion is practical work involving common switching circuits, fixtures, services, armored cable, non-metallic cable, buss duct, and other wiring materials. Prerequisite: ~~ET~~ 141 or industrial experience.

ET 141

ET 240 Electronic Communications II (3-3) 4 hours
A combination of laboratory electronic theory and rules and regulations for commercial radio and television broadcast and the FCC first class license. Prerequisite: ET 211, 243, or hold the FCC second class license.

ET 241 Electronics Research Report (3-3) 4 hours
Classroom, laboratory, library work and practical application of skills in trouble shooting and repair, and research in the individual student's special interest area. *Passing ET 147*

ET 242 Ultra-High Frequencies (3-3) . . . 4 hours
This is a study of line sections, wave guides, cavities, UHF tubes and oscillators such as klystrons, magnetrons, traveling wave tubes, microwave antenna, principles of radar and microwave systems, and lasers. Prerequisite: ET 142.

ET 243 Electronic Communications I (3-3) . . . 4 hours
Principles of amplitude and frequency modulation, antennas, RF detection, Single Sideband, automatic frequency and gain devices, noise suppression, and RF frequency and power measurements and adjustments. Corequisite: ET 147.

ELECTRICAL AND ELECTRONICS TECHNOLOGY

ET 244 Digital Circuits (3-3) 4 hours
Logic circuitry basic to computers, telemetry, and automation is studied in this course. Logic gates, counters, analog-to-digital devices, and electronic commutators are covered. An introduction to Boolean algebra and octal systems is provided. Prerequisite: ET 146.

ET 245 Television Circuits (3-3) 4 hours
The theory and application of principles used in TV transmissions and reception are stressed. Emphasis is placed on circuits that are used for pulse shaping, picture scanning, synchronization, video, amplifiers, color and industrial applications. Prerequisite: ET 147.

ET 246 Industrial Electronics (3-3) 4 hours
This course investigates electronic circuitry used in scientific research, industry, medical technology, etc. Included are such varied areas as sensors, electro-optics, programmable power supplies, induction and dielectric heating, ultrasonics, lasers, operational amplifiers, and analog data transmission. Also covered is electronic control of temperature, pressure, position, speed and other variables (servo systems). Prerequisite: ET 146.

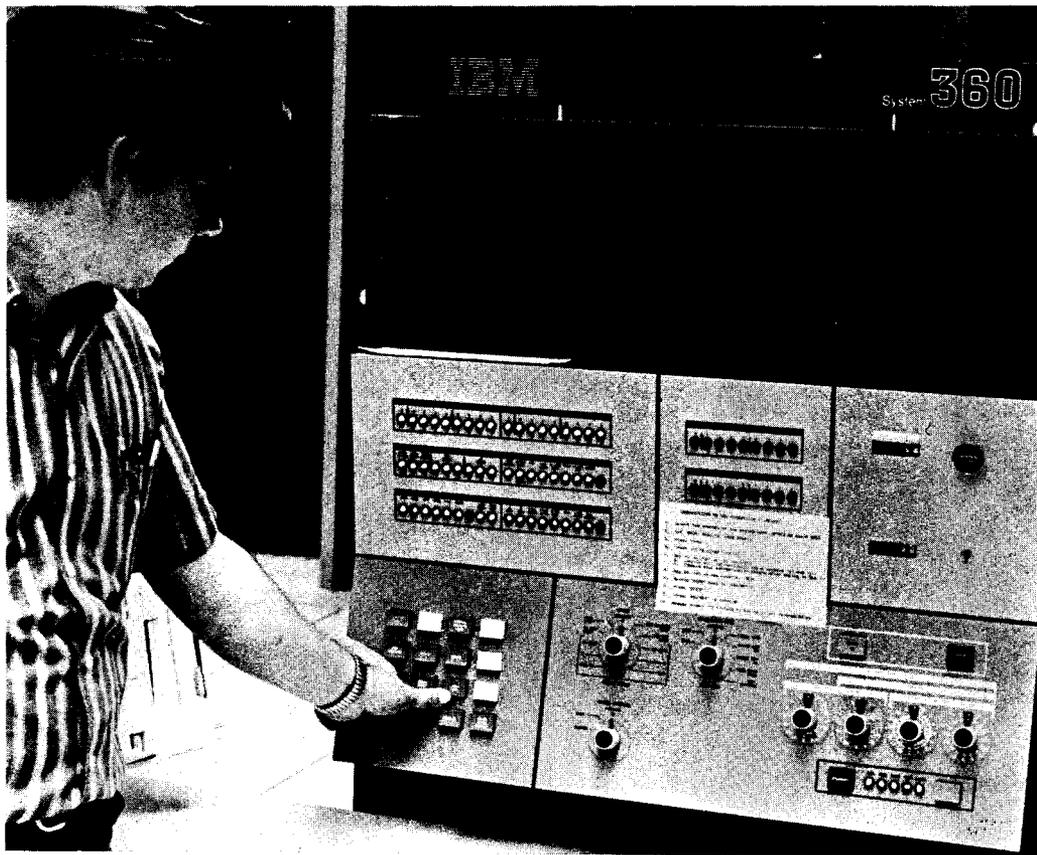
ET 247 Electronic Computers (3-3) 4 hours
Theory and laboratory practice in computer servicing and repair. Prerequisite: ET 244.

ET 248 Electrical Machinery (3-3) 4 hours
An investigation into the theory, principles, performance and construction of electric motors, generators, transformers, voltage regulators and other electrical apparatus used in industry is included in this course. Effects of leading and lagging power factor are explored, and corrective methods applied. A very well equipped laboratory permits thorough independent study of all characteristics. Prerequisite: ~~ET 142~~ 142 or equivalent experience.
ET

ET 249 Electrical Control Circuits (3-3) . . . 4 hours
This course covers the development of circuits for the control of motors, generators, and other apparatus. Analysis, trouble shooting and the making and reading of complex control diagrams is emphasized. Solid state, static (logic) and servo controls will be included. Prerequisite: ET 142 or equivalent experience.

ELECTRONIC DATA PROCESSING TECHNOLOGY

The development and use of electronic digital computers in business and industry have created a need for many data processing technicians in the Permian Basin. The Electronic Data Processing Technology curriculum places special emphasis upon the processing of business and industry data and the use of machines and electronic equipment in finding solutions to business and industrial problems. Experiences on electronic data processing equipment will be supplemented with technical information and study designed to give the student an understanding of his civic responsibilities and the occupational skill necessary for today's society. The central purpose of the program, however, is to develop occupational competency. Students completing the two-year data processing program should be able to: (1) apply current programming techniques with a minimum of supervision; (2) understand and operate practically any data processing equipment after a brief orientation period; (3) properly document programming decisions and communicate in a satisfactory manner with other personnel concerned; and (4) direct their educational background and ability toward mastering new and special techniques as the need occurs.



ELECTRONIC DATA PROCESSING TECHNOLOGY

Students completing the nine-month computer operations program are prepared for all aspects of computer operations, including operation of peripheral equipment and some programming. In addition, the student is taught management principles and accounting.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
EDP 131	3	EDP 132	3
EDP 133	3	EDP 235	3
Math 134	3	Math 132, or Math 132b	3
Orientation 111	1	Engl 132, Engl 132	
Engl 131	3	or Spch. 234	3
*PE 111	1	*PE 112	1
BA 131b	3	Mgt 131	3

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
EDP 232, EDP 234 or EDP 236	3	EDP 239	3
Math 232 <i>247</i>	3	EDP 232, EDP 234 or EDP 236	3
Govt 232 or Approved		Economics or Approved Substitute	3
Substitute	3	BA 242a	4
BA 241a	4	Govt 232	3
Approved Elective	3		

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

Certificate Of Technology In Computer Operation

EDP 131	3	EDP 132	3
EDP 133	3	EDP 235	3
Mgt 131	3	BA 242a	4
BA 241a	4	EDP 234	3
Orientation 111	1	Math 134	3
Math 132b	3		

**ELECTRONIC DATA PROCESSING
TECHNOLOGY**

- EDP 131 Keypunch, Verifier and Sorter Operation (2-2) 3 hours**
This course is designed to qualify a student in the operation of the IBM 029 keypunch, the IBM 059 verifier, and the UNIVAC verifying interpreting punch. Training is given on all phases of keypunching and verifying. It includes handling of data, handling of cards, and operation and care of equipment. Laboratory practice includes actual keypunching and verifying as well as preparation and utilization of program cards. Prerequisite: Typing speed of 25 words per minute recommended.
- EDP 132 Computer Operations (3-2) 3 hours**
This course covers the actual operation of a computer that has a supervisor or operating system. Necessary knowledge of job control cards and interpretation of console registers and messages to the console operator is taught. Students learn to utilize standard system routines and utility programs. The maintenance of operations logs, file logs, daily logs and routine production control is emphasized. The student becomes familiar with the usual preventative maintenance duties of an operator, such as cleaning and adjustment of input-output devices. During the course of the semester, the student spends a portion of his laboratory time operating an IBM 360/25 computer system. Prerequisite: EDP 131, EDP 133.
- EDP 133 Introduction to Computer Programming (3-2) 3 hours**
This course is designed to develop abilities needed in programming for business and scientific applications. The course includes problems definition, flowcharting, documentation techniques, and development of basic programming concepts. The laboratory for the course consists of preparing flowcharts and input-output record documentation forms, as well as coding problems in the 360 assembler language and executing them on a 360/25 computer. The purpose of the laboratory is not to produce a highly qualified assembler language programmer, but rather to use the 360 assembler language as a tool in teaching general programming concepts applicable to all computers, as well as concepts unique to the IBM 360 series computer. Prerequisite: None.
- EDP 230 Survey of Data Processing (3-0) . 3 hours**
This course is designed for the non-data processing major who would like some basic knowledge of data processing. Data processing terminology and general concepts is emphasized. Applications of data processing to the solution of business problems are presented. The computer is discussed as a tool for management. The social and economic impact of electronic computers is considered. Credit in this course is not applicable toward an associate degree in data processing. Prerequisite: None.
- EDP 232 PL/I Programming (3-2) 3 hours**
The application of PL/I programming to both business and scientific problems is emphasized. The student is required to solve business and scientific problems utilizing the PL/I programming language. Prerequisite: EDP 133 or EDP 237
- EDP 234 RPG Programming (3-2) 3 hours**
This course is designed to further the student's study of computers and computer applications. Practical business data processing problems are solved using the RPG programming language. The utilization of RPG in the small data processing shop as well as in the larger shops is studied. The role of RPG in the single-language shop as well as in multi-language shops is shown. Prerequisite: EDP 133.
- EDP 235 COBOL Programming (3-2) 3 hours**
In addition to the rules for utilizing the COBOL language, emphasis is placed on the application of data processing to current business problems in accounting procedures. File organization and record formats are studied. The laboratory consists of utilizing the computer to solve business problems. Lab problems will be coded in COBOL. Prerequisite: EDP 133 or approval of instructor.
- EDP 236 FORTRAN IV Programming (3-2) 3 hours**
The application of FORTRAN IV programming to both business and scientific problems will be emphasized. The course is designed for data processing majors. The student will be required to solve business and scientific problems utilizing the FORTRAN IV programming language. Prerequisite: EDP 133.

**ELECTRONIC DATA PROCESSING
TECHNOLOGY**

EDP 237 Scientific Programming (3-2) . . . 3 hours
This is an introductory programming course for science and engineering majors. The course is designed to familiarize the student with the FORTRAN IV programming language and the application of this language to the solution of numerical problems of a scientific nature. Prerequisite: Math 134 or equivalent; Math 132 recommended.

EDP 238 Assembler Language Programming (3-2) 3 hours
This is an advanced course designed to give the student a background in assembler language programming which will facilitate the mastering of any specific programming system with a minimum of further study. The course familiarizes the student with assembly language programming of the more popular digital computers currently in use. The language used in

the laboratory for the course is the assembler language for the IBM System 360 computer series. Prerequisite: EDP 133.

EDP 239 Business Systems Design and Development (3-2) 3 hours
The utilization of COBOL in the solution of business problems involving multiple input files, table lookup, and index sequential and random processing is shown. The laboratory consists of programming appropriate business problems in COBOL. Each student is responsible for completing a term project in the design of a system, such as payroll system, an inventory system, an accounts receivable system, etc. In order to complete the project, the student must consider the following concepts: analysis of present information flow, consideration of file and form design, specification and equipment selection, and implementation of the system. Prerequisite: EDP 235.



ENGINEERING

The curriculum in Engineering has been designed for those students wishing to prepare for professional engineering degrees — mechanical, chemical, civil, and electrical. The student should be aware of specific requirements of the college or university to which he may ultimately plan to transfer. The program below is a suggested one and may be modified to conform to requirements of the student's chosen transfer institution.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Math 133	3	Math 232	3
Chem 111 and 131	4	Chem 112 and 132	4
Engr 131	3	Engr 133, or EDP 237	3
Math 231	3	Phys 143	4
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth-Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231 or Govt 231	3	Engl 232 or Govt 232	3
Math 234	3	Math 235	3
Phys 241	4	Phys 242	4
Hist 231	3	Hist 232	3
Engr 233	3	Engr 234	3
PE 211	1	PE 212	1

Note: It is recommended that Engr 111 (Engineering Problems) be taken the Freshman year. Chemical Engineering majors will take Chemistry 241 and 242 in lieu of English 231 and 232 during their sophomore year.

ENGINEERING

Engr 111 Engineering Problems (1-0) . . . 1 hour

This is an orientation course for the first year engineering student. Practical applications of mathematics to problems encountered by the engineers are studied. This course also includes the use of the slide rule and logarithms in the solution of problems. Prerequisite: None.

Engr 131 Engineering Drawing (2-4) . . . 3 hours

The care and use of drawing instruments, free-hand lettering, geometrical construction, general drafting principles, multiview projection, revolutions, auxiliary views, and sections are studied. Included also are isometric and cabinet projection, threads, bolts, rivets, helices, dimensioning, principles of working drawings, pattern development, and oblique drawing. Prerequisite: None.

Engr 133 Descriptive Geometry (2-4) . . . 3 hours

A study is made of principles of descriptive geometry and their applications to problems of engineering and architecture. This course includes auxiliary views, developments, intersections, double-curved and warped surfaces in addition to point, line, and plane problems. Prerequisite: Engr 131 or equivalent.

Engr 233 Mechanics I (3-0) 3 hours

This is a basic mechanics course utilizing vectors and tensors. Statics, including concepts of free-body diagrams, friction forces, and virtual-work; motion of particles, including momenta, energy, and work concepts are also studied. Corequisite: Math 232.

Engr 234 Mechanics II (3-0) 3 hours

The dynamics of particles, including harmonic motion, motion of a particle in a central force field, momentum and work methods, theory of rigid body motion, work and energy methods, and relative motion in rigid bodies are studied. Prerequisite: Engr 233.

Engr 239 Strength of Materials (3-0) . . . 3 hours

This course is a study of analysis of stress and strain: riveted and welded joints; flexure and deflection of beams, shafts, columns; and physical properties of materials. Prerequisites: ~~Engr 233 and Math 232.~~

A+m

axial

math 134 +/m



ENGLISH

The power to communicate meaning through language in order to build a store of knowledge which is passed on to succeeding generations is one of the most distinctive of human accomplishments. Science, literature, technical knowledge and social organization would not exist without language, for language is used for making explanations, analyzing situations, or discussing the relative merits of one procedure or another. To be successful, language activities demand precision and forcefulness. Consequently, the student must learn to express himself clearly and effectively.

While learning to communicate, the student should be exposed to the world's rich heritage of creative literature in order to develop a better understanding of a unified human spirit which transcends geography. This study of the great thoughts of the past should engender a generosity of mind and a magnanimity of spirit which are the foundations of democracy itself and the hope of human progress.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Lang 141	4	Lang 142	4
Hist 231	3	Hist 232	3
Science 141	4	Science 142	4
Approved Elective or Minor Subject	3	Approved Elective or Minor Subject	3
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 235	3	Engl 236	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
Math 134	3	Math 132	3
Minor Subject	3	Minor Subject	3
PE 211	1	PE 212	1

ENGLISH

Engl 130 Basic English (3-0) 3 hours
This compensatory course is designed to improve the students' basic English skills. Emphasis is placed on usage, spelling, punctuation, vocabulary, sentence structure, and paragraph development. This course prepares the student for English 131. Prerequisite: None.

Engl 130a English as a Second Language (3-0) 3 hours
A preparatory, nontransferable course for students whose native language is not English. Students entering the course are expected to have studied English or to be able to communicate in English. The content includes composition, reading, vocabulary, pronunciation, sentence structure, usage, and grammar. The course prepares the student for English 131. It does not fulfill the requirement for an Associate degree. Prerequisite: None.

Engl 131 Composition and Rhetoric (3-0) . 3 hours
This course consists of a study of the essentials of correctness and effectiveness in the mechanics of writing. Special emphasis is placed on reading and writing expository prose. Critical reviews, expository essays, and collateral readings are required. Prerequisite: None.

Engl 132 Composition and Literature (3-0) 3 hours
Research techniques and selected types of literature are studied. A research paper, critical reviews, and supplementary readings are required. Prerequisite: Engl 131.

Engl 231 Masterpieces of the Western World (3-0) 3 hours
Significant works of western literature from the Classical period through the Renaissance are studied. A research paper or several short critiques are required. Prerequisite: Engl 132.

Engl 232 Masterpieces of the Western World (3-0) (3-0) 3 hours
Significant works from the beginning of the Neo-classical period to the present time are studied. A research paper or several short critiques are required. Prerequisite: Engl 132.

Engl 235 English Literature: From the Beginning through Neoclassic Period (3-0) . . . 3 hours
This course consists of a chronological study of authors, works, and trends in English Literature and is required of all English majors.* Prerequisite: Engl 132.

Engl 233 Technical Writing (3-0) 3 hours
This course, to prepare the student for technical report writing, offers practical experience in the organization of the report and in the proper use of technical terms. Prerequisite: Engl 132.

Engl 236 English Literature: From the Romantic Period to the Present (3-0) 3 hours
This course consists of a chronological study of authors, works, and trends in English Literature and is required of all English majors.* Prerequisite: Engl 132.

Engl 237 Creative Writing (3-0) 3 hours
This is a course for the student seriously interested in creative writing. Major emphasis is on analyzing professional short stories and poems, sharpening critical insight and developing the individual's creative talents in prose and poetry. Prerequisite: None.

*Engl 235-236 may be substituted for Engl 231-232.

Changed for 74/75

FIRE SCIENCE TECHNOLOGY

Fire Science Technology is designed to assist in the development of meaningful education experiences for pre-service and in-service firemen. Emphasis is placed on practical application in understanding building designs, classification of fires, exposure protection, toxic fumes, arson investigation, hazards, fire fighting techniques and standards. Fire Administration is surveyed with special interest in recruiting, organization, budget, legal aspects, employee effectiveness, evaluation, and related problems. The program is planned to develop specific abilities and knowledge for entry employment and to provide the necessary educational background for advancing into a highly responsible position in the profession.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
*Fire 131	3	Fire 134	3
Fire 132	3	Fire 135	3
Fire 133	3	Fire 136	3
Math 131	3	Engl 131	3
Read 131	3	Chem 145	4
Orien 111	1		16

*This introductory course is not required of experienced fire personnel.

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Fire 231	3	Fire 232	3
Fire 233	3	Fire 236	3
Fire 234	3	Fire 237	3
Govt 232	3	Engl 233	3
Speech 234	3	Electives	6

Fire 235, Emergency Care of Sick or Injured II, may be taken as an elective.

32 + 2 PE = 34

Changed for 74/75

FIRE SCIENCE TECHNOLOGY

Fire 131 Fire Protection I (3-0) 3 hours
History and philosophy of fire protection; review of statistics of loss of life and property by fire; introduction to agencies involved in fire protection; current legislative developments and career orientation; recruitment and training for fire departments; position classification and pay plans; employee organizations; a discussion of current related problems, and review of expanding future fire protection problems.

Fire 132 Fire Protection II (3-0) 3 hours
A continuation of Fire Protection I.

Fire 133 Fundamentals of Fire Prevention (3-0) 3 hours
The objectives and view of inspections, fundamental principles, methods, techniques and procedures of fire prevention administration. Fire Department organizations; public cooperation and image; recognition of fire hazards; insurance problems and legal aspects; development and implementation of a systematic and deliberate inspection program; survey of local, state, and national codes pertaining to fire prevention and related technology; relationship between building inspection agencies and fire protection organizations.

Fire 134 Fire Protection Systems (3-0) . . . 3 hours
Study of the required standard for water supply; special hazards protection systems; automatic sprinklers and special extinguishing systems; including analysis of various automatic signaling and detection systems; requirements of grading schedules and rating bureaus.

Fire 135 Fire Fighting Tactics and Strategy (3-0) 3 hours
Essential elements in analyzing the nature of fire, and determining the requirements. Efficient and effective utilization of manpower, equipment and apparatus. Emphasis to be placed on pre-planning, study of conflagration problems, fire ground organization problem solving related to fire ground decision making and attack tactics and strategy. Use of Mutual Aid and large scale command problems.

Fire 136 Fire Hydraulics and Equipment (3-0) 3 hours
Application of the laws of mathematics and physics to properties of fluid states, force, pressure and flow velocities. Emphasis in applying principles of hydraulics to fire fighting problems. Evaluation of water supply, flow requirements of standpipes, sprinklers and appliances, and methods of determining available quantities of water for fire protection purposes.

Fire 231 Fire Administration I (3-0) 3 hours
An in-depth study of the organization and management as related to a fire department including budgeting, maintenance of records and reports, maintaining apparatus and buildings, management of fire department resources; authority and responsibility of fire department officers. Personnel administration and distribution of equipment and personnel and other related topics, including relation of various government agencies to fire protection areas.

Fire 232 Fire Administration II (3-0) 3 hours
Study to include insurance rates and ratings, preparation of budgets, administration and organization of training in the fire department; city water requirements, fire alarm and communications systems; importance of public relations, report writing, and record keeping; measurements of results, use of records to improve procedures, and other related topics; legal aspects relating to fire prevention and fire protection with stress on municipal and state agencies; design and construction of fire department buildings.

Fire 233 Building Construction and Fire Codes (3-0) 3 hours
Fundamental consideration and exploration of building construction and design with emphasis on fire resistance of building materials and assemblies, exposures, and related data focused on fire protection concerns; review of related statutory and suggested guidelines both local and national in scope. Use of Model Building Codes and the Building Code for Life Safety, and properties of materials susceptible to rapid spread of fire.

(132)
(71-72)

(134)
(71-72)

(232)
(71-72)

(131)
(71-72)

FIRE SCIENCE TECHNOLOGY

Fire 234 Emergency Care of the Sick or Injured I (3-0) 3 hours
A course to enable the student to become proficient in the emergency care of sick and injured persons. This course will include the requirements for Texas State Health Department "Emergency Medical Attendant" certification. Guest lecturers will include doctors, nurses, lawyers, etc. Prerequisite: American Red Cross First Aid Card.

Fire 235 Emergency Care of the Sick and Injured II (3-0) 3 hours
A continuation of Fire 234.

Fire 236 Fire Investigation (3-0) 3 hours
A study of the detection of arson, investigation techniques case histories, gathering and preserving of evidence; preparing for a court case; selected discussions of laws, decisions and opinions; kinds of arsonists, interrogation procedures, cooperation and coordination between fire fighters and arson investigators and other related topics.

Fire 237 Hazardous Materials (3-0) 3 hours
Study of chemical characteristics and behavior of various materials that burn or react violently related to storage, transportation, handling hazardous materials and radioactive compounds. Emphasis on emergency situations and most favorable methods of handling fire fighting and control.



GEOLOGY, ANTHROPOLOGY, AND GEOGRAPHY

GEOLOGY

Geology is a study of the history of the earth and its life as recorded in the rocks. For the student who does not wish more than a year of geology, the principal value will be primarily an increased understanding of his environment. However, those majoring in geology, mining, engineering, petroleum engineering, or some closely related subject will profit from the further study of geology. An important function of this department is to train students for work in the petroleum industry. Geology 141, 142 will serve as a required physical science at most senior colleges.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Geol 141	4	Geol 142	4
Chem 131 and 111	4	Chem 132 and 112	4
Math 134	3	Math 132	3
Hist 231	3	Hist 232	3
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
*Anth 231	3	*Anth 232	3
Math 133 or Approved Elective	3	Math 231 or Approved Elective	3
Govt 231	3	Govt 232	3
Lang	4	Lang	4
PE 211	1	PE 212	1

*Anthropology is a comprehensive study of man and his works. Within it are included human origin and development, variation in physical types, and aspects of human culture such as family patterns and customs, economics, religions, languages, and handicrafts and technology. Anthropology 231 and 232 will fulfill social science requirements at many colleges.

Courses in geography are designed to acquaint the student with the world and its peoples. Major aspects of both physical and cultural geography are studied in an integrated manner in order to provide a greater understanding of world conditions. Geography 231 and 232 will fulfill social science requirements at many colleges.

Physical Science is an integrated science course intended for the non-technical major. The material covered includes earth processes such as mountain building, erosion, and sedimentation; the nature and composition of the earth with its atmosphere and the relationship of the earth to the solar system and galaxy. Principles of physics and chemistry are included where appropriate.

**GEOLOGY, ANTHROPOLOGY, GEOGRAPHY,
AND PHYSICAL SCIENCE**

- Geol 141 Physical Geology (3-3) 4 hours**
This course involves study of geologic features and processes of the earth. It is a foundation course for all additional work in geology and a general course for cultural development. Prerequisite: None.
- Geol 142 Historical Geology (3-3) 4 hours**
The geologic history of the earth is given emphasis in this course. It provides basic knowledge required for additional study in geology or for cultural development. A field trip is required. Prerequisite: Geol 141.
- Geol 230 An Introduction to Minerals and Rocks (2-3) 3 hours**
Introductory course in the study of rocks and minerals, including the elements of crystallography; determination of the common minerals by their physical properties; the origin, mode of occurrence, and determination of the common types of igneous, sedimentary, and metamorphic rocks from hand specimens. Prerequisite: Geol. 141.
- Geol 230a Introduction to Oceanography (3-0) 3 hours**
Discussion of marine geology, physical, chemical, and biological oceanography, marine resources, and shore processes. Prerequisite: One semester of Biology or Geology or permission of instructor.
- Anth 231 Physical Anthropology (3-0) . . . 3 hours**
This course is an introduction to the study of the physical characteristics of man. Comparisons are made between modern man, fossil man, and the higher primates. Physical characteristics of modern races are also studied. Prerequisite: None.
- Anth 232 Cultural Anthropology (3-0) . . . 3 hours**
The study of human culture is presented in historical perspective by examining the development of culture as well as by comparing present cultures. Prerequisite: None.
- Geog 231 Principles of Geography (3-0) . . . 3 hours**
This course deals with the physical and cultural geography of the countries of North and South America. Prerequisite: None.
- Geog 232 Principles of Geography (3-0) . . . 3 hours**
This course deals with the physical and cultural geography of Europe, Asia, Africa, Australia, and the more important island groups. Prerequisite: None.
- Phy Sc 141 Nature of the Earth and Universe (3-3) 4 hours**
This course is concerned with a study of the planet Earth, its history, and the processes and agents that shape the surface and the interior. Many principles of other sciences are included in terms of easily visualized natural processes. Prerequisite: None
- Phy Sc 142 Nature of the Earth and Universe (3-3) 4 hours**
Earth Science 142 is a continuation of Earth Science 141 with additional emphasis on the universe and solar system, the oceans, the atmosphere, and weather. Prerequisite: None.

HOME ECONOMICS

Many interesting career opportunities in education, industry, recreation, and related fields are available to a person with training in home economics. With a nation-wide shortage of trained home economists, and with a large percentage of girls and women working outside the home, this field has many offerings for trained personnel. Young men are also finding challenging positions in this field. There will always be a demand for home economists — in teaching, business, extension service, dietetics, social welfare, public health, journalism, T.V., radio, fashion fields, and research.

The home economics courses are planned to help the student develop goals, concepts and values, and to achieve the understanding and abilities essential for present day life as an individual and as a member of the family and community. Learning experiences are directed specifically toward preparing the student both for a career and for homemaking. The course offerings in home economics are designed to serve those who plan to work toward a degree or an Associate Degree in home economics, and those who would like to supplement their degree plans by taking some training in homemaking as an elective.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Biol 141	4	Biol 142	4
H. Ec. 132	3	H. Ec. 133	3
H. Ec. 130	3	H. Ec. 134	3
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Govt 231	3	Govt 232	3
Lang 141	4	Lang 142	4
H. Ec. 231	3	H. Ec. 137	3
H. Ec. 233	3	H. Ec. 235	3
PE 211	1	PE 212	1

HOME ECONOMICS

H Ec 130 Clothing Selection (3-2) 3 hours
This course provides for wardrobe analysis and planning for the individual and the family based on the sociological-psychological aspects of clothing. It provides for consumer buying with an emphasis on fiber identification and the construction, finishes and care of fabrics. Prerequisite: None.

H Ec 132 Food Selection and Preparation (3-3) 3 hours
Students gain an understanding of basic nutrition as related to the diet, consumer education, and the factors related to food selection and purchase, preparation, service, and management. Laboratory experiences provide for the application of fundamental principles of food selection, preparation, and service of attractive and nutritious meals for the individual and the family. Prerequisite: None.

H Ec 133 Clothing Construction (3-2) 3 hours
This course provides for further development of new and improved methods of perfecting skills and techniques of clothing construction with an emphasis on fitting problems and their solution. Prerequisite: None.

H Ec 134 Meal Planning and Table Service (3-3) 3 hours
This course provides knowledge and experience in planning, selection and use of table appointments, purchasing, preparing, and serving meals and stresses time, energy, and money management. Special emphasis is placed upon styles of table service for family meals and for all special occasions. Prerequisite: None.

H Ec 137 Personal and Family Relations (3-0) 3 hours
Personal adjustment in order to achieve a healthy personality is the basis for this course. Emphasis is placed on satisfying relationships, and on the responsibilities of family members in establishing a home and preparing for parenthood. Observations and readings are done for various age levels. Prerequisite: None.

H Ec 138 History of Fashions (3-0) 3 hours
This basic course deals with the history of costume as it affects modern fashion trends. Emphasis is placed on the evaluation of costume design and the relation of fashions to the historical periods from which they evolved. Prerequisite: None.

H Ec 231 Design Applied to Clothing and the Home (3-2) 3 hours
Students study the fundamental elements and principles of art and design as a basis for developing originality and art appreciation. Projects provide for the development of creative abilities by the application of these principles to clothing and the home. Prerequisite: None.

H Ec 233 Home Management and Consumer Problems (3-0) 3 hours
This course includes a study of the basic principles of managing human and material resources in order to realize goal values and to achieve goals sought in personal and family living. Activities include problems in management of time and money; providing of protection through investments, Social Security, insurance, etc. Also included is a study of elementary legal problems families or individuals may encounter. Prerequisite: None.

H Ec 235 House Planning and Home Furnishings (3-2) 3 hours
Efficient home planning for modern living, convenience and time, energy and money management, and the selection, purchase, arrangement and care of home furnishings to meet these needs provides the course emphasis. Experiences include special problems in planning a house and its interior decoration, and the selection and construction of some furnishings for the home. Prerequisite: None.

H Ec 237 Marriage and Its Relationships (3-0) 3 hours
This functional marriage course is based on concepts and values, and on the role which motivations, attitudes, and maturity have in solving social, emotional, and psychological problems of marriage including, personality, and marital adjustments, family planning, divorce and changes in contemporary family life. Prerequisite: None.

INSTRUMENTATION TECHNOLOGY

Automatic control systems and industrial instrumentation are becoming increasingly important to industrial growth in the Permian Basin area. The operation and maintenance of this equipment in modern industrial installations requires persons that have highly developed skills in installing, operating, and maintaining complicated control systems and instruments.

The program in Instrumentation Technology is designed to provide the student with the skills and the knowledge required for employment as maintenance and operation technicians, instrument shop supervision, or technical representative for a manufacturing concern.

First Year

Pete Petersen

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engr 131	3	Phys 141	4
ET 141	4	Math 134	3
Govt 231	3	ET 142	4
Math 131	3	Govt 232	3
Orientation 111	1	Engl 132, 233 or	
*PE 111	1	Spch 234	3
		*PE 112	1

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Chem 247	4	Mgt 232	3
ET 146	4	BA 131b or Eco 231	3
MT 161	6	ET 147	4
IT 245	4	IT 246	4
		IT 247	4

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

IT 245 Control Principle: Telemetry, Calibration, and Standardization (3-3) 4 hours
 A study of the general factors involved in control problems, the transfer in energy and the capacitances and resistances involved, time constant of the system or component, and the open loop and closed loop performance is basic to this course. Laboratory will consist primarily of calibration and standardization of instruments. Prerequisite or corequisite: ET 146.

experiments or the design and construction of a specific system. The report made by the students includes library research. Prerequisite: IT 245

IT 246 Instrumentation Research Report (3-3) 4 hours
 This may involve the development of specific

IT 247 Unit Operation (3-3) 4 hours
 The course presents the fundamental engineering theory involved in the practical application of instrumentation in relation to manufacturing and processing equipment. Emphasis is placed upon principles, materials, design, equipment, and the problems involved in applying instrumentation to industrial processes. Prerequisite: IT 245.

LANGUAGES
(French, German, Spanish)

The foreign language program at the College can satisfy the needs of most students whose prospective major includes a foreign language. Students should consult carefully the catalogue of their intended senior college.

In the classes concentration is on the immediate and practical. The courses consist of the vocabulary and drills most needed for communication, with ample opportunity for students to speak the language. With the aid of well-equipped labs and teachers well-qualified to teach the spoken language, students are expected to be able to speak, read, and write the language by the time they have completed the second year. From the first day class is carried on primarily in the language.

Many students major in the language and teach it. Others use it in law, business and sales, foreign service, travel for professional reasons or for pleasure, politics, social work, elementary education, and sociability. For still other students, their language skill becomes a springboard to more alert citizenship, through increased understanding of and interest in the world at large.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Lang	4	Lang	4
Science	4	Science	4
Hist 231	3	Hist 232	3
Minor Subject (2nd Lang)	4	Minor Subject (2nd Lang)	4
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Lang*	3	Lang*	3
Math 134	3	Math 132	3
Govt 231	3	Govt 232	3
Minor Subject	3	Minor Subject	3
PE 211	1	PE 212	1

*Span 221, 222 suggested for Spanish majors.

*Students who have some knowledge of a language are advised to consider the advanced standing examination program for credit by examination.

LANGUAGES

French 141, 142 First Year French (3-2) . . . 8 hours

This is the basic course, conducted in French for those with no previous experience in French. It emphasizes simple conversation: pronunciation, fluency, and vocabulary. Basic grammar is also presented, and tapes are used in the lab for individual practice. Individual help is available as needed. Prerequisite: For 141, none; For 142, 141.

French 231, 232 Second Year French (3-0) . . . 6 hours

Conducted in French, this sequence is a continuation of French 141, 142. It emphasizes conversation based on reading assignments, and includes grammar and composition. Individual help is available as needed.

German 141, 142 First Year German (3-2) . . . 8 hours

This is the basic course, conducted in German for those with no previous experience in German. It emphasizes simple conversation: pronunciation, fluency, vocabulary. Basic grammar is also presented, and tapes are used in the lab for individual practice. Individual help is available as needed. Prerequisite: For 141, none; For 142, 141 or equivalent.

German 231, 232 Second Year German (3-0) . 6 hours

Conducted in German, this sequence is a continuation of German 141, 142. It emphasizes conversation based on reading assignments, and includes grammar and composition. Many elements of the course are self-paced. Prerequisite: German 142 or equivalent. Individual help is available as needed.

German 233, 234 Scientific German (3-0) . . . 6 hours

This course consists of the reading of specifically prepared scientific texts in German with grammar review to assist in interpretation. This course is recommended for pre-medical and science students. Prerequisite: Germ 142.

Span 131, 132 Beginning Spanish (3-0) . . 6 hours

Beginning Spanish is offered only under special circumstances of demand and need. It is a shortened presentation of Span 141, 142. Prerequisite: None.

Spanish 141, 142 First Year Spanish (3-2) . . . 8 hours

This is the basic course, conducted in Spanish for those with no previous experience in Spanish. It emphasizes simple conversation: pronunciation, fluency, vocabulary. Basic grammar is also presented, and tapes are used in the lab for individual practice. Individual help is available as needed. Many elements of the course are self-paced. Prerequisite: For 141, none; For 142, Span. 141.

Spanish 221, 222 Intensive Practice in Spoken Spanish (2-0) 4 hours

This is a second year course designed to build fluency and expand vocabulary. It is recommended especially for Spanish majors and others who have a practical need for spoken Spanish. The first semester treats vocabulary and structures needed in traveling; the second semester provides vocabulary necessary for social and business conversation. Prerequisite: Spanish 142 or equivalent, or permission of the instructor.

Spanish 231, 232 Second Year Spanish (3-0) . .6 hours

Conducted in Spanish, this sequence is a continuation of Spanish 141, 142. It emphasizes conversation based on reading assignments, and includes grammar and composition. Many elements of the course are self-paced. Prerequisite: Spanish 142 or equivalent.

Spanish 234, 235 Spanish Literature (3-0) . . . 6 hours

This course is a study of modern Latin American society as seen through contemporary anthropological studies and fiction. Conducted in Spanish, it consists of conversation based on the reading and includes a grammar review of the first two years. Prerequisite: Spanish 232 or equivalent or permission of the instructor.

LAW ENFORCEMENT TECHNOLOGY

A four semester program providing an Associate Degree in Applied Science (AAS) or in Arts (AA) designed for a student seeking a career in Law Enforcement, a working law enforcement officer, or students majoring in Psychology, Sociology, Government or History who need a realistic view of the Criminal Justice System.

Associate in Applied Science

Freshman

First Semester	S.H.	Second Semester	S.H.
Course No. Eng 131	3	Course No. Eng 132	3
Psy 131	3	Soc 231	3
LE 131	3	*LE 132	3
LE 134	3	LE 133	3
Spch 131	3	LE Elective	3
Orientation 111	1	PE 132	3
Bus 121t	2		
	<u>18</u>		<u>15</u>

Sophomore

Third Semester	S.H.	Fourth Semester	S.H.
Course No. Govt 231	3	Course No. Govt 232	3
LE 234	3	LE 231	3
LE 235	3	LE 232	3
*LE 239	3	*LE 233	3
Hist 231	3	Hist 232	3
PE 111n/PE 111p	1		
	<u>16</u>		<u>15</u>

LE Related Electives

- | | S.H. |
|---|------|
| 1. Read 131 College Reading & Study Skills | 3 |
| 2. Chem 140 General Chemistry | 3 |
| 3. Mgt 131 Intro to Management | 3 |
| 4. Mgt 233 Principles of Personnel Management | 3 |
| 5. Span 131 Beginner's Spanish | 3 |

3
3
6
67

*LE subjects needed to complete 30 S.H. in professional area for AAS.

Associate in Arts

Students who seek a degree beyond AA or AAS, consult with your Counselor or Departmental Chairman.

Officially approved suggested course of study should include:

Law Enforcement	S.H.	21	Government	S.H.	6
(Seven core curriculum in LE including all listed LE subjects without asterisk (*).			History		6
English		9-12	Science and/or Foreign Language . . .		8-12
			Humanities or other electives		8-15
					<hr/>
					(Not to exceed 66 S.H.)

All of the seven L.E. core curriculum subjects are transferable and applicable toward any L.E. degree offered in Texas by agreement of Texas accreditation agencies.

Any variance from prerequisites or suggested course of study must have the prior approval of the Departmental Chairman.

All students who plan to go to other institutions for further degrees should contact that institution to assure transferability of all courses and credit toward degree plan.

LAW ENFORCEMENT TECHNOLOGY

LE 131 Introduction to Law Enforcement (3-0) 3 hours
History, development and philosophy of law enforcement in a democratic society; introduction to agencies involved in the Administration of Criminal Justice; career orientation, Interface between Social Theories and Police Realities.

LE 132 Patrol Administration (3-0) 3 hours
An overview of the administration, scope and inner workings of the "Cutting Edge" of the Criminal Justice System, the Police Patrol, delineating the interrelationship of the first line supervisor and the man in the car, the breadth of responsibilities and the significance of the operation.

LE 133 Legal Aspects of Law Enforcement (3-0) 3 hours
History, development, basic design of criminal law; the elements of criminal offenses generally and specifically under Texas Law; review of classic cases illustrative of general criminal law precepts; discussion of modern theories and direction of criminal law. Prerequisite 131.

LE 134 Police Role in Crime and Delinquency (3-0) 3 hours
An overview of the crime problem designed to introduce the Police Officer to the extent and expansion of its scope; the theories which have been developed as to the cause of crime and the efforts to prevent crime and delinquency; the agencies which deal with the criminal and the direction and progress of efforts at rehabilitation.

LE 231 Criminal Investigation (3-0) 3 hours
The fundamentals of investigative techniques; recording and identifying investigative notes and evidentiary matter; informants, interview and interrogation; follow up procedures and preparation and participation in trial.

LE 232 Police Administration (3-0) 3 hours
Principles of organization and management as applied to the peculiar problems of the law enforcement agency; delineation of the problems and functions of the administrator and the vital importance of understanding and cooperation by all participants to reach established goals; each phase explored from the administrative viewpoint. Prerequisite 235.

***LE 233 Juvenile Procedures (3-0) 3 hours**
This course provides an in-depth study of the history, background and philosophy of the court procedures for the handling of juveniles as separate and distinct from adult procedures. The Juvenile Court Act is discussed as generally applied throughout the United States and as it is applied under the laws of the State of Texas. General problems in the handling of juveniles are considered to provide the officer with a working knowledge of the proper methods to be used in the arrest, detention, interview and processing, to assure compliance with current court decisions.

*Asterisk indicates subject not included in mandatory LE Core Curriculum but required for AAS degree.

LE 234 Police-Community Relations (3-0) . . . 3 hours
A review of the history of the police and their image in the eye of the community; detailing the fluctuations in police acceptance through the years and the vital necessity for public acceptance and support for successful police operation; a review of the potential methods for improving and enlisting community participation and support with a special emphasis on the many current efforts in this direction.

LE 235 Criminal Procedure and Evidence (3-0) 3 hours
An overview of the criminal law heritage as it applies to the judicial process; organization of state and federal courts; procedures from arrest to release; history and philosophy of the rules of evidence; terminology and procedural practices in assuring admissibility with special reference to the Texas State Code of Criminal Procedure and current court interpretations governing searches and seizures and the exclusionary rule. Prerequisite 133.

LE 239 Traffic Management and Supervision (3-0) 3 hours
This course covers examination of police responsibilities in traffic planning and law; identification of police policies and procedures in education, engineering, and enforcement responsibilities; analysis of special traffic problems, motor vehicle laws, and accident investigation techniques.

MACHINE SHOP

This program is designed to provide the student with a broad background of basic knowledge in the field of mechanical design and production. Subject matter will include specific technical courses, auxiliary or supporting technical courses, and general education courses. Students who complete the necessary requirements will be placed in individually approved area industrial machine shops on a cooperative basis to insure that each student gains the proper insight and understanding of the mechanical design industry, and its place in our culture.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
MT 161	6	MT 163	6
MT 162	6	MT 164	6
Engl 131	3	Engl 132, Engl 229 or	
Orientation 111	1	Spch 234	3
*PE 111	1	*PE 112	1

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
MT 261	6	MT 263	6
MT 262	6	MT 264	6
Govt 231 and approved		Mgt 131	3
Substitute	3		
Math 131	3		

*H. Ed. 131 or PE 132a can be substituted for the two 4-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

Suggested Certificate Plan For Machine Shop

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
MT 161	6	MT 163	6
MT 162	6	MT 164	6

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
MT 261	6	MT 263	6
MT 262	6	MT 264	6

MACHINE SHOP

MT 161 Basic Machine Shop Fundamentals (2-8) 6 hours
This is an introductory course in machine shop practices, trade terminology, mathematics, shop safety, shop operations, semiprecision and precision measuring tools, hand tools, and an introduction to high speed tooling. Simple projects will be required. Prerequisite: None

MT 162 Precision Tools and Instruments for Machinists (2-8) 6 hours
Measuring projects from simple to complex are performed in this course so that units of measure and measuring instruments are practiced. Students are introduced to job planning, shop sketching and blueprint reading. Mathematics for planning and estimating shop work along with shop safety continues to be stressed. Students learn to grind and sharpen single points and multitooth cutting tools. Prerequisite or corequisite: MT 161

MT 163 Machines and Their Operations - Part I (2-8) 6 hours
Students continue to practice blueprint reading, shop sketching, shop math, units of measuring and precision measuring by continuous use of precision measuring instruments. Machines stressed are the power hack saw, the drill press, the milling machines, the shapers and grinders and basic operations of the engine lathes. An integral part of this course is classroom and laboratory demonstrations by individual students and the demonstration of maximum machine tool performance. Prerequisite or corequisite: MT 162

MT 164 Machines and Their Operations - Part II (2-8) 6 hours
Students continue to set up and to operate all automatic machine tools and to produce projects from the simple to the more complex. They practice blueprint reading, precision measuring and shop sketching so that they will become industrially oriented. Prerequisite or corequisite: MT 163

MT 261 Advanced Machine Tool Operations - Part I (2-8) 6 hours
Students continue to do basic layout practices, bench metal work and advanced machine tool operations related to the major machine tools such as the lathes, mills, shapers and grinders. More complex projects and demonstrations are required utilizing industrially oriented planning and estimating procedures. Emphasis is placed on the quality of the finished product. Prerequisite: MT 164.

MT 262 Advanced Machine Tool Operations - Part II (2-8) 6 hours
Quality of finished products continues to be stressed. Instruction emphasizes the selection of materials and fabrication methods, layout and shop organization. Basic Metallurgy of ferrous and nonferrous metals and alloys are introduced. Prerequisite or corequisite: MT 261

MT 263 Metallurgy for Machinists (2-8) . . . 6 hours
This course includes instruction in properties and uses of ferrous metals and alloys as well as uses of nonferrous metals and alloys. It includes also forging and heat treating steels, specification numbers of steel, and application of industrial tests to determine alloying elements. Shop organization and management as well as shop safety continue to be stressed. Prerequisite or corequisite: MT 262

MT 264 Industrial Machine Shop Practice (2-15) 6 hours
Students spend time in the class discussing industrial shop organization and management and continue to practice manufacturing procedures. Individual industrial assignments are made and students spend fifteen hours per week on special industrial assignments. Assignments are made on an individual basis and closely supervised by instructor-coordinator. Prerequisite or corequisite: MT 263

MATHEMATICS

The Department of Mathematics is guided by the following objectives: (1) pre-professional training for mathematicians and teachers of mathematics, (2) preparation of students for further study of science, engineering, industry and business, (3) adequate mathematical training for students in occupational-technical programs, (4) mathematical offerings suitable for the student seeking a well balanced liberal education, and (5) provision for students seeking to remove deficiencies or desiring to refresh their knowledge from previous training.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Math 133	3	Phys 143	4
Math 231	4	Math 232	3
Lang 141	1	Lang 142	4
Orientation 111.	1	PE 112	1
PE 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Math 234	3	Math 235	3
Phys 241	4	Phys 241	4
Lang 231	3	Lang 232	3
Govt 231	3	Govt 232	3
PE 211	1	PE 212	1

MATHEMATICS

- Math 130 Basic Mathematics (3-0) 3 hours**
This course is a study of the four fundamental operations of addition, subtraction, multiplication, and division of whole numbers, decimal fractions, regular fractions, and signed numbers. Additional topics to include percentages and geometric measurements. This course prepares the student for Math 131. Prerequisite: None.
- Math 131 General Mathematics (3-0) 3 hours**
This course provides a review of arithmetic, elementary algebra, and computational trigonometry with emphasis on the reasoning appertaining thereto. This is a course for students having less than two years of high school algebra, students majoring in elementary education, and for those that need to review arithmetic, elementary algebra, and trigonometry. Prerequisite: None.
- Math 132 Plane Trigonometry (3-0) 3 hours**
This course is a study of trigonometric functions, formulas, applications of variations of functions with changes in angles, trigonometric equations, identities, solutions of right and oblique triangles, inverse functions and complex numbers. Prerequisite: None.
- Math 133 Analytic Geometry (3-0) 3 hours**
This course is a study of fundamental concepts, straight line, circle, conics, simplification of equations, algebraic curves, transcendental curves, polar coordinates, parametric equations, curve fitting, space coordinates, surfaces, vectors, planes and lines. Prerequisite: Math 134 and Prerequisite or Corequisite: Math 132
- Math 134 College Algebra (3-0) 3 hours**
This course is a study of introduction to sets, functions, and number relations; inequalities; linear and quadratic functions; determinants; polynomial functions; permutations, combinations, and binomial theorem; mathematical induction, exponential and logarithmic functions; and algebra of ordered pairs. Prerequisite: None.
- Math 231 Calculus (3-0) 3 hours**
This course is a study of the rate of change of a function (limits), derivatives of algebraic and trigonometric functions, integration, and applications, Prerequisite or corequisite: Math 133.
- Math 232 Calculus (3-0) 3 hours**
In this course the topics of Mathematics 231 are extended to include the differentiation and integration of a wider class of functions including the transcendental functions. Also included are the application of these processes to the solution of a wider range of problems including moments of inertia. Prerequisite: Math 231.
- Math 234 Advanced Calculus (3-0) 3 hours**
This course is a study of sets, functions, vector fields, partial derivatives, power series, theory of integration, line, surface, and multiple integrals. Prerequisite: Math 232.
- Math 235 Differential Equations (3-0) 3 hours**
This course is a study of orthogonal trajectories, hyperbolic functions, linear differential equations, non-homogeneous equations, differential operators, the Laplace Transform, inverse transforms, applications, systems of equations, equations of order one and higher degree, and special equations of order two. Prerequisite: Math 232
- Math 238 Fundamental Concepts of Modern Math 3 hours**
Basic concepts of elementary mathematics are studied in this course. Modern methods are used to develop skill and understanding in the use and meaning of sets, number symbols, operations, properties, equivalence and number systems. A survey of modern math programs is made. Prerequisite: None

MEDICAL LABORATORY TECHNOLOGY

The Medical Laboratory Technology is a two-year program of combined academic and clinical training leading to an Associate of Applied Science Degree. This is a cooperative program between the College and Medical Center Hospital. Laboratory training will be under the direction of the hospital pathologist and the college instructors. Upon completion of the program the student will be eligible to take the Medical Laboratory Technician Registry examination of the American Society of Clinical Pathology.

Requirements for admission are high school graduation or its equivalent, satisfactory achievement on the college entrance examination and approval of the faculty. The student must maintain a minimum grade of "C" in each of his Allied Health courses and an average grade of "C" in all courses. Admission to the Medical Laboratory Technology program will be made no later than the first week in June, unless there are unusual circumstances. Prospective students wishing further information should contact: Coordinator of Health Occupations, Odessa College, P. O. Box 3752, Odessa, Texas 79760.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Chem 140	4	Math 130	3
AH 163M	6	AH 165M	6
AH 144M	4	AH 146M	4
Engl 131	3	Engl 132 or Engl 233	3
*PE 111	1	*PE 112	1

Summer Session

AH 131M	3	AH 132M	3
Govt 232	3		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Bio 141	4	Bio 142	4
AH 263M	6	AH 265M	6
AH 244M	4	AH 246M	4
Orientation 111	1	Elective	3
Elective	3		

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses. An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

MEDICAL LABORATORY TECHNOLOGY

AH 163M Hematology and Urinalysis (6-0) 6 hours
This course introduces the fundamentals of Medical Laboratory Technology. Particular emphasis will be placed upon the study of theory and practical application of hematology and urinalysis. The student will study professional ethics and nursing arts that are essential to the medical laboratory. Prerequisite: Admission to the Allied Health Program or by special permission; Corequisite: AH 144M.

AH 144M Clinical Practicum (0-20) . . . 4 hours
The twenty hours of clinical practicum will be spent at Medical Center Hospital Laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist. Corequisite: AH 163M.

AH 165M Fundamentals of Immunohematology (6-0) 6 hours
This course will consist of the study of immunohematology. The major emphasis will be placed upon the study of the antigen-antibody reaction and its use in blood banking and serological testing. There will be an introduction to histology and electrocardiograph theory and application of these will be studied. Prerequisite: AH 163M or special permission from the instructor. Corequisite: AH 144M.

AH 146M Clinical Practicum (0-20) 4 hours
The twenty hours of clinical practicum will be spent at Medical Center Hospital Laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist. Corequisite: AH 165M

AH 131M Clinical Practicum (0-20) 3 hours
The twenty hours of clinical practicum will be spent at Medical Center Hospital Laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist.

AH 263M Fundamentals of Clinical Chemistry (6-0) 6 hours
In clinical chemistry, the student will be reviewed in inorganic chemistry with emphasis on the elements, atomic weights, ionization, chemical reactions, the metric system preparation of reagents and chemical calculations. Biochemistry will be studied with emphasis on theory and specific biochemical tests used to determine diseased conditions. Both manual and automated chemical test will be studied with demonstrations on each type of procedure. Prerequisites: AH 165M Corequisite: AH 244M.

AH 244M Clinical Practicum (0-20) 4 hours
The twenty hours of clinical practicum will be spent at Medical Center Hospital Laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist. Corequisite: AH 263.

AH 246M Clinical Practicum (0-20) 4 hours
This twenty hours of clinical practicum will be spent at Medical Center Hospital Laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist. Corequisite: AH 265M

AH 265M Fundamentals of Clinical Microbiology (6-0) 6 hours
This course consists of a study of micro-organisms that are of medical importance to man. Emphasis will be placed upon bacteriology, mycology, and parasitology including isolation, identification, culture, biochemical tests and staining techniques. Prerequisite: AH 263M. Corequisite: AH 246M.

MID-MANAGEMENT

The primary objective of the Mid-Management Program is to prepare the student for full-time employment in management within two years. The program in the classroom is combined with actual on-the-job experience in the student's chosen career field. The student will work as a regular, part-time, paid employee in an approved business firm.

Mid-Management students may choose one of the four "option" programs now available. Petroleum Marketing, Supermarket Merchandising, and Fashion Merchandising are offered. In addition, General Marketing Management is available for students whose career interests lie in fields other than the three specific ones, and for students who have not made a career field choice at the time they enroll.

Many businesses, both large and small, are actively seeking graduates of Associate Degree programs. The shortage of promotable personnel in the supervisory and middle-management ranks virtually assures the graduate of a challenging career with rewarding promotional possibilities. Firms which have their own management programs often hire graduates of Associate Degree programs as readily as they do graduates with the baccalaureate degree. Each of the Mid-Management options leads to the Associate of Applied Science degree.

FASHION MERCHANDISING

First Year			
First Semester		Second Semester	
Engl 131	3	Engl 132	3
Hist or Govt	3	Hist or Govt	3
Mgt 131	3	Mgt 134f	3
Mgt 133f	3	Mgt 234	3
Orientation 111	1	PE	1
PE	1	Mgt 112	1
Mgt 111	1	Mgt 117	1
Mgt 116	1		15 hrs.
	16 hrs.		

Second Year			
Third Semester		Fourth Semester	
Mgt 233	3	Mgt 232	3
Mgt 233f	3	Mgt 234f	3
BA 131b	3	Spch 234	3
Math	3	Elective	3
Elective	3	Elective	3
Mgt 211	1	Mgt 212	1
Mgt 216	1	Mgt 217	1
	17 hrs.		17 hrs.

Approvable Electives

Any Mgt course; BA 231M; BA 231L; BA 232L; H Ec 13; H Ec 135; H Ec 138; Eco 231; Eco 232; Psy 231; Psy 233; Soc 231; Soc 232; EDP 230.

All electives must be approved by a faculty advisor.

MID-MANAGEMENT

GENERAL MANAGEMENT

First Year

First Semester		S.H.	Second Semester		S.H.
Course No.			Course No.		
Engl 131	.....	3	Engl 132	.....	3
Hist or Govt	.....	3	Mgt 234	.....	3
Mgt 131	.....	3	BA 131b	.....	3
Elective	.....	3	Elective	.....	3
Orientation 111	.....	1	PE	.....	1
PE	.....	1	Mgt 112	.....	1
Mgt 111	.....	1	Mgt 117	.....	1
Mgt 116	.....	1			15 hrs.
		16 hrs.			

Second Year

Third Semester		S.H.	Fourth Semester		S.H.
Course No.			Course No.		
Mgt 233	.....	3	Mgt 232	.....	3
BA 231L	.....	3	Mgt 231	.....	3
EDP 230	.....	3	Spch 234	.....	3
Math	.....	3	Elective	.....	3
Elective	.....	3	Elective	.....	3
Mgt 211	.....	1	Mgt 212	.....	1
Mgt 216	.....	1	Mgt 217	.....	1
		17 hrs.			17 hrs.

Approvable Electives

Mgt 132; Any other Mgt course; BA 231M; BA 232L; BA 232G; Eco 231; Eco 232; Psy 231; Psy 233; Soc 231; Soc 232; Any EDP course.

All electives must be approved by a faculty advisor.

MID-MANAGEMENT

PETROLEUM MARKETING

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist or Govt	3	Hist or Govt	3
Mgt 131	3	Mgt 236p	3
Mgt 235p	3	Mgt 234	3
Orientation 111	1	PE	1
PE	1	Mgt 112	1
Mgt 111	1	Mgt 117	1
Mgt 116	1		15 hrs.
	16 hrs.		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Mgt 233	3	Mgt 232	3
Mgt 237p	3	Mgt 231	3
BA 131b	3	Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
Mgt 211	1	Mgt 212	1
Mgt 216	1	Mgt 217	1
	17 hrs.		17 hrs.

Approvable Electives

Any Mgt course; Spch 234; BA 231M; BA 231L; BA 232L; Math 132b; BA 231R; BA 231G; Math 131; Eco 231; Eco 232; Psy 231; Soc 231.

All electives must be approved by a faculty advisor.

**MID-MANAGEMENT
SUPERMARKET MANAGEMENT**

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist or Govt	3	Hist or Govt	3
Mgt 131	3	Mgt 236s	3
Mgt 235s	3	Mgt 234	3
Orientation 111	1	PE	1
PE	1	Mgt 112	1
Mgt 111	1	Mgt 117	1
Mgt 116	1		15 hrs.
	16 hrs.		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Mgt 233	3	Mgt 232	3
Mgt 237s	3	Mgt 231	3
BA 131b	3	Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
Mgt 211	1	Mgt 212	1
Mgt 216	1	Mgt 217	1
	17 hrs.		17 hrs.

Approvable Electives

Any Mgt course; Spch 234; BA 231M; BA 231L; BA 232L; Math 132b; Math 131; EDP 230; BA 231R; Eco 231; Eco 232; Psy 231; Soc 231.

All electives must be approved by a faculty advisor.

For 7475

MID-MANAGEMENT

Mgt 116, 117, 216, 217 Mid-Management Internships
(0-16) 20 4 hours

All Mid-Management students will enroll in the Mid-Management program's supervised internship each semester. Attention is given to specific on-the-job problems, modern business practices, human relations, and jobfinding techniques. Prerequisite: None.

Mgt 131 Introduction to Management (2-1) 3 hours

The essentials of management are studied, including the functions of management and the application of management principles as they relate to the first line supervisor. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 132 Principles of Retailing (2-1) . . . 3 hours

This course studies the modern retailing industry. The major course divisions concern the structure and environment of retailing, the requirements of retailing management, retail merchandising, and sales promotion. Case studies are used to examine the application of retailing principles to actual operating situations. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 231 Principles of Marketing (2-1) . . . 3 hours

The course introduces the field of marketing and describes and analyzes important marketing activities and institutions. A brief analysis of some of the economic, psychological, and sociological factors which influence marketing activities is included. Case studies are used to relate marketing principles to marketing management situations. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 232 Management Skills Seminar (2-1) . 3 hours

The relationships between management principles and actual management situations are examined in this course. Case studies and projects are based on students' jobs and are taken from various fields, including personnel management, sales management, and merchandise management. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: Mgt 131.

Mgt 233 Principles of Personnel Management
(2-1) 3 hours

Manager-employee relationships, oriented toward the personnel responsibilities of all managers, form the basis of this course. The course is designed to provide techniques in developing and supervising people. Attention is directed toward organization principles, labor relations, understanding people, communicating, and the techniques of building an effective working team. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 234 Introduction to Public Relations
(2-1) 3 hours

The course introduces the techniques of public relations applied to supervisory and management positions. Customer relations are emphasized. Attention is given to programming a total public relations effort and selecting the strategy, media and persuasive devices which will accomplish given objectives. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 235p Introduction to Petroleum Marketing
(2-1) 3 hours

The basic study of the petroleum industry deals with its history, exploration efforts, drilling, production, and refining problems. Service station sales and records are related to the general economics of the industry. Emphasis is placed on the functions and institutions of marketing as they apply to the petroleum industry. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 236p Principles of Service Station Management
(2-1) 3 hours

The activities and responsibilities of the service station proprietor or manager are examined. The course covers merchandising policies, advertising, inventory control, product knowledge, location, equipment and consumer sales. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

MID-MANAGEMENT

Mgt 237p Petroleum Sales Management (2-1) 3 hours
The course covers the management of personnel involved in petroleum sales, including the selection, training, and evaluation of sales personnel, the establishment of sales objectives, and sales motivation. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 235s Introduction to Supermarket Merchandising (2-1) 3 hours
This course is designed to acquaint the student with the various merchandising techniques peculiar to a supermarket. Emphasis is placed on the functions of buying, promotion, display, turnover, and pricing for profit. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 236s Principles of Supermarket Management (2-1) 3 hours
The growth, development, history, evolution, and structure of the supermarket industry are covered in this course. Emphasis is placed on the development of each department, its profit structure and merchandising procedures. The basic principles and practices of supermarket management are related to the problems of store operations. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 237s Principles of Supermarket Operations (2-1) 3 hours
This course presents the principles and methods used in the operation of a supermarket with regard to organization, planning and control. Resource personnel from the supermarket industry will augment the scope of the classroom instructional program. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 133f Introduction to Fashion Merchandising (2-1) 3 hours
The course takes an overview of the general field of fashion merchandising. Attention is given to the functions of the fashion merchandiser as they relate to the retail industry in general. Emphasis is placed on the organization and operation of the fashion merchandising segment of a department store or specialty shop. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 134f Fashion Buying (2-1) 3 hours
Fashion buying is introduced to include estimation of demand, assembling of goods, sources of supply, and product merchandising. Attention is given to conditions of the market as they concern supplies, prices, styles, and new fashions. Emphasis is placed on policies and responsibilities of the buyer and the evaluation of source selection, budgets, and merchandise control. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 233f Trends in Fashion Merchandising (2-1) 3 hours
The course reviews and previews the fashion merchandising field. It is based on class discussion and in-depth reading in consumer marketing. Case studies are used to analyze fashion trends in the current market. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 234f Fashion Show Procedures (2-1) . 3 hours
This course covers the steps necessary in planning, organizing, and producing a fashion show. Students will practice the writing of copy for fashion show commentaries, and will participate in planning and producing at least one fashion show during the semester. The course is organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

MILITARY SCIENCE

Odessa College is in a joint agreement with University of Texas of the Permian Basin and Texas Tech University to offer Army ROTC courses. Although instruction will be largely for credit at Odessa College, actual course work and drills will be held at the University of Texas of the Permian Basin.

Military Science 1 1 credit hour
(Fall Semester)

Military Science I 1 credit hour
(Spring Semester)

Military Science II 3 credit hours
(Fall Semester)

Military Science II 2 credit hours
(Spring Semester)

MUSIC

The Music Department of the college provides pre-professional training for the music major. It also functions in a public relations capacity for the college by means of its performing organizations. It serves the community in cultural and entertaining programs; it assists the teachers in the area by means of special course offerings; it also offers the required music courses for majors in other fields. Odessa College is a Full Member of the National Association of Schools of Music and a member of the Texas Association of Music Schools.

The several music organizations including the band, orchestra, choir, and various ensemble groups offer training and cultural enjoyment. Frequent performances by the artist faculty, in solo and with the Symphony, add to the cultural opportunities afforded the community.

All music majors and minors are expected to attend concerts and recitals as a part of their musical and cultural growth. These include student recitals, programs by Midland-Odessa Symphony and Chorale, Civic Concert Association, Odessa College Fine Arts Series, and other designated recitals.

Freshman Year			
First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Orientation 111	1	PE 112	1
PE 111	1	Mu 134	3
Mu 133	3	Mu 142	4
Mu 141	4	Appl Mu 120b	2
Appl Mu 120a	2	Appl Mu 111b	1
Appl Mu 111a	1	Mu 113b, Mu 113d, Mu 114b, or Mu 115b	1
Mu 113a, Mu 113c, Mu 114a, or Mu 115a	1	Instrumental or Diction Courses added as required	1
Instrumental or Diction Courses added as required	1		
Sophomore Year			
Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Hist 231 or Govt 231	3	Hist 232 or Govt 232	3
PE 211	1	PE 212	1
Phys 131	3	Mu 222	2
Mu 221	2	Mu 232	3
Mu 231	3	Appl Mu 220b	2
Appl Mu 220a	2	Appl Mu 211b	1
Appl Mu 211a	1	Mu 213b, Mu 213d, Mu 214b, or Mu 215b	1
Mu 213a, Mu 213c, Mu 214a, or Mu 215a	1	Instrumental or Diction Courses added as required	1
Instrumental or Diction Courses added as required	1		

To receive the Associate in Arts degree the student must complete 1 year of language, 1 semester of science, and complete 12 hours of social sciences including Hist. 231 & 232, and Govt. 231 & 232 in addition to the above courses.

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ENSEMBLES

Mu 113a, 113b, 213a, 213b Concert Band (0-4) 4 hours
The activities of the band include concert music, pep rallies, and selected college functions. The personnel of the concert band includes many non-music majors, and band personnel are expected to participate in all major performances. The band serves as a required laboratory for instrumental music majors. Prerequisite: None.

Mu 113c, 113d, 213c, 213d Dance Band (0-4) 4 hours
Dance band is open to musicians having dance band experience or to those with instrumental skills and a desire for learning dance band techniques. The course consists of a minimum of four hours of rehearsal per week and playing at special college functions. Prerequisite: None.

Mu 114a, 114b, 214a, 214b Orchestra (0-4) 4 hours
The orchestra is open to students who can play music of moderate difficulty upon some orchestral instruments. Prerequisite: None

Mu 115a, 115b, 215a, 215b A Cappella Choir (0-5) 4 hours
The A Cappella Choir serves as a laboratory for the music major whose primary instrument is voice, or as an elective for the non-music major. The choir studies choral literature representing many styles and composers from all periods of music, and fundamental voice techniques. Choir personnel are expected to participate in all major performances. Prerequisite: Students are admitted by audition, with acceptance based on musical ability and voice quality.

Mu 116a, 116b Vocal Ensemble (0-3) . . . 2 hours
The course is an elective designed to acquaint the student with chamber music for the small voice ensemble of all periods of music, and to provide the advanced student with an opportunity to study the style and performance of a large amount of choral literature. Prerequisite: Students are selected from the A Cappella Choir by audition and are expected to participate in all major performances.

APPLIED MUSIC

Final grades in Applied Music are determined by jury audition each semester, the final performance in each course being rated in accordance with the progress achieved and based on the minimum daily required hours of practice as set forth in the catalogue.

PRIVATE LESSONS

Mu 130a, 130b Freshman Piano (0-1) . . . 6 hours
This course is designed for a performance major in piano, and the minimum representative requirement are these: BACH: four threepart Inventions or two preludes and Fugues, or the equivalent; SONATAS: two from Haydn, Mozart, or Beethoven (Op. 2, No. 1, or Op. 14, Nos. 1 and 2); TECHNIC: all scales and arpeggios, four octaves at MM. 120, four notes to the beat; standard *Etudes*: standard literature from Romantic and Contemporary periods; everything from memory; sight reading; ensemble. Prerequisite for Mu 130b: Mu 130a.

Mu 120a, 120b Freshman Piano (0-1) . . . 4 hours
This course is designed for the music education major whose primary instrument is piano or for elective credit. The minimum representative requirements are these: BACH: four two-part Inventions or two Little Preludes and Fugues, or the equivalent; SONATAS: easier opus numbers by Haydn, Mozart, Beethoven; TECHNIC: all scales and arpeggios, four octaves, four notes to the beat, achieve MM. 120; Czerny, Op. 299, or equivalent; standard *Etudes*; standard literature from Romantic and Contemporary periods; sight reading; ensemble. Prerequisite for Mu 120b: Mu 120a.

Mu 130a, 130b Freshman Organ (0-1) . . . 6 hours
This course is designed for a performance major in Organ, and the minimum representative requirements are these: Gleason, *Method of Organ Playing*; Dupre, *Seventy-Nine Chorals*; Bach, *Eight Little Preludes and Fugues*, and/or, *Liturgical Year*; repertoire representative of "The Cathedral" Prelude and Fugue (Bach) and "Station of the Cross XI" (Dupre); standard

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sonatas; standard literature from Romantic and Contemporary periods, everything from memory; additional technic as needed. Prerequisite for Mu 130a: must be able to perform Bach Two-part and Three-part Inventions or equivalent on the piano. Prerequisite for Mu 130b: Mu 130a.

Mu 120a, 120b Freshman Organ (0-1) . . . 4 hours
 This course is designed for the music education major whose primary instrument is organ or for elective credit. The minimum representative requirements are these: Gleason, *Method of Organ Playing*; Dupre, *Seventy-nine Chorals*; Bach, *Eight Little Preludes and Fugues* and/or *Liturgical Year*; standard sonatas; standard literature from Romantic and Contemporary periods; at least one composition memorized; additional technic as needed. Prerequisite for Mu 120a: must be able to perform Bach Two-part and Three-part Inventions or equivalent on the piano. Prerequisite for Mu 120b: Mu 120a.

Mu 230a, 230b Sophomore Piano (0-1) . . . 6 hours
 This course is a continuation of Mu 130b, and the minimum representative requirements are these: Bach: Preludes and Fugues, Suites, Partitas, transcriptions; SONATAS: More difficult ones by Mozart or Beethoven, or concerto; TECHNIC: scales and arpeggios in 10ths, 6ths, two against three or others of similar difficulty; *Etudes* of the difficulty of Chopin, Kramer, etc.; Czerny, Op. 740 or equivalent; standard literature from Romantic and Contemporary periods; everything from memory; sight reading; ensemble. Prerequisite: Mu 130b.

Mu 220a, 220b Sophomore Piano (0-1) . . . 4 hours
 This course is a continuation of Mu 120b, and the minimum representative requirements are these: Bach: four three-part Inventions or two Preludes and Fugues, or the equivalent; SONATAS: by Mozart, Haydn, Beethoven, or concerto; TECHNIC: all scales and arpeggios, four octaves, four notes to the beat, minimum speed MM. 120; Czerny, Op. 299 or equivalent; standard *Etudes*; standard literature from the Romantic and Contemporary periods; sight reading; ensemble. Prerequisite: Mu 120b.

Mu 111a, 111b, 211a, 211b Secondary Piano (0-½) 4 hours
 This course is designed to complete the piano proficiency requirements for all music students except pianists, and the minimum representative requirements for the piano proficiency requirements are these: Bach Invention or equivalent; one Sonata-form movement; three memorized pages of standard Romantic or Contemporary compositions: "Star Spangled Banner" and "America" memorized; ability to play a hymn from a selected list; sight reading of 3rd grade difficulty; all scales and arpeggios, four octaves, four notes to the beat, at least MM. 72; Czerny, Op. 299 or equivalent. Prerequisite for M7 111a: None.

Mu 230a, 230b Sophomore Organ (0-1) . . . 6 hours
 This course is a continuation of Mu 130b, and the minimum representative requirements are these: Gleason, *Method of Organ Playing*; Bach, Trio Sonatas, Little Fugue in G Minor, or equivalent; Mendelssohn Sonatas or equivalent; "Poemes Evangeliques" by Langlais; Vierne, *Twenty-four Pieces in Free Style*; Bach, *Orgelbuchlein*; everything from memory; introduction to Service Playing; additional technic as needed; public recital required. Prerequisite for Mu 230a: Mu 130b. Prerequisite for Mu 230b: Mu 230a.

Mu 220a, 220b Sophomore Organ (0-1) . . . 4 hours
 This course is a continuation of Mu 120b, and the minimum representative requirements are these: Gleason, *Method of Organ Playing*; Bach, *Orgelbuchlein*, Trio Sonatas, Little Fugue in G Minor, or equivalent; Mendelssohn Sonatas, or equivalent; "Poemes Evangeliques" by Langlais; Vierne, *Twenty-four Pieces in Free Style*; standard literature from Romantic and Contemporary periods; at least two compositions memorized; introduction to Service Playing; additional technic as needed. Prerequisite for Mu 220a: Mu 120b.

Mu 111a, 111b, 211a, 211b Secondary Organ (0-½) 4 hours
 This course is designed for the music major whose primary instrument is other than organ or for elective credit. Representative literature includes these: Gleason, *Method of Organ Playing*; Bach: "Eight Little Preludes and Fugues" and/or "Liturgical Year"; Dupre, *Seventy-nine Chorals*; and standard compositions,

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range of difficulty from easy arrangements and transcriptions upward, by Handel, Mendelssohn, Franck, Langlais, Peeters, etc. Additional technic is added as needed. Prerequisite for Mu 111a: None, but previous organ or piano study is desirable.

Mu 111a, 111b Secondary Voice (0-½) . . . 2 hours
 Secondary voice is designed for the non-vocal concentration or non-vocal major who is a music major or for elective credit. Rudimentary principles of vocal production and appropriate exercises are studied. A minimum of 6 memorized songs by the standard repertoire are to be prepared for presentation at faculty jury for grade. Prerequisite for Mu 111b: Mu 111a.

Mu 211a, 211b Secondary Voice (0-½) . . . 2 hours
 This course is a continuation of Mu 111b. Exercises and studies of increased difficulty and length are studied, plus Italian songs. A minimum of 6 memorized songs of the standard repertoire are to be prepared for presentation at faculty jury for grade. Prerequisite: Mu 111b.

Mu 120a, 120b Freshman Voice (0-1) . . . 4 hours
 This course is designed for the music education major who will study voice as his primary instrument or for elective credit. Exercises to facilitate proper breath and tone production are studied to promote vocal technique. Songs from the early Italian literature are studied, plus appropriate English songs at the discretion of the instructor. A minimum of 7 memorized songs are to be prepared for presentation at faculty jury for grade. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b, Sophomore Voice (0-1) . . . 4 hours
 This course is designed as a continuation of Mu 120b. Scales, arpeggios, and studies of increased variety, length, speed, and numbers of vowels are studied. German and French songs are introduced. Oratorio and/or opera arias may be given at the discretion of the instructor. A minimum of 7 memorized songs and/or arias are to be prepared for presentation at faculty jury for grades. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Violin (0-1) . . . 4 hours
 This course is designed for the music education major or minor whose primary instrument is violin or for elective credit. The minimum representative requirements for this course are these: Kruetzer *Etudes*; Sevcik technical exercises; all major and minor scales and arpeggios, three octaves, memorized; one Sonata by a standard composer (Bach, Vivaldi, Viotti, Nardini, etc.); pieces of similar difficulty by classic and contemporary composers; Orchestra; ensemble. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Violin (0-1) . . . 4 hours
 This is a continuation of Mu 120b, and the minimum representative requirements include these: *Etudes*, Kreutzer, Fiorillo, Sevcik; scales and arpeggios; two Sonatas by a standard composer (Handel, Bach, Mozart, Beethoven, Gade, Grieg, etc.); one concerto by a standard composer (Bach, Kreutzer, Viotti, Rode, Vivaldi, Mozart, etc.); Orchestra; ensemble. Prerequisite: Mu 120b.

Mu 120a, 120b Freshman Viola (0-1) . . . 4 hours
 This course is designed for the music education major or minor whose primary instrument is viola or for elective credit, and the minimum representative requirements are these: scales and arpeggios; studies and exercises; sonatas and concertos; smaller pieces from the standard repertoire; Wohlfahrt-Isaac-Lewis, *Thirty Studies for the Viola, Book I*; Wohlfahrt, *Book II*; "Lyric Suite" by Grieg-Sitt. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Viola (0-1) . . . 4 hours
 This is a continuation of Mu 120b, and the minimum representative requirements include these: scales and arpeggios; scales in double stops; studies and exercises selected according to individual needs of the pupil, such as C. Danele's *L'école du mécanisme*, Books I and II, Dont's *20 Progressive Etudes*, and R. Kreutzer-Consolini's *42 Etudes*; sonatas of Leclair, Marcello, Corelli, G. Faure; concertos and short solo pieces. Prerequisite: Mu 120b.

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- Mu 120a, 120b Freshman Violoncello (0-1) 4 hours**
 This course is designed for the music education major or minor whose primary interest is in violoncello or for elective credit, and the minimum requirements for the course are these: Klengel studies; Dotzaur 113 *Selected Studies, Book II*; Lee, *40 Melodic Studies, Book II*; Sonatas by Eccles, Breval; thumb position; scales of 3 octaves; studies equivalent in difficulty to Dotzaur, *Volume II*; shorter compositions equivalent in difficulty to Beethoven *G Minor Sonata*. Prerequisite for Mu 120b: Mu 120a.
- Mu 220a, 220b Sophomore Violoncello (0-1) 4 hours**
 This is a continuation of Mu 120b, and the minimum representative requirements include these: scales and arpeggios; double stops; studies equivalent to Dotzaur, *Volume III*, and Grutzmacher, *Opus 67*; shorter compositions, and compositions equivalent in difficulty to the Sammartini *G Major Sonatas*. At the end of the second year the student must be able to play at sight moderately difficult ensemble music. Prerequisite: Mu 120b.
- Mu 120a, 120b Freshman Double Bass (0-1) 4 hours**
 This course is designed for the music education major or minor whose primary instrument is double bass or for elective credit, and the minimum course requirements include these: scales and arpeggios; smaller pieces from the standard repertoire; orchestra studies; Franz Simandl, *Book I and Book II*. Prerequisite for Mu 120b: Mu 120a.
- Mu 220a, 220b Sophomore Double Bass (0-1) 4 hours**
 This is a continuation of Mu 120b, and the minimum requirements include these; scales and arpeggios; scales of Shmuklousky; Harbe, *Etudes, Book I*; Franz Simandl, *Fundamental Method Book II*; Kreutzer bowing studies; shorter compositions and more advanced orchestra studies. Prerequisite: Mu 120b.
- Mu 120a, 120b Classical Guitar (0-1) . . . 4 hours**
 This is a course designed for the music education major whose primary instrument is classical guitar or for elective credit. Representative instructional materials include standard classical guitar literature from all periods of music, including transcriptions. Representative materials include: *Classical Guitar Method*, Mateo Carcassi (Carl Fischer edition); *Guitar School*, Vol. 1, E. Pujol; *Diatonic Major and Minor Scales* (A. Segovia); the selection for any one semester is based on the student's need in relation to his previous study and current ability as determined by the teacher. Prerequisite: demonstrate knowledge of fingerboard; know diatonic major and minor scales, Terrega method is preferred. Prerequisite for Mu 120b: Mu 120a.
- Mu 220a, 220b Classical Guitar (0-1) . . . 4 hours**
 This course is a continuation of Mu 120b. Representative instructional materials continue with standard literature from all periods of music, including these: transcriptions; Villa Lobos *Etudes*; advanced technical studies; Albeniz "Leyenda"; de la Maza, "Companatis del Alba" (Etude in Tremolo); compositions by: Bach, Dowland, Llobet, Granadas, Rodrigo, Ponce, Mudarra, Frescobaldi, Rameau, Torroba, Turina, etc. Prerequisite for Mu 220b: Mu 220a.
- Mu 120a, 120b Freshman Bassoon (0-1) . . . 4 hours**
 This course is designed for the music education major or minor whose primary instrument is bassoon or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 80, in various articulations. Representative repertoire will be chosen from the complete works of Weissenborn *Op. 8*, the *Jancourt Studies*, and solos selected from Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.
- Mu 220a, 220b Sophomore Bassoon (0-1) . . . 4 hours**
 This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100 in various articulations. Additional etudes and technical studies should include the Milde *Etudes, Volume I*, the *Gambara Studies*, and such representative solos as the Vivaldi *Concerto*, the Weber *Concerto*, and the Hindemith *Sonata*. Prerequisite: Mu 120b.

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Mu 120a, 120b Freshman Flute (0-1) . . . 4 hours

This course is designed for the music education major or minor whose primary interest is flute or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 80, in various articulations. Representative repertoire to be chosen from the studies of Anderson, Cavally, Berbiguier, Koehler, and Boehm; and solos such as the Handel *Sonatas*, the Telemann *Suite*, and the Bach *Suite I*. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Flute (0-1) . . . 4 hours

This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100 in various articulations. Additional etudes and technical studies should include Anderson *Op. 15 and 63*, and others equivalent to Cavally. Representative literature should include at least one Bach and one Handel Sonata. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Clarinet (0-1) . . . 4 hours

This course is designed for the music education major or minor whose primary instrument is clarinet or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations. Representative repertoire will be chosen from the Klose *Method*, the Lazarus *Method*, the Rose *32 Etudes*, the Rubank *Selected Studies*, and solos selected from the Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Clarinet (0-1) . . . 4 hours

This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100, in various articulations. Additional etudes

and technical studies should include completion of the Klose *Method* or Lazarus *Method*, the Rose *40 Studies*, and such representative solos as the Brahms *Sonatas*, the Weber or Mozart concertos and some contemporary works. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Oboe (0-1) . . . 4 hours

This course is designed for the music major or minor whose primary instrument is oboe or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds played from memory in eighth notes at M.M. 80, in various articulations. Representative repertoire to be chosen from the Verroust *Studies*, the Rubank *Selected Studies* and the Barret *Progressive Exercises*, and solos such as the Handel *Concertos* and *Sonatas*, the Dittersdorf *Concertos*, and equivalent works. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Oboe (0-1) . . . 4 hours

This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100, in various articulations. Additional etudes and technical studies should include the Barret *Grand Studies*, the Ferling *48 Etudes*, the Andraul *Vade Mecum* and the Sellner *Duets*. Representative literature should include at least two pre-classical sonatas and the orchestral solos for the oboe. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Saxophone (0-1) 4 hours

This course is designed for the music education major or minor whose primary instrument is saxophone or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds are to be played from memory in eighth notes at M.M. 80, in various articulations. Additional technique will be taken from *Selected Studies* by Rubank, *Pares Scale Studies* and others. Solo literature will be selected from the Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.

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Mu 220a, 220b Sophomore Saxophone (0-1) 4 hours
This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds are to be played from memory in eighth notes at M.M. 100, various articulations. Additional etudes and technical studies should be equivalent to Ferling, *48 Etudes* Klose-Derigny, *Complete Method*, and solos by Handel, Rascher, Creston, Ibert, and other contemporary French recital pieces. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman French Horn (0-1) 4 hours
This course is designed for the music education major or minor whose primary instrument is French horn or for elective credit. The minimum technical requirements are these: all scales to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 80, in various articulations. Additional technical studies will be taken from Alphonse, *Book I*; Pottage, *Preparatory Melodies*; and the Kopprasch, *Book I*. Representative solo literature will be selected from the Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore French Horn (0-1) 4 hours
This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100, in various articulations. Continuation of technical studies will be taken from the Alphonse, Pottage, and studies from band and orchestra literature. Representative solos to be selected from the works of Gootwald, Painter, Mozart, Scarmolin, Wessel, Whittman, and various transcriptions for the horn. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Trombone or Baritone (0-1) 4 hours
This course is designed for the music education major or minor whose primary instrument is trombone or baritone or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 80, in various articulations. Representative repertoire is to be chosen from the studies of Mueller, Kopprasch, Manita, Rochut, and Arban. The solo literature will be selected from the Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Trombone or Baritone (0-1) 4 hours
This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100, in various articulations; continuation of the technical studies taken from Kopprasch, *Etudes*; Harvey, *Advanced Studies*; Rochut, *Etudes*, and Mueller, *Technical Studies*. Representative solos will be taken from the works of Guilmant, Zimmerman, Pryor, Simmons, and transcriptions for the trombone or baritone. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Cornet or Trumpet (0-1) 4 hours
This course is designed for the music education major or minor whose primary instrument is cornet or trumpet or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations. Representative repertoire will include etudes and technical studies from Arban, and St. Jacome, the Hering *Thirty-two Etudes*, and the Clark *Technical Studies*, and solos selected from the Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.

MUSIC

Mu 220a, 220b Sophomore Cornet or Trumpet

(0-1) 4 hours

This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100, in various articulations. Additional etudes and technical studies should include St. Jacome, *Book II*; Sachse, *100 Etudes*; Voxman, *Selected Studies*; and Williams, *Transposition Studies*; and representative solos such as those of Balay, Fitzgerald, Hindemith, and Busser. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Tuba (0-1) . . . 4 hours

This course is designed for the music education major or minor whose primary instrument is tuba or for elective credit. The minimum technical requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 120, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 80, in various articulations. Additional technical studies will be taken from the Eby *Method for Tuba* and the Hering *Thirty-two Etudes*. Representative solo literature will be selected from the Group I listing of the University Interscholastic League. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Tuba (0-1) . . . 4 hours

This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales and arpeggios to be played from memory in eighth notes at M.M. 160, in various articulations; all major scales in broken thirds to be played from memory in eighth notes at M.M. 100, in various articulations. Additional technical studies will be taken from the Eby *Method for Tuba*, and the Rochut *Etudes, Volume I*; and special transposition studies will be undertaken. Representative solo literature will be selected from the original works for tuba and available transcriptions. Prerequisite for Mu 220a: Mu 120b.

Mu 120a, 120b Freshman Percussion (0-1) 4 hours

This course is designed for the music education major or minor whose primary instrument is percussion or for elective credit. The minimum technical requirements are these: completion of the twenty-six rudiments through all the various dynamics on the snare drum; rudimental solos selected from the Burns-Moore *Art of Rudimental Drumming*, the N.A.R.D. Solo Book, the Gardner *Progressive Studies* and the Group I listing of the tympani using the Goodman *Modern Method for Timpani*: for two tympani; and instruction in the correct method of playing the accessory instruments. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Percussion (0-1) 4 hours

This course is a continuation of Mu 120b, and the minimum representative requirements are these: continued instruction on the tympani to include three and four kettles; additional technical studies to be taken from the Seitz *Modern School of Timpani Playing*; and the orchestral literature; advanced rudimental solos for the snare drum and multiple percussion solos including the playing of the trap set; beginning instructions of the mallet instruments to be taken from the Xylophone with appropriate solos to be chosen from the literature. Prerequisite for Mu 220a: Mu 120b.

APPLIED MUSIC (Class Lessons)

Mu 111a, 111b, 211a, 211b Secondary Instrumental (0-½) 4 hours

Secondary instrumental lessons are designed for the non-instrumentalist who is a music major, the instrumental major on a secondary instrument or for elective credit. Rudimentary principles of the instrument, and appropriate exercises are studied. Representative repertoire will be chosen from the solo listings of the University Interscholastic League. Prerequisite for Mu 111a: None.

MUSIC

- Mu 112b Brass (0-3)**1 hour
This is a course for music education majors, designed to meet the minimum proficiency requirements on the brass instruments through the study of the basic techniques, a limited repertoire, and the methods of teaching them, culminating in the ability to play the scales on these instruments. Prerequisite: None.
- Mu 112p Percussion (0-3)**1 hour
This is a course designed to meet the minimum requirements in percussion instruments for the music education major through the study of the snare drum rudiments, the tuning and other techniques of playing the tympani and limited performance ability on the other instruments of the battery. Prerequisite: None.
- Mu 112s Strings (0-3)**1 hour
This is a course for music education majors, designed to meet the minimum proficiency requirements on the stringed instruments through the study of the basic techniques, a limited repertoire, and the methods of teaching them, culminating in the ability to play all the scales on these instruments. Prerequisite: None.
- Mu 112w Woodwinds (0-3)**1 hour
This is a course for music education majors, designed to meet the minimum proficiency requirements on the woodwind instruments through the study of the basic techniques, a limited repertoire, and the methods of teaching them, culminating in the ability to play the scales on these instruments. Prerequisite: None.
- Mu 110c, 110d Applied Music (0-½)** 2 hours
This course is offered in any field of applied music on an elective basis to meet special student needs. It is designed to provide elective credit in the applied study of music, as well as in cases where performance ability is not sufficiently high to warrant credit at the college level in a specific field of performance. Prerequisite: None.
- Mu 116c, 116d Choral Workshop (0-2)** . . . 2 hours
This course provides a concentrated study of nine or ten examples of choral literature, including various styles and periods, under an outstanding guest clinician. The length of the course is one week, Monday through Friday, with a minimum of 25 class hours, and culminating in a public performance on Friday.
- Mu 116c, 116d, 216c, 216d Opera Workshop (0-3)**4 hours
Opera workshop serves as a laboratory for the student interested in dramatic music and its presentation. Outside preparation of various assignments for class and public presentation, including night rehearsals, will be required when necessary. The course is open to all students. Prerequisite: None.
- Mu 117a, 117b, 217a, 217b Piano Ensemble and Accompanying (0-3)**4 hours
Piano sight reading, ensemble and accompanying is designed to improve ensemble playing and to provide training in the technique of vocal and instrumental accompanying. Four semester hours are required of all keyboard majors and concentrations. Consent of instructor is required for enrollment by others.
- Mu 110f French Diction (2-0)**1 hour
This course is a study of the French language with an emphasis on diction and designed to promote the ability to sing in French. Vocabulary will be derived from words commonly used in song and opera. The student's own appropriate literature will be studied with other selections added to it at the discretion of the instructor. Prerequisite: None
- Mu 110g German Diction (2-0)**1 hour
This course is a study of the German language with an emphasis on diction and designed to promote the ability to sing in German. Vocabulary will be derived from words commonly used in song and opera. The student's own appropriate literature will be studied with other selections added to it at the discretion of the instructor. Prerequisite: None
- Mu 110i Italian Diction (2-0)**1 hour
This course is a study of the Italian language with an emphasis on diction and designed to promote the ability to sing in Italian. Vocabulary will be derived from words commonly used in song and opera. The student's own appropriate literature will be studied with other selections added to it at the discretion of the instructor. Prerequisite: None

MUSIC

Mu 141, 142 Freshman Music Theory (3-3) 8 hours

This course includes rhythmic reading, sightsinging, partwriting, keyboard harmony, and ear training. Rhythm proceeds through simple and compound time, sixteenth notes, syncopations, and triplets; sightsinging completes *Oxford Book 3*; partwriting includes triadic chord connection, with cadence formulas at the keyboard. Ear training is correlated to each problem.

The second semester includes the divided beat, changing meters, cross rhythms, and melodies which encompass all of the diatonic triads. In partwriting, and in keyboard harmony, modulation to closely related keys, and harmonization of melodies are the problems. Ear training is correlated to each problem. Prerequisite for Mu 142: Mu 141.

Mu 221, 222 Advanced Sightsinging and Ear Training (2-1) 4 hours

Students analyze and sing melodies which encompass seventh chords, modes, and chromaticism. Partsinging is included. Hindemith: *Elementary Training for Musicians*, is used for rhythmic study. The ear training is correlated to the sightsinging material and to the related material in Music 231, 232. Prerequisite: Mu 142.

Mu 231, 232 Advanced Study of Harmony (2-1) 6 hours

Secondary seventh chords, altered chords, and chromatic harmony are studied as are nonharmonic tones. Students harmonize basses and melodies, and analyze music of standard composers. Keyboard harmony is correlated to each problem. Prerequisite: Mu 142.

Music History And Literature

Mu 133, 134 Introduction to Music Literature (3-0) 6 hours

This is a survey course, taught chronologically, whose prime objective is to introduce the student to the various periods of musical composition from ancient to present time. It seeks to acquaint the student with both the historical aspect and the music itself. Extensive use is made of the large collection of phonograph records in the listening laboratory. This course is required of all music majors. Prerequisite to Mu 134: Mu 133.

Mu 131 Music Appreciation (3-0) 3 hours

This is a course for all students, except music majors, who wish to acquire the basic information and techniques necessary for the intelligent appreciation of the art of music, as related to the major style periods in music history. Guided listening experiences, through use of the extensive record collection in the listening laboratory, are an important part of the course. Prerequisite: None.

Music Education

Mu 233 Public School Music Methods and Materials (3-0) 3 hours

This is a course in techniques and materials for music instruction in kindergarten and grades one through three. Participation in the course includes experience in singing, playing, listening, rote songs, and rhythmic and creative activities. Prerequisite: a limited musical background.

Mu 234 Public School Music Methods and Materials (3-0) 3 hours

This is a course in techniques and materials for music instruction in grades four, five, and six. Participation in the course includes experience in music reading, partsinging, listening, playing, voice-testing, and rhythmic and creative activities. Prerequisite: limited musical background and/or Mu 233.

NURSING, ASSOCIATE DEGREE

This is a program of two calendar years combining academic and clinical education leading to the degree of Associate in Applied Science. It is fully accredited by the Board of Nurse Examiners for the State of Texas and the National League for Nursing. The graduate is eligible to write the examination for licensure as a Registered Nurse. Requirements for admission are high school graduation or its equivalent, satisfactory achievement on college entrance examination, evidence of good health, two character references and approval of the faculty. The student must maintain a grade of "C" or above at all times, and no grade lower than 70 in nursing courses. Students are responsible for transportation to the clinical facilities.

Students are admitted no later than mid-summer unless acceptable college work has already been completed. In addition to admission to the college, students must apply to the director of the program. The number of students is limited, and applicants will be considered in the order of completed requirements.

Summer Session

1st Six Weeks		2nd Six Weeks	
Course No.	S.H.	Course No.	S.H.
Chem 140 or Physics 144	4	Engl 132	3
Engl 131	3	Govt (or Hist) 231	3

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
NU 161	6	NU 182	8
Biol 133	3	Biol 134	3
Psy 231	3	Psy 234	3
Orientation 111	1	PE	1
PE	1		

Summer Session

2nd Six Weeks	
Course No.	S.H.
NU 143	4
Soc 321	3

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
NU 254a	5	NU 245	4
NU 245b	5	NU 265	6
Biol 244	4		

NURSING (ASSOCIATE DEGREE)

NU 161 Nursing 1 (3-9) 6 hours
Provides the student with foundations for nursing practice. It includes history of nursing, beginning skills, normal nutrition, and an introduction to mental health concepts. Prerequisite: Chem 140 or Physics 144.

NU 182 Nursing II (4-12) 8 hours
An introduction to the care of the surgical patient, fluid and electrolyte balance, and respiratory diseases.

**NU 143 Nursing III (Summer Session)
(6-18) 4 hours**
Care of the patient with cardio-vascular problems.

NU 254a, 254b Nursing IV (6-12) 10 hours
Nursing in nutritional disorders, neurological conditions, and behavioral problems.

NU 265 (4-24) 245 (4-12) Nursing V 10 hours
NU 265 includes care of the patient with infections and inflammation, nuerosensory disorders, and oncological problems. NU 245 is nursing of the mother and newborn during the maternity cycle.

The nursing program centers about the common health problems in the United States, and must be taken in the sequence listed. Clinical experience is a part of each course, and includes medicine, surgery, obstetrics, pediatrics, selected special services, and community agencies. Absences during the clinical experience must be made up before credit for the course is earned.

NURSING, VOCATIONAL PROGRAM

The College, with the cooperation of the local hospital, offers a one-year training program in preparation for becoming a Licensed Vocational Nurse. Completion of the program entitles the graduate to take the examination for licensure. It is fully accredited by the Board of Vocational Nurse Examiners and approved by the Texas Education Agency.

Most of the first four months consists of classroom instruction and clinical orientation, while the remainder of the year consists primarily of supervised clinical experience in patient care including medical, surgical, maternity, and child care.

Requirements for admission are high school graduation or the equivalent (G.E.D.), evidence of good health, 18-45 years of age (applicants over 45 are considered on an individual basis), a personal interview with the Vocational Nursing faculty and approval of the Admissions Committee. Prospective students wishing further information should contact: Eva Maudlin, Director of Program, Odessa College, P.O. Box 3752, Odessa, Texas 79760.

1. Personal and Vocational Adjustments: (14 class hours)
An introduction to nursing, nursing ethics, legal aspects, personal hygiene, and grooming is studied.
2. Mental Health and Mental Illness: (22 class hours)
Basic principles of positive mental health, aspects of emotional behavior due to illness, environment, and religious beliefs are covered. This course serves as an introduction to functional and organic mental illness.
3. Disease Control and Prevention: (10 class hours)
This course is a study of basic microbiology for understanding the importance of maintaining cleanliness and disinfection in relation to prevention and control of disease.
4. First Aid: (12 class hours)
The basic principles of emergency care, which include emergency situations and immediate care, are studied.
5. Vocational Nursing Skills: (185 class hours)
Basic Nursing principles applicable to good nursing, nursing procedures and skills for institutionalized care, and techniques and methods of drug and food administration are covered.
6. Pharmacology: (40 class hours)
Calculation of drugs and an introduction to the basic classification of drugs are an important part of this class.
7. Nutrition: (20 class hours)
An introduction to basic, normal nutrients required for maintaining health and basic hospital diets is a basic part of this study.
8. Body Structure and Function: (48 class hours)
The course introduces simple basic anatomy and physiology as a background for nursing skills and other subject matter.
9. Normal Growth and Development: (14 class hours)
This course covers the basic aspects of growth and development from infancy through childhood, the teenage years and the reproductive period.
10. Geriatrics: (12 class hours)
The physical debilitation due to aging processes is covered.
11. Medical-Surgical Nursing: (115 class hours and 8 weeks' experience)
Conditions of illness requiring medical and/or surgical treatment, care of the aged, and nursing care regarding different conditions are studied.
12. Maternity and Newborn Nursing: (42 class hours and 8 weeks experience)
The emphasis of study concerns normal obstetrics and pregnancy through labor, delivery and post-partum period inclusive of complications specific to Obstetrics and disease conditions affecting the course of Obstetrics. The effects of drugs and diet on mother and child during pregnancy and after birth are studied. The immediate care of the newborn, characteristics of the newborn with abnormal conditions and/or complications are important parts of the course.
13. Pediatrics: (32 class hours of class and 4 weeks experience)
The study of childhood diseases and diseases specific to children, the effects of disease on normal growth and development, and the treatment and nursing care given each condition will be studied.
Note: A memorial fund in memory of Mrs. Jamesena Sullivan has been established for Vocational Nursing Students.

PHYSICAL EDUCATION*

Physical education is the sum of all those changes that take place in individuals as a result of movement experience.

The principal objectives of this department are: (1) to develop the student's neuromuscular skill and organic system through movement experiences, (2) to increase the student's knowledge, insight, understanding and interest in movement experiences, and finally, (3) to improve the student's recreational and leisure time skills as well as his standards of behavior in these selected movement areas.

Since movement is the medium through which this department achieves its objectives, the student has several opportunities to select those movement experiences (from twenty different areas in the physical education curriculum) which will best contribute to his well-being, his leisure time skills, and to his total educational development.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Biol 141	4	Biol 142	4
PE 132a	2	Math 134	3
Math 131	3	PE 132	3
PE 111	1	PE 112	1
Orientation 111.	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Govt 231	3	Govt 232	3
Science	4	Soc 231 or Psy 231	3
PE Elective	3	Approved Elective	3
PE 211	1	H Educ 232	3
		PE 212	1

*Students majoring in physical education in preparation for a teaching career are required to take their four semesters of activity classes in the following areas:

MEN

- 1 class of gymnastics
- 1 class of a team activity
- 1 class of individual activity
- 1 class of a leisure time activity

WOMEN

- 1 class of gymnastics
- 1 class of team activity
- 1 class of individual activity
- 1 class of a leisure time activity

It is also recommended that physical education majors take more than the minimum of four one-hour activity classes in their preparation for a teaching career. Major students should also consider the requirements of the senior college to which they intend to transfer and plan their junior college scholastic schedule accordingly.

ATHLETICS

The athletic program at the College offers five sports: basketball, track, men's and women's tennis, men's and women's golf and men's and women's gymnastics.

The Wranglers are members of the National Junior College Athletic Association and the Western Junior College Athletic Conference. Major schedules are provided in each sport for those participating, with opportunities to play in the national tournaments each year.

The college athletic program is considered one of the most successful and comprehensive in Texas. The department has produced many national champions and provided such national publicity for Odessa and the College, as well as preparing participants for major college and professional endeavors. While the College does recruit athletes from other states, the bulk of the national championships have come with the help of Permian Basin athletes.

Following are achievements of the Athletic Department of the College:

GOLF—Four team National Championships in ten years, four individual National Championships, and seven of eight Western Junior College Athletic Conference Titles.

GYMNASTICS—Five consecutive Texas Collegiate Gymnastic Championships, National Junior College Gymnastic Champions in 1970 and 1971: a two year record of 46 wins and 4 losses, and sixteen Junior College All Americans.

TRACK—During the past five years, the Wranglers have won 9 team championships. In 1968 they won the Western Junior College Athletic Conference meet. In 1971 they placed 2nd at the National Junior College Championships. Thirteen men have been named to the N.J.C.A.A. All American track team since 1965.

BASKETBALL—Consistently winning teams since 1952, runner-up in the Region V Tournament in 1958, Co-champions in the Western Junior College Athletic Conference in 1970.

TENNIS — The Wranglers are known throughout the tennis world as the most exciting co-educational Junior College team in the nation. They compete successfully in both junior and senior college competition behind the leadership of the 1973 World Cup coach. They have produced 10 All-Americans in as many years and boast a very impressive record: Women's National Champion and Team Championship, 1967; National Team Runner-up, 1968; National Team 3rd Place, 1969; National Doubles and Team Championship, 1970; National Women's Team 4th Place, 1971; Women's National Team Runners-up 1972. Men's National Team Runner-Up, 1967; Men's National Doubles and Team Championship, 1968; Men's National Doubles Champions and Team Runner-up, 1969; Men's National Team 4th Place, 1970; 1971 Men's National Team 5th Place; 1972 Men's National Team 3rd Place.



PHYSICAL EDUCATION

- PE 111n Defensive Tactics (1-0) 1 hour**
This course is designed to teach law officers a system of defense and counter-attack using the simple and effective maneuvers of judo, jujitsu, savate, boxing, wrestling, soccer, football and fencing. The movements which have been selected from these areas are molded into a system of maneuvers applicable to law enforcement work. Prerequisite: None
- PE 132a First Aid (3-0) 3 hours**
This is a basic and standardized Red Cross course in immediate and temporary care of the injured. Other unique aspects of the course are its coverage of transportation of the injured, basic bandaging procedures, prevention of injuries, and the legal aspects of first aid. Prerequisite: None.
- PE 132 Orientation in Health, Physical Education and Recreation (3-0) 3 hours**
This course is a study of the aims, objectives, curriculum and the philosophical and historical orientation of physical education, health education, and recreation. The acquisition of motor skills, the relationship of education principles to practice, and the psychological, sociological, and biological aspects are also studied. Prerequisite: None
- PE 231 Physical Education for Elementary School (3-0) 3 hours**
This course includes a study of the principles, content, and program planning for children five through twelve years of age. Instruction is given in the teaching and performance of various physical educational activities for the elementary school. Activities taught in the course include hunting games, athletic games of low organization, quiet and lead-up games, stunt, tumbling, relays and other activities. Prerequisite: None
- PE 233 The Techniques of Supervising and Officiating Women Sports(2-2) 3 hours**
This course covers effective officiating methods and techniques for individual and team sports for women. The areas of study include the selection and organization of units of competition, tournaments, the placement of contestants, elimination tournaments, athletic associations, clubs, clinics, forfeits, protests, postponements, injuries and rainy day scheduling. Prerequisite: None.
- PE 234 The Teaching of Women Team Sports (2-2) 3 hours**
The study of effective teaching methods, evaluating techniques, audio visual aids, tournaments, and drill formations as well as the officiating techniques for women team sports is included in this class. Prerequisite: None.
- PE 235 The Techniques of Coaching Basketball (2-2) 3 hours**
This class is a study of the fundamental skills, individuals and team play, organization of practices, handling of teams during the competitive season, and of the rules and officiating techniques for basketball. Prerequisite: Sophomore standing.
- PE 236 The Techniques of Coaching Track and Field (2-2) 3 hours**
This class is a study of the fundamental skills, organizational procedures, training regiments, rules, contestant seeking procedures, and supervisory techniques for invitational meets. Prerequisite: Sophomore standing.
- PE 239 The Techniques of Officiating Men's Sports (2-2) 3 hours**
This course is a study of the effective officiating methods and techniques for men's team sports. The areas of study include the following: protest, forfeits, injuries, rainy day scheduling, postponements, clubs associations, elimination tournaments, the placements of contestants (seeding), and athletic associations. Prerequisite: None.

HEALTH EDUCATION

- H Ed 131 Personal Health and Hygiene (3-0) 3 hours**
This course is a study of bodily functions and how they are affected by one's diet, nutritional needs, hygiene, stimulants, depressants, exercise, fitness, drugs, pollution and other facets of the environment in which we live. Prerequisite: None.
- H Ed 232 Personal and Community Health (3-0) 3 hours**
This is a course for physical education majors which presents a study of body organs and systems, individual health problems, health concepts, public and volunteer health organizations, health legislation, and social problems and services. Prerequisite: None.

PHYSICAL EDUCATION

PE 111a Beginning Basketball (0-2)	. . . . .1 hour	PE112k Intermediate Soccer and Speedball (0-2)	. . . . .1 hour
PE 211a Advanced Basketball (0-2)	. . . . .1 hour	PE 111i Las Senioritas De Las Rosas Drill and Dance Team (0-3)	. . . . .1 hour
PE 111a Varsity Basketball (0-3)	. . . . .1 hour	PE 112l Las Senioritas De Las Rosas Drill and Dance Team (0-3)	. . . . .1 hour
PE 112a Varsity Basketball (0-3)	. . . . .1 hour	PE 211i Las Senioritas De Las Rosas Drill and Dance Team (0-3)	. . . . .1 hour
PE 211a Varsity Basketball (0-3)	. . . . .1 hour	PE 212i Las Senioritas De Las Rosas Drill and Dance Team (0-3)	. . . . .1 hour
PE 111b Beginning Badminton (0-2)	. . . . .1 hour	PE 111m Fundamentals of Movement (0-2)	. . . . .1 hour
PE 211b Advanced Badminton (0-2)	. . . . .1 hour	PE 111o Women's Speedball and Basketball (0-2)	. . . . .1 hour
PE 111c Beginning Bowling (0-2)	. . . . .1 hour	PE 111p Physical Conditioning (0-2)	. . . . .1 hour
PE 211c Advanced Bowling (0-2)	. . . . .1 hour	PE 112p Physical Conditioning (0-2)	. . . . .1 hour
PE 111d Beginning Ballroom Dance (0-2)	. . . . .1 hour	PE 211p Physical Conditioning (0-2)	. . . . .1 hour
PE 112d Intermediate Ballroom Dance (0-2)	. . . . .1 hour	PE 111q Beginning Fencing (0-2)	. . . . .1 hour
PE 211d Advanced Ballroom Dance (0-2)	. . . . .1 hour	PE 211q Advanced Fencing (0-2)	. . . . .1 hour
PE 111e Beginning Gymnastics (0-2)	. . . . .1 hour	PE 111r Varsity Track and Field (0-2)	. . . . .1 hour
PE 112e Intermediate Gymnastics (0-2)	. . . . .1 hour	PE 112r Varsity Track and Field (0-2)	. . . . .1 hour
PE 211e Advanced Gymnastics (0-2)	. . . . .1 hour	PE 211r Varsity Track and Field (0-2)	. . . . .1 hour
PE 111e Varsity Gymnastics (0-3)	. . . . .1 hour	PE 212r Varsity Track and Field (0-2)	. . . . .1 hour
PE 112e Varsity Gymnastics (0-3)	. . . . .1 hour	PE 111s Beginning Swimming and Diving (0-2)	. . . . .1 hour
PE 211e Varsity Gymnastics (0-3)	. . . . .1 hour	PE 112s Intermediate Swimming and Diving (0-2)	. . . . .1 hour
PE 212e Varsity Gymnastics (0-3)	. . . . .1 hour	PE 211s Advanced Swimming and Diving (0-2)	. . . . .1 hour
PE 111f Beginning Touch Football (0-2)	. . . . .1 hour	PE 212s Red Cross Life Saving (0-2)	. . . . .1 hour
PE 111g Beginning Golf (0-2)	. . . . .1 hour	PE 111t Beginning Tennis (0-2)	. . . . .1 hour
PE 112g Intermediate Golf (0-2)	. . . . .1 hour	PE 112t Intermediate Tennis (0-2)	. . . . .1 hour
PE 111g Varsity Golf (0-3)	. . . . .1 hour	PE 211T Advanced Tennis (0-2)	. . . . .1 hour
PE 112g Varsity Golf (0-3)	. . . . .1 hour	PE 111T Varsity Tennis (0-3)	. . . . .1 hour
PE 211g Varsity Golf (0-3)	. . . . .1 hour	PE 112T Varsity Tennis (0-3)	. . . . .1 hour
PE 212g Varsity Golf (0-3)	. . . . .1 hour	PE 211T Varsity Tennis (0-3)	. . . . .1 hour
PE 111h Beginning Softball (0-2)	. . . . .1 hour	PE 212T Varsity Tennis (0-3)	. . . . .1 hour
PE 112h Intermediate Softball (0-2)	. . . . .1 hour	PE 111y Women's Beginning Paddle Ball (0-2)	. . . . .1 hour
PE 111i Beginning Folk Dance (0-2)	. . . . .1 hour	PE 111x Men's Beginning Paddle Ball And Hand Ball (0-2)	. . . . .1 hour
PE 111j Beginning Modern Dance (0-2)	. . . . .1 hour	PE 111v Beginning Volleyball (0-2)	. . . . .1 hour
PE 112j Intermediate Modern Dance (0-2)	. . . . .1 hour	PE 211v Advanced Volleyball (0-2)	. . . . .1 hour
PE 211j Advanced Modern Dance (0-2)	. . . . .1 hour	PE 111w Varsity Baseball (0-3)	. . . . .1 hour
PE 111j Modern Dance: Theatre Dance Form (0-2)	. . . . .1 hour	PE 112w Varsity Baseball (0-3)	. . . . .1 hour
PE 112j Modern Dance: Theatre Dance Form (0-2)	. . . . .1 hour	PE 211w Varsity Baseball (0-3)	. . . . .1 hour
PE 211j Modern Dance: Theatre Dance Form (0-2)	. . . . .1 hour	PE 212w Varsity Baseball (0-3)	. . . . .1 hour
PE 212j Modern Dance: Theatre Dance Form (0-2)	. . . . .1 hour		
PE 111k Beginning Soccer and Speedball (0-2)	. . . . .1 hour		

PHYSICS

The Department of Physics has as its principal objective the training of physicists at the junior college level. In addition, it seeks to provide for certain other majors the foundation in the fundamental physical principles which are necessary for effective work in engineering, medicine, dentistry, chemistry, and technology.

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Lang 141	4	Lang 142	4
EDP 237	3	Phys 143	4
Math 231*	3	Math 232	3
PE 111	1	PE 112	1
Orientation 111	1	Engr 111	1

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
Math 234	3	Math 235	3
Phys 241	4	Phys 242	4
PE 211	1	PE 212	1

*Prerequisite to Math 231 should be taken during the summer prior to freshman enrollment. Students with strong mathematics background should consider advanced standing examinations.

PHYSICS

Phys 131 Musical Acoustics (3-0) 3 hours

This course is a study of sound as related to speaking, singing, and to playing musical instruments. It includes physical principles of sound production, transmission, interference, hearing, resonance, pitch; quality, musical intervals, stringed instruments, wind instruments, acoustics of rooms, and associated electronic equipment. Prerequisite: None.

Phys 136 Applied Physics (1-3) 3 hours

This is a study of the principles of physics as applied to various occupational & vocational fields including auto mechanics, electricity, electronics, welding and drafting technology.

Phys 140 General Physics (3-3) 4 hours

This course is a survey of the basic principles of Physics and their application in everyday life. Prerequisite: None.

Phys 141 College Physics (3-3) 4 hours

This course is a study of classical mechanics, molecular physics, heat, and sound with application. It is for students of medicine, dentistry, veterinary medicine, optometry, biology, and architecture. A knowledge of elementary algebra and trigonometry is needed. Prerequisite: None.

Phys 142 College Physics (3-3) 4 hours

This course is a study of classical electricity, magnetism, mechanical wave motion, optics, and practical aspects of modern physics. Prerequisite: Phys 141.

Phys 143 Engineering Physics (3-3) 4 hours

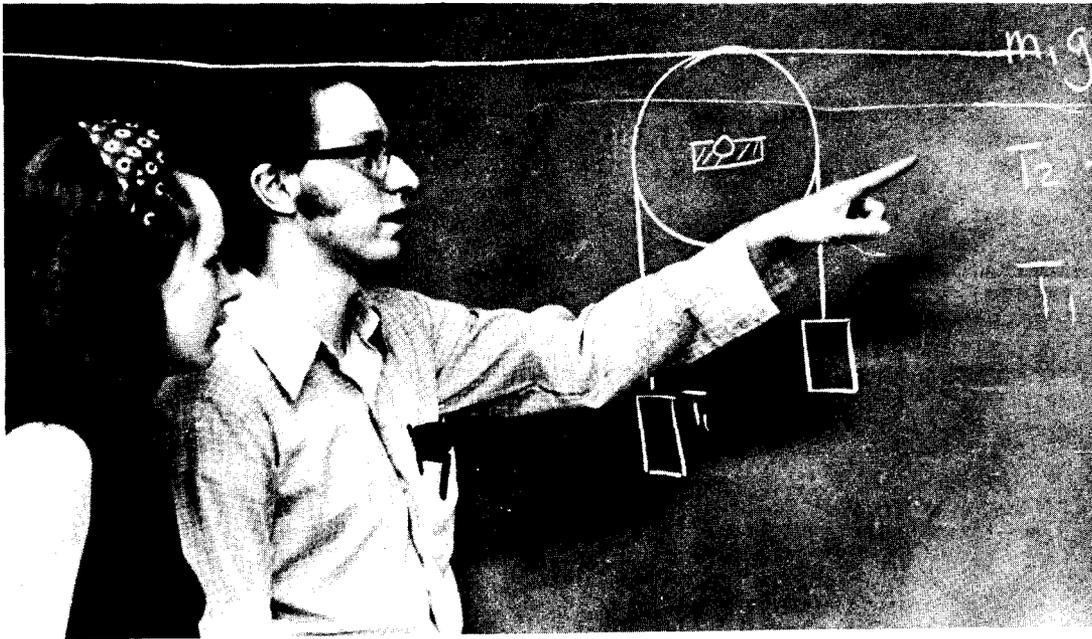
This course is a study of classical mechanics and thermo-dynamics for the student who aspires to professional academic degrees in the fields of physical science, the various engineering specialties, and mathematics. Prerequisite or corequisite: Math 231.

Phys 241 Engineering Physics (3-3) 4 hours

This course is a study of classical electricity and magnetism from a theoretical and engineering application viewpoint. Prerequisite: Physics 143 or Engineering 233. Corequisite: Math 232.

Phys 242 Engineering Physics (3-3) 4 hours

This course is a study of mechanical and electromagnetic wave motion from the classical viewpoint and a semi-quantitative study of modern physics. Engineering applications of these subjects are stressed. Prerequisite: Phys 241.



PSYCHOLOGY, SOCIOLOGY AND EDUCATION

This department furnishes the foundation courses for those students preparing for elementary and secondary school teaching as well as those planning to major in psychology or sociology. The subjects offered are often taken by students because of their general social and cultural value.

The State of Texas sets the requirements for certification of public school teachers. Prospective teachers should keep in mind that they must complete a teacher training program as outlined by their selected senior college and plan their work at this college so as to take, at freshman and sophomore levels, those courses which the senior college requires at those levels.

The instructional aide program is designed to develop educational concepts and theories needed to assist teachers. Pre-service and in-service aides receive instruction and theory in order that they might better understand their role in the classroom.

PSYCHOLOGY

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Germ or Fr 141	4	Germ or Fr 142	4
Hist 231	3	Hist 232	3
Math 134	3	Math 132	3
Soc 231	3	Phil 231	3
Orientation 111	1	PE 112	1
PE 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231 or 235	3	Engl 232 or 236	3
Germ or Fr 231	3	Germ or Fr 232	3
Govt 231	3	Govt 232	3
Psy 231	3	Psy 233	3
Biol, Chem*, or Phys 141	4	Biol, Chem**, or Phys 142	4
PE 211	1	PE 212	1

*Chem 111 and 131

**Chem 112 and 132

**PSYCHOLOGY, SOCIOLOGY AND EDUCATION
ELEMENTARY EDUCATION**

First Semester		Freshman Year		Second Semester	
Course No.	S.H.	Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3	Engl 132	3
Hist 231	3	Hist 232	3	Hist 232	3
Biol 141	4	Biol 142	4	Biol 142	4
Spch 131	3	Psy 231	3	Psy 231	3
Math 134	3	Math 132	3	Math 132	3
PE 111	1	PE 112	3	PE 112	3
Orientation 111	1				

Third Semester		Sophomore Year		Fourth Semester	
Course No.	S.H.	Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3	Engl 232	3
Govt 231	3	Govt 232	3	Govt 232	3
Physical Science	4	Educ 237 (elective)	3	Educ 237 (elective)	3
Ea Sc 141		Geog 232	3	Geog 232	3
Geol 141		Mu 131 or Soc 231	3	Mu 131 or Soc 231	3
Chem 131 and Chem 111		PE 212	1	PE 212	1
Educ 232 (elective)	3				
Geog 231	3				
PE 211	1				

SECONDARY EDUCATION

First Semester		Freshman Year		Second Semester	
Course No.	S.H.	Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3	Engl 132	3
Hist 231	3	Hist 232	3	Hist 232	3
Biol 141	4	Biol 142	4	Biol 142	4
Spch 131	3	Psy 231	3	Psy 231	3
Math 134	3	Math 132	3	Math 132	3
PE 111	1	PE 112	1	PE 112	1
Orientation 111	1				

Third Semester		Sophomore Year		Fourth Semester	
Course No.	S.H.	Course No.	S.H.	Course No.	S.H.
Engl 231 or 235	3	Engl 232 or 236	3	Engl 232 or 236	3
Govt 231	3	Govt 232	3	Govt 232	3
Physical Science	4	Educ 237 (Elective)	3	Educ 237 (Elective)	3
Geol 141		Soc 231	3	Soc 231	3
Chem 131 and Chem 111		Mu 131	3	Mu 131	3
Phys 141		PE 212	1	PE 212	1
Educ 232 (Elective)	3				
Phil 232	3				
PE 211	1				

SOCIOLOGY

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Lang 141	4	Lang 142	4
Biol 141	4	Biol 142	4
Math 134	3	Math 132	3
Hist 231	3	Hist 232	3
Orientation 111.	1	PE 112	1
PE 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Lang 231	3	Lang 232	3
Govt 231	3	Govt 232	3
Soc 231	3	Soc 232	3
Psy 231	3	Psy 233	3
PE 211	1	PE 212	1



INSTRUCTIONAL AIDE

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131 Composition and Rhetoric (3-0)	3	Engl 132 Composition and Literature (3-0)	3
Hist 231 United States History to 1865 (3-0)	3	Hist 232 United States History from 1865 (3-0)	3
Spch 131 Fundamentals of Speech (3-0)	3	Mus 233 Public School Music Methods & Materials (3-0)	3
Educ 239e Introduction to Elementary Schools (3-0)	3	Educ 232 Introduction to Education Psychology (3-0)	3
Math 131 General Math (3-0)	3	Math 238 Modern Math (3-0)	3
PE 111 Physical Education	1	PE 112 Physical Education	1

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Govt 231 State and Federal Government (3-0)	3	Govt 232 State and Federal Government (3-0)	3
Psy 231 Introduction to Psychology (3-0)	3	PE 231 Physical Education for Elementary School (3-0)	3
Art 239b Teaching Art in Elementary School (3-0)	3	Soc 231 Introduction to the Study of Society	3
Educ 239c Children's Literature (3-0)	3	Educ 237 Child Growth and Development (3-3)	3
Biol 141 General Biology (3-3)	4	Biol 142 General Biology (3-3)	4

EDUCATION

- Educ 232 Introduction to Education Psychology (3-0) 3 hours**
 This course is a study of the psychology of education, including the aims and need of education, the behavior of children, the learning process, and the modification of responses through education. Prerequisite: None
- Educ 235 The Teaching of Reading in the Elementary School (3-0) 3 hours**
 This course is a study of the reading process and the factors which condition its development. Consideration is given to such topics as reading readiness, measurements, diagnosis, remedial reading, and the various instruments developed for use in the field of reading. Prerequisite: None.

- Educ 236a The Use of Audio-Visual Resources in Elementary Education (3-0) 3 hours**
 This course is designed specifically to acquaint the prospective elementary teacher with the use of audio-visual resources in the elementary school subjects. Various films for use with elementary subjects are previewed. Prerequisite: None
- Educ 237 Child Growth and Development (3-3) 3 hours**
 The purpose of this course is to develop an understanding of children and to engender a real interest in them. Consideration is given the human organism as it develops physically, mentally, emotionally, and socially. Laboratory requirements consist of observation and study of pre-school and elementary age children. Prerequisite: None.

EDUCATION

Educ 239c Children's Literature (3-0) . . . 3 hours
 This is a course in the teaching of children's literature, of the pioneers in the field and the writers of the present day, with special emphasis placed upon the literature itself. Prerequisite: None

Educ 239e Introduction to Elementary Schools (3-0) 3 hours
 This is a survey course of the elementary school, including philosophy, grouping, class organization, curriculum plans, promotion and grading policies, unit making, and methods and materials of teaching. Prerequisite: None.

Educ 239f Foundation of Special Education in the Elementary School (3-0) 3 hours
 This is a survey course of education for the exceptional elementary school child, including major developments in special education. A comprehensive study is made of the literature, personnel, and best field practices. Prerequisite: None.

SOCIOLOGY

Soc 231 Introduction to the Study of Society (3-0) 3 hours
 This course provides the student with the basic concepts of sociology and emphasizes the relationship of culture and social interaction to group behavior. It includes an analysis of social organization, human ecology, and social change. Prerequisite: None.

Soc 232 Social Problems (3-0) 3 hours
 This course applies sociological concepts to the analysis of current social problems, including family and community disorganization, crime and delinquency, racial and educational problems and conflicts, problems of mass communication, and personal pathologies. Prerequisite: Sociology 231.

Soc 233 Marriage and the Family (3-0) . . . 3 hours
 Sociological analyses are made of human relationships pertaining to the varied aspects of courtship, mate selection, and marital adjustment with a study of the problems of adjustment in each stage of the life cycle. Prerequisite: None

PSYCHOLOGY

Orien 111 Orientation (1-0) 1 hour
 This course is designed to orient the student to college life and to help him to understand his personal problems, such as separation from family, study habits, use of time, and vocational choices. Prerequisite: None.

Psy 231 Introduction to Psychology (3-0) . 3 hours
 Basic problems and principles of human experience and behavior are studied. Included are sensation, image, affection, intensity, attention, learning and retention, emotions, motivation and action, growth and development, heredity and environment, individual differences, efficiency, psychological testing, and personality. Prerequisite: None.

Psy 233 Personal Applications of Psychology (3-2) 3 hours
 This course emphasizes a study of the psychological principles and methods which are most important in the practical control of human behavior. Applications of psychology for increasing human efficiency, improving personalities, and harnessing the emotions are studied. Prerequisite: Psy 231.

Psy 234 Child Growth and Development (3-3) 3 hours
 Emphasis is placed upon the development processes and environmental factors which shape the personality and affect the achievement of the child. Laboratory requirements consist of observation and study of pre-school and elementary age children. Prerequisite: None.

RADIOLOGIC TECHNOLOGY

The college offers a cooperative program with the local hospital designed to provide understanding, proficiency, and skill in Radiologic Technology.

Upon completion of the program the student is granted an Associate in Applied Science Degree and is eligible to apply for certification by the American Registry of Radiologic Technologists.

A balanced curriculum of general educational and technical courses offers the student an opportunity for cultural development as well as occupational competence. Practicum work is held at the local hospital under the direction of the chief radiologist and the chief technician. A close working relationship between the College, Medical Center Hospital and the Council on Medical Education and Hospitals will be maintained.

Requirements for admission are high school graduation or its equivalent, satisfactory achievement on the college entrance examination, evidence of good health, personal interviews, character references and approval of the faculty. The student must maintain a "C" average on all Radiology courses and an average grade of "C" in all courses. Application for admission to the program should be made to the Dean of Occupational Education and Technology.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Biol 133	3	Biol 134	3
AH 163x	6	AH 165x	6
AH 144x	4	AH 146x	4
Math 131	3	MGT 131	3
Orientation 111	1	*PE 112	1
*PE 111	1		
Summer Session			
AH 131x	3	AH 132x	3
Engl 131	3		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
AH 263x	6	AH 265x	6
AH 244x	4	AH 246x	4
Govt 232 or Approved Substitute	3	BA 121t or Approved Elective	2
Psy 231	3	Engl 132, Engl 233 or Spch 234	3
Summer Session			
AH 133x	3	AH 134x	3

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements obtained above.

RADIOLOGIC TECHNOLOGY

AH 163x Principles of Radiographic Exposure (6-0) 6 hours
The fundamental principles of radiologic technology, and the part radiologic technology plays in the medical field will be stressed. Students will become acquainted with ethical principles, responsibilities of the paramedical professions and their relationship to the radiologic technician. Principles and fundamentals of electrical and of the paramedical professions and fundamentals of electrical and radiation physics are taught along with the basic principles underlying the operation of x-ray equipment and auxiliary devices. Corequisite: AH 144x.

AH 144x Radiologic Technology Practicum (0-25) 4 hours
Each student is required to average twenty-five hours per week in closely supervised laboratory practice of basic radiation and positioning. Anatomy and physiology as they relate to radiography will be discussed as well as physics, professional ethics, and the critique of x-ray films. Corequisite: AH 163x.

AH 165x Basic Radiographic Positioning (6-0) 6 hours
This course is designed to acquaint the student technologist with the common procedures in radiography. Topics of study include the use of equipment and media, including contrast media; the reactions and contra-indications of these media; nursing procedures pertinent to radiology; and the role of radiologic technologist in various nursing situations. Prerequisite: AH 163x. Corequisite: AH 146x.

AH 146x Radiologic Technology Practicum (0-25) 4 hours
Student technicians will spend a minimum of twenty-five hours per week in supervised practice of both common radiologic procedures and specific procedures described in classroom lecture. Radiographic positioning of patients and radiographic exposure using contrast media will be emphasized during the lab periods. Prerequisite: AH 144x. Corequisite: AH 165x.

AH 131x Radiologic Technology Practicum (0-25) 3 hours
This practicum will place emphasis on the practice of basic radiographic procedures in positioning, on darkroom techniques, and on becoming more professional in the use of anatomical terms. Prerequisite: AH 146x.

AH 132x Radiologic Technology Practicum (0-25) 3 hours
This practicum will further emphasize the practice of specific positioning of the area to be x-rayed, recognition of the structure and organs visualized, and understanding of the normal functions of organs as a basis for certain x-ray examinations. Prerequisite: AH 131x.

AH 263x Radiographic Procedures (6-0) . 6 hours
Special radiographic procedures acquaint the student technician with the specialized and highly technical procedures in radiology, and in the topographic anatomy and the relationship of organs to each other. Radiation protection is stressed so that the student technician can provide maximum protection and safety to patients and to other personnel. Prerequisite: AH 165x. Corequisite: AH 244x.

AH 244x Radiologic Technology Practicum (0-25) 4 hours
This practicum will further emphasize the practice of specific positioning of the area to be x-rayed. Special training will be given in the use of radioisotopes in x-ray and in other special and emergency procedures. Prerequisite: AH 132x. Corequisite: AH 263x.

AH 246x Radiologic Technology Practicum (0-25) 4 hours
Student technicians will spend a minimum of twenty-five hours per week in supervised practice of both common radiologic procedures described in classroom lecture. Radiographic positioning of patients and radiographic exposure using contrast media will be emphasized during the lab periods. Prerequisite: AH 144x. Corequisite: AH 165x.

RADIOLOGIC TECHNOLOGY

AH 265x Basic Radiographic Positioning and Radiation Therapy (6-0) 6 hours
This course is designed to further train the student technician in common procedures in radiography. Topics of study include use of equipment and media, including contrast media; the reactions and contra-indications to these media; nursing procedures pertinent to radiology; general care of the patient with emphasis on the role of the x-ray technician; and general administrative duties of departmental work. A complete review will be included in the course. Prerequisite: AH 263x. Corequisite: AH 246x.

AH 133x Radiologic Technology Practicum (0-25) 3 hours
This practicum will further emphasize the

practice of specific positioning of the area to be x-rayed, recognition of the structure and organs visualized, and basic understanding of the normal functions of organs as a basis for certain x-ray examinations. Equipment maintenance will be stressed. Prerequisite: AH 132x.

AH 134x Radiologic Technology Practicum (0-25) 3 hours
This practicum will further emphasize the practice of radioisotopes, recognition of the structures and organs to be x-rayed, and achievement of basic understanding of the normal functions of organs as a basis for certain x-ray examinations. Training in departmental management is a part of the course. Prerequisite: AH 133x.



READING

An effective citizen must read well, and reading courses develop efficient tools to use in today's milieu of words. These courses are an implementation of the philosophy that the ultimate in reading is never reached and that the so-called study skills are predominantly reading skills. Time spent in this department is an investment in self; anyone, no matter what kind of grades he makes, can improve his reading skills.

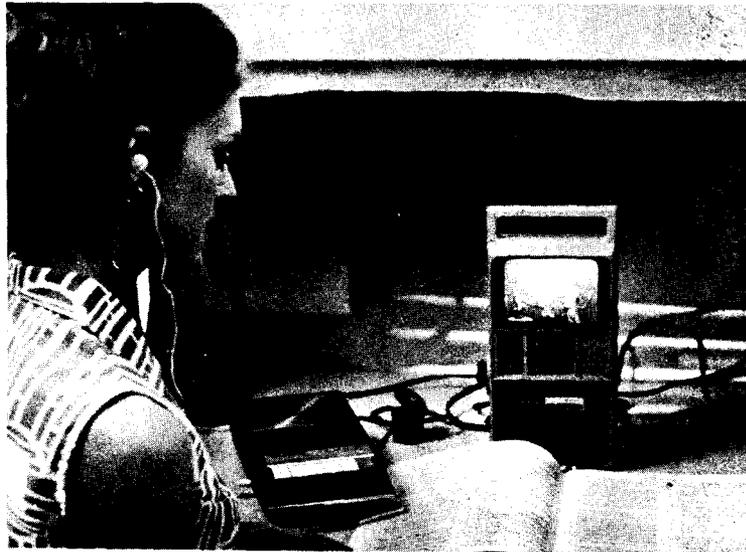
All professional fields need above-average abilities in reading. Developing awareness of the competencies underlying effective reading and insight into the psychology of reading will be excellent preparation for those interested in the fields of education and teaching. These courses will also serve as a sound introduction for those interested in reading as a major. Reading specialists, reading supervisors, and reading clinicians are all in great demand.

Read 131 College Reading

(3-0) 3 hours
College reading enables all readers to improve their rate of speed and comprehension on various types of materials. Diagnosis of reading strengths and weaknesses, timed reading practices, short lectures, study skills and vocabulary study will improve work in other courses. Prerequisite: None.

Read 132 Advanced College Reading (3-0) . . 3 hours

Independent work continues and maintains improvement in rate of speed and comprehension skills. There is further individualization as each student follows a program designed to meet his specific needs. Prerequisite: Read 131



REFRIGERATION AND AIR CONDITIONING TECHNOLOGY

The heating and air conditioning industry is one of the fastest growing in the world today. Food preparation and storage, personal comfort, medical procedures and industrial processes have been radically changed and improved by refrigeration. At present the demand for trained personnel has far exceeded the supply, and every new phase of the industry creates greater demands.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Math 131	3	Engr 131	3 ✓
R/AC 161	6 ✓	R/AC 163	6 ✓
R/AC 162	6 ✓	R/AC 164	6 ✓
Orientation 111	1 ✓	*PE 112	1 ✓
*PE 111	1		
	17		
Summer Session			
Engl 131	3 ✓	Engl 132, 	
		Spch 234	3 ✓

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
R/AC 261	6 ✓	R/AC 263	6 ✓
R/AC 262	6 ✓	R/AC 264	6 ✓
Govt 299 approved	3	Mgt. 131	3 ✓
Substituted	3		

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.

An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

Suggested Certificate Plan For Refrigeration And Air Conditioning

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
R/AC 261 161	6	R/AC 163	6
R/AC 262 162	6	R/AC 164	6

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
R/AC 261	6	R/AC 263	6
R/AC 262	6	R/AC 264	6

REFRIGERATION AND AIR CONDITIONING

R/AC 161 Refrigeration Theory (2-8) . . . 6 hours
This is a course in theory and practice, and is designed to give the student a sound basic understanding of heat transfer, behavior of gases, and the refrigeration cycle, component parts of both compression and absorption refrigeration machines, and accessories. Prerequisite: None.

R/AC 261 Advanced Control Theory (2-8) . . . 6 hours
This course offers the student theory and shop practice in application designs, installation and trouble shooting of both primary and secondary electrical systems of the heating and air conditioning industry. Prerequisite: R/AC 163.

Refrigeration

2-8

R/AC 162 Air Conditioning Fundamentals I (2-8) 6 hours
This course covers the principles of heating, cooling, filtering and distribution of air and water for human comfort, and basic sheet metal lay-out and use of sheet metal tools. Prerequisite: None.

R/AC 262 Air Conditioning Analysis (2-8) . . . 6 hours
This course is designed to prepare students to be able to rate and select air conditioning equipment, design of distribution systems, design of heating-cooling and integrated systems for both residential and small commercial application. Prerequisite: R/AC 164.

R/AC 163 Basic Control Theory (2-8) 6 hours
This course begins with a review of basic A.C. electricity and electric motors. It progresses to design and function of starters, contractors, relays, capacitors, overloads, and control circuits as applied to the heating and air conditioning industry. Most of the course is shop application. Prerequisite: R/AC 161.

R/AC 263 Dynamics of Air Conditioning Systems (2-8) 6 hours
This is an applied course which will give practical experience on electric motors, starting devices, and special electrical control applications directly related to heating and air conditioning systems. Prerequisite: R/AC 261.

R/AC 164 Air Conditioning Fundamentals II (2-8) 6 hours
This course deals with air duct application, coil designs, heat and fluid flow, absorption (gas), refrigerating units, both theory and application. Prerequisite: R/AC 162.

R/AC 264 Advanced Air Conditioning (2-8) . . 6 hours
This course of study will include advanced psychrometrics, steam heating systems, advanced air handling, central systems, estimating, piping design, and codes and specifications. Prerequisite: R/AC 262.

SOCIAL SCIENCES

The role of the Social Sciences is to present a core of knowledge of the past in order that the student may have a better understanding of the world in which he lives. Emphasis is placed upon the Student's growth in his physical and social environment and upon the importance of his intelligent participation in a functioning democracy.

HISTORY OR GOVERNMENT

Freshman Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engl 131	3	Engl 132	3
Hist 131	3	Hist 132	3
Lang 141	4	Lang 142	4
Math 134	3	Math 132	3
Econ 231	3	Eco 232	3
PE 111	1	PE 112	1
Orientation 111	1		

Sophomore Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
Engl 231	3	Engl 232	3
Hist 231	3	Hist 232	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
Approved Elective*	3	Approved Elective*	3
PE 211	1	PE 212	1

*Recommended Electives: Hist 233, 234, 235

SOCIAL SCIENCES

BIBLE

- Bib 111 Acts of the Apostles (1-0) 1 hour**
This course is a study of the expansion of Christian beliefs, practices, and fellowships from Palestine to outlying parts of the Roman Empire. It includes a personality study of Peter, John, Paul, and other apostles. Prerequisite: None.
- Bib 131 Old Testament History (3-0) 3 hours**
This is an introductory survey of the Old Testament. Emphasis is placed on the historical setting, the types of religious literature, and the religious element underlying the whole. Prerequisite: None.
- Bib 132 New Testament History (3-0) 3 hours**
This introductory survey of the New Testament places emphasis upon the life and teachings of Jesus as found in the Gospels, upon the expansion of early Christianity, with a brief study of Paul's epistles, the general epistles, and Revelation. Prerequisite: None.
- Bib 232 History of the Life of Christ (3-0) 3 hours**
This course is a study of the life of Christ as portrayed by Matthew, Mark, Luke, and John. Prerequisite: None.
- Bib 233 The Life and Letters of Paul (3-0) 3 hours**
This course consists of a study of the life and ministry of the apostle Paul, and an examination of his writings and central ideas. Prerequisite: None.

ECONOMICS

- Eco 231 Principles of Economics (3-0) 3 hours**
This course is designed to provide the student with the fundamental analytic concepts of economic theory and practice. Emphasis is placed on microeconomic theory. Topics include basic theory, price and output determination under varying conditions, and income distribution and factor prices. Prerequisite: None.
- Eco 232 Economic Problems (3-0) 3 hours**
This course attempts to provide the student with the basic analytic concepts relevant to the aggregate economy. Emphasis is placed on macroeconomic theory and practice. Topics included in this course are money and banking, national income and employment, economic growth, public spending, and the international economy. Prerequisite: None.

GOVERNMENT

- Govt 231 State and Federal Government (3-0) 3 hours**
This course considers the development of political thought, the origin and development of the Constitutions of the United States and Texas, federalism, interstate relations, state and local governments, political parties and elections. Prerequisite: None.
- Govt 232 State and Federal Government (3-0) 3 hours**
This course deals with the legislative, executive, and judicial functions of the federal and state governments, the federal bureaucracy, civil rights, foreign policy, and government financing. Prerequisite: None.

HISTORY

- Hist 130 The Introduction to Social Science (3-0) 3 hours**
This course is designed to introduce the student to the basic concepts and methods of history, government, economics, and geography. May not be used to satisfy the legislative requirements in United States History. Prerequisite: by instructor.
- Hist 131 History of Modern Europe to 1815 (3-0) 3 hours**
This course surveys the social, economic, and political developments in Medieval and Modern Europe. Special emphasis is placed on the Renaissance, Protestant Reformation, overseas expansion during the sixteenth and seventeenth centuries, the struggle for parliamentary government in England, the French Revolution, and the Napoleonic period. Prerequisite: None.
- Hist 132 History of Modern Europe Since 1815 (3-0) 3 hours**
This course includes a study of the results of the Napoleonic era, the rise of liberalism and nationalism, the causes and results of World War II, post-war problems and prospective solutions. Prerequisite: None.

SOCIAL SCIENCES

HISTORY

Hist 231 United States History to 1865 (3-0) 3 hours
This course deals with such topics as the European background, the establishment of colonial foundations, the rise of American nationality, the growth and sectional crisis, the Civil War, and Reconstruction. Prerequisite: None.

Hist 232 United States History from 1865 (3-0) 3 hours
This course deals with the growth of big business and the accompanying problems, American imperialism, causes and results of World War I, causes of World War II, and the post-war adjustments and prospective solutions. Prerequisite: None.

Hist 233 History of Texas (3-0) 3 hours
This is a survey course of the history of Texas. Topics stressed include European approach to Texas, Spanish and French rivalry, exploration and control, Anglo-American colonization, relations with Mexico, the Texas Revolution, Texas as a Republic, annexation, statehood, reconstruction and other political and economic developments. Prerequisite: None.

Hist 234 History of the Negro in America (3-0) 3 hours
A brief survey of the role and contributions of Afro-Americans to the development and culture of the United States. Prerequisite: None.

Hist 235 History of the Mexican-American (3-0) 3 hours
A survey of Mexican-Americans in the United States, with emphasis on their role and contribution to the development and culture of the United States. Prerequisite: None.

PHILOSOPHY

Phil 231 Introduction to Philosophy (3-0) 3 hours
This course is an approach to philosophy through the study of cultural movements, and the tracing of ideas as embodied in artistic, literary, and scientific works. Prerequisite: None.

Phil 232 Ethics (3-0) 3 hours
The main classical philosophies of life are studied in this course with consideration of some of the ideas of value involved in the moral, religious, esthetic, and scientific point of view. Prerequisite: None.



WELDING

Welding and cutting is one of the most important methods used in the fabrication and construction of products and structures made of metal. The welding program provides the student with sufficient skill in electric arc and gas welding procedures for entry employment in these occupations. Students completing the degree program will have sufficient background in mathematics, management, English, blueprint reading, and layout to interpret engineers' plans and instructions, and to work as a supporting technician with a minimum of orientation.

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
Engr 131	3	WT 163	6
WT 161	6	WT 164	6
WT 162	6	Math 131	3
Orientation 111	1	*PE 112	1
*PE 111	1		

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
WT 261	6	WT 263	6
WT 262	6	WT 264	6
Mgt 131	3	Govt 232 Approved	
Engl 131	3	Substitute	3

*H. Ed. 131 or PE 132a can be substituted for the two 1-hour physical education courses.
 An Associate in Applied Science Degree will be awarded with the completion of the requirements outlined above.

Suggested Certificate Plan For Welding

First Year

First Semester		Second Semester	
Course No.	S.H.	Course No.	S.H.
WT 161	6	WT 163	6
WT 162	6	WT 164	6

Second Year

Third Semester		Fourth Semester	
Course No.	S.H.	Course No.	S.H.
WT 261	6	WT 263	6
WT 262	6	WT 264	6

WELDING

WT 161 Basic Welding Fundamentals (2-8) 6 hours

This course is a study of the basic principles and practices involving electric arc and acetylene welding. It includes related theory in the field of metallurgy as it applies to welding on some of the common metals. Orientation, safety, operation and machine maintenance are stressed. Prerequisite: None

WT 162 Basic Acetylene Welding (2-8) . . . 6 hours

This course deals with various types of welds in all positions and the setting of oxy-acetylene equipment, cutting, metal preparation, plate and pipe welding. Prerequisite or Corequisite: WT 161

WT 163 Electric Arc Welding (2-8) 6 hours

This course includes welding with major emphasis placed upon the proper execution of all-position V-groove carbon steel plate welding with "open stringer" and "back-up strap." ASME testing standards will be used. Prerequisite or Corequisite: WT 162.

WT 164 Welding Layout and Fabrication (2-8)

. 6 hours

This course places emphasis on the reading of blueprints and constructing various types of the layouts according to specification, and the related theory and practice involved in the fabrication and design of welding structures. Prerequisite or Corequisite: WT 163.

WT 261 Advanced Arc Welding (2-8) . . . 6 hours

Advanced arc welding includes the execution of all types of welds on various types of metals and the study of electrodes used. A continuation of fabrication and layout techniques with major attention devoted to piping, forged fittings, structural principles, job planning, codes and cost factors. Prerequisite or Corequisite: WT 163.

WT 262 Advanced Acetylene Welding (2-8) 6 hours

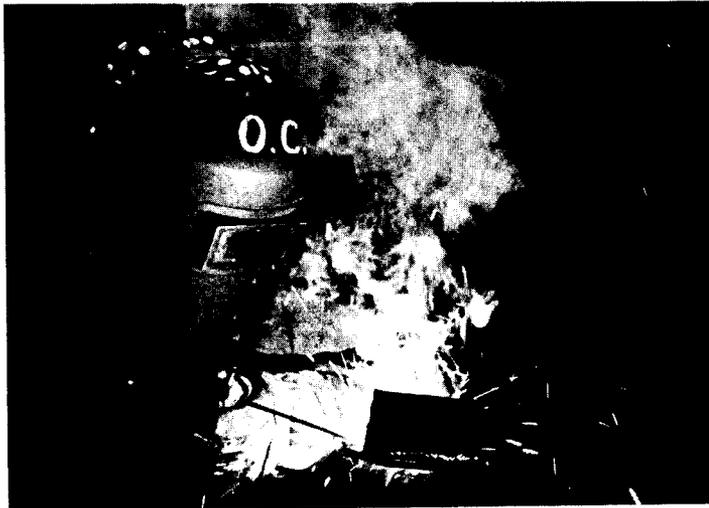
Advanced acetylene welding deals with the application of hard surfacing, torch pressure on various alloys and the study of acetylene regulators and torches. Emphasis is placed upon related mathematics required for job planning and service requirements. Prerequisite or Corequisite: WT 261

WT 263 Metallic Inert Gas Welding (2-8) . 6 hours

This course provides instructions on metallic inert gas welding (MIG) machines, a knowledge of purge gases used, slope control and various types of welding wire used in the field of operations. Prerequisite: or Corequisite: WT 262

WT 264 Carbon arc and Tungsten (TIG) Inert Gas Welding (2-8) 6 hours

This course places emphasis on proper procedure of carbon arc and inert gas welding, carbon arc cutting and welding operations, and Tungsten Inert Gas (TIG) welding in all positions on various types of metals. Care and maintenance of all machines is stressed by using special assignments which require the application of mathematics, print reading, fabrication and layout principles. Prerequisite or Corequisite: WT 263



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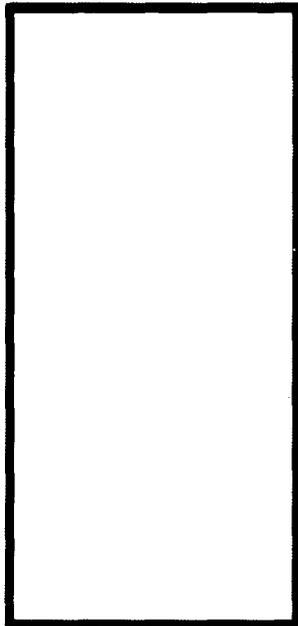
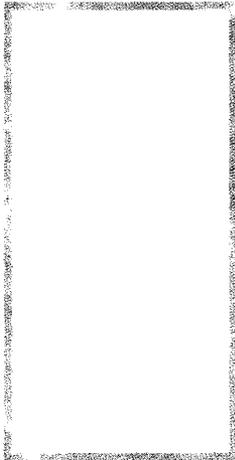
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