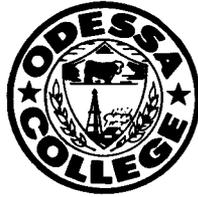


Odessa College

Catalog 1977-78





Odessa College . . . where somebody cares



Odessa College is . . .

a comprehensive community college dedicated to meeting the educational needs of the community. It is responsive to community needs and provides a wide variety of educational services to satisfy those needs . . .

a proven college dedicated to excellence in all of its programs . . .

a student-centered college that keeps the personal touch. Students receive individual attention from highly qualified faculty and staff who are interested in helping them to succeed in their educational development . . .

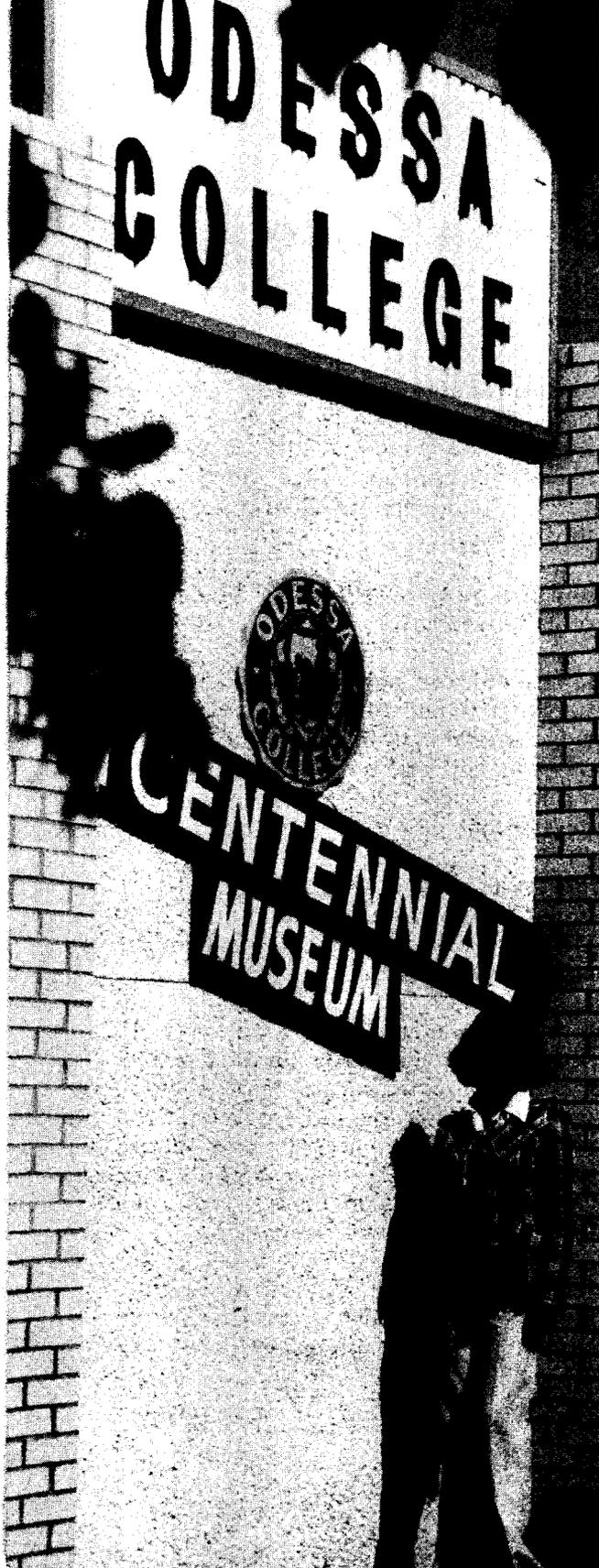
a progressive college constantly alert to innovative educational techniques and technologies — a college committed to constructive change . . .

a multi-faceted college with a wide variety of programs in university parallel areas, technical-vocational studies, developmental courses, personal development studies, and adult and continuing education. This variety assures students that Odessa College can tailor a program specifically to fit their needs . . .

a concerned college where students are important as individuals. It's the place for a student to begin a promising future.

Volume Thirty-One

Spring 1977



Contents

<i>The College</i>	3
<i>Calendar</i>	8
<i>Admissions</i>	12
<i>Financial Information</i>	15
<i>Student Services & Activities</i>	20
<i>Academic Information</i>	25
<i>Programs and Curricula</i>	38
<i>College Organization</i>	176
<i>Index</i>	188
<i>Map</i>	190

Information and regulations printed in this catalog are subject to change. The Board of Trustees and the administrative staff may expend, delete or revise programs, courses, or any other information stated in this catalog.

Odessa College

Odessa College has but one reason for existence — to provide the finest educational opportunities possible for all the people of the Ector County area. The comprehensive community college is dedicated to provide the full spectrum of educational services, limited only by the physical and financial resources that are available.

The open admission policy assures each person who has the desire and capacity to profit from post-secondary education an opportunity to learn. Curricula and educational services are designed to assist people to realize more fully their individual potential and thereby enable them to live richer lives and be-

come more responsible and productive members of our society.

- Odessa College specifically intends:
- to provide the first two years of college and pre-professional programs, preparing students within a field of study for further education;
 - to offer programs in occupational-technical training and provide students with the comprehensive skills and knowledge required in specialized fields;
 - to provide a general educational program for all people, preparing them for more effective involvement in society, as well as providing opportunities for increased personal and cultural enrichment;
 - to provide opportunities for all adults, including non-high school graduates,



- who wish to begin or to continue a college education;
- to offer adults in the community an opportunity to continue their education which will result in upgrading their occupational skills, cultural enlightenment and personal satisfaction;
- to have an educational environment which enables every student an opportunity to maximize his potential through complete student services; and
- to encourage the use of facilities and programs for educational and cultural purposes by the citizens of the community.

History

The history of Odessa College is interwoven with growth and progress. A review of the past reveals a success story of a public institution that has maintained the community college spirit and has grown by serving the people of Ector County and the Permian Basin.

Beginning with 184 students in 1946, Odessa College's enrollment, programs and services have grown steadily through the last 30 years. Through the various programs and services offered by Odessa College, there are now almost 15,000 enrollments during a single school year. Enrollment in the academic credit courses in the fall of 1976 surpassed 3,600 students. During the same semester another 2,700 students were enrolled in adult and continuing education courses. By the time the 1976-77 school year will close and the midwinter session, spring semester, compact semester, and summer sessions end, the total number of enrollments at Odessa College will approximate the 15,000 mark.

Initially housed in temporary quarters in Odessa High School, now the home of Crockett Junior High, Odessa College's first classes were conducted after public school hours in the late afternoons and evenings. The college purchased a five-acre plot on the 2500 block of the Andrews Highway and in 1949 erected Basikin Hall as its first permanent structure.

The size of the campus grew to 15 buildings on a 35-acre plot by 1960. Today the \$21 million campus is spread over 80 acres and includes some 21 buildings that house more than 115 classrooms and laboratories.

Passage of a \$5,315,000 bond issue in May, 1976, permits the college to enlarge its student facilities significantly, to build a spacious 80,000-square-foot instructional building, and to purchase additional equipment. The buildings are scheduled for completion in the spring of 1978.

Odessa College began as a college of the people and for the people who created it. The college has maintained that philosophy and has developed into a comprehensive community college, dedicated to serving the total educational needs of the citizens of the Permian Basin, as a professional partner with the Ector County Independent School District and the University of Texas of the Permian Basin.

Quality education and academic excellence have been hallmarks of Odessa College. As the college has grown, it has sought to attain the highest quality possible in all of its educational programs. More than 20 occupational-technical programs are currently being offered at Odessa College, and additional ones are being planned to meet the needs of citizens who want to learn new career skills or improve existing job performance. Al-

most one-half of the college's students are enrolled in occupational-technical programs. A wide variety of university-parallel courses also is offered for students planning to finish four-year degrees at senior colleges or universities.

Odessa College has the excitement and exuberance of a young college and the quality and experience of a college that has been in existence for three decades. The college is dedicated to the challenge of innovation and dares to try new proven methods that will enhance learning and expand the frontiers of knowledge for its students. It also possesses the stable maturity of an established college that has developed through the wisdom born of experience. It is that experience that has taught Odessa College to constantly probe for constructive change, satisfied with nothing but the best.

Odessa College is a mature college with a youthful spirit. The college is proud of its heritage, but sees its successful past as a challenge for an even greater future.

Location

Odessa College is located in Odessa, Texas, a progressive West Texas city of over 100,000 people located about midway between Fort Worth and El Paso. Odessa is a cultural, recreational, educational, medical, retail and wholesale trading center for a wide region as large as several Eastern seaboard states combined. It lies in the Permian Basin, one of the world's greatest oilfields, and is the home of the nation's largest inland petrochemical complex. Its two hospitals provide a wide variety of medical services for the region. Odessa boasts a daily newspaper, three television stations, six radio stations, and over 150 churches. It is the site of an upper-level university, the

University of Texas of the Permian Basin (UTPB), providing upper level and graduate studies. On the campus of Odessa College is located the Globe Theatre, the most nearly perfect replica of William Shakespeare's Globe Theatre of Elizabethan England. There are hosts of cultural, intellectual and recreational activities available for the citizens of Odessa.

The diversified industrial and economic establishments offer part-time employment opportunities for students who need to earn part or all of their college expenses. There also are a number of part-time jobs on campus for students who qualify. The healthy economy in the area also affords good jobs to students who complete their specified career programs at Odessa College and wish to live in Odessa.

Odessa is a growing, progressive city where people are friendly and heartily support the college and its efforts. Newcomers find Odessa a good place to live and rear a family, as well as an enjoyable place to study and work.

Equal Opportunity

Odessa College is committed to the basic right of all people to have an equal opportunity for education or employment at this institution. Every effort will be made by the Board of Trustees, administration, and the faculty to defend this right and vigorously seek to promote its implementation in all areas of the college.

Odessa College will admit as students any persons who can benefit from the instructional program offered. In addition, it will strive to meet the post-secondary educational needs of its students by the restructuring of new programs, where

such programs will be of benefit to students.

Learning Resources Center

The newly expanded Learning Resources Center is a focal point for the entire college as it assists students and faculty attain their educational goals. Resources and materials in various formats are selected, produced, organized, circulated, and maintained to satisfy curricular requirements, stimulate cultural awareness, and promote study and research.

Some 60,000 books in open stacks, reference books, and reserve materials are available in the LRC. Four hundred current periodicals, newspapers, and pamphlets, numerous college catalogs, clippings, and government documents are maintained to satisfy both educational and recreational needs. Additionally, the LRC houses a variety of mediated programs designed to enhance the instructional curriculum. Fully equipped study carrels encourage student use of recordings, tapes, slides, filmstrips, filmloops, and other types of audio-visual materials.

Research tours and subject seminars, stressing the use of the card catalog, the indexes, and the available reference materials, are conducted by members of the LRC staff. Also, the individual student may always seek personalized assistance from the professional resource personnel who staff the LRC.

Located within the LRC, the Department of Instructional Development works with the faculty and students to design and develop comprehensive instructional strategies and programs. These programs ensure that all Odessa College students are assisted and challenged through relevant learning experiences.

Accreditation

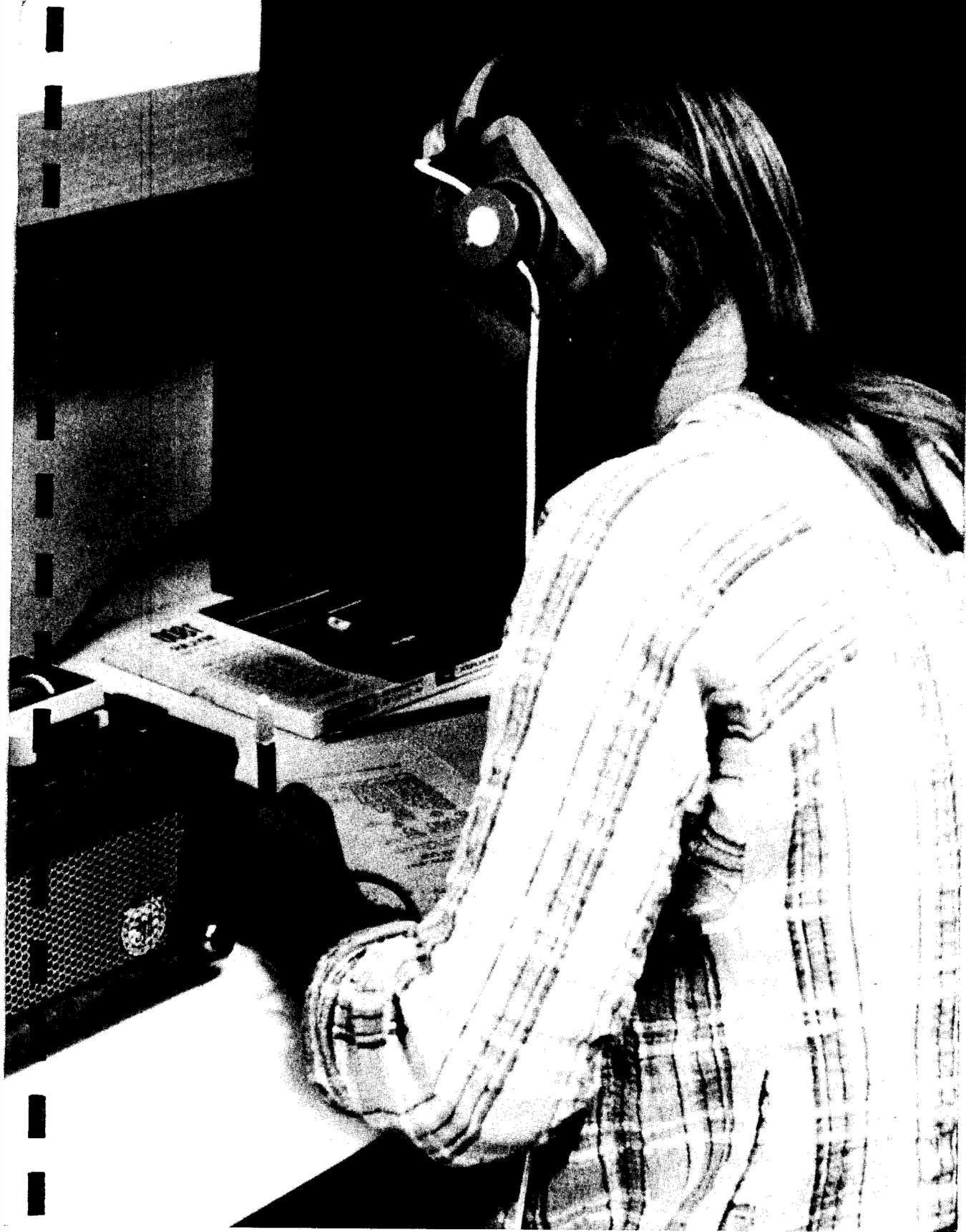
The quality of education at Odessa College is demonstrated by the number of agencies and associations that have given accreditation and membership privileges to the college. The college is approved or accredited by the Texas Education Agency, Southern Association of Colleges and Schools, Coordinating Board of the Texas College and University System, Association of Texas Colleges and Universities, Texas Educational Theatre Association, Southwest Theatre Conference, American Theatre Association, National Association of Schools of Music, National League for Nursing, and Radiologic Technology Association of America.

Odessa College is a member of the 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 Association of Music Schools, Texas Junior College Press Association, Texas Intercollegiate Press Association, and the Texas Association of Schools of Art.

More Information

For information about Odessa College, admission procedures, instructional programs, and counseling services contact the Counseling Center in Baskin Hall in Room 101. The telephone number is 915-337-5381.

For admission to Odessa College, send application and transcripts to the Dean of Admissions and Registrar, Odessa College, P.O. Box 3752, Odessa, Texas 79760.



College Calendar 1977-1978

SUMMER, 1977

First Term

Memorial Day holiday May 30 (Mon)
 Registration May 31 (Tues)
 Classes begin June 1 (Wed)
 Late registration closes June 6 (Mon)
 Last day to withdraw with
 "W" or "WF" June 22 (Wed)
 Independence Day holiday July 4 (Mon)
 Final examinations,
 end of term July 7 (Thurs)

Second Term

Registration July 8 (Fri)
 Classes begin July 11 (Mon)
 Late registration closes July 14 (Thurs)
 Last day to withdraw with
 "W" or "WF" August 1 (Mon)
 Final examinations,
 end of term August 12 (Fri)

FALL, 1977

Registration August 22 (Mon)
 Classes begin August 24 (Wed)
 Last day to register for full
 class load (5 classes or fewer) .. September 1 (Thurs)
 Labor Day holiday September 5 (Mon)
 Last day to register
 (3 classes or fewer) September 9 (Fri)
 Last day to withdraw with
 "W" regardless of grade October 5 (Wed)
 Last day to withdraw with
 "W" or "WF" November 16 (Wed)
 Thanksgiving holidays November 23 (Wed, 5 pm)
 -28 (Mon, 7 am)
 Final examinations December 12-17 (Mon-Sat)
 Christmas holidays,
 offices closed December 19-January 2

MIDWINTER SESSION, 1977-78

Registration, classes begin December 27 (Tues)
 Final examinations,
 end of term January 6 (Fri)

S	M	T	W	T	F	S	
							1977
JUNE							
			1	2	3	4	
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30			
JULY							
				1	2		
3	4	5	6	7	8	9	
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	
31							
AUGUST							
	1	2	3	4	5	6	
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30	31				
SEPTEMBER							
			1	2	3		
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29	30		
OCTOBER							
					1		
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30	31						
NOVEMBER							
			1	2	3	4	5
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30				
DECEMBER							
				1	2	3	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29	30	31	

SPRING, 1978

Offices reopen after
 Christmas holidays January 3 (Tues)
 Registration January 10 (Tues)
 Classes begin January 12 (Thurs)
 Last day to register for full
 class load (5 classes or fewer) January 19 (Thurs)
 Last day to register
 (3 classes or fewer) January 27 (Fri)
 Last day to withdraw with
 "W" regardless of grade February 23 (Thurs)
 Easter March 26 (Sun)
 Spring vacation March 25-31 (Sat-Fri)
 Last day to withdraw with
 "W" or "WF" April 13 (Thurs)
 Final examinations May 8-13 (Mon-Sat)

SUMMER, 1978

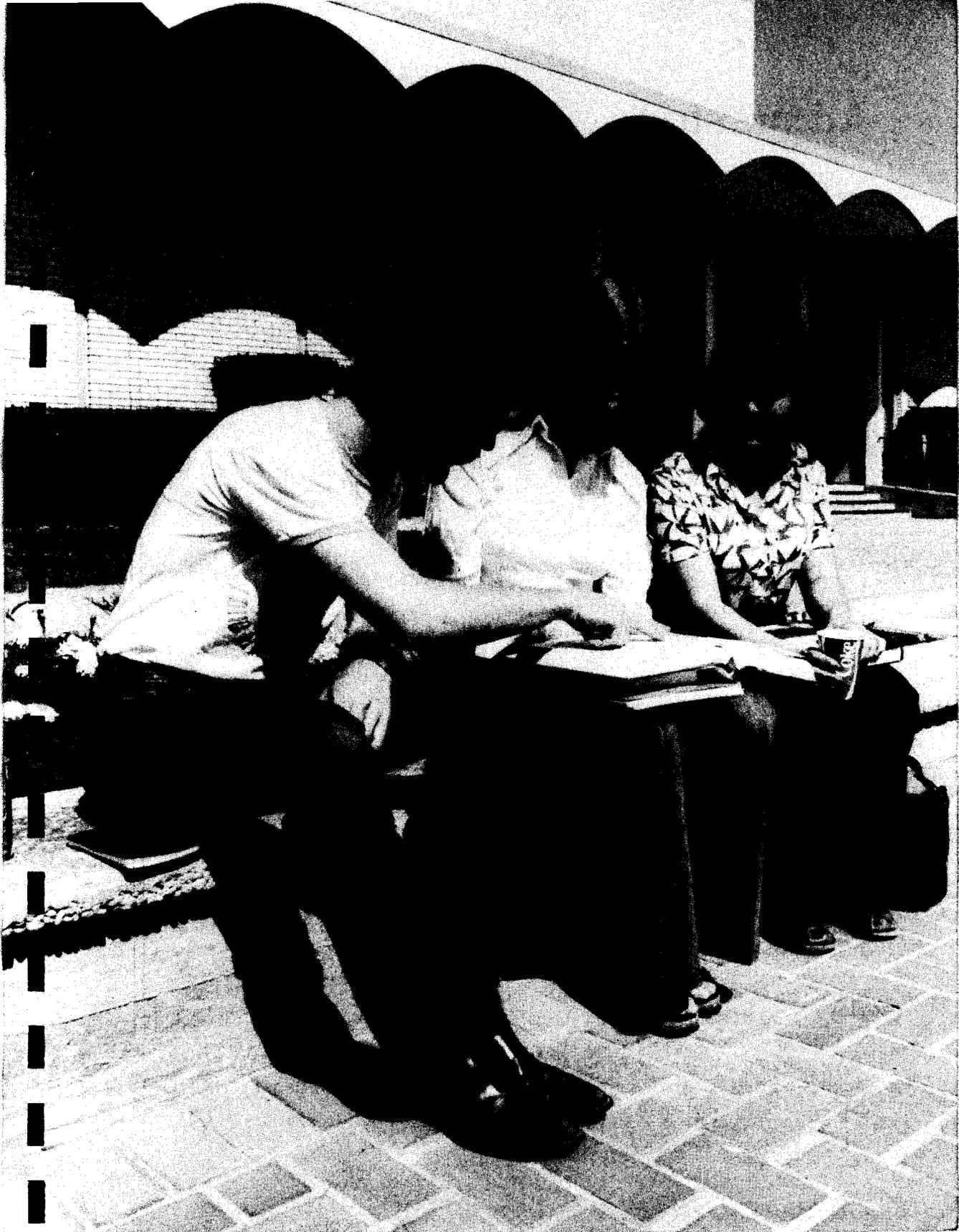
First Term

Memorial Day holiday May 30 (Tues)
 Registration May 31 (Wed)
 Classes begin June 1 (Thurs)
 Late registration closes June 6 (Tues)
 Last day to withdraw with
 "W" or "WF" June 22 (Thurs)
 Independence Day holiday July 4 (Tues)
 Final examinations,
 end of term July 7 (Fri)

Second Term

Registration July 10 (Mon)
 Classes begin July 11 (Tues)
 Late registration closes July 14 (Fri)
 Last day to withdraw with
 "W" or "WF" August 1 (Tues)
 Final examinations,
 end of term August 16 (Wed)

S	M	T	W	T	F	S	
JANUARY							1 9 7 8
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					
FEBRUARY							
			1	2	3	4	
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28					
MARCH							
			1	2	3	4	
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30	31		
APRIL							
						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30							
MAY							
1	2	3	4	5	6		
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30	31				
JUNE							
				1	2	3	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29	30		
JULY							
						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30	31						
AUGUST							
				1	2	3	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29	30	31	



Admissions

Odessa College has an open-door admissions policy, welcoming all adults who want to learn. Any adult, whether a high school graduate or not, who is interested in learning can be admitted to Odessa College.

A Counseling Center is available to all students. Counselors discuss career and educational goals with students so a study plan can be drawn for each individual. The Counseling and Testing Center also makes available various types of tests to help each student determine his aptitudes, interests, scholastic strengths and weaknesses, and other information that is helpful to a student making a career decision.

First-time students at the college are provided the opportunity to attend an orientation lab where counselors help acquaint students with college services and opportunities.

As a community college, Odessa College has students of all ages, from recent high school graduates to senior citizens. Many students are employed as they pursue their education. The college welcomes all students and intends to provide educational services to students of all ages and educational needs. Each student is important and each student finds his place at Odessa College.

Procedure

Students applying for admission should have their academic records sent to the Dean of Admissions and Registrar at Odessa College as early as possible. They should complete an application for admission and a health form. Each student must arrange to take the appropriate

entrance examinations. Students whose records are incomplete at the time of registration may be admitted to Odessa College but necessary records must be furnished before a transcript from OC can be obtained. Those students who have not taken the college entrance examination prior to admission to Odessa College will be required to do so on the next available testing date. Every student seeking admission must furnish the college with proof that he has complied with the Texas Immunization Laws concerning immunization against certain diseases. This includes a tetanus/diphtheria shot taken within the last ten years for every student and polio (oral vaccine) immunization for all under the age of 19 with the last of the four doses taken after age four.

Students may be admitted to Odessa College by any of the following methods:

- By High School Graduation — Graduates of accredited high schools satisfy the minimum requirements for admission. This student must submit an official high school transcript showing the date of graduation and furnish the college with scores from one of the admission tests: SAT, ACT, or SCAT.
- Through Early Admission Program — A high school senior may enroll in a maximum of two courses per semester during the senior year if he is within four units or twelve quarter credits of graduation from high school and has submitted the prescribed documentation signed by his parent or guardian, his high school counselor, and his high school principal.
- By Individual Approval — Any person who is at least 21 years of age may be admitted if, in the opinion of the college, he can benefit from a course of study.

- **By Written Examination** — A person who has not graduated from high school may be admitted if he has passed the General Educational Development Test (GED) and is 18 years of age and has terminated attendance in high school for one or more semesters and does not plan to return to high school. Proof the GED has been passed must be submitted.
- **Re-Entry** — Former students in good standing who have not attended another college since enrollment in Odessa College are eligible for readmission.
- **By Transfer From Another College** — An applicant transferring from another institution is ordinarily eligible for admission if he is eligible for readmission to the institution which he was attending. An official transcript of his college or university record should be submitted prior to registration. Scholastic deficiencies of transfer students will be reviewed by the Dean of Admissions and Registrar and a decision made as to the eligibility of the student for admission on the basis of his academic record at the last college in which he was enrolled. Admission of a student who has attended another college or university will be based on the same procedure as that of any transfer student.

Additional Criteria are required for alien or foreign students. Alien students should have achieved the 50th percentile on the Test of English as a Foreign Language (TOEFL). Alien students should also have on deposit in the U.S. the minimum sum of \$1,500 to cover the cost of tuition, books, and fees for each semester. Each must also present a current visa, passport, and transcripts of



academic records from other schools, colleges, or universities which he has attended. These documents must be official and translated into English. Copies will not be accepted.

Entrance Examinations

Although the college will accept the ACT, SAT, or SCAT for admission, the ACT is strongly recommended. All of these tests are administered on the college campus, and the dates for these tests are announced periodically. Since the results of these examinations are used to help students select correct course levels and for general guidance purposes, all students are advised to take an exam at least six weeks prior to their enrollment.

Preregistration

Preregistration for a semester means that the student, with the help of college counselors and faculty members, will select the proper courses and complete all registration except for payment of fees. Preregistration begins approximately one to two months prior to the time of regular registration. Exact information may be secured from the Counseling Center. Early preregistration will help the student secure the courses he wants.

Auditing

Permission to audit a course may be granted by the Dean of Admissions and Registrar 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.

Class Membership

The only way to become an official member of a class at Odessa College is by following the established procedure for registering and paying tuition and fees. No person is an official student until all registration requirements have been satisfied and all charges have been paid in full. Installment payment of tuition and fees is not permitted.

Administrative Withdrawal

The college reserves the right to withdraw a student from class, if, in the judgment of college officials, such withdrawal is in the best interest of the student or the student body at large.

Veterans' Affairs

Complete approval of Odessa College courses by the Veterans Administration makes possible the training of veterans under the public laws which give them educational benefits. A veterans' counselor at the college assists in any matter pertaining to the relationship of students with the United States Veterans Administration and Odessa College. Each veteran, upon enrollment, should contact the Dean of Admissions and Registrar at Odessa College to obtain certification of enrollment.

Change of Address

If a student changes his residence after registration, he must notify the Counseling Office and the Registrar's Office im-

mediately. 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.

Financial Information

Tuition and Fees

Sem. Hours	DISTRICT RESIDENT		OUT-OF-DISTRICT			OUT-OF-STATE		Nursing Tuition*	Foreign Student Tuition*
	Tuition	General Use Fee	Tuition	Fee	General Use Fee	Tuition	General Use Fee		
1	\$25.00	\$1.75	\$25.00	\$ 6.00	\$ 3.50	\$ 17.00	\$ 3.50	\$20.00	\$200.00
2	25.00	3.50	25.00	6.00	7.00	34.00	7.00	20.00	200.00
3	25.00	5.25	25.00	6.00	10.50	51.00	10.50	20.00	200.00
4	25.00	7.00	25.00	6.00	14.00	68.00	14.00	20.00	200.00
5	25.00	8.75	25.00	6.00	17.50	85.00	17.50	21.00	200.00
6	25.00	10.50	25.00	6.00	21.00	102.00	21.00	25.00	200.00
7	28.00	12.25	28.00	7.00	24.50	119.00	24.50	29.50	200.00
8	32.00	14.00	32.00	8.00	28.00	136.00	28.00	33.50	200.00
9	36.00	15.75	36.00	9.00	31.50	157.00	31.50	37.50	200.00
10	40.00	17.50	40.00	10.00	35.00	170.00	35.00	42.00	200.00
11	44.00	19.25	44.00	10.00	38.50	187.00	38.50	46.00	200.00
12	48.00	21.00	48.00	10.00	42.00	200.00	42.00	50.00	200.00
13	52.00	22.75	52.00	10.00	45.50	200.00	45.50	50.00	200.00
14	56.00	24.50	56.00	10.00	49.00	200.00	49.00	50.00	200.00
15	60.00	26.25	60.00	10.00	52.50	200.00	52.50	50.00	210.00
16	64.00	28.00	64.00	10.00	56.00	200.00	56.00	50.00	224.00
17	68.00	29.75	68.00	10.00	59.50	200.00	59.50	50.00	238.00
18	72.00	31.50	72.00	10.00	63.00	200.00	63.00	50.00	252.00
19	76.00	33.25	76.00	10.00	66.50	200.00	66.50	50.00	266.00
20	80.00	35.00	80.00	10.00	70.00	200.00	70.00	50.00	280.00
21	84.00	36.75	84.00	10.00	73.50	200.00	73.50	50.00	294.00

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.

It is the student's responsibility to register under the correct 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.

*Nursing students are subject to Out-of-District Fee and General Use Fee; foreign students are subject to General Use Fee.

DEPOSITS AND SPECIAL FEES

Course Fees and Deposits

Applied Music (½ hr. full-time student)	5.00	Child Development (Laboratory)	5.00
Applied Music (1 hr. full-time student)	10.00	Clerical Certificate (Monthly)	40.00
Applied Music (½ hr. part-time student)	30.00	Diesel Mechanics	8.00
Applied Music (1 hr. part-time student)	60.00	Earth Science	5.00
Auto Mechanics	8.00	Electricity/Electronics	15.00
Biology	8.00	Electronic Data Processing &	
Building Trades	8.00	Equipment Rental	15.00
Business Machines	8.00	Emergency Medical Technology	8.00
Ceramics	5.00	Foreign Language (141-142)	5.00
Chemistry	8.00	General Deposit (Refundable)	10.00

Geology	5.00
Home Economics Laboratory	5.00
Industrial Instrumentation	8.00
Machine Shop & Equipment Rental	15.00
Machine Shorthand	8.00
Nursing (172)	5.00
Photography	5.00
Physical Education (Per Activity Course)	5.00
Physical Education (Camping)	50.00

Miscellaneous Fees

**Activity Fee, Student	1.00 per sem. hr., max. 12.00
Examination, Advanced Standing	20.00
Examination, Make-up	5.00
Late Registration (first five class days)	2.00
Late Registration (after fifth class day)	5.00
Library Fee	2.00
Schedule Change Fee (per course added) ..	5.00
Testing Fee	2.00
Transcript (first copy free)	1.00
Vehicle Registration	3.00

Refund of Tuition

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

*Student Liability Insurance or proof of comparable coverage is required for students enrolled in Child Development, Radiologic Technology, Respiratory Therapy, Medical Technology, Nursing, and Emergency Medical Technology.

**The Activity Fee is to provide the cost of the college newspaper, magazine, fine arts productions, athletic events and other student activities.

Extension Courses — Students enrolled in extension classes will be charged an additional fee, depending upon the course and the center in which the class is held. Students should check with the business office for this information.

Financial Aid

At Odessa College, the student development office stresses that no student should be discouraged from enrolling because of financial problems. The college has a strong financial aid program that includes loans, grants, scholarships, and a work-study program. During the 1976-77 school year the college administered more than one-half million dollars in financial aid to its students. Every student with financial need is encouraged to apply for financial aid at Odessa College.

Physics	5.00
Radio Broadcasting Laboratory	8.00
Reading	5.00
Refrigeration and Air Conditioning	15.00
Sculpture	5.00
*Student Liability Insurance	8.50
Television Laboratory	8.00
Typewriting	8.00
Welding and Equipment Rental	65.00

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 in a long semester, 20 per cent of the tuition charged;
3. After the second week of classes in a long semester, no refunds of tuition charged;
4. Refunds are applicable to Fall and Spring Semesters only;
5. A fee of \$10.00 will be charged students who have paid but completely withdrawn prior to first class day;
6. Refunds of 100 per cent when classes are cancelled.

Upon request to the Counseling Center, a check covering all eligible refunds will be mailed to the address left by the student.

Students who excel with special abilities and skills also often are eligible for scholarships. The financial aid program at Odessa College is an integral part of student development and is emphasized as a service to students.

Scholarships and grants, part-time work on campus, and loans provide financial coverage to many students attending Odessa College. The ACT Family Financial Statement is required to establish eligibility for need-based programs. These forms are available in high school

counselors' offices and in the Odessa College Financial Aid Office, Baskin Hall 106.

Frequently students receive awards from more than one of the aid programs described below in order to meet the college budget.

The Basic Educational Opportunity Grant (BEOG) is a large grant made directly to students by the federal government. Awards at Odessa College range from \$200 to approximately \$1,000. All undergraduate students are eligible to apply, and should do so before seeking other aid. Application forms become available in February and can be obtained at high school counselors' offices and at the Odessa College Financial Aid Office.

Eligibility can be maintained for a total of eight semesters by applying annually.

The Supplementary Educational Opportunity Grant (SEOG) is awarded to students whose need is exceptionally large. The SEOG supplements other aid received by the student and is granted after application and personal consultation. Supplementary Educational Grants vary from \$200 to \$1,500 depending on the student's need.

The College Work-Study Program provides on-campus employment for students who can establish eligibility. Wages meet and sometimes exceed the minimum wage requirements. Students may work for a maximum of twenty hours per week. Applications are accepted



throughout the year for work-study positions.

The Nursing Student Scholarship and Loan Programs are administered at Odessa College for nursing students who must have financial support to attend college. Scholarships are granted for school-related needs; loans cannot exceed \$2,500 annually and can be partially canceled by full-time employment after graduation.

The Law Enforcement Education Program (LEEP) is awarded to men and women who are employed full-time in law enforcement or criminal justice careers. The grant provides direct costs of attendance — tuition and fees, and usually books. Applications for the program can be obtained in the Financial Aid Office or from Dr. Oliver Nordmarken, Director of LEEP at Odessa College.

Federally Insured Loans are sometimes available to students from their local banks or credit unions. If a student can provide a lender, Odessa College will assist the student in completing his application and will disburse the warrant when requested by the lender.

The Texas Public Education Grant (TPEG) is awarded for tuition and other school-related costs. Students whose ACT reveals a need may apply for this grant.

The Texas Public Education-State Student Incentive Grant (TPE-SSIG) is for exceptionally needy students who, without this grant, would very likely be unable to attend college. The award is made annually or by semesters to students upon determination of need.

The Hinson-Hazlewood College Student Loan Program (HHCSLP) is a long-term

loan program which allows students to borrow a maximum of \$1,500 per year and is repayable after completion of school attendance.

Valedictorians are awarded tuition scholarships if application is made the first semester after high school graduation.

Academic Scholarships are awarded for past academic performance. They cover the cost of tuition.

Tuition Grants are awarded primarily for excellence in the field in which they are given. Students should apply directly to the instructor in charge of the activity for grants in the following areas: Basketball, Golf, Gymnastics, Tennis, Track, Senioritas De Las Rosas, Journalism, Art, Drama, Music, and Speech.

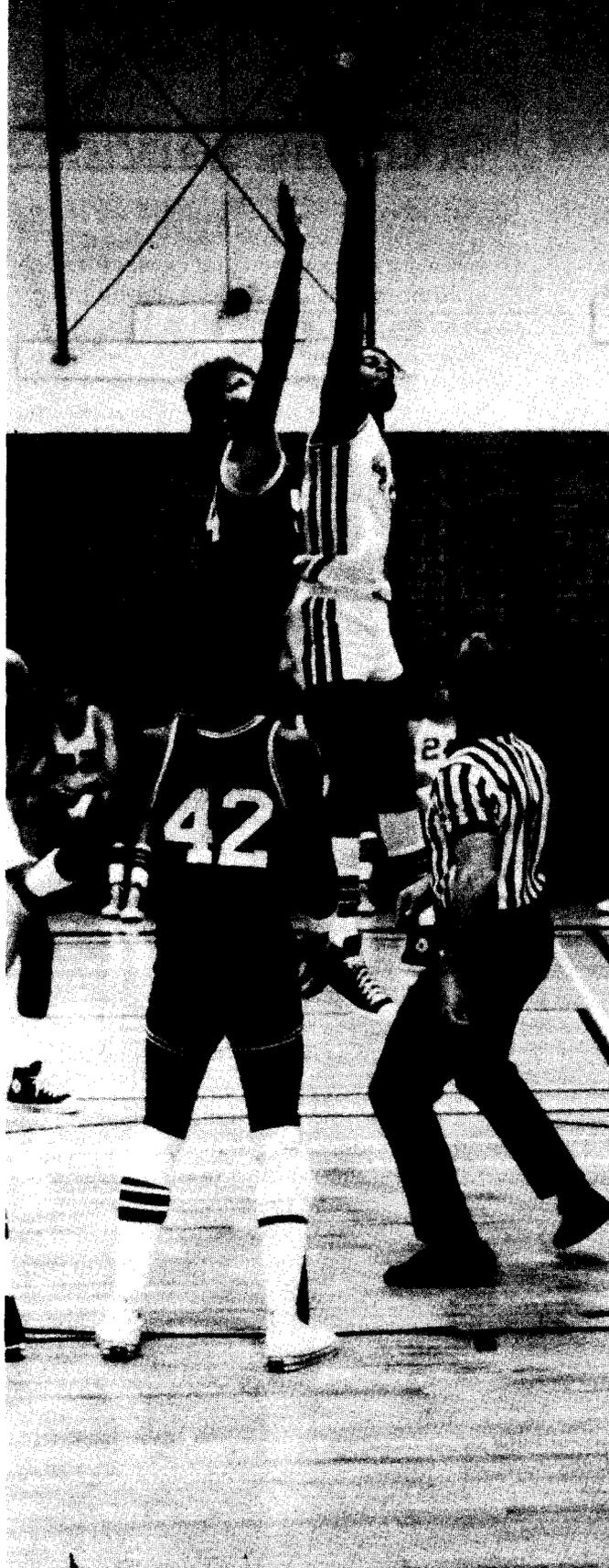
Many organizations and individuals provide scholarships for students wishing to attend Odessa College. These vary in size, frequently covering tuition, fees, and books.

Deadlines for applying for scholarships are July 15 for the Fall Semester and November 15 for the Spring Semester.

A limited number of scholarships are available for summer and short-term sessions. Early application is necessary. Applications for financial aid at Odessa College may be obtained by visiting or writing: Director of Financial Aid, Room 106, Baskin Hall, Odessa College, P. O. Box 3752, Odessa, Texas 79760.

Vocational Rehabilitation — The Texas Rehabilitation Commission offers assistance for tuition and non-refundable fees to students who have certain disabling conditions. Application should be made at the Texas Rehabilitation Commission,

Odessa District Office, First National
Bank Building, Suite 414, Odessa, Texas
79760.



Student Services and Activities

Odessa College encourages the growth and awareness of self and others through a comprehensive student development program. The college tries to create a climate that will allow every student an opportunity to enhance his perception of himself and his worth, while increasing his ability to cope within a changing society. The college hopes to provide every student an opportunity to examine thoroughly his potential and to offer opportunities for realizing that potential through the learning experiences of the college.

Counseling

The purpose of counseling at Odessa College is to help students gain self-direction and to become more capable of creative and effective living. Counselors assist students toward achieving greater self-awareness by offering them the following:

- Aptitude, interest, and personality testing for self-assessment;
- Intensive self-examination and career exploration;
- Personal development classes which help students to set goals, to gain self-understanding, and to clarify personal and career values;
- Counseling to resolve personal and social problems that interfere with success at Odessa College;
- Counseling regarding the student's course of study at Odessa College;
- Information about transferring to other colleges and universities; and

Recommendations regarding educational plans which will insure development of basic life skills.

The Counseling Center is located in Room 101 of Baskin Hall. During the regular semester, it is open from 8 A.M. to 5 P.M. daily; it is also open on selected evenings. Students may either call for an appointment or come by during any of the scheduled hours.

Housing and Food

Limited dormitory facilities are available on or near the Odessa College campus. Students desiring housing on campus should apply well in advance of the registration date. The Dean of Student Development keeps a file on available housing.

The college cafeteria and a snack bar are located in the Student Union Building and are open five days per week. A number of restaurants are located near the campus for the convenience of Odessa College students.

Student Life

An active student life program is encouraged at Odessa College and the impact reaches almost every student.

The college believes that classroom learning is only part of a student's education. Almost every student feels some need to learn more about himself. The opportunity for a student to grow as an individual is made possible through social and personal experiences, as well as classroom situations. Student activities are considered integral parts of the total

educational concept at Odessa College. Student activities range from fine arts events to dances and athletic contests.

The interactions of students with each other and with faculty on an informal basis can provide insights and understanding for a student about society and can enrich the quality of his life. An organized program of related activities is provided under the guidance of a director of student activities, who works closely with the Student Congress. These activities vary from intellectually oriented, cultural events to social activities.

A Student Handbook is prepared annually to help explain the many opportunities available to students at the college. Detailed descriptions and explanations of individual organizations and various activities are outlined in the Student Handbook.

Student Activities

Opportunities for students to participate in student activities include:

Clubs and Organizations — More than 20 clubs and organizations and interest groups are active on campus. Some are award-winning clubs that bring home state and national honors. A variety of clubs is available so each student may select an organization to meet his individual interest.

Student Congress

The Student Congress at Odessa College is the voice of the students concerning issues and projects for their welfare on campus. Each student who enrolls at Odessa College should feel responsible for the election of the ten representatives and three officers of the Student Congress. Each student should also use the Student Congress to voice his opinions

about the operation of the college based on his individual needs. Meetings of the Student Congress are open to all students who wish to observe. Student Congress plays an important role in influencing the directions of the college on many issues and sponsors many projects for the welfare of the student body each year.

Student Activities — A full-time director of student activities works with students in coordinating and planning social, cultural, and intellectual events for students. The office operates as part of the student development team and plans activities that will promote the personal development of each student.

Student clubs and organizations are advised by the Student Activities Office.

The Student Activities Office is concerned with the interactions of students with each other and with faculty on an informal basis. An organized program of related activities is provided to help each student gain insights and understanding about himself, his society, and the quality of his life.

Inter-Club Council

All recognized student clubs are members of the Inter-Club Council. Each club must have at least one representative at each ICC meeting. Regular meetings will be scheduled bi-monthly and other meetings may be called as needed. The Office of Student Activities serves as the advisor of the Inter-Club Council.

Student Activities Program Council

Any student enrolled in Odessa College may elect to join the program council. This student group advises and assists the Student Activities Staff in planning and implementing a wide range of student programs and activities. Contact the

Student Activities Office for more information.

Student Publications — The college has a student newspaper, "The Round-up," and a student magazine, "The Scene Today." The publications are written and edited by students in the journalism and photography classes. A faculty sponsor aids the students in production of the publications. The student publications not only provide learning opportunities for mass communications students, but also serve as media through which students can express their creativity, ideas, opinions, and philosophies.

Student Theatre — An active drama program at Odessa College allows students to stage several productions each school year in the college theatre. The theatrical productions are open to the public and afford learning situations for students, while providing community entertainment.

Forensics — Odessa College forensics teams are nationally recognized. During the past six years, the forensics teams have placed among the top ten in national tournaments, which have included not only teams from community colleges, but from senior colleges and universities as well.

Senoritas de las Rosas — This outstanding drill team has brought recognition not only to Odessa College, but to the City of Odessa and the Permian Basin. The drill team is composed of coeds who perform various routines and drills in parades and special performances. The trademark of the group is an eight-foot bullwhip, which Senoritas learn to pop while marching in high style. The group also performs with flags, hats, and other specialty items. The Senoritas have per-

formed across the Southwest, entertaining dignitaries and large audiences, and have been on nationwide television.

Choir and Band — Odessa College's A Cappella Choir and Madrigal Singers are well-known throughout the state for their musical abilities. The college also has an active band, "The Jazz-Rock Ensemble," that performs regularly at many events.

Campus Radio Station — The college-owned and operated FM radio station, KOCV, is an educational non-commercial station. The radio station is operated by students, under the direction of a faculty member.

Intramurals — The college has an active intramural program, coordinated by an intramurals director. A wide variety of intramurals is planned and hundreds of students participate every school year. Activities include ping-pong, foosball, flag football, bowling, tennis, weightlifting, basketball, track, and others.

Art Shows — In conjunction with the art department, students have the opportunity to display their art work each year through student art shows.

Athletics

Odessa College has earned a national reputation for its outstanding athletic program. More than 100 of the college's athletes have won National Junior College All-American honors in gymnastics, golf, tennis, track, and baseball.

Currently the athletic program includes teams in gymnastics, men's and women's tennis, golf, track, and men's and women's basketball.

The Wranglers are members of the National Junior College Athletic Association

and the Western Junior College Athletic Conference. Each sport has a full schedule, and some of the athletic teams at the college compete in national tournaments every school year.

Some of the honors and titles won by Odessa College athletic teams include:

Golf— The first National Junior College Golf Championship ever conducted was hosted by Odessa College in 1961. Odessa College won the national title in 1959, 1960, 1961, 1962, 1963 and 1965. The Wranglers have captured the Western Junior College Athletic Conference title 11 of the last 14 years. OC has had 18 All Americans in golf.

Gymnastics — Since being organized in 1965, the Odessa College gymnastics team has won the National Junior College title six consecutive times. Some 65 Odessa College gymnasts have been named National Junior College All Americans since 1969, and the Wranglers have won 187 of the 199 meets in which they've participated. Two former Odessa College gymnasts have been selected to be members of international teams. In 1975 the Odessa College gymnastics coach was chosen to coach the United States gymnastics squad for the European Championship tour in Russia.

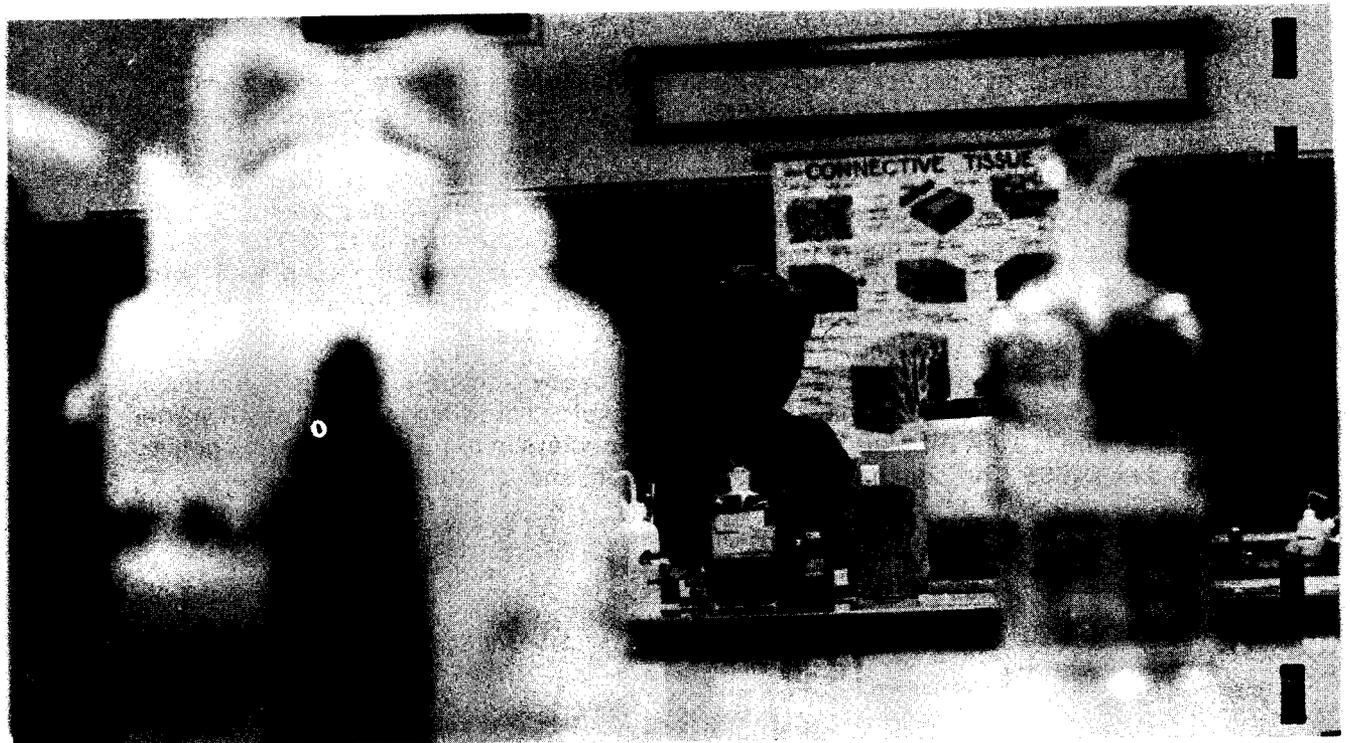
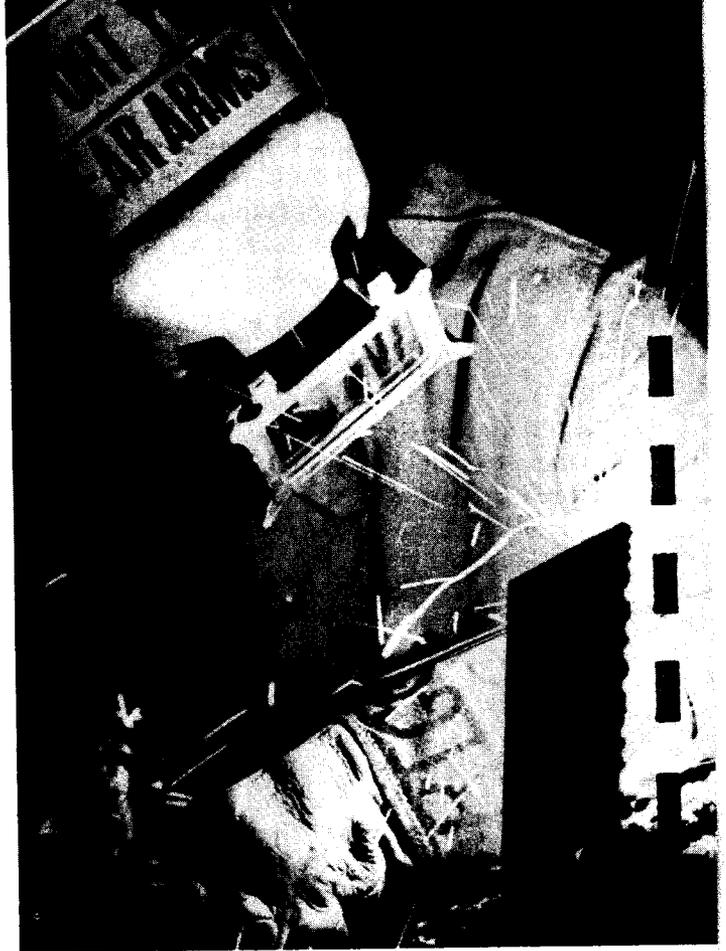
Track — Ten team championships have been won by the tracksters the past six years. In 1971, the Odessa College track team placed second at the National Junior College Championships and won third in 1975. Twenty-five members of the Odessa College track team have been named to the NJCAA All-American track team since 1965. The coach is a former

world record holder in the 440 and 880 relay and was representative of the United States team in Moscow in 1958.

Tennis — Odessa College tennis teams have consistently won titles in both junior and senior college competition. Some 17 members of the Odessa College tennis teams have been named as All Americans. Titles won by Wranglers include the Women's National Singles Championship and Team Championship in 1967, the National Women's Team Runner-up in 1968, the National Women's Doubles and Team Championship in 1970, the Women's National Team Runner-up in 1972, the Men's National Doubles and Team Championship in 1968, the Men's National Doubles Championship and Team Runner-up in 1969, Men's National Doubles and Team Runner-up in 1974, the Women's National Junior College Team Runner-up in 1975, and Men's National Team, Singles, and Doubles Championships in 1975 and 1976. The Odessa College tennis coach was named the NJCAA "Coach of the Year" in both 1975 and 1976.

Basketball — The Wranglers have had an active basketball program since 1952. The cagers were runners-up in the Region V Tournament in 1958, and co-champions in the Western Junior College Athletic Conference in 1970. The Odessa College basketball team has played in the National Regional Tournament 21 of the last 26 years.

Odessa College instituted a women's basketball program in the fall of 1976. The team plays in regular conference competition, and is a member of NJCAA.



Academic Information

The primary goal at Odessa College is for every student to receive the best education possible. Whether the student intends to transfer to another institution after the completion of his studies at Odessa College or whether he intends to put his learning to immediate use in the world of work, the student is assured that he will obtain quality education at Odessa College. He will receive an education that will be meaningful in all areas of his life.

Academic excellence is the focal point of the college's educational programs. Odessa College has gained national recognition for its quality instruction and outstanding faculty. Students transferring from Odessa College to other institutions build a solid foundation for their educational pursuits and frequently do as well or better than those who went to senior colleges or universities from the freshman year.

Odessa College students who have completed occupational-technical programs also have exhibited outstanding proficiency with on-the-job skills. The college works closely with advisory committees from business and industry to assure that students in occupational-technical programs learn the exact skills they will need on the job. As a result, students who complete these programs obtain a practical education combined with professional training in their respective skill.

The academic programs are reinforced by strong support services. A new Learning Resources Center, which houses the library, learning center and instructional media center, provides rich, supplemental opportunities to classroom instruction. Some faculty also use the learning center and instructional media program to enrich the students learning. A variety of proven teaching methods is utilized.

Each student's academic needs are considered important at Odessa College. Programs are planned for students who need basic instruction to raise their proficiency in a subject area, as well as for students who excel. The college has such unique facilities as the Writing and Reading Laboratories, an Open Chemistry Laboratory, and an Audio-Tutorial Biology Laboratory. Personal development courses also are available. Another important factor is a concerned faculty who want to help students succeed.

Odessa College believes there should be no compromise with quality instruction and academic excellence.

Course Load

The normal course load that a fulltime student may carry during a regular semester will vary with the courses in which he is enrolled. A student is classified as a full-time student when enrolled in twelve or more semester hours, but students will normally enroll in fifteen to

eighteen hours each semester as outlined in their course of study. Students are not permitted to take more than five courses of three or more semester hours during a semester without written approval from the Dean of Admissions and Registrar.

A normal load during each 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 Midwinter Session one course may be taken for the normal amount of credit derived during a regular semester.

The maximum course load for a student enrolled in evening classes depends on the individual circumstances and ability of the student. The normal load for an evening 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 are employed 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 should plan on investing nine hours of his time for each three-semester-hour course in which he enrolls. Students are encouraged to consult a college counselor to determine the best program possible.

Student Classification

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

Students are classified as full-time if enrolled in 12 or more semester hours, and part-time if enrolled in fewer than 12 semester hours.

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 the final course examination or project.

Grade Equated	Grade Points Per Semester Hour
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 twelve weeks ..	0
WF Withdrawal while failing during seventh through twelfth week ..	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, and to offer any assistance which the college and faculty and staff of the college can give the 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 grades of "W" and "WF" are 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

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 fewer than nine semester 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 fewer than nine hours will remain on pro-

bation until they satisfy the conditions of rule 3 above.

5. In order to be removed from scholastic probation, students who were originally enrolled in fewer 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 courses (either 3-hour or 4-hour courses), or who earn three grades of "C" in 3-hour 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 Admissions and Registrar 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 sixth week. A "W" also will be given if a student withdraws before the end of the twelfth week and is passing.

9. After the twelfth 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 Admissions and Registrar 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 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". Students receiving an incomplete grade during the summer session will have until the end of the fall semester to remove the grade.

Withdrawal

An official withdrawal from the college takes place when the student withdraws through the Counseling Center. In such cases the grade received in the course will be a "W" if the withdrawal takes place before the seventh week, a "W" or "WF", as indicated by the instructor, between the seventh and the twelfth week. After the twelfth week, the grade given for withdrawal will be "F".

If such withdrawal is after the close of the registration period, the signature of the instructor also should be obtained.

Class Attendance

Students are expected to regularly attend all classes in which they are enrolled. Class attendance is the responsibility of the student. It is also the responsibility of the student to consult with his instructors when he is absent from a class.

Instructors will keep records of absences and when, in the opinion of the instructor, a student is excessively absent, notification will be made to the Counseling Center of the dates and number of absences. The Counseling Center 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 Director of Counseling 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 Director of Counseling that the student be withdrawn from the class with a failing grade. The Director of Counseling notifies the student in writing whenever the student is withdrawn from a class under the above circumstances.

Schedule Changes

After the official registration date, students may change their schedule only by completing proper forms in the Office of Dean of Admissions and Registrar.

Advanced Standing and Credit By Examination

Odessa College will accept up to fifteen hours of advanced standing credit awarded by either the College-Level Program (CLEP) Subject Examinations or by approved Odessa College departmental examinations.

Odessa College is an Open Testing Center for CLEP and will administer these examinations to anyone making application, subject only to those restrictions established by the Educational Testing Service and the College Entrance Examination Board. Departmental examinations are administered in those areas in which CLEP examinations are unavailable.

Specific information on advanced standing applications for testing may be obtained in the Counseling Center in Baskin Hall.

The examinee should check with the senior institution of his choice concerning the acceptance of credit earned by advanced standing examinations. Transcripts will record credit that is given by examination but will not list a specific grade. Hours earned by examination will not be included in computing grade point average, scholastic hours, residence requirements for graduation, or credit load requirements for Texas Opportunity Plan, Social Security, or veterans' benefits.

Early Admissions Program

The Early Admissions Program enables high school seniors 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 or twelve quarter credits 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 at Odessa College.

A student 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 and furnishes the college with a high school transcript affirming that he has graduated. At that time all credit earned will be placed on his college permanent record.

Letters from most Texas colleges and universities accepting transfer credit of courses completed under the Early Admissions Program have been received by the Director of Counseling. Participating students also have 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 Odessa College Counseling Center or through participating high school counselors.

Honors

A student who is enrolled in twelve hours or more during the semester and



makes a grade of "A" in all courses is listed on the college's Summa Cum Laude Honor Roll. A full-time student who makes no grade lower than "B" is listed on the college's Cum Laude Honor Roll.

Part-time and Summer Session students enrolled in two courses for a total of six semester hours or more and make a grade of "A" in all courses are listed on the Part-time Student or Summer Session Summa Cum Laude Honor Roll. Part-time and Summer Session students enrolled in two or more courses totaling six semester hours or more with no grade lower than "B" will be listed on the Part-time Student or the Summer Session Cum Laude Honor Roll.

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 uni-

versity 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 for all subsequent records.

Transfer of Credit

The counselors and advisors at Odessa College should be contacted before registration in order to provide maximum 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 grades of "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.

When entering Odessa College, or before if possible, the student should select the senior institution to which he desires to transfer after leaving OC. He should become familiar with the transfer requirements and then design a suitable course of study at Odessa College. Odessa College counselors will assist students.

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 semester credit 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 or community colleges.

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

Technical and Vocational Occupational Program

Odessa College offers a wide variety of technical-occupational programs designed to enable a student to enter his chosen career field as a skilled employee after one or two years of college work.

These programs are established only after studies verify that employment opportunities will exist at the time the student completes his training. The community's manpower requirements are matched with the ambitions and goals of the student.

This realistic approach to occupational education is made possible by the excellent cooperation of local industry, business and public agencies which more and more are looking to the community colleges for skilled personnel.

Continuous liaison is maintained with prospective employers to assist in placement of graduates and to keep the training programs up-to-date with the current job requirements. Skills needed on the job are taught in these classes, by occupational-technical faculty who have many years working experience, as well as academic training.

Recommendations for adding new programs to the college offerings will be made periodically based on community studies which identify additional training needs that can be met by Odessa College.

Technical and vocational occupational courses carry college credit leading to an Associate in Applied Sciences Degree, and Certificate of Completion, or a Certificate of Technology.

Evening Classes

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

Students may complete requirements for an associate degree or certificate plan in most programs during evening hours, although the length of time to complete

the programs may be longer than suggested for full-time day students.

Summer Session

The summer session consists of two terms of five to 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-week 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 Counseling Center of Odessa College.

Adult and Continuing Education

OC offers a wide variety of community interest and short-term, non-credit courses for those who want 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 of public interest can 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 community service courses may be obtained from the Associate Dean of Adult and Continuing Education.

Midwinter Session

Odessa College offers a special short-term session to accommodate students

who want to complete a course during the interim period between the regularly scheduled semesters. A nine or 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 two or three-semester-hour course during this special session.

Compact Semester

Odessa College has designed a special session for high school students who are attending schools that are on the quarter system. A student who completes his high school studies during the second quarter may enroll in the Compact Semester in March and may complete as many as ten semester hours by the end of the regular Spring Semester. Classes are held daily to permit the abbreviated time schedule.

The Compact Semester is also available to regular college students who want to augment their schedule, to high school students who become eligible for early admission, and to adults who want to enroll in college courses. Veterans enrolled in the Compact Semester are eligible to apply for V.A. educational benefits and should check with the Veterans Office for information. A limited number of scholarships and loans is also available through the Odessa College Financial Aid Office.

Adult Basic Education

Classes are offered to adults who have not completed their high school education. The classes range from level one instruction, during which adults learn to read and write, to classes that prepare adults to successfully complete the state-administered GED test. The classes are free and books are furnished. During



the 1975-76 school year, enrollment in the adult basic education classes sponsored by Odessa College was more than 2,200 students. During the same school year, the Odessa College adult basic education

program was recognized as the fastest-growing program of its type in the state.

The five major subjects are math, English, social studies, natural science and literature. Morning, afternoon and evening classes are offered in numerous locations in Odessa, as well as on the Odessa College campus.

Odessa College also sponsors adult basic education classes in other counties including Andrews, Brewster, Crane, Culberson, Ector, Jeff Davis, Loving, Pecos, Presidio, Reeves, Terrell, Upton, Ward and Winkler.

Literacy classes, English as a second language and junior high level studies are available. Classes have open registration, self-paced and individualized instruction.

High school graduates who have a deficiency in any of the five major areas may apply at the adult basic education office for admission to one of the classes. Standardized tests will be administered and if the student functions at less than a twelfth grade level, free admission to the class is allowed for remedial work.

For more information on class locations and times call the Director of Adult Basic Education, at Odessa College, 915-337-5381, Ext. 300.

Extension Centers

Odessa College offers many of its regular classes at extension centers located in Pecos, Monahans, Andrews, Kermit and McCamey. Registration is conducted in each city during the week prior to registration on campus. The exact time and date for each registration is carried through local news media. Information about Extension Centers can be obtained in the office of the Dean of Student Development.

Degree Requirements

Associate in Arts Degree

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

English	2 years
Foreign Language or Mathematics, or Science	1 year
Freshman Orientation	Orientation 111
Government	Govt 231 and 232
History	Hist 231 and 232 (Hist 233 may be substituted for either course)
Physical Education*	Four one-hour activity classes (except for approved substitutions)
Sophomore hours	18 or more, 12 of which must be taken at Odessa College

A minimum of 63 semester hours.

A minimum average of "C" in all work.

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

Discharge of all financial obligations to Odessa College.

Associate In Science Degree

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

English	2 years
Freshman Orientation	Orientation 111
Government	Hist 231 and 232 (Hist 233 may be substituted for either course)
Mathematics	1 year
Physical Education*	Four one-hour activity classes (except for approved substitutions)
Science	A minimum of 12 semester hours
Sophomore hours	18 or more, 12 of which must be taken at Odessa College

A minimum of 63 semester hours.

A minimum average of "C" in all work.

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

Associate In Fine Arts Degree

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

English	2 years
Freshman Orientation	Orientation 111
Government	Govt 231 and 232
History	History 231 and 232 (Hist 233 may be substituted for either course)
Physical Education*	Two one-hour activity classes (except for approved substitutions)

Completion of an interdisciplinary core including 3 semester hours in Humanities 131, Introduction to the Fine Arts, and 9 semester hours selected from the following courses:

Dr 131	Introduction to the Theatre
Phot 133	Basic Photography
Art 130	Art Appreciation
Music 131	Music Appreciation
PE 111j and/or 112j and/or 211j	Modern Dance
R/TV 131	Survey of Radio and Television

Completion of 18 semester hours in one of the following fine arts fields; Dance; Music; Photography; Radio/TV; Theatre; Art.

Completion of 6 semester hours from the following: Anth 232; Relg 131 or Relg 133; Soc 231; Phil 231; Psy 231.

A minimum of 63 semester hours.

A minimum average of "C" in all work.

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

Discharge of all financial obligations to Odessa College.

Associate In Applied Science Degree

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

English and Speech	6 semester hours as specified in each program
Freshman Orientation	Orientation 111
Government	As specified in each program
Mathematics	As specified in each program
Physical Education*	2 one-hour activity classes (except for approved substitutions)
Science	As specified in each program
Sophomore hours	18 semester hours or more, 12 of which must be taken at Odessa College

A minimum of 63 semester hours.

The course of study as prescribed in the specified program.

A minimum average of "C" in all work.

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

Discharge all financial obligations to Odessa College.

***Veterans who have two years active service credit may satisfy the PE requirement by submitting a copy of DD-Form 214 to the Registrar's Office.**

Certificate of Completion

To qualify for the Certificate of Completion, the student must complete the following:

One year of English.

Orientation 111.

Two one-hour activity classes of physical education except for approved substitutions.

Eighteen or more sophomore hours.

A minimum of 63 semester hours.

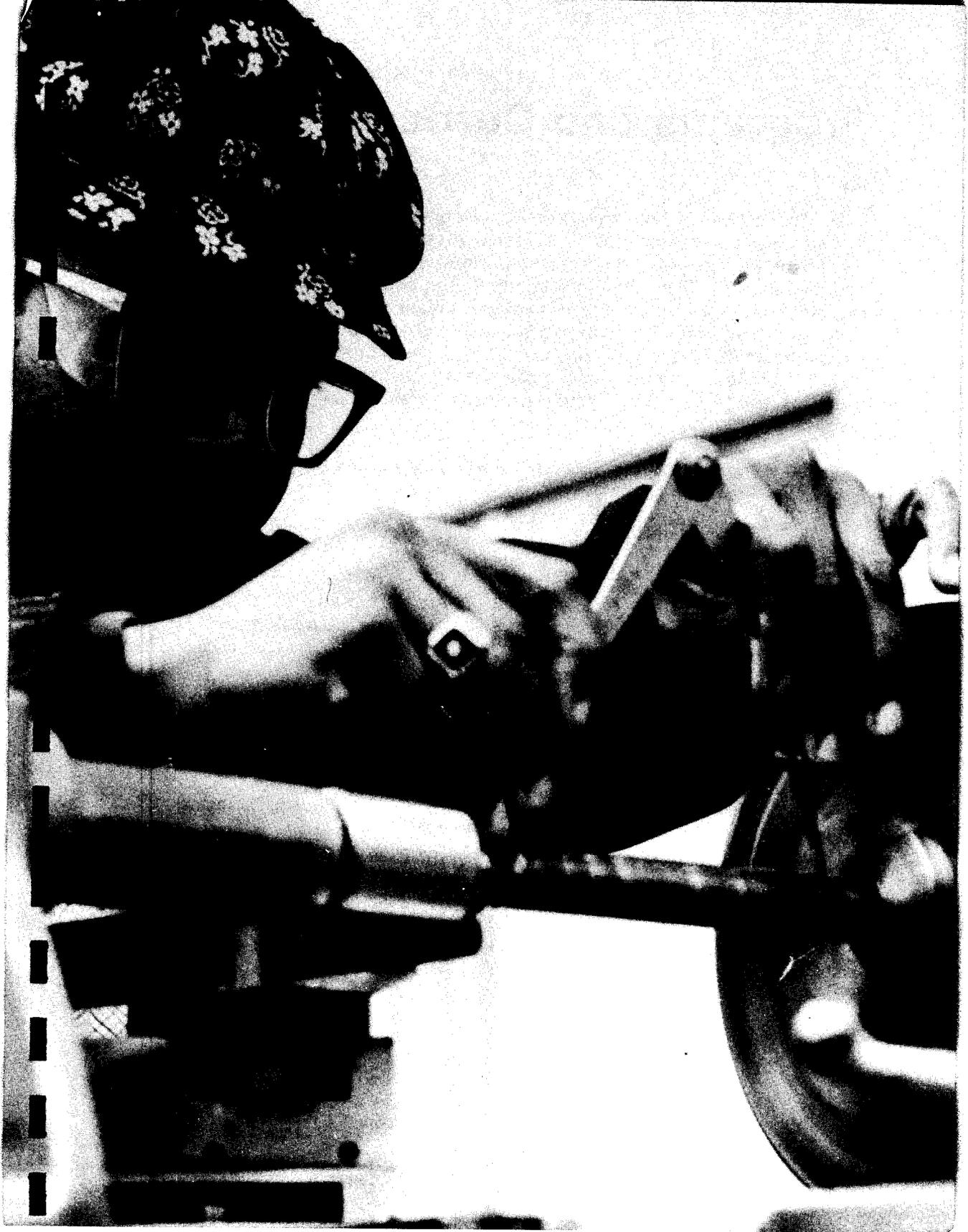
Twelve of the last eighteen hours, prior to the degree being granted, must be done in residency.

A minimum average of "C" in all work.

Discharge of all financial obligations to Odessa College.

Certificates of Technology

Certificates of Technology are awarded for completion of requirements with a minimum average of "C" in all work in certain occupational and technical curricula as prescribed in the Odessa College catalog or as approved by the Associate Dean for Occupational Programs.



Programs and Curricula

Art

The Department of Art provides an opportunity for all members of the community to explore and develop their creative potential. Art courses are designed to provide quality instruction for those students seeking professional and semi-professional art degrees and careers. The Department of Art utilizes the core curriculum of art instruction as recommended and approved by the Texas Association of Schools of Art and the Texas College and University Coordinating Board. These core courses are freely transferable to all accredited Texas Colleges and universities as they apply to the student's particular art major. In addition to a professionally active art faculty, the art program includes well equipped labs for all areas of studio art such as drawing, painting, ceramics, sculpture, and jewelry.

Course of Study for Associate in Art Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Art 130 or 137a	3	Art 131b	3
Art 131a	3	Art 132a or 133	3
Art 133 or 132a	3	Art 130 or 137b	3
Engl 131	3	Engl 132	3
Orientation 111	1	PE	1
PE	1	Science	4
Science	4		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Art 132b	3	Art 232a or 232b	3
Art 232a	3	Art 236	3
Art 234a, 238a or 239a	3	Art 238a or 239a or 234a	3
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Hist 231	3	Hist 232	3
PE	1	PE	1



ART

Art 130 Art Appreciation (3-0) 3 hours

This general course in art appreciation is open to all college students. It is 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 133a Figure Drawing I (2-4) 3 hours

This course develops skill in drawing the human figure. Stress is on handling of form, movement, and proportion. A variety of drawing techniques and media is studied in the course. Prerequisite: Art 131a or its equivalent.

Art 133b Figure Drawing II (2-4) 3 hours

This course is a continuation of Art 133a. It emphasizes esthetic factors, style, and creative approaches. Prerequisite: Art 133a.

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 231a Watercolor Painting I (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 231b Watercolor Painting II (2-4) 3 hours

This course is a continuation of Art 231a. It emphasizes esthetic factors, style, and creative approaches. Prerequisite: Art 231a.

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 234a Art Metals and Jewelry (2-4) ... 3 hours

Art Metals and Jewelry 234a is designed to give the student the ability to create original, functional jewelry by using a variety of techniques, media, and shop practices. Prerequisite: None.

Art 234b Art Metals and Jewelry (2-4) ... 3 hours

Art Metals and Jewelry 234b is designed to further the student's ability to produce original jewelry by emphasizing the exploration of jewelry techniques, emphasizing casting and more complex construction. Prerequisite: None.

Art 236a Printmaking I (2-4) 3 hours

This course is an introduction to woodcut, dry point, collograph, etching, and silk screen printing techniques and media. Prerequisite: Art 131a and 132a or consent of instructor.

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

This course is a continuation of Art 236a. It emphasizes esthetic factors, style, and creative approaches. Prerequisite: Art 236a.

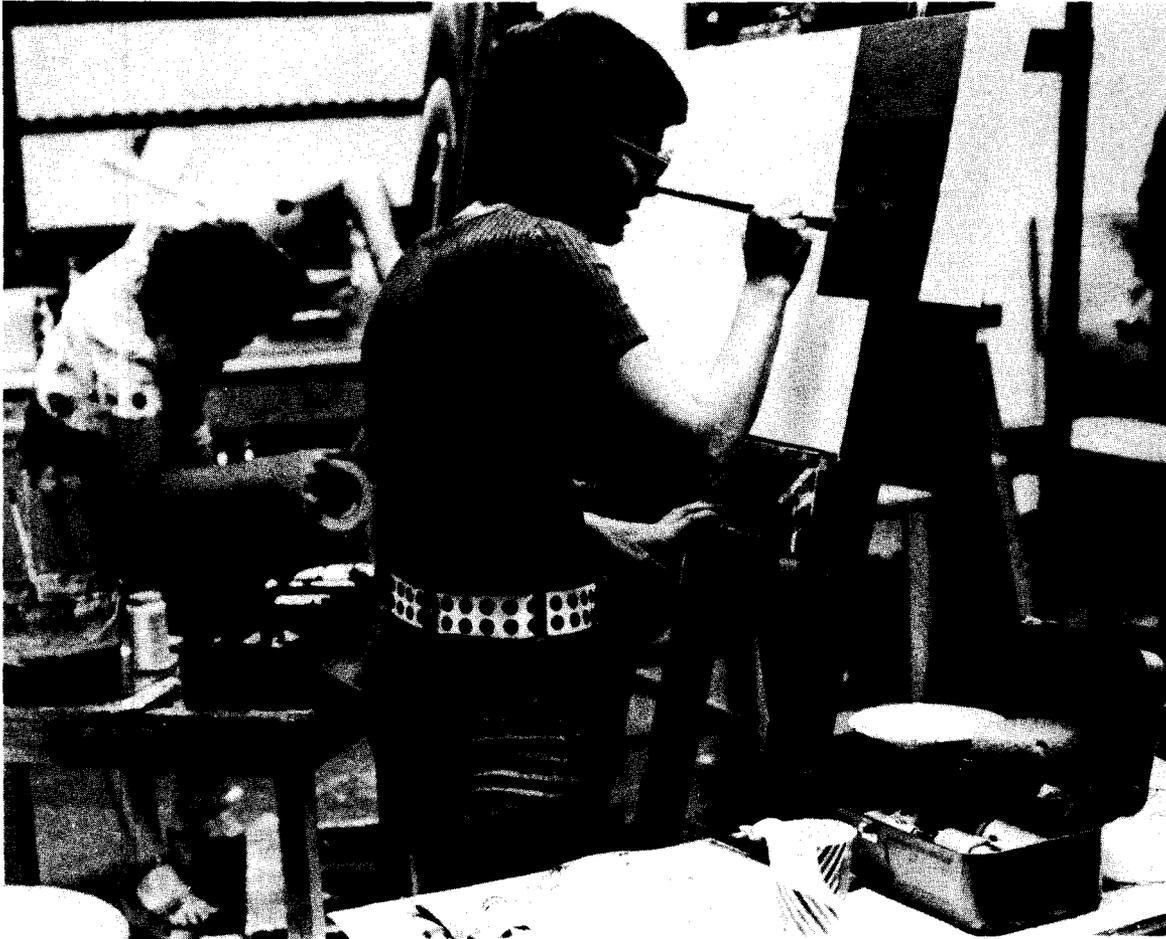
ART

Art 238a Pottery I (2-4) 3 hours
Techniques taught in this course include coil, slab, and wheel methods of creating original pottery forms and the refining of native clays. Also taught are bisque and glaze firings, plus raku sawdust firings and the mixing and applying of pottery glazes. Prerequisite: None.

Art 238b Pottery II (2-4) 3 hours
This course is a continuation of Art 238a. It emphasizes esthetic factors, style, and advanced wheel work. 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.



HUMANITIES

Fine Arts students have the opportunity to pursue an interdisciplinary fine arts program with an emphasis in one major area which culminates in an Associate in Fine Arts degree (A.F.A.).

This program is designed to prepare individuals for paraprofessional fine arts occupations, leadership and involvement in the development of community fine arts activities. It allows the student to explore all of the Fine Arts areas: music, visual art, photography, theatre, and dance. The interdisciplinary nature of the program reinforces basic fine arts skills and concepts and gives breadth to the student's fine arts involvements.

Course of Study for Associate in Fine Arts Degree*

(Art Emphasis)

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Art 131a	3	Art 131b or 130	3
Art 132a	3	Engl 132	3
Engl 131	3	Dr 131	3
Hum 131	3	R/TV 131	3
PE 111j	1	Photo 133	3
Relg 131	3	PE 112j	1
Orientation 111	1		

Second Year

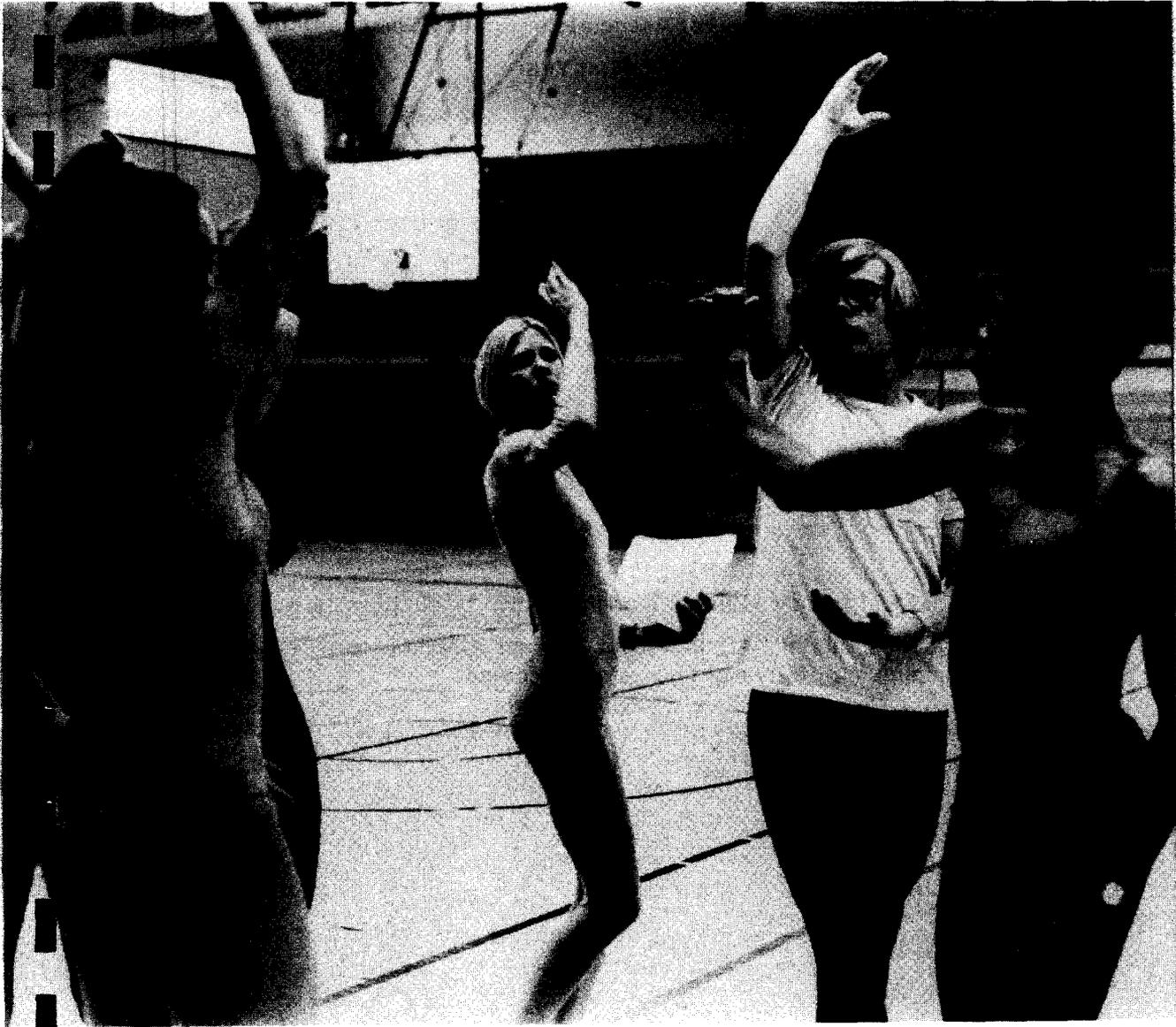
First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Art 137a	3	Art 137b	3
Art 232a, 234a or 238a	3	Engl (Sophomore Level)	3
Engl (Sophomore Level)	3	Govt 232	3
Govt 231	3	Hist 232	3
Hist 231	3	Phil 231	3

*The suggested course of study is designed for the A.F.A. degree with a concentration in Art. Similar plans can be designed for music, photography, theatre, etc.

HUMANITIES

Hum 131 Introduction to the Fine Arts
(3-0) 3 hours
This is a team-taught course which surveys the Fine Arts areas of visual art, photography, music, theatre, and dance. The course is de-

signed to interrelate the esthetic concepts common to each art form while involving the student in the excitement and action of fine arts activities and personalities. Prerequisite: None.



Automotive Mechanics

Maintaining and servicing automobiles is 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 person with the proper qualifications.

The Associate in Applied Science Degree provides the necessary educational background for advancing to positions of even greater responsibility in the industry.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AT 161	6	AT 163	6
AT 162	6	AT 164	6
Math	3	DT 141 or Engr 131	4-3
Orientation III	1	PE*	1
PE*	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AT 261	6	AT 263	6
AT 262	6	AT 264	6
Engl 131	3	Engl 132 or Spch 234	3
Govt	3	Mgt 131	3

*H.Ed 131 or PE 132a may be substituted for the two 1-hour physical education courses. Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of forty-eight hours in AT courses.



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 162 Automotive Machine and Metals

(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 163 Transmission and Power Trains

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

AT 164 Automobile Cooling and Lubrication

Systems (2-8) 6 hours
 This course is designed to provide students with experience in maintenance and repair of cooling and lubrication systems and common servicing as it pertains to a mechanic, including theory and practice. Prerequisite: None.

AT 261 Automotive 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 262 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 263 Emission and Fuel Systems

(2-8) 6 hours
 This is a course in the theory and practice in repair and maintenance of all common types of automobile fuel systems, including emission controls. 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: None.

Biology

Courses offered in the Biology Department are directed toward two objectives. First, they are designed to provide the student majoring in a biological science with a sound foundation for advanced study at an upper-level or professional institution. The second objective is to provide the non-science major with information and concepts about himself and the living world around him to help him become a well-rounded citizen.

Courses of Study for Associate in Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Chem 131 and 111	4	Chem 132 and 112	4
Engl 131	3	Engl 132	3
Lang 141	4	Lang 142	4
Math 134 or More Advanced	3	Math 132 or More Advanced	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biology Elective*	3-4	Biology Elective*	3-4
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Hist 231	3	Hist 232	3
Lang 231	3	Lang 232	3
PE	1	PE	1

*The second year requirements for Biology Electives may be fulfilled by taking any combination of the following courses. Biol 233, Biol 236, Biol 241, Biol 242, Biol 244, or Biol 245. Choice of an elective may depend upon the student's plans for future study. The student is invited to consult with the Biology faculty for information on these courses.

BIOLOGY

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 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.

**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

**Course of Study for Associate in Science Degree
Pre-Dentistry, Pre-Medicine, Pre-Veterinary**

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Chem 131 and 111	4	Chem 132 and 112	4
Engl 131	3	Engl 132	3
Hist 231*	3	Hist 232	3
Math 134 or More Advanced	3	Math 132 or More Advanced	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 244*	4	Biol 241*	4
Chem 241	4	Chem 242	4
Engl (Sophomore Level)	3	Chem 242	4
Govt 231	3	Engl (Sophomore Level)	3
PE	1	Govt 232	3
Phys 141	4	PE	1
		Phys 142	4

*These courses are optional for Pre-Veterinary students.

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.

BIOLOGY

Course of Study for Associate in Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Chem 131 and 11	4	Chem 132 and 112	4
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Hist 231	3	Math 132 or More Advanced	3
Math 134 or More Advanced	3	PE	1
Orientation 111	1		
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 244	4	Biol 241	4
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
PE	1	PE	1
Phys 141	4	Phys 142	4
Elective	3	Elective	3

**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 years by most specialized colleges.

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.

BIOLOGY

Course of Study for Associate in Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Chem 131 and 111	4	Chem 132 and 112	4
Eco 231	3	Engl 132	3
Engl 131	3	Hist 232	3
Hist 231	3	Math 133 or More Advanced	3
Math 132 or More Advanced	3	Math 231	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Chem 241	4	Chem 242	4
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
PE	1	PE	1
Phys 141	4	Phys 142	4

**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 111 Medical Terminology (1-0) 1 hour
An introduction to medical terminology to students who are planning any sort of health science career. The course will consist of Latin and Greek roots, prefixes and suffixes as well as proper pronunciation and spelling. No prerequisite.

Biol 141 General Biology (3-3) 4 hours
Biol 141 is a study of the cellular and organ activities of representative plants and animals

with the objective of providing the student with an overall picture of the living world and the organizational and functional aspects of living matter. Prerequisite: None.

Biol 142 General Biology (3-3) 4 hours
This course is a continuation of Biol 141 and assumes the foundation laid therein. The instructional approach is oriented toward analysis rather than description in dealing with the operational character of living matter. Prerequisite: Biol 141 or consent of the instructor.

BIOLOGY

Biol 143 Anatomy and Physiology

(3-3) 4 hours

This course deals with the functional anatomy and basic principles of the different systems of the body and their physiological activities. Prerequisite: None.

Biol 225 Marine Ecology

(12-36, 2 wks.) 2 hours

This is a field course in marine ecology held at Cholla Bay, Puerto Penasco, Sonora, Mexico. The ten-day course is offered between the spring semester and the first summer session. Emphasis is on field observation and identification of shore and reef animals in Cholla Bay. Shore fish, planktonic forms and marine algae are also studied. Field collection, identification and preservation techniques are presented along with the systemic, life history and ecological information. Prerequisite: Consent of the instructor.

Biol 233 General Ecology (3-2) 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: Biol 141-142 or Geol 141-142.

Biol 236 Introductory Entomology (2-3) .. 3 hours

This course is an introduction to the study of the classification, structure, physiology, ecology and evolution of insects. Special attention is given to insects of economic significance, their identification, life cycles, and relationships to man, including fundamental biological interactions and controls. Collections and field trips are required. Prerequisite: Eight semester hours in biology and sophomore standing.

Biol 241 Comparative Anatomy (3-4) 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 242 Introductory Genetics (3-3) 4 hours

This course deals with the physical and chemical bases of hereditary variation in the living world. The application of genetic principles is stressed. A laboratory problem involving the identification of the inheritance of several mutations in an experimental organism is required. Prerequisite: Biol 141 and 142. College algebra is useful but not required.

Biol 244 Microbiology (3-3) 4 hours

Microbiology is the course that deals with the structure, cultivation, classification and ecology of microorganisms. Emphasis is placed on the life activities of bacteria and their effects of man and his environment. Prerequisite: Biol 141 and 142, or 143 and 144, or consent of instructor.

Biol 245 General Botany (3-3) 4 hours

Survey of the plant kingdom from procaryotic algae through the flowering plants with special emphasis on the plants of the West Texas area. Life histories, form, function, and structure of plant organs, and the plant in relation to its environment will be stressed. The application of basic botanical science to the related fields of Agronomy, Horticulture, Forestry, Physiology, Taxonomy and Paleobotany will be discussed. Biol 245 is strongly recommended for those students planning on a career in the biological sciences such as biology teaching, research, extension, or in one of the more applied areas. Prerequisite: Biol 141 and 142.

Building Trades

The Building Trades Program at Odessa College is designed to train students for entry level jobs in the building and construction industry. Specific areas of training include on-site experience in the areas of (1) carpentry; (2) concrete; (3) masonry; (4) plumbing; (5) electrical; (6) mechanical, and (7) architectural drawing and specifications.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BT 161	6	BT 163	6
BT 162	6	BT 164	6
Engl 131	3	Engl 132 or Speech 234	3
Orientation 111	1	PE*	1
PE*	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BT 261	6	BT 263	6
BT 262	6	BT 264	6
Math 131, 131t, or More Advanced ...	3	Govt	3

*H ED 131 or PE 132a may be substituted for the two one-hour physical education courses.

Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of forty-eight hours in BT courses.

BUILDING TRADES

BT 161 Principles of Residential

Construction I (2-8) 6 hours
An introduction to the principles of basic residential construction. Study will include an introduction to hand tools, power tools used in construction trades, safety, building materials, blue-print reading, specifications, surveying and related mathematics. Prerequisite: None.

BT 162 Carpentry I (2-8) 6 hours

Study will include all carpentry skills. Students will study selection and use of materials, carpentry equipment, framing and industrial safety. Prerequisite: None.

BT 163 Principles of Residential Construction II (2-8) 6 hours

A continuation of BT 161. Emphasis will be placed on foundations and form work, masonry and concrete finishing and framing. Prerequisite: BT 161.

BT 164 Carpentry II (2-8) 6 hours

Continuation of BT 162, to include the actual erection of walls, installation of sheathing, windows and doors, frames, rafters and roofing materials. Prerequisite: BT 162.

BT 261 Principles of Residential

Construction III (2-8) 6 hours
A study of the plumbing and masonry trades —

codes, specifications and requirements in the plumbing trades as required from city easement to completed installation. Masonry trades will include concrete, bricks, stone and expanded shale blocks. Prerequisite: BT 163.

BT 262 Principles of Residential

Construction IV (2-8) 6 hours
A study of the codes, specifications and requirements for the electrical and mechanical trades. Electrical requirements from line to finished installation along with heating and air conditioning will be studied. Prerequisite: BT 163.

BT 263 Cabinetry and Finish Work (2-8) . 6 hours

Finishing procedures such as fixtures, cabinet work, sheetrocking, acoustical and ceramic tile installation, painting, finishing and all other necessary steps to complete the building will be emphasized. Prerequisite: BT 164.

BT 264 Special Problems (2-8) 6 hours

A study of the erection of residential buildings in modules; construction cost analysis, bidding procedures, estimating and current research and development related to individual fields of interest. Preparation, procedures and techniques for securing employment in the building trades will also be emphasized.

Business Administration

Business Administration is a very broad field of study and contains many possible majors. The courses offered include those required by senior colleges at the freshman and sophomore level to obtain the degree of Bachelor of Business Administration. A business major should be aware of the opportunities, requirements and obligations in the various majors of specialization so that a proper choice for study can be made. A student should reserve the decision of choosing an area of emphasis depending on his own capabilities and interests. Suggested fields of study include accounting, advertising, banking, finance, business teaching, various phases of management, insurance, retailing, marketing, statistical analysis, pre-law and policy, and environment.

The department also offers courses which may be directly applicable to those who are already employed but wish to upgrade their job skills or to meet certification requirements for their particular vocation.

Course of Study for Certificate of Completion in Business Administration

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BA 131b	3	Engl 132	3
Engl 131	3	Hist 232	3
Hist 231	3	Math 136b	3
Math 135b	3	PE	1
Orientation 111	1	Science	4
PE	1	Spch 234	3
Science	4		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BA 241a	4	BA 242a	4
Eco 231	3	Eco 232	3
Engl (Sophomore Level)	3	Engl (Sophomore Level) or EDP 245 ..	3
Govt 231	3	Govt 232	3
Math 237b	3	PE	1
PE	1	*Approved Elective	3

BUSINESS ADMINISTRATION

Course of Study for Certificate of Completion in Accounting

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BA 131b	3	BA 242a	4
BA 241a	4	Engl 132	3
Engl 131	3	Hist 232	3
Hist 231	3	Math 136b	3
Math 135b	3	PE	1
Orientation	1	*Approved Elective	3
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Eco 231	3	Eco 232	3
Engl (Sophomore Level)	3	EDP 245 or Approved Elective	3-4
Govt 231	3	Govt 232	3
Math 237b	3	PE	1
PE	1	Psy 231 or Spch 234	3
Science	4	Science	4

*Approved Electives: BA 231L, OE 238, EDP 243, EDP 246, Psy 231, Soc 231.

Note: To qualify for an Associate in Science degree, the student will need to complete 6 hours of sophomore English and 4 additional hours of a laboratory science. To qualify for an Associate in Arts degree, the student will need to complete 6 hours of sophomore English.

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.

Accounting

- 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.
- BA 232a Intermediate Accounting (3-0) . .3 hours**
Continues the studies begun in BA 231a by exploring topics involving financial statement reporting and disclosure. Subjects include intangible assets; current, contingent and long-term liabilities; paid-in capital and retained earnings; the statement of changes in financial position; the uses of comparative data and special measurements and analysis; statements from incomplete records; and errors and their correction. 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.
- BA 241a Principles of Accounting (3-3) . . .4 hours**
This course presents the introduction to principles of accounting for proprietorships, the accounting cycle and systems, inventories, deferrals and accruals, and payroll systems. Two practice sets are required during the semester. Prerequisite: None.
- BA 242a Principles of Accounting (3-3) . . .4 hours**
This course presents the principles of accounting for partnerships and corporations; accounting for manufacturing and job orders; financial statements and their analysis. Two practice sets are course requirements. Prerequisite: BA 241a.

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.

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. Prerequisite: None.
- 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. 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 135b College Algebra — Business (3-0)3 hours**
This course provides an introduction to sets, functions, and the algebraic number system; inequalities; variation; logarithms; probability; determinants; and quadratics. Problem solving involves business and decision making applications. Prerequisite: None.

BUSINESS ADMINISTRATION

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, and annuities. Prerequisite: Math 135b or its equivalent.

Math 237b Business Statistics (3-2)3 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.



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 non-major'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.

Course of Study for Certificate of Completion in Chemistry

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Chem 131 and 111	4	Chem 121	2
Engl 131	3	Chem 132 and 112	4
Hist 231	3	Engl 132	3
Math 133	3	Hist 232	3
Orientation 111	1	Math 231	3
PE	1	PE	1
		Phys 143	4

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Chem 231 and 211	4	Chem 232 and 212	4
Govt 231	3	Chem 233 and 213	4
Lang 141	4	Govt 232	3
Math 232	3	Lang 142	4
PE	1	PE	1
Phys 241	4	Phys 242	4

To receive the Associate in Science Degree, the student must complete 12 hours of English.

CHEMISTRY

Chem. 110 General Chemistry Laboratory

(0-3) 1 hour
Laboratory which will reinforce the principles and topics discussed in General Chemistry 130. Laboratory experiments will involve student experiments, demonstrations, and field trips to show the relevance of modern chemistry in our society. Corequisite or Prerequisite: Chem 130.

Chem. 111 Fundamentals of Chemistry

Laboratory I (0-3) 1 hour
Laboratory which will illustrate and reinforce principles and concepts of Chem. 131 by use of quantitative experiments, emphasizing interpretation and reporting of data, and facility in handling scientific equipment. Corequisite or Prerequisite: Chem. 131.

Chem. 112 Fundamentals of Chemistry

Laboratory II (0-4) 1 hour
Laboratory which will illustrate and reinforce principles and concepts of Chem. 132 by use of qualitative and quantitative experiments, emphasizing interpretation and reporting of data, and facility in handling scientific equipment. Corequisite or Prerequisite: Chem. 132.

Chem. 121 Chemical Calculations

(2-0) 2 hours
Lecture course which is designed as a calculations course for chemistry and chemical engineering majors. This course reviews the mathematics necessary for basic chemistry courses and then applies these mathematical techniques to solving chemical problems. Prerequisite: Chem. 130 or 131.

Chem. 130 General Chemistry (3-0) 3 hours

Lecture course which satisfies a need for an integrated chemistry and general science course which unites the basic facts for inorganic and organic chemistry. The intent of the course is to stimulate an interest in and concern for the relationship of chemistry to life and living. This course will be self-paced and can be used to prepare for Chem. 131. Prerequisite: None.

Chem. 131 General Inorganic Chemistry I

(3-0) 3 hours
Lecture course which is designed as a first college transfer course for students with some background in physical science. This course covers such topics as atomic structure, formulas, equations, gas law, solutions, etc. Prerequisite: None. Credit probably not transferable until Chem. 111 is successfully completed.

Chem. 132 General Inorganic Chemistry II

(3-0) 3 hours
Lecture course which is a continuation of Chem. 131. Some topics covered in this course include chemical kinetics, equilibrium, coordination chemistry, radio chemistry, and organic and biochemistry. Prerequisite: Chem. 131. Credit probably not transferable until Chem. 112 is successfully completed.

Chem. 211 Organic Chemistry Laboratory I

(0-4) 1 hour
Laboratory course which will illustrate and reinforce principles and concepts of Chem. 231 by use of preparative experiments of organic compounds. Corequisite or Prerequisite: Chem. 231.

Chem. 212 Organic Chemistry Laboratory II

(0-4) 1 hour
Laboratory course which will illustrate and reinforce principles and concepts of Chem. 232 by use of preparative experiments of organic compounds. NMR and IR as applicable to organic compound identification will be covered. Corequisite or Prerequisite: Chem. 232.

Chem. 213 Analytical Chemistry Laboratory I

(0-4) 1 hour
Laboratory course which illustrates and reinforces principles and concepts of Chem. 233 by use of quantitative experiments. Corequisite or Prerequisite: Chem. 233.

Chem. 214 Analytical Chemistry Laboratory II

(0-4) 1 hour
Laboratory course which illustrates and reinforces the principles and concepts of Chem. 234 by use of quantitative instrumental experiments. Corequisite or Prerequisite: Chem. 234.

Chem. 221 Organic Nomenclature

(2-0) 2 hours
Lecture course which is a systematic study of the rules of nomenclature for organic molecules. International Union of Pure and Applied Chemistry rules will be emphasized; common names will also be covered. Prerequisite: Chem. 132. Corequisite: Chem. 231 or permission of instructor.

Chem. 230 Physiological and Food Chemistry

(3-0) 3 hours
Lecture course which is to acquaint the student with the chemistry of foods and drugs and their

CHEMISTRY

physiological functions. Some topics covered will be diets, food additives, drugs, pesticides, and heavy metals. Prerequisite: None.

Chem. 231 Organic Chemistry I (3-0) 3 hours

Lecture course which is a mechanistic approach to an integrated study of aliphatic and alicyclic hydrocarbon compounds and their derivatives. Prerequisite: Chem. 132. Corequisite: Chem. 221 or permission of instructor. Credit probably not transferable until Chem. 221 is successfully completed.

Chem. 232 Organic Chemistry II (3-0) 3 hours

Lecture course which is a continuation of Chem. 231; a mechanistic approach to an integrated study of aromatic hydrocarbons and their derivatives. Also included are introductions to biochemistry and instrumental methods applicable to organic chemistry. Prerequisite: Chem. 231. Credit probably not transferable until Chem. 212 is successfully completed.

Chem. 233 Analytical Chemistry I (3-0) . . 3 hours

Lecture course which is a study of the fundamental principles of elementary quantitative analysis, both theory and practical. Some topics covered are review of stoichiometric relationships, gravimetric analysis, and volumetric analysis. Corequisite or Prerequisite: Chem. 132. Credit probably not transferable until Chem. 213 is successfully completed.

Chem. 234 Analytical Chemistry II (3-0) . . 3 hours

Lecture course which studies the principles of instrumental methods of analysis. Spectroscopy methods in the ultraviolet, visible, infrared, emission, and x-ray regions will be discussed; also instruments such as NMR, EPR, mass spec, GC, and thermal methods will be covered. Prerequisite: Chem. 233. Credit probably not transferable until Chem. 214 is successfully completed.



Child Development

The field of child development is a rapidly growing area with a wide range of employment possibilities. There is an increasing number of job opportunities available in the community for those who work with children. Public and private schools, federal agencies, day care centers, industry, and community agencies need professionally trained people who understand children and can give love, guidance, and leadership to children.

The Associate Degree program in Child Development will provide an opportunity for an in-depth study of the whole child. In the certificate program, the student will concentrate on the special area of Child Development.



CHILD DEVELOPMENT

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
CD 130	3	CD 133	3
CD 131	3	CD 142	4
CD 135	3	CD 136	3
CD 141	4	CD 134	3
Spch 131	3	Engl 130	3
Orientation 111	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
CD 236	3	CD 233	3
CD 235	3	CD 238	3
CD 237	3	CD 269	6
Math 132b	3	Govt	3
PE*	1	PE*	1
Approved Elective**	3		

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

**Approved Electives: CD 234, CD 240, or DR 235.

Certificate Plan in Child Development

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
CD 130	3	CD 133	3
CD 131	3	CD 142	4
CD 135	3	CD 136	3
CD 141	4	CD 134	3
CD 237	3	CD 238	3

CHILD DEVELOPMENT

CD 130 Parenting (3-0) 3 hours

This course covers the physical and psychological preparation of the family for parenthood. The study of parenting will aid students in the responsibility of parenthood by discussing marriage, family planning, communication, and the intellectual and emotional growth of the children and the parents. Prerequisite: None.

CD 131 Guiding and Teaching

Young Children (2-2) 3 hours

This course introduces the student to the profession of teaching in the preschool with emphasis on the adult-child relationship. Guidance techniques will be emphasized. An exploration of career opportunities in child development and related fields will be provided in relationship to an introduction to the world of work. Prerequisite: None.

CD 133 Child Health Care (2-2) 3 hours

This course concentrates on general principles of personal and community health. Major emphasis is on health supervision of the child during infancy, preschool and school years with protection against communicable diseases, accidents, and nutritional deficits, genetic and environmental hazards; and relationship of socio-economic problems to child health. Prerequisite: None.

CD 134 The Abused and Neglected

Child (3-0) 3 hours

This course is designed to educate the individual in the physical, psychological and emotional aspects of child abuse. Prerequisite: None.

CD 135 Creative Art, Music and Movement

in Preschool Education (2-3) 3 hours

Study of creative arts, music, and movement for the young child is presented. Individual projects are planned and presented in the nursery school laboratory. Prerequisite: None.

CD 136 Child Nutrition (2-2) 3 hours

The course emphasizes how food and feeding contribute to and affect child growth, development and learning. Included in the planning, selection and serving of food to meet children's needs at all levels of development; how children learn and develop desirable eating habits; and examining the nutritive values of foods, purchasing, storage, safe handling and sanitation. Prerequisite: None.

CD 141 Child Growth and Development I,

Infant through Four (3-3) 4 hours

Emphasis is placed upon the development processes and environmental factors which shape the personality and affect the achievement of the child from birth through four years of age. Laboratory requirements consist of observation and study of preschool and elementary age children. Prerequisite: None.

CD 142 Child Growth and Development II,

Ages 5 through 9 (3-3) 4 hours

This is a study of the young child as a person and the influence of his environment in the early years as the child grows and develops within himself, his family, and his community. Prerequisite: None.

CD 233 Family Development (3-0) 3 hours

Development and relationships of individual family members are studied. The changing role of the female in society and the family will be discussed in addition to the stages of the family life cycle. Prerequisite: None.

CD 234 Management Systems in Preschool

Centers (2-2) 3 hours

Emphasis of this course will be on the practical aspects of managing a preschool center. A management system for centers includes budgeting, record keeping, food, health and referral services, and personal practices. Prerequisite: None.

CD 235 Planning and Teaching Methods

in Early Childhood (2-3) 3 hours

This course will include planning for children's programs and activities and incorporate methods which can be used to meet the goals of children's programs. Time will be spent learning to use and develop various kinds of media and media techniques. Students will also work with methods of evaluation of young children. Prerequisite: None.

CD 236 The Special Child (3-0) 3 hours

This course presents techniques for identifying the preschool child with a special need, including children from single parent families, diverse cultural heritage, and those with physical, emotional, language or mental disabilities, and for constructing the preschool environment in a manner that will enable the child with special needs to function to his maximum capabilities within the group structure. Ways of working with the parents of the special child in

CHILD DEVELOPMENT

order to bring out the maximum home-center coordination will be emphasized. Prerequisite: None.

CD 237 Literature and Language

Development (2-3) 3 hours
This course introduces language development techniques for the development of early childhood language experiences in listening, speaking, and readiness for reading and writing. Included are criteria for selecting and using children's literature in the preschool. Methods of story writing and story telling with and without audiovisual aids will be introduced. An introduction to bilingual language development will be included. Prerequisite: None.

CD 238 Preschool Science

and Math (2-2) 3 hours
This course is an attempt to apply the scientific approach to a child's world. It will include lectures and laboratory activities designed to ac-

quaint the child with nature, ecology and the world around him. Math concepts such as forms, shapes, etc. will be included. Prerequisite: None.

CD 240 Infant and Toddler

Activities (2-2) 3 hours
This course is designed to give insight into the joys and problems of working with infants and toddlers. Emphasis will be placed on physical and emotional needs of children under two years of age with suggested activities to encourage proper developmental growth. Prerequisite: None.

CD 269 Application of Learning

Theories (0-10) 6 hours
The student enrolled in the course must show evidence of being a competent child care worker before a passing grade can be awarded. Prerequisite: 24 hours of Child Development and permission of instructor.

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.

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.

Course of Study for Major in Drama*

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Dr 111	1	Dr 112	1
Dr 236	3	Dr 132	3
Dr 131	3	Dr 133	3
Dr 231	3	Dr 232	3
Dr 111j	1	Dr 112j	1
Engl 131	3	Engl 132	3
Orientation 111	1	Elective	3



COMMUNICATION AND THEATRE

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Dr 233	3	Dr 234	3
Dr 211	1	Dr 237	3
Dr 211j	1	Dr 134	3
Govt 231	3	Dr 212	1
Hist 231	3	Dr 212j	1
Elective	3	Govt 232	3
		Hist 232	3

*Those students wishing to fulfill requirements for the Associate in Arts or the Associate in Fine Arts Degree should consult Degree Requirements listed in the catalog.

DRAMA

Dr 111, 112, 211, 212 Rehearsals and Performance (0-2) 1 hour each
 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 111j, 112j, 211j, 212j Modern Dance: Theatre Dance Form (0-3) 1 hour each
 This course is designed to teach the student dance for the theatre. Prerequisite: None.

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

Dr 132 Stage MakeUp (0-3) 3 hours
 This course deals with the basic principles of applying theatrical makeup. It is open to all drama students. Prerequisite: None.

Dr 133 Stagecraft (3-3) 3 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 134 Stagecraft (3-3) 3 hours
 This course is a continuation of Dr 133 with advanced aspects of stagecraft, costume, and make-up, covered in three lectures per week and three laboratory hours. Prerequisite: None.

Dr 135 Theatre Workshop I (1-5) 3 hours
 This course includes all phases of play production activities (acting, stage managing, scenery, properties, lighting, costumes, publicity, and box-office) by actually working in a play from rehearsal to production. Prerequisite: None.

Dr 136 Theatre Workshop II (1-5) 3 hours
 This course, taught in a Globe replica, introduces the students to the stage, scenery, and machinery used at Shakespeare's original Globe Playhouse, as well as to scenic effects. It acquaints the student with acting techniques the Elizabethan actors used to convey the meaning of Shakespeare's famous plays. Prerequisite: None.

Dr 231 Acting I (3-0) 3 hours
 Basic skills and techniques of acting are developed via work of voice, body, and imagination. Exercises in creative play, improvisation, and pantomime are practiced. Prerequisite: None.

Dr 232 Acting II (3-0) 3 hours
 Advanced continuation of Acting I. Beginning character study and scene work. 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.

COMMUNICATION AND THEATRE

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 Creative Dramatics (3-0) 3 hours
 This course is designed to help teachers develop skills that will enable them to work with the development of the whole child through improvised drama. Special attention is given to story dramatization, dramatic play situations, storytelling, and using these skills with the pre-school, elementary, and special education child. Open to all majors and non-majors. 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.

Dr 237 Training the Actor's Voice (3-0) . . 3 hours
 This course includes both theory and techniques of oral interpretation of literature. The course includes preparation and presentation of selections, including prose, poetry, and dramatic literature. Prerequisite: None.

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.

Course of Study for Associate in Arts Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	OE 131t or more advanced	3
Hist 231	3	Engl 132	3
Jour 111	1	Hist 232	3
Jour 131	3	Jour 113	1
Lang 141	4	Lang 142	4
Orientation 111	1	MCom 130	3
PE	1	PE	1
Spch 131	3		

COMMUNICATION AND THEATRE

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Jour 211 or 213	1	Jour 212 or 214	1
Jour 231	3	Jour 232	3
Lang 231	3	Lang 232	3
PE	1	PE	1
Phot 133	3	Phot 134 or Approved Elective	3

MASS COMMUNICATION — JOURNALISM

Jour 111, 112, 211, 212 Newspaper Laboratory (0-2) 1 hour each
Students earn credit by working on staff of the campus newspaper, The Roundup. Participation is required of Journalism 131, 231 and 232 students. Any student may register for Newspaper Laboratory only with consent of instructor. Prerequisite: None.

Jour 113, 114, 213, 214 Magazine Laboratory (0-2) 1 hour each
Students earn credit by working on staff of the campus magazine, Scene Today. Participation is required of Journalism 232. Any student may register for Magazine Laboratory only with consent of instructor. Prerequisite: None.

Jour 131 News Editing and Reporting (3-3) 3 hours
This is an introductory study of news gathering, news writing, copy editing for errors of fact, and interpretation of English and newspaper style, headline writing, proofreading, and page makeup are stressed. There are three hours of lecture and three hours of laboratory work each week, as well as participation on the staff of the campus newspaper. Prerequisite: None.

Jour 231 Reporting I (3-3) 3 hours
This is an introduction to the fundamentals of

newswriting. The emphasis is on the development of news judgment and a clear, concise writing style. Lectures, discussions and in-laboratory work provide training under deadline pressure in organizing and writing a variety of basic news stories. There are three hours of lecture and three hours of laboratory work each week, as well as participation on the staff of the campus newspaper. Prerequisite: Jour 131 or consent of the instructor, and basic typing skills.

Jour 232 Reporting II (3-0) 3 hours
This course emphasizes specialized fields of reporting: feature writing, magazine article writing; governmental and political reporting, courtroom reporting and analytical writing. There are three hours of lecture per week, as well as participation on either the staff of the campus newspaper or on the campus magazine. Prerequisite: Jour 231 or consent of the instructor, and basic typing skills.

MCom 130 Introduction to Mass Communications (3-0) 3 hours
This course is a 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.

COMMUNICATION AND THEATRE

MASS COMMUNICATION — COMMERCIAL PHOTOGRAPHY

Photography courses at the College seek to train the student in the basics of photography as a subject, photography as a profession and in photographic technology. A variety of courses is offered, including professional portraiture, lab technology, commercial technique, and various aspects of color. Opportunities are provided for use of the student's creative talents.

Following completion of the Commercial Photography curriculum, the student will be prepared for entry positions in the photographic industry.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Ba 131b	3	Math 132b	3
Engl 131	3	Engl 132	3
Orientation 111	1	MCom 130	3
Phot 133	3	Phot 134	3
Phot 136	3	Phot 137	3
PE*	1	PE*	1
Spch 131	3		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 233 or Phot 135	3	Phot 135 or Phot 239	3
Phot 231	3	Phot 232	3
Phot 233	3	Phot 234	3
Phot 235	3	Phot 236	3
Phot 237	3	Phot 238	3
PE*	1	PE*	1

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

COMMUNICATION AND THEATRE

PHOTOGRAPHY

Phot 133 Basic Photography (2-4) 3 hours

This is a beginning course which will introduce the student to the basic applied and aesthetic aspects of photography. The course content includes a study of basic theories of film, exposure, development, filters and printing. Prerequisite: None.

Phot 134 Basic Photography II (2-4) 3 hours

This course is a continuation of Photography 133 and is designed for additional experience in the photographic medium. Prerequisite: Phot 133.

Phot 135 News Photography (2-4) 3 hours

In this specialized course the student learns the basic aspects of newspaper photography with some emphasis on photojournalism. Actual practice is gained through working on the campus newspaper and the college magazine. Prerequisite: Phot 134 or consent of instructor.

Phot 136 Photo Lab Technique (2-4) 3 hours

This course has been designed to give the student experience in darkroom printing and developing procedures. The successful completion of this course will qualify the student to work as a lab technician in the photographic industry. Included in the semester's work will be projection printing, contact printing, black and white print finishing, toning and the mixing of photographic chemistry. Prerequisite: None.

Phot 137 Photo Lab Technique II (2-6) . . . 3 hours

This course is a continuation of Photography 136 and is designed to give the student additional experience in photo lab work. Prerequisite: Phot 136 or consent of instructor.

Phot 220 Print Finishing and Negative Retouching (1-2) 2 hours

This course will be concerned with print finishing and negative retouching. Most of the time will be spent in the field of color work since this is the major emphasis of present day studio work. Prerequisite: None.

Phot 231 Commercial Photography (2-6) 3 hours

The basics in this course will give the student a working knowledge in the specialized field of commercial photography with emphasis given to the use of a large negative format and the view camera. Photographic problems will include magazine article illustration, product photography, fashion, architectural, studies and window displays. Prerequisite: Phot 134.

Phot 232 Commercial Photography II (2-6) 3 hours

This course will provide additional experience in the commercial field and is a continuation of Photography 231. Prerequisite: Phot 231.

Phot 233 Portrait Photography (2-4) 3 hours

This will be two semesters of learning the basics of professional portraiture. This first semester will deal basically with studio type portraits. The students will practice by making photographs through actually working with adult and children models. Prerequisite: Phot 134.

Phot 234 Portrait Photography II (2-4) . . . 3 hours

This course will be a continuation of Photography 233. Additional experience will be gained in the area of studio portraiture and emphasis will be given to outdoor portraiture. Prerequisite: Phot 233.

Phot 235 Cinematography (2-4) 3 hours

This is a course in film making for television, movie work, and working the industrial field. All aspects of the filming media will be explored with some attention to editing, splicing and other technical areas. Prerequisite: Phot 134 or consent of instructor.

Phot 236 Cinematography II (2-3) 3 hours

This course will be a continuation of Photography 235 and will deal with advanced areas of film making. Prerequisite: Phot 235.

Phot 237 Color Photography (2-4) 3 hours

The first semester of this course will consist of taking photographs with color film, both negative and transparency; and the basics of color printing. Prerequisite: Phot 134.

Phot 238 Color Photography II (2-4) 3 hours

This will be a continuation of the first semester of color photography, Photography 237, with additional work being given in the area of sensitometry and advanced lab technique. Prerequisite: Phot 237.

Phot 239 Graphics (2-4) 3 hours

This will be a one semester course designed to teach advanced copying work and the use of special copy works and the use of special copy cameras. Work will be done in copying of continuous tone and line drawings. The student will learn layout makeup and the use of specialized films and developers. Prerequisite: Phot 134.

COMMUNICATION AND THEATRE

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.

In the area of television, a considerable amount of TV programming is being done in conjunction with Cablevision of Odessa.

Radio-Television

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Dr 131	3
Govt	3	Engl 132	3
Orientation 111	1	Hist 232	3
PE*	1	PE*	1
Radio 111	1	Radio 112	1
R/TV 131	3	R/TV 132	3
Spch 131	3	Spch 232	3
TV 113	1	TV 114	1

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Mgt 131	3	M Com 130	3
MU 131	3	Radio 212	1
Radio 211	1	R/TV 232	3
R/TV 231	3	R/TV 233	3
R/TV 236	3	Elective	3
TV 213	1	TV 214	1

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

COMMUNICATION AND THEATRE

RADIO — TELEVISION

Course of Study for Associate in Applied Science Degree
Announcer-Operator Option**

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	ET 142	4
ET 141	4	ET 146	4
Math 131 or More Advanced	3	Math 134 or More Advanced	3
Orientation 111	1	PE*	1
PE*	1	Radio 112	1
Radio 111	1	R/TV 132	3
R/TV 131	3	TV 114	1
TV 113	1		

Radio-Television

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
ET 147	4	Engl 132 or Speech 234	3
ET 221	2	ET 240b	4
ET 240a	4	Govt	3
Radio 211	1	Radio 212	1
R/TV 231	3	R/TV 232	3
TV 213	1	TV 214	1
R/TV 233	3		

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

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

COMMUNICATION AND THEATRE

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 documen-

tary, 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.

Radio 111, 112, 211, 212 Radio Laboratory (0-5) 1 hour each
These laboratory courses are for students who participate extensively in work at the 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.

TV 113, 114, 213, 214 Television Laboratory (0-5) 1 hour each
The laboratory courses are for students who participate intensively in basic television production at Odessa College. Projects include the production of educational, informational and instructional television programs on cable television. Prerequisite: Approval of the instructor.

COMMUNICATION AND THEATRE

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.

COMMUNICATION AND THEATRE

SPEECH

Course of Study for Associate in Arts Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	DR 131	3
Hist 231	3	Engl 132	3
Orientation 111	1	Hist 232	3
PE	1	PE	1
Science	3	Science	3
Spch 113*	1	Spch 114*	1
Spch 131	3	Spch 236	3

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Lang 141	4	Lang 142	4
PE	1	PE	1
R/TV 131	3	Spch 214*	1
Spch 213*	1	Spch 232	3
Spch 233	3		

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

SPEECH

Spch 131 Introduction to Speech

Communication (3-0) 3 hours
Theory and practice of speech communication in interpersonal, small group, and public communication situations are included in this course. Prerequisite: None.

Spch 113, 114, 213, 214 Forensics

Laboratory (0-2) 1 hour each
This laboratory is in preparation for intercollegiate speech competition. Prerequisite: None.

Spch 232 Introduction to Oral

Interpretation (3-0) 3 hours
This course includes both theory and technique of oral interpretation of literature. The course includes preparation and presentation of selections including prose, poetry, and dramatic literature. Prerequisite: None.

Spch 233 Argumentation and

Debate (3-0) 3 hours
Analysis and application of the fundamental

principles and techniques of argumentation and debate are included in the course. Also included are research methods, use of evidence, argument construction, strategies, refutation, and logical thought processes. Prerequisite: None.

Spch 234 Business and Professional

Speech Communication (3-0) 3 hours
Theories and skills of speech communication as applied to business and professional situations are included in this course. 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.

Diesel Mechanics

The Diesel Mechanics program is designed to train the student to service diesel powered trucks, farm tractors, buses, construction equipment, and oil field equipment. Specific areas of training include: (1) major engine overhaul; (2) transmission overhaul; (3) rear axle assembly and drive line overhaul; (4) steering gear and linkage overhaul; (5) fuel injection system overhaul; (6) hydraulic system overhaul; (7) overhaul or replacement of auxiliary equipment such as generators, starters, alternators, switches, regulators, and other miscellaneous items; (8) troubleshooting procedures; and (9) shop management procedures.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
DM 161	6	DM 162	6
DM 163	6	DM 164	6
Engl 131	3	Engl 132 or Speech 234	3
Orientation 111	1	PE*	1
PE*	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
DM 261	6	DM 262	6
DM 263	6	DM 264	6
Math 131, 131t or More Advanced	3	Govt.	3

*H Ed 131 or PE 132a may be substituted for the two 1-hour physical education courses. Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of forty-eight hours in DM courses.

DIESEL MECHANICS

DM 161 Principles of Diesel Engines I

(2-8) 6 hours

An introduction to the basic principles and repair of high compression gasoline and diesel engines, cooling systems, and lubricating systems. The use and care of hand tools, precision instruments, and test equipment will be stressed. Prerequisite: None.

DM 162 Principles of Diesel Engines II

(2-8) 6 hours

This course is a continuation of DM 161, Principles of Diesel Engines I with emphasis on troubleshooting. Prerequisite: DM 161.

DM 163 Electrical Systems and Control

Circuits I (2-8) 6 hours

An introduction to the basic principles of electricity. Repair and testing procedures for storage batteries, electric starters, generators, alternators, warning devices, lighting systems and switches. The use of electrical test equipment and dynamometer operation with emphasis on dynamometer tune-ups is included. Prerequisite: None.

DM 164 Electrical Systems and Control

Circuits II (2-8) 6 hours

This course is a continuation of DM 163 with emphasis on troubleshooting using electrical test equipment. Prerequisite: DM 163.

DM 261 Transmissions, Power Trains and

Accessories I (2-8) 6 hours

This course provides theory and practice in repair and maintenance of transmissions, differentials, brakes and related assemblies. Various types of special units including pumps, gas and air compression machinery, turbochargers, superchargers, and hydraulic equipment are studied. Prerequisite: DM 161.

DM 262 Transmissions, Power Trains

and Accessories II (2-8) 6 hours

This course is a continuation of DM 261. Transmissions, Power Trains and Accessories. Prerequisite: DM 261.

DM 263 Advanced Diesel Repair I

(2-8) 6 hours

This course provides extensive shop practice in major engine overhaul, including fuel system analysis with emphasis on injector testing and timing. Trouble shooting procedures are also included. Prerequisite: DM 162.

DM 264 Advanced Diesel Repair II

(2-8) 6 hours

This course is a continuation of DM 263, Advanced Diesel Repair I. Prerequisite: DM 263.

Drafting

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. There is a large demand for draftsmen throughout the nation. Students completing the program will receive an Associate in Applied Science degree.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Hrs.	Course	Hrs.
Art 131a	3	DT 241a	4
DT 141 or Engr 131	4 or 3	Engl 132 or Speech 234	3
Engl 131	3	Engr 133	3
Math 131, 131t, or more advanced	3	Math 134, 134t, or More advanced	3
Orientation 111	1	PE*	1
PE*	1	Approved Elective**	1

Second Year

Third Semester		Fourth Semester	
Course	Hrs.	Course	Hrs.
DT 242a	4	DT 244	4
DT 243a	4	DT 245	4
Math 132 or More Advanced	3	DT 246	4
Approved Elective**	3	Approved Elective**	3
Govt.	3		

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

**Approved Electives: DT 241b, 242b, 243b, Phys 141, Reading 131, Mgt 131 and 233, Mt 161, and WT 161.

DRAFTING TECHNOLOGY

DT 140 Industrial Drawing (2-4) 4 hours

A study of fundamental drafting techniques used in machine and welding shops. Emphasis is placed on threaded fasteners, fabrication prints, dimensioning, sectional views, and visualization of objects in a pictorial form. Prerequisite: None.

DT 141 Technical Drafting I (2-4) 4 hours

A basic course in the fundamentals of drawing and sketching for the technical student. Included in the course will be lettering, geometric construction, sketching and shape description, multiview projection sections, dimensioning techniques, auxiliary views, and interpretation of industrial sketches and prints. Emphasis is placed on development of skills as well as theory. Prerequisite: None.

DT 241a Architectural Drafting (2-4) 4 hours

This course is an introductory course in the field of architectural drafting. Prerequisite: DT 141 or Engr 131.

DT 241b Advanced Architectural Drafting (2-4) 4 hours

This course is a continuation of Drafting Technology 241a with emphasis on commercial and industrial construction. Prerequisite: DT 241a.

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: DT 141 or 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 di-

mensioning and tolerancing will be made. Prerequisite: DT 242a.

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: DT 141 or 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. Prerequisite: DT 243a.

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: DT 141 or 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: DT 141 or 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: DT 141 or Engr 131.

Electrical and Electronics

The Electrical and Electronics Technology curriculum is designed to prepare individuals for technical careers in electronics communications, industrial electrical and electronics, consumer electronics servicing, and computer servicing. Emphasis is placed on transistors, integrated circuits, special purpose tubes, and circuits in power supplies, amplifiers, oscillators, transmitters, receivers, television, microwave, and digital logic devices. Power distribution, measuring instruments, electrical machinery, and controls are also studied.

Course of Study For Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132 or Spch 234	3
ET 141	4	ET 142	4
ET 144a	4	ET 146a	4
Math 131, 131t, or More Advanced ...	3	Govt	3
Orientation 111	1	Math 134, 134t, or More Advanced ...	3
PE*	1	PE*	1

Second Year

1. Engr 131 or DT 141
2. ET 146b
3. Minimum of fifteen additional semester hours in ET courses.
4. Minimum of seven semester hours of approved electives.**

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

**Approved electives may be any ET course not already required; DT 245; Engr 133; Phys 141; AT 261; MT 161; R/AC 131, 131a, 132, 132a; Mgt 234; R/TV 131, 132; BA 131b, 231L; WT 161; any EDP; Math 132 or higher; Read 131; Eco 230; any II, DM-163.

Students preparing for a career in communications areas should consider the following ET courses in their second year: ET 221, 240a, 240b, 241, 242, 245.

Students preparing for a career in industrial applications should consider the following ET courses in their second year: ET 144b, 230, 246, 248, 249.

Students preparing for a career in consumer electronics servicing should consider the following ET courses in their second year: ET 243, 241, 245.

Students preparing for a career in computer maintenance should include the following in their second year: ET 144a, 144b, 247, EDP-143, 248.

ELECTRICAL AND ELECTRONICS

Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of thirty-five semester hours in ET courses.

Those who have had some prior training in electrical/electronics in the military, private schools, high schools, etc., may wish to apply for an advanced standing examination. Contact the department chairman.

Associate in Applied Science Degree With Announcer-Operator Option

This option is designed to prepare people for employment in the smaller radio stations as a combination technician, announcer, disc jockey, etc.

The student will work toward the Federal Communications Commission's First Class Radiotelephone license for the technical portion of this option. In addition, the student will study announcing, writing, diction, and production and will be expected to work in the college radio station KOCV-FM.

The Announcer-Operator option is conducted in conjunction with the Department of Communication and Theatre, and the suggested course of study is located in that portion of the catalog. Students selecting this option will be considered R/TV majors.

ELECTRICAL AND ELECTRONICS

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, and filters. Student will need an electronic calculator. Prerequisite: ET 141.

ET 144a Digital Circuits I (3-3) 4 hours

Logic circuitry basic to computers, telemetry, and automation is studied. Specific topics include: gates; counters; adders, I/O; D/A & A/D converters; storage devices, binary, octal, BCD, hexadecimal systems; and an introduction to Boolean algebra. Prerequisite: high school algebra.

ET 144b Digital Circuits II (3-3) 4 hours

A state-of-the-art control and logic handling course wherein the microprocessor and associated integrated circuits accomplish by the use of software that which formerly required extensive hard-wired circuitry. It involves programming, machine and assembly languages, octal and hexadecimal systems, and interfacing methods. Included are such devices as RAM, ROM, EPROM, UART, PROM, and others, as well as the microprocessor chip. Prerequisite: ET-141, 144a, and recommended elective EDP-248.

ET 146a 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, FET, Bipolar transistors, diodes, regulators, and linear integrated circuits. Prerequisite: ET 141. Corequisite: ET-142.

ET 146b Basic Electronics II (3-3) 4 hours

A continuation of ET 146, this course includes topics of operational amplifiers and oscillators, UJT, SCR, Diacs, flip-flops, varactors, and servicing. Prerequisite: ET 141, 142, 146a.

ELECTRICAL AND ELECTRONICS

- ET 221 Rules & Regulations (2-0) 2 hours**
Preparation for the Federal Communication Commission's second class license examination. Prerequisite or corequisite: ET 240a. Prerequisite waived for non-technical R/TV majors.
- ET 230 Electric Power Distribution (3-0) 3 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 240a 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 or prerequisite: ET 146b with ET 221 is recommended.
- ET 240b 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 221, 240a, 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. Prerequisite: ET 141, 142, 144a, 146a, 146b.
- ET 242 Ultrahigh Frequencies (3-3) 4 hours**
This is a study of microwave systems and involves such specific topics as klystrons, magnetrons, traveling wave tubes, propagation characteristics, impedance matching, Smith chart, solid state devices, precision measurements, and an introduction to avionics and lasers. Prerequisite: ET 141, 142.
- ET 245 Television Circuits (3-3) 4 hours**
The theory and application of principles used in TV transmission 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 141, 142, 144a, 146a, 146b.
- 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, analog data transmission. Also covered are electronic ignitions systems and electronic control of temperature, pressure, position, speed, and other variables (servo systems). Prerequisite: ET 141, 142, 144a, 146a.
- ET 247 Electronic Computers (3-3) 4 hours**
Theory and laboratory practice in computer servicing and repair. Prerequisite: ET 141, 144a, 144b.
- 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 factors are explored, and corrective methods applied. A very well equipped laboratory permits thorough independent study of all characteristics. Prerequisite: ET 142 or equivalent experience, and high school or college algebra. Small electronic calculator desirable.
- 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, and high school or college algebra. Small electronic calculator desirable.

Electronic Data Processing

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 machine 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.

Course of Study for Associate in Applied Science Degree

Business Programming Option

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
OE 132	3	EDP 142	4
EDP 143	4	EDP 245	4
Engl 131 or OE 130	3	Engl 132 or Spch 234	3
Math 134 or 135b	3	Math 136b	3
Orien 111	1	PE*	1
PE*	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 246	4	EDP 244	4
EDP 248	4	EDP 249	4
BA 241a or OE 131	4 or 3	Approved Electives**	8
Govt	3		
BA 131b	3		

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

**Approved Electives: Any math not required, BA, Physics, Engr., Chem., or EDP except EDP 230. ET 144a, Eco. 230, Read 131, Mgt 131, Mgt. 233, Mgt 234, Mgt 238.

ELECTRONIC DATA PROCESSING

**Course of Study for Associate in Applied Science Degree
Scientific Programming Option**

First Year			
First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 143	4	EDP 142	4
Engl 131	3	Engl 132 or Spch 234	3
Math 134	3	Math 132	3
Chem 131	3	Math 133	3
Chem 111	1	OE 132	3
Orient 111	1	PE*	1
PE*	1		
Second Year			
Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 246a	4	EDP 245	4
EDP 248	4	Govt	3
Math 231	3	Math 135 or 237b	3
Phys 141	4	Math 232	3
		Approved Elective**	4

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

**Approved Electives: Any math not required, BA, Physics, Engr., Chem., or EDP except EDP 230. ET 144a, Eco. 230, Read 131, Mgt 131, Mgt. 233, Mgt 234, Mgt 238.

ELECTRONIC DATA PROCESSING

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 and the UNIVAC verifying interpreting punch. Training is given in 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: None, however, some typing skill is desirable.

EDP 142 Computer Operations (3-3) 4 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 sys-

tem routines and utility programs. During the course of the semester, the student spends a portion of his laboratory time operating a UNIVAC 9480 computer system. Prerequisite: EDP 143.

EDP 143 Introduction to Computer

Programming (3-3) 4 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 one or more higher-level languages and executing them on a UNIVAC 9480 computer. A simple subset of these languages will be used. Prerequisite or Corequisite: Math 134 or 135b.

ELECTRONIC DATA PROCESSING

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 are 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 143.

EDP 244 RPG Programming (3-3) 4 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 143, or approval of instructor.

EDP 245 COBOL Programming (3-3) 4 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 143 or approval of instructor.

EDP 246 FORTRAN IV Programming

(3-3) 4 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 143, Math 136b.

EDP 246a Scientific Programming

(3-3) 4 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 or Corequisite: Math 231. Recommended prerequisite: EDP 143.

EDP 248 Assembler Language Programming

(3-3) 4 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 UNIVAC 9480 computer series. Prerequisite: EDP 143 or approval of instructor.

EDP 249 Business Systems Design and

Development (3-3) 4 hours
This is a fundamental course in systems analysis which will include the following: a basic introduction and analysis of data and information processing concepts; and in-depth treatment of data base concepts; a discussion of systems work presented in the form of a methodology for the development of information systems; and a discussion of ideas and topics important to information systems theory and practice. Prerequisite: EDP 245.

Emergency Medical Technology

Odessa College offers a cooperative program with the local hospital and ambulance service designed to provide understanding, proficiency, and skill in emergency care and transportation of the sick and injured.

The curriculum is primarily designed for ambulance personnel, safety engineers, rescue squad workers, policemen, firemen, lifeguards, employees of public or private health agencies, and civil defense workers. Completion of the courses will qualify the individual to write the examination for Registry with the Texas Department of Health Resources, Texas Emergency Medical Services.

Objectives are to include all techniques of emergency medical care presently considered within the responsibilities of the Emergency Medical Technician, as well as the operational aspects of the job in which he is expected to perform. Specific contents of the courses are based on guidelines from the Texas State Department of Health, Division of Emergency Medical Services, and the National Highway Safety Bureau, U.S. Department of Transportation. The training includes both theoretical and practical applications of emergency care.

Enrollment in EMT 281 and EMT 282 is limited, and students are urged to apply early to insure acceptance to the program. Applicants or those seeking additional information should contact the Emergency Medical Technology director.

EMERGENCY MEDICAL TECHNOLOGY

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 111	1	EMT 131	3
Biol 143	4	EMT 141	4
Engl 131	3	Engl 132	3
Govt	3	Fire 131e	3
Math 131	3	PE	1
Orientation 111	1		
PE	1		

Successful completion of 1st year will prepare the student to write the examination for Registry for Class A Basic Emergency Medical Technician.



EMERGENCY MEDICAL TECHNOLOGY

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 121t	2	EMT 282	8
Chem 130	3	Fire 237	3
EMT 281	8	Psy 231	3
Fire 236	3	Spch 131	3

Successful completion of 2nd year will prepare the student to write the examination for Registry for Class A, Advanced Paramedic.

Certificate Program

Summer Session

First Term		Second Term	
Course	Sem. Hrs.	Course	Sem. Hrs.
EMT 131	3	EMT 141	4

Successful completion will prepare the student to write the examination for Registry for Class A, Basic Emergency Medical Technician.

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EMT 281	8	EMT 282	8

Successful completion will prepare the student to write the examination for Registry for Class A, Advanced Paramedic.

EMERGENCY MEDICAL TECHNOLOGY

EMT 131 Basic Emergency Care of the Sick or Injured (3-0) 3 hours
 An introductory course designed to define the roles and responsibilities of the Emergency Medical Technologist. A functional approach of anatomy and physiology, and medical terminology is utilized to enable the student to become proficient in the emergency care of the sick and injured. Topics covered include vital sign recognition, cardiac and pulmonary problems, wounds, fractures, and miscellaneous injuries. Prerequisite: none.

EMT 141 Emergency Care of the Sick or Injured (3-3) 4 hours
 This course is a continuation of EMT 131. It emphasizes medical and environmental emergencies, extrication and rescue, and ambulance operation. The practicum includes 48 hours of in-hospital training with a minimum of 20 hours spent in the emergency room. The remaining 28 hours experience will be gained in the recovery room, delivery room, and intensive care unit. The student must also make at least five ambulance runs. Successful comple-

EMERGENCY MEDICAL TECHNOLOGY

tion of this course will allow the student to write the examination for Registry for Class A, Basic Emergency Medical Technician (EMT). Prerequisite: EMT 131 and consent of instructor.

EMT 221 Emergency Medical Review

(2-0) 2 hours

The National Highway Safety Bureau and the National Academy of Sciences/National Research Council consider it important that a means be provided for maintaining a uniformly high level of skill among Emergency Medical Technicians (EMT's) who have successfully completed basic training in emergency medical care. This refresher course has been developed to provide for periodic review and updating of EMT skills and knowledge. Prerequisite: EMT Registry.

EMT 281 Advanced Emergency Care of

the Sick or Injured I (6-6) 8 hours

An advanced course on the care of the acutely ill with emphasis on respiratory and cardiovascular care. Additional topics include diagnostic

techniques, pharmacology, and shock and fluid therapy. The practicum will include clinical experience in the emergency room, operating room, recovery room, intensive care unit, coronary care unit, and blood bank. In addition, the student must complete ambulance runs as required for certification. Prerequisite: Registered Class A-EMT and consent of instructor.

EMT 282 Advanced Emergency Care of

the Sick or Injured II (6-6) 8 hours

A continuation of EMT 281 with emphasis on central nervous system, soft tissue, and musculoskeletal injuries. Additional topics include medical emergencies, obstetrics, pediatrics, rescue techniques, communications, and management of the emotionally disturbed. The practicum will include clinical experience in the emergency room, pediatric unit, labor suite, morgue, and psychiatric unit. The student must also complete ambulance runs as required for certification. Successful completion will allow the student to write the examination for Registry for Class A-Advanced Paramedic. Prerequisite: EMT 281.

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.

Course of Study for Certificate of Completion in Engineering

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Chem 131 and 111	4	Chem 132 and 112	4
Engl 131	3	Engl 132	3
Engr 131	3	Engr 133 or EDP 246A	3 or 4
Math 133	3	Math 232	3
Math 231	3	PE	1
Orientation 111	1	Phys 143	4
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level) or Govt 231*	3	Engl (Sophomore Level) or Govt 232*	3
Engr 233	3	Engr 234	3
Hist 231	3	Hist 232	3
Math 234	3	Math 235	3
PE	1	PE	1
Phys 241	4	Phys 242	4

Note: Chemical Engineering majors will take Chemistry 231, 211 and 232, 212 in lieu of sophomore English during their second year.

*Six hours of Government and 12 hours of English are required for the Associate in Science Degree.

ENGINEERING TECHNOLOGY

The Engineering Technology program is designed to prepare a person to work as an assistant to an engineer. Emphasis is placed on courses basic to a professional degree; primarily mathematics, engineering, physics, and electronic data processing. The courses incorporated in the program afford the graduate flexibility in the selection of engineering fields.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132	3
Engr 131	3	Engr 133	3
Math 132*	3	Math 133*	3
Math 134*	3	Math 231	3
Orient 111	1	PE**	1
PE*	1	Phys 141	4

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engr 233	3	DT 246	4
DT 242a	4	EDP 246a	4
Govt	3	Engr 234	3
Math 232	3	Math 235	3
Phys 143	4	Phys 241	4

*Math 136 and Math 137 may be taken in place of Math 132, 134, and 133.

**HE 131 or PE 132a may be substituted for the two 1-hour physical education courses.

ENGINEERING

Engr 131 Engineering Drawing (2-4) 3 hours

The care and use of drawing instruments, free-hand lettering, geometric construction, general drafting principles, multiview projection, revolutions, auxiliary view, 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 the principles of descriptive geometry, auxiliary views, developments, intersections, double-curved, and warped surfaces, and point, line, and plane problems, and their applications to problems of engineering and architecture. Prerequisite: Engr 131.

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.



Fire Protection

Fire Technology is designed to assist in the development of meaningful educational 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.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Chem 131 and 111	4	Chem 132 and 112	4
Engl 131	3	Fire 133	3
Fire 131	3	Fire 134	3
Fire 132	3	Fire 135	3
Math 131, 131T or More Advanced ...	3	PE	1
Orientation 111	1	Spch 234	3
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 233	3	Fire 234	3
Fire 231	3	Fire 245	4
Fire 232	3	Fire 236	3
Fire 233	3	Elective (Fire Protection or EMT)	3
Govt 231	3	Elective	3
Elective (Fire Protection or EMT)	3	Elective	3

FIRE PROTECTION TECHNOLOGY

Fire 131 Fundamentals of Fire Protection

(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 department; position classification and pay plans; employee organizations; a discussion of current related problems and review

of expanding future fire protection problems.
 Prerequisite: None.

Fire 131e* Fire Safety Education

(3-0) 3 hours
 A survey of physical, chemical, and electrical hazards and their relationship to loss of property and/or life. Study of codes, laws, problems, and cases. Detailed examination and study of the physical and psychological variables re-

FIRE PROTECTION TECHNOLOGY

lated to the occurrence of casualties. Safe storage, transportation and handling techniques are stressed to eliminate or control potential risks. Prerequisite: None.

Fire 132 Industrial Fire Protection I (3-0) 3 hours
Specific concerns and safeguards related to business and industrial organizations. A study of industrial fire brigade organization and development, plant lay-out, fire prevention programs, extinguishing factors and techniques, hazardous situations and prevention methods. Gaining cooperation between the public and private fire department organization. Study of elementary industrial fire hazards in manufacturing plants. Prerequisite: None.

Fire 132e* Fire Service Communications (3-0) 3 hours
The development of fire alarm systems, the various types of systems, installation, operation and testing of the most common systems; receiving, dispatching, and radio communication procedures; F.C.C. regulations, the fire alarm operations office, mutual aid systems, fire station communications and facilities, response and fire ground procedures, emergency operations, code and numbering systems, required records and reports; technological advances. Prerequisite: None.

Fire 133 Industrial Fire Protection II (3-0) 3 hours
Development of fire and safety organizations in industry; relation between private and public fire protection organizations; current trends, deficiencies and possible solutions for industrial fire problems; role of insurance and other special organizations; and in-depth study of specific industrial processes, equipment, facilities and work practices to understand the potential hazards and techniques to detect and control such hazards. Field trips to selected plants and demonstrations of new techniques equipment and innovations. Prerequisite: None.

Fire 133e* Urban Fire Problem Analysis (3-0) 3 hours
Intensive study of the urban fire problem. Problems covered by lack of zoning and other land use laws. Operation research techniques, and systems engineering are utilized as analytic procedures for the technological assessment of public fire protection, including water supply, fire alarm, and fire department traditional assessment methods and urban analysis.

Socio-economic and management factors as related to city planning. Environment problems incurred should be studied in-depth. Prerequisite: None.

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; automatic signaling and detection systems; rating organizations and underwriting agencies. Prerequisite: None.

Fire 135 Fire Prevention (3-0) 3 hours
The objectives and views of inspections, fundamental principles, methods, techniques, and procedures of fire prevention administration. Fire Prevention organization; 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 prevention organizations. Engineering as a solution to fire hazards. Prerequisite: None.

Fire 136e* 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. Prerequisite: None.

Fire 231 Fire and Arson 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 discussion of laws, decisions and opinions; kinds of arsonists, interrogation procedures, cooperation and coordination between fire fighters and arson investigators and other related topics. Prerequisite: None.

Fire 231e* Advanced Fire Loss Statistical Systems (3-0) 3 hours
An in-depth study of computerized systems that may be utilized for storing and retrieval of fire loss statistics, also techniques and processes.

*Courses with an "E" suffix are approved electives.

FIRE PROTECTION TECHNOLOGY

dures for programming various types of records and reports valuable to the fire service. Exploration of the new systems of micro-filing including the modern technology of COM (Computer Output Microfilm) and the systems utilizing microfiche, including reduction ratios and various type readers. A review of standards for the uniform coding for fire protection as developed by the NFPA in pamphlet 901 and 901AM. Prerequisite: None.

Fire 232 Building Codes and Construction (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. Review of Model Building Codes and Life Safety Code. Prerequisite: None.

Fire 232e* Fire Insurance Fundamentals (3-0) 3 hours

The relationships between the fire defenses, fire losses, and insurance rates are studied. Basic insurance principles, fire loss experience, loss ratios, state regulations of fire insurance, key rate system, applying the I.S.O. GRADING SCHEDULE AND OTHER TOPICS ARE STRESSED. Relationship of insurance to modern business; principles of property and casualty insurance contracts; corporate structure of insurance companies. Prerequisite: None.

Fire 233 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, and management 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 Service Leadership as viewed from the Company officer's position. Prerequisite: None.

Fire 234 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 requirement, 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. Prerequisite: None.

Fire 236 Hazardous Materials I (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, i.e., flammable liquids, combustible solids, and gases. Emphasis on emergency situations and most favorable methods of handling fire fighting and control. Prerequisite: None.

Fire 236e* Legal Aspects of Fire Protection (3-0) 3 hours

A study of legal rights and duties, liability concerns and responsibilities of the fire department while carrying out their duties. Introduction and basic concepts of Civil and Criminal law, the Texas and federal judicial structure, and cites liability for acts of the fire department and fire prevention bureaus. An in-depth study of various cases concerning fire fighters, fire departments, and municipalities. Prerequisite: None.

Fire 237e* Hazardous Materials II (3-0) 3 hours

Hazardous materials covering storage, handling, laws, standards, and fire fighting techniques associated with chemicals, gases, flammable liquids, corrosives, poisons, explosives, rocket propellants and exotic fuel, and radio-active materials. The formation of toxic fumes and health hazards is also stressed. Ignition and combustion characteristics of gases, liquids, and solids related to free-burning fire and explosion phenomena. Familiarization with radiological instruments, human exposure to radiation, decontamination procedures, common uses of radio-active materials and operational procedures. Prerequisite: None.

Fire 245 Fire Fighting Tactics and Strategy (3-1) 4 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. Prerequisite: None.

*Courses with an "e" suffix are approved electives.

Geology, Anthropology, Astronomy, Geography, and Earth Science

GEOLOGY

Geology is a study of the earth, its history, its materials, its changing life, and the processes that have brought it to its present form. For the student who does not wish more than a year of geology, the principal value will be primarily in an increased interest in and understanding of his environment. However, those majoring in geology, mining, petroleum or civil engineering, ecological studies 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.

Course of Study for Associate in Science Degree in Geology

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Chem 131 and 111	4	Chem 132 and 112	4
Engl 131	3	Engl 132	3
Geol 141	4	Geol 142	4
Hist 231	3	Hist 232	3
Math 134 or Math 136	3	Math 132 or Math 137	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Anth 231	3	Engl (Sophomore Level)	3
Engl (Sophomore Level)	3	Geol 230	3
Govt 231	3	Govt 232	3
Lang 141	4	Lang 142	4
Math 133 or Math 231	3	Math 231 or Anth 232	3
PE	1	PE	1

GEOLOGY, ANTHROPOLOGY, ASTRONOMY, GEOGRAPHY, AND EARTH 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.

phasis in this course. It provides basic knowledge required for additional study in geology or for cultural development. Prerequisite: Geol 141 or permission of instructor.

Geol 142 Historical Geology (3-3) 4 hours

The geologic history of the earth is given em-

Geology 230 Geomorphology (3-0) 3 hours

Geologic interpretation of the origin, development, and classification of land forms. Prerequisite: Geol 141 or permission of instructor.

ANTHROPOLOGY

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.

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.

ASTRONOMY

Astronomy is primarily intended for the non-science major, either to satisfy a science requirement (along with Physical Science 142), or as an elective for the interested student. As men begin to live and work in space, a knowledge of basic astronomy is necessary for an aware individual. Astronomy, however, is a profitable field for the science major as well, since some of the most fascinating experiments in physics, chemistry, geology, and even biology, can take place only between the stars.

Astr 141 Descriptive Astronomy

(3-3) 4 hours

This course is a survey of the Universe and the objects contained in it, and their relationships to the earth. Emphasis will be given to results from recent space explorations and other current research. Prerequisite: None.

Astr 132 Descriptive Astronomy II

(3-0) 3 hours

This course is a continuation of Astr. 141, and concentrates on such topics as black holes, pulsars, neutron stars, extra-terrestrial life and communications with it, cosmology, and science fiction as it relates to astronomical science. Much of the course will be in the form of individual reports or group discussions. Prerequisite: Astr. 141.

GEOLOGY, ANTHROPOLOGY, ASTRONOMY, GEOGRAPHY, AND EARTH SCIENCE

GEOGRAPHY

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.

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.

EARTH SCIENCE

Earth Science is an integrated science courses 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.

Ea Sc 141 Nature of the Earth and Universe I (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. The Earth's relationships to the solar system and to the universe are also studied. Many principles of other sciences are included in terms of easily visualized natural processes. Prerequisite: None.

Ea Sc 142 Nature of the Earth and Universe II (3-3) 4 hours
Earth Science 142 is a continuation of Earth Science 141 or Astronomy 141 with additional emphasis on the oceans, the atmosphere, and weather. Prerequisite: None.



Home Economics

A multi-career opportunity in education, industry, recreation, and related fields is available to a person with training in home economics. Both men and women are 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, TV, radio, fashion fields, and research.

Courses are designed so that students can achieve understanding of concepts and attain skills essential for present day life as an individual and as a member of the family and community.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Engl 131	3	Engl 132	3
H Ec 130	3	H Ec 132	3
H Ec 131	3	H Ec 133	3
Hist 231	3	Hist 232	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
CD 141	4	Engl (Sophomore Level)	3
Engl (Sophomore Level)	3	Govt 232	3
Govt 231	3	H Ec 235	3
H Ec 233	3	H Ec 231 or CD 233	3
Science, Math or Lang	3-4	Science, Math, or Lang	3-4
PE	1	PE	1

Most Child Development courses transfer as approved electives at most Universities offering degrees in Home Economics.

HOME ECONOMICS

H Ec 130 Consumer Problems in Clothing and Textile (3-2) 3 hours
Family and individual clothing needs based on sociologic-psychological aspects are included in addition to wardrobe analysis. Laboratory activities provide experience in consumer buying with emphasis on fiber identification and construction, finish, and care of fabrics. Prerequisite: None.

H Ec 131 Nutrition in Diet and Disease (3-2) 3 hours
This course provides an understanding of basic nutrition and diet therapy. Lectures and laboratories are designed to relate the constituents of good nutrition to health, age, activity, pregnancy, lactation and disease. Prerequisite: None.

H Ec 132 Food Selection and Preparation (2-4) 3 hours
Through laboratory activities men and women gain experience in factors related to food selection, food purchasing, food preparation and meal management. Students who complete this course should be able to plan, purchase, and prepare food to meet their individual requirements. In addition, family nutrition will be explored. Prerequisite: None.

H Ec 133 Clothing Construction (2-3) 3 hours
A basic class in clothing construction where the student can learn basic sewing skills or improve present construction skills by learning new techniques and methods. Lab will include projects so that the student can individualize commercial patterns, and make suitable fabric selections. 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 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 Personal and Family Management (3-0) 3 hours
This course includes a study of the basic principles of managing resources. Activities include problems in management of time and money, providing for protection through investments, banking, Social Security, insurance, etc. Also included is a study of elementary problems such as wills, estate planning, contracts, and consumer credit which families or individuals may encounter. Prerequisite: None.

H Ec 235 Introduction to Housing and Home Furnishing (3-2) 3 hours
Emphasis in this course is on choosing housing to meet family or personal needs. Subject matter includes the history of housing, the location and structure of a house, design elements and principles related to planning the cost of various housing styles. Activities include projects in drapery construction, renovation of furniture and individual problems in planning and decorating homes. Prerequisite: None.

Industrial Instrumentation

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 Industrial Instrumentation is designed to provide the student with the skills and the knowledge required for employment as a maintenance and operation technician, instrument shop supervisor, or technical representative for a manufacturing concern.

Course Of Study For Associate In Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Spch 234	3
ET 141	4	ET 142	4
Il 131	3	Il 132	3
Il 133	3	Il 134	3
Math 131 or More Advanced	3	Math 134 or More Advanced	3
Orientation 111	1	PE*	1
PE*	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
ET 144a	4	ET 146a	4
Il 231	3	Il 232	3
Il 233	3	Il 234	3
Govt	3	DT 141	4
Phys 141	4		

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

Students not desiring the AAS degree may receive a Certificate of Technology by completing 24 semester hours in Industrial Instrumentation courses and ET-144a. For advanced standing credit contact the department chairman.

INDUSTRIAL INSTRUMENTATION

II 131 Basic Pneumatic Instrumentation

(1-3) 3 hours

This course is designed to provide basic instruction in pneumatic instrumentation: principles of operation and maintenance of most common primary elements, controllers, recorders, valves, and meters. Students will perform a wide variety of experiments with instruments in current industrial use. Prerequisite: None.

II 132 Advanced Pneumatic

Instrumentation (1-3) 3 hours

This course will cover a variety of types of control loops in detail. Set up, calibration, and tuning procedures are included. Considerable time will be spent in the laboratory working with actual plant equipment. This course is recommended for anyone interested in how controllers actually work. Prerequisite: None, although prior knowledge of pneumatic control equipment is desirable.

II 133 Elementary Principles &

Terminology (1-3) 3 hours

This course presents basic principles of flow temperatures, pressure, level, and other primary physical measurements; terminology of mechanical and pneumatic measurement and control equipment; symbols, nomenclature, schematics and applications. Laboratory experiments and practical problems are included. Prerequisite: None.

II 134 Basic Instrument Engineering

(1-3) 3 hours

This course will cover valve and orifice sizing, practical consideration in designing control systems, techniques of specifying instruments, proper instrument installation practices, and related subjects. This is not a control theory course but is a highly practical course dealing with how to instrument a process. It especially is recommended for instrument men or engineers who want to know what instrumenta-

tion is really about. Prior knowledge of pneumatic and electronic control equipment is desirable. Prerequisite: None, although prior knowledge of pneumatic control equipment is desirable.

II 231 Basic Electronic

Instrumentation (1-3) 3 hours

This course covers the design principles, construction, calibration and maintenance of standard electrical instrumentation. Operation of solid state devices in electronic instruments will be presented. Includes hands-on laboratory sessions on measurement, calibration, and troubleshooting, using electrical test equipment. Prerequisite: None.

II 232 Advanced Electronic

Instrumentation (1-3) 3 hours

This course presents a continuation of operation and methods of troubleshooting of electronic instruments used in process control. Hands-on experience with simulated processes and complete control loops will be included. Also includes electronic converter and transducers, and principles and practice of control loop wiring. Prerequisite: None.

II 233 Process Analytical

Instrumentation 3 hours

This course will cover gas chromatographs, infrared spectrographs, most types of oxygen and moisture analyzers and pH and similar electrochemical devices. The course will cover how the analyzers work, what their limitations are, and why they fail. Students will work with several types of analyzers in the laboratory. Prerequisite: None.

II 234 Advanced Control (1-3) 3 hours

Control terminology, control systems controller functions. Equipment specifications for process applications including cascade, ratio, override and feed-forward control with their uses is defined. Prerequisite: None.

Law Enforcement

Law enforcement is EVERYBODY'S BUSINESS. It is a rewarding and honorable profession, essential to the well-being and security of our nation. Those choosing law enforcement for a career have the knowledge that they are contributing a major service to the millions of Americans who look to the law enforcement officer for protection of their lives and property.

The course of study is designed for those who are seeking entry into law enforcement profession, those already in some aspect of the criminal justice system who are broadening their understanding of this vast field, and the interested citizen who realizes that law enforcement is part of the real world in which he must live every day.

Courses in law enforcement are recommended for everyone, regardless of his career choice, as a means of viewing crime and the criminal through the eyes of the law enforcement officer. The student mixture of novices, experienced professionals, and concerned citizens provide a fascinating learning situation.

The four semester curriculum leads to an Associate in Applied Science degree or to an Associate in Arts degree. Those wishing to continue to a higher degree should consult with the senior institution of their choice and the Director of Law Enforcement at Odessa College.

Courses of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.		
Engl 131	3	Engl 132	3
LE 131	3	LE 132*	3
LE 134	3	LE 133	3
Orientation 111	1	PE 132a	3
Psy 231	3	Soc 231	3
Spch 234	3	Approved Elective	3
Approved Elective	2		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hours	Course	Sem. Hours
Govt 231	3	Govt 232	3
Hist 231	3	Hist 232	3
LE 234	3	LE 231	3
LE 235	3	LE 232	3
LE 239*	3	Le 233*	3
		PE 111n or 111p	1

*Alternate Elective Law Enforcement Subjects may be substituted.

Approved Electives: OE 121, Chem 130 and 110; Mgt 131; Read 131; Span 131.

Other electives or substitutions with prior approval of the Director of Law Enforcement.

LAW ENFORCEMENT

**Course of Study for Associate in Arts Degree
in Law Enforcement**

Course	Sem. Hrs.	Course	Sem. Hrs.
English	12	Government	6
Law Enforcement	21	History	6
(Seven core curriculum in LE including all listed in LE subjects without asterisk).		Science and/or Foreign Language	8-12
		Humanities or other electives	8-15

All of the seven LE core curriculum subjects are transferable and applicable toward any LE degree offered in Texas by agreement of Texas accreditation agencies. All students who plan to go to other institutions for further degrees should contact that institution to assure transferability of all course and credit toward degree plan.

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

*Texas Accreditation Agencies have approved the following alternate elective Law Enforcement subjects, in addition to the required 21 semester hours Core Curriculum, for students seeking an Associate Degree which requires 30 semester hours in the professional field:

Course	Sem. Hrs.
LE 132, Patrol Administration	3
LE 233, Juvenile Procedures	3
LE 233a, Probation and Parole	3
LE 233b, Penology	3
LE 239, Traffic Management and Supervision	3
LE 239a, Traffic Law	3

LE 233a, LE 233b, and LE 239a may be substituted for LE 132, LE 233 or LE 239 only on prior approval of the Departmental Chairman when there is a demonstrated need and justification for such substitution.

LAW ENFORCEMENT

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. Prerequisite: None.

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. Prerequisite: None.

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: LE 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. Prerequisite: None.

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. Prerequisite: LE 235.

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: LE 235.

LE 233* Juvenile Procedures (3-0) 3 hours

This course provides an in-depth study of the history, background, and philosophy of 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. Prerequisite: None.

LE 233a* Probation and Parole (3-0) 3 hours

This course introduces the student to the many faceted subject of criminal corrections. He will study the history and background of the entire field including the evolution through the years to the present philosophy and practice in this area. He will learn the extreme importance of these functions in the attempt to successfully rehabilitate the criminal and the problems and progress under current conditions. Prerequisite: None.

LE 233b* Penology (Jail Operation and

Management) (3-0) 3 hours

This course will afford the student an opportunity to acquaint himself with the basic concepts, practices and policies as applied by the present day criminal justice official in the care and custody of the criminals who are under his care. The history and evolution of the prison systems will be studied and the entire situation reviewed in light of the present problems in jail planning, coordination, and in its impact on the community. Prerequisite: None.

LE 234 Police — Community Relations

(3-0) 3 hours

A review of the history of the police and their image in the eyes 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. Prerequisite: None.

LE 235 Criminal Procedure and

Evidence 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

LAW ENFORCEMENT

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: LE 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 prob-

lems, motor vehicle laws, and accident investigation techniques. Prerequisite: None.

LE 239a* Traffic Law (3-0) 3 hours
This course involves a detailed study of the basic principles of traffic control, traffic law enforcement and traffic court procedures in the context of the Texas traffic laws. An in-depth study of the history and background of the traffic law, problems in interpretation and application and accepted procedures in enforcement. Prerequisite: None.



Literature and Languages

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, he 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.

Course of Study for Associate in Arts Degree in English

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Lang 141	4	Lang 142	4
Orientation 111	1	PE	1
PE	1	Science	4
Science	4	Elective	3
Elective	3		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 235	3	Engl 236	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
Math 134 or 237*	3	Math 132 or 238*	3
PE	1	PE	1
Elective	3	Elective	3

*Desirable to have Math 134 and Math 132 or Math 237 and Math 238.

LITERATURE AND LANGUAGES

Engl 130 Basic English (3-0) 3 hours
This compensatory course is designed to improve the student's 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 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 formal research paper or other research projects, 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 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 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 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 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 238 American Literature from the Beginning to 1860 (3-0) 3 hours
This course treats briefly of colonial writers and writings in order to center attention on major literary figures of the first half of the nineteenth century. Both narrative and expository prose are studied, along with poetry and drama. Prerequisite: English 132.

Engl 239 American Literature from 1860 to the Present (3-0) 3 hours
This course surveys great literary movements from the Civil War to the present. Collateral readings supplement selections in the anthology. Prerequisite: English 132.

LITERATURE AND LANGUAGES

FOREIGN LANGUAGES

The foreign language program at Odessa College can satisfy the needs of most students whose prospective major includes a foreign language. Students should consult carefully the catalog of the senior college they plan to attend.

In the classroom, 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 practice speaking 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 their second

LITERATURE AND LANGUAGES

year of study. From the first day, class is carried on primarily in the language being studied.

Many students major in the language and teach it. Others use it in law, business, 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.

Course of Study for Associate in Arts Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Lang 141	4	Lang 142	4
Lang 141 (2nd)	4	Lang 142 (2nd)	4
Orientation 111	1	PE	1
PE	1	Science	4
Science	4		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Lang*	3-5	Lang*	3-5
Math 134 or 237*	3	Math 132 or 238*	3
PE	1	PE	1
Elective	3	Elective	3

*Span 221, 222, in addition to Span 231 and 232, is 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.

LITERATURE AND LANGUAGES FOREIGN LANGUAGES

Fr 141 First Year French I (3-2) 4 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: None.

Fr 142 First Year French II (3-2) 4 hours

This course is a continuation of Fr 141. Purposes and techniques are the same. Prerequisite: Fr 141.

Fr 231 Second Year French I (3-0) 3 hours

Conducted in French, this sequence is a continuation of French 141 and 142. It emphasizes

LITERATURE AND LANGUAGES

conversation based on reading assignments and includes grammar and composition. Individual help is available as needed. Prerequisite: Fr 142 or equivalent.

Fr 232 Second Year French II (3-0) 3 hours

This course is a continuation of Fr 231. Purposes and techniques are the same. Prerequisite: Fr 231 or equivalent.

Germ 141 First Year German I (3-2) 4 hours

This is a basic course, conducted in German, for those students who have no previous experience in the German language. 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: None.

Germ 142 First Year German II (3-2) 4 hours

This course is a continuation of Germ 141. Purposes and techniques are the same. Prerequisite: Germ 141 or equivalent.

Germ 231 Second Year German I

(3-0) 3 hours

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

Germ 232 Second Year German II

(3-0) 3 hours

This course is a continuation of Germ 231. Purposes and techniques are the same. Prerequisite: Germ 231 or equivalent.

Span 131 Conversational Spanish I (3-0) 3 hours

It is the primary purpose of this course to give the student an opportunity to develop an accurate oral use of the language, based on a sound understanding of structure. Idiomatic expressions, such as are used in daily speech, and conversation in the language will be stressed. Reading will be incidental to the oral objective. Prerequisite: None.

Span 132 Conversational Spanish II (3-0) 3 hours

This course is a continuation of Span 131. Prerequisite: Span 131 or equivalent.

Span 141 First Year Spanish I (3-2) 4 hours

Conducted in Spanish, this is a basic course for those who have no previous experience in

Spanish. It emphasizes simple conversation: pronunciation, fluency, vocabulary. Basic grammar is also presented, and tapes are used in the laboratory for individual practice individual help is available as needed. Many elements of the course are self-paced. Prerequisite: None.

Span 142 First Year Spanish II (3-2) 4 hours

This course is a continuation of Span 141. Prerequisite: Span 141 or equivalent.

Span 221 Intensive Practice in Spoken Spanish I (2-0) 2 hours

This is a second year course designed to build fluency and to 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. Prerequisite: Span 142 or equivalent, or permission of the instructor.

Span 222 Intensive Practice in Spoken Spanish II (2-0) 2 hours

This course is a continuation of Span 221. The second semester provides vocabulary necessary for social and business conversation. Prerequisite: Span 221 or equivalent, or permission of the instructor.

Span 231 Second Year Spanish I (3-0) . . . 3 hours

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

Span 232 Second Year Spanish II

(3-0) 3 hours

This course is a continuation of Span 231. Prerequisite: Span 231 or equivalent.

Span 234 Spanish Literature I (3-0) 3 hours

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

Span 235 Spanish Literature II (3-0) 3 hours

This course is a continuation of Spanish 234. Prerequisite: Span 234 or equivalent, or permission of the instructor.

Machine Shop

The Machine Technology program is designed to give the student a broad background of basic knowledge in the field of mechanical design and production. Skills are developed in the operation of machine tools, in layout, and in blueprint reading so as to provide the student with sufficient knowledge for entry employment in the trade. Students completing the associate degree program will have a sufficient background in mathematics, communications, management, and drafting necessary for advancement into managerial positions.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
DT 140 or DT 141	4	Math 131 or 131t	3
MT 161	6	MT 163	6
MT 162	6	Mt 164	6
Orientation 111	1	PE*	1
PE*	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132 or Spch 234	3
Mgt 131	3	Govt	3
MT 261	6	MT 263	6
MT 262	6	MT 264	6

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

Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of forty-eight hours in MT courses.

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, simple and complex, are performed in order to practice the units of measure and measuring instruments. Students are introduced to job planning, shop sketching, and blueprint reading. Mathematics for planning and estimating shop work along with

MACHINE SHOP

shop safety continues to be stressed. Students learn to grind and sharpen single points and multitooth cutting tools. Corequisite or prerequisite: 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, drill press, milling machines, shapers, and grinders. Basic operations of the engine lathes are required. An integral part of this course is classroom and laboratory demonstration by individual students and the demonstration of maximum machine tool performance. Corequisite or prerequisite: MT 162.

MT 164 Machines and Their Operations —

Part II (2-8) 6 hours
Students will continue to set up and to operate all machine tools and to produce projects from the simple to the more complex. They practice blueprint reading, precision measuring, and shop sketching in order to become industrially oriented. Corequisite or Prerequisite: 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 also includes 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 spent time in the class discussing industrial shop organization and management and continue to practice manufacturing procedures. Individual industrial assignments are made with students spending fifteen hours per week working on special industrial assignments. Assignments are made on an individual basis and closely supervised by instructor-coordinator. Corequisite or prerequisite: 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. 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 plan.

Course of Study for Associate in Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Lang 141	4	Lang 142	4
Math 133	3	Math 232	3
Math 231	3	PE	1
Orientation 111	1	Phys 143	4
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
Math 234	3	Math 235	3
PE	1	PE	1
Phys 241	4	Phys 242	4

*Students not prepared for Calculus I will need to start with Math 136 or earlier math course.

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 brief review of arithmetic and a study of elementary algebra with applications. Prerequisite: Math 130 or equivalent.

Math 131t Technical Mathematics I (3-0) . 3 hours

This course is a study of fundamentals from arithmetic, measurement, approximate numbers, plane geometry, elementary algebra, linear equations, graphs, and right angle trigonometry. Emphasis will be placed upon technical problems. 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 or corequisite: Math 134 or equivalent competency.

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, or equivalent competency.

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: Two years High School Algebra, or Math 131 or equivalent.

Math 134t Technical Mathematics II

(3-0) 3 hours

This course is a study of intermediate algebra, logarithms and applied trigonometry. Emphasis will be placed upon technical problems. Prerequisite: Math 131t or Math 131.

Math 135 Mathematical Statistics

(3-0) 3 hours

Introduction to the basic elements of statistics. Includes frequency distributions, measures of central tendency, elementary probability, binomial distribution, measures of variation, normal distribution, random sampling, tests of significance, "t" test, chi-square test. For students in education, social science, and physical science, as well as in mathematics. Prerequisite: None

Math 136 Pre-Calculus I (3-0) 3 hours

A functional approach to algebra and trigonometry emphasizing elementary functions and their graphs, polynomial, rational, and algebraic functions, exponential, logarithmic, and trigonometric functions, inverse trigonometric functions, probability, and matrices. Prerequisite: Two years high school algebra and one semester high school trigonometry, or equivalent.

Math 137 Pre-Calculus II (3-0) 3 hours

A concise integrated treatment of the concepts necessary for calculus. Extended elementary functions and their graphs, polynomials, rational and algebraic functions, geometric functions, conics, transformations, polar coordinates, and parametric equations. Prerequisite: Math 136.

Math 231 Calculus I (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 or 137.

Math 232 Calculus II (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

MATHEMATICS

solution of a wider range of problems including moments of inertia. Prerequisite: Math 231.

Math 234 Calculus III (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 237 Fundamentals of Mathematics I

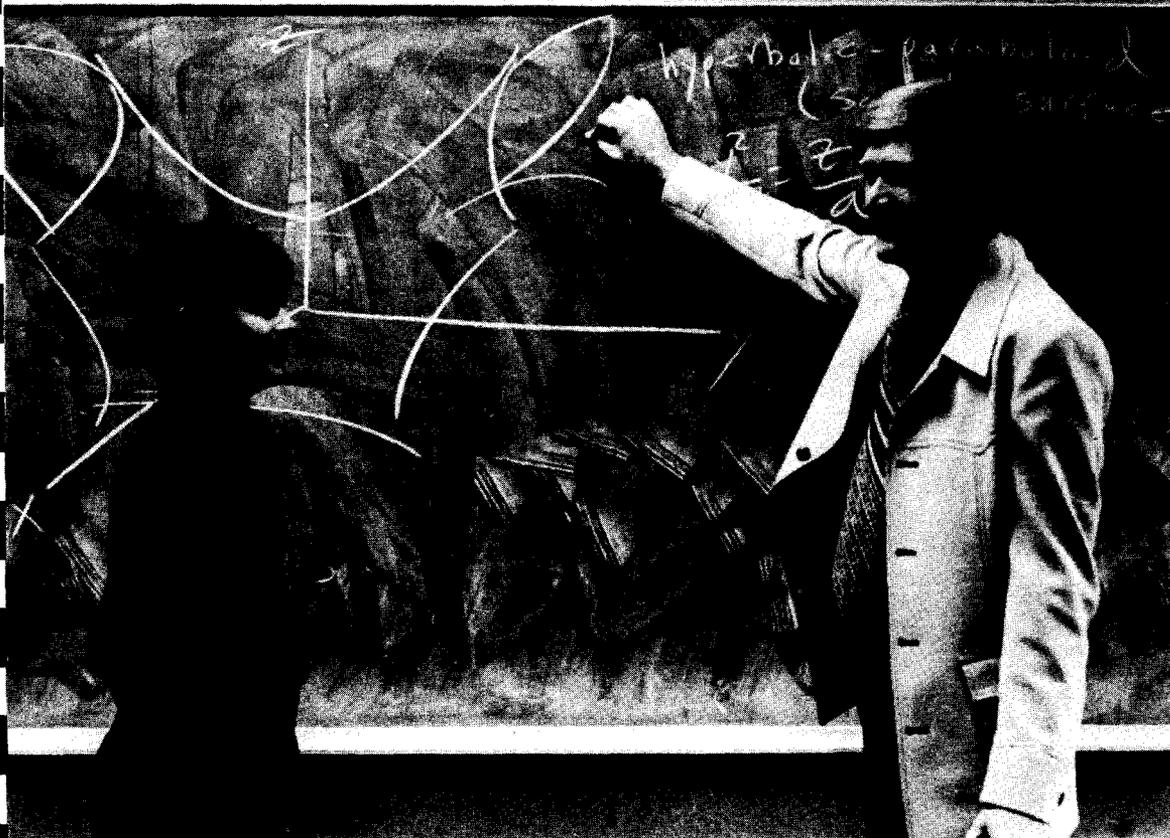
(3-0) 3 hours

This course presents topics from modern algebra, basic concepts of sets, number systems, relations and applications. Basic concepts of elementary mathematics are studied. Math 237 and 238 are recommended for non-science and nonmath majors. Prerequisite: None.

Math 238 Fundamentals of Mathematics II

(3-0) 3 hours

This course presents topics from geometry, equivalence and congruence, position and shape, measurement, the nature of proof, mathematical systems, probability and statistics. Basic concepts of elementary mathematics are studied. Prerequisite: Math 237.



Medical Laboratory Technology

Medical Laboratory Technology is a special program of combined academic and clinical training which, during a 22-month period, prepares the student for entry skills in medical laboratory techniques; completes the prerequisites for writing the national registry examination in the category, Medical Laboratory Technician; and leads to an Associate of Applied Science Degree. The laboratory practicum is under the full-time supervision of a qualified educational coordinator at an affiliated clinical laboratory, and the entire program is directed by a pathologist certified by the American Society of Clinical Pathologists and the College of American Pathologists.

Because practicum space is limited, students will be admitted on a selected basis. To be admitted to the program, the student must be a high school graduate or equivalent; achieve a satisfactory score on selected college entrance examinations; show evidence of good physical and mental health; and have the approval of the Medical Laboratory Admissions Council. All applications for admission in the Fall semester must be dated not later than June 15.

The student must maintain a "C" average or better for all courses taken and must attain no grade lower than "C" in any Allied Health Course. Students failing to meet these scholastic requirements will be dropped from the course.

Students wishing to apply for admission or seeking additional information should contact the Chairman, Medical Laboratory Technology Department, Odessa College, P.O. Box 3752, Odessa, Texas 79760.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 144M	4	AH 146M	4
AH 163M	6	AH 165M	6
Chem 131 and 111	4	Chem 132 and 112	4
Engl 131	3	Engl 132	3
Orientation 111	1	PE*	1

Summer Session (First Term)

AH 131M	3
Govt/Hist	3

MEDICAL LABORATORY TECHNOLOGY



Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 244 M	4	AH 246M	4
AH 263M	6	AH 265M	6
Biol 141	4	Biol 142	4
PE*	1		

Summer Session (First Term)

AH 132M	3
Math 131 or More Advanced ...	3

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

MEDICAL LABORATORY TECHNOLOGY

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

AH 132M Clinical Practicum (0-20) 3 hours
The twenty hours of clinical practicum will be spent at an affiliated clinical laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist.

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

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

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 165M Fundamentals of Immunohematology (6-0) 6 hours
This course will consist of the study of im-

munohematology. The major emphasis will be placed upon the study of the antigen-antibody reaction and its use in blood banking and serological testing. Prerequisite: Ah 163 or special permission from the instructor. Corequisite: AH 146 M.

AH 244M Clinical Practicum (0-20) 4 hours
The twenty hours of clinical practicum will be spent at an affiliated clinical 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 an affiliated clinical laboratory working in an assigned department under the supervision of a Medical Technologist and a Pathologist. Corequisite: AH 265M.

AH 263M Fundamentals of Clinical Chemistry (6-0) 6 hours
In clinical chemistry, the student will be reviewed in organic chemistry with emphasis on 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 tests will be studied with demonstrations on each type of procedure. Prerequisites: AH 165M. Corequisite: AH 244M.

AH 265M Fundamentals of Clinical Microbiology (6-0) 6 hours
This course consists of a study of microorganisms 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. Prerequisites: AH 263M. Corequisite: AH 246M.

Mid-Management

The primary objective of the Mid-Management Program is to prepare each student for full-time employment in supervision or management. 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 four "option" programs available. Students who are specifically interested in careers in retailing or marketing should enroll in the Marketing Management Option. Students who plan careers in the field of fashion merchandising or fashion retailing should enroll in the Fashion Merchandising Option. Students who plan careers in some phase of industrial production, oil or gas production, or machine fabrication should enroll in the Industrial Supervision Option. The General Management Option is available for students who plan careers in some other business or industrial field and for students who have not chosen a specific career field. Students in the petroleum marketing and supermarket management fields will find specific courses available to them in addition to the courses in the Marketing Management Option.

Many business, both large and small, are actively seeking graduates of Associate Degree programs. The shortage of promotable people in the supervisory and middle-management ranks virtually assures the graduate a challenging career with rewarding promotional possibilities. Firms which have their own management training programs 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.

Course of Study for Associate in Applied Science Degree General Management Option

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	BA 131b	3
Govt	3	Engl 132	3
Mgt 116	1	Mgt 117	1
Mgt 131	3	Mgt 236	3
Mgt 231	3	Math	3
Orientation 111	1	PE	1
PE	1	Approved Elective	3
Approved Elective	3		

MID-MANAGEMENT

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 230	3	BA 231L	3
Mgt 238	3	Mgt 217	1
Mgt 216	1	Mgt 232	3
Mgt 233	3	Mgt 234	3
Mgt 237	3	Spch 234	3
Approved Elective	3	Approved Elective	3

Approved Electives: Any other Mgt course; Any EDP course; OE 238; BA 232L; Eco 230; Eco 231; Eco 232; Psy 231; Psy 231; Psy 233; Soc 231; Soc 232; Soc 236.

**Course of Study for Associate in Applied Science Degree
Marketing Management Option**

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BA 131b	3	Engl 132	3
Engl 131	3	Mgt 117	1
Mgt 231	3	Mgt 235	3
Mgt 116	1	Govt	3
Mgt 131	3	PE	1
Mgt 132	3	Mgt 236*	3
Orientation 111	1	Approved Elective	3
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 230	3	BA 231L	3
Mgt 216	1	Mgt 217	1
Mgt 238	3	Mgt 232	3
Mgt 233	3	Mgt 234	3
Mgt 237	3	Spch 234	3
Approved Elective	3	Approved Elective	3

*Petroleum Marketing students will enroll in Mgt 237p instead of Mgt 236. Supermarket Management students will enroll in Mgt 237s instead of Mgt 236.

Approved Electives: Any other Mgt course; any other EDP course; OE 238; BA 232L; Eco 230; Eco 231; Eco 232; Psy 231; Psy 233; Soc 231; Soc 232; Soc 236.

MID-MANAGEMENT

**Course of Study for Associate in Applied Science Degree
Fashion Merchandising Option**

The curriculum and suggested course of study is tentative. Final adoption is subject to approval by the Texas Education Agency.

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BA 131b	3	Engl 132	3
Engl 131	3	Govt	3
Mgt 116	1	Mgt 117	1
Mgt 131	3	Mgt 134f	3
Mgt 132	3	Mgt 235	3
Mgt 133f	3	Approved Elective	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 230	3	BA 231L	3
Mgt 216	1	Mgt 232	3
Mgt 233f	3	Mgt 234	3
Mgt 237	3	Mgt 234f	3
Mgt 238	3	Mgt 217	1
Approved Elective	3	Spch 234	3

Approved Electives: Any other Mgt course; OE 238; BA 232L; Eco 230; Eco 231; Eco 232; Psy 231; Psy 233; Soc 231; Soc 232; Soc 236.

**Course of Study for Associate in Applied Science Degree
Industrial Supervision Option**

The curriculum and suggested course of study is tentative. Final adoption is subject to approval by the Texas Education Agency.

MID-MANAGEMENT

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
BA 131b	3	Engl*	3
Engl*	3	Math**	3
Govt	3	Mgt 117	1
Mgt 116	1	Mgt 134	3
Mgt 131	3	Mgt 136i	3
Mgt 135i	3	Approved Elective	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Eco 230	3	EDP 230	3
Mgt 216	1	Mgt 217	1
Mgt 237	3	Mgt 238i	3
Mgt 237i	3	Mgt 233	3
Mgt 238	3	Approved Elective	3
Approved Elective	3	Approved Elective	3

Approved Electives: Any other Mgt course; Read 131; Any other Math course; Any Accounting course; Any other Eco course; Psy 231; Soc 231; Soc 236. Any Occupationally oriented course which has a direct bearing on the student's career plan.

*Engl 130; Engl 131; Engl 132; Engl 233; OE 131. Any two of the foregoing will satisfy the English requirement.

**Math 130; Math 131; Math 131t; Math 132b; Math 136b; Math 237b. The student may choose any one of these which will further his career and fit his existing skill level in mathematics.

MID-MANAGEMENT

Mgt 116, 117, 216, 217 Mid-Management Internships (0-20) 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 (3-0) 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 (3-0) 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

MID-MANAGEMENT

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 133f Introduction to Fashion Merchandising (3-0) 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 134 Introduction to Transportation Management (3-0) 3 hours
This course presents an overview of domestic transportation and traffic management. The course's aim is to describe the transportation system and make the student aware of how it can be used. Attention is given to government regulation and the economics of transportation. Topics such as bills of lading and checking freight rates are presented with a view to practical application. Prerequisite: None.

Mgt 134f Fashion Sales Management (3-0) 3 hours
This course views the role of selling as related to the field of fashion merchandising. Emphasis is placed on effective techniques of selling, on the training of sales people, and on the management of sales people and sales functions. Role playing and case studies will focus on realistic situations. Prerequisite: None.

Mgt 135i Principles of Production Supervision (3-0) 3 hours
This is an introductory course in production management, presenting the fundamental concepts of this field. Attention is given to the formulation of objectives and the use of a systems approach to production. An integrated managerial perspective is maintained throughout the course. Prerequisite: None.

Mgt 136i Industrial Safety (3-0) 3 hours
This course develops the principles and practices of safety management. Attention is given to the legal requirements of the Occupational Safety and Health Act as well as to the basic concepts and methods of administering an industrial safety program. Prerequisite: Mgt 135i.

Mgt 231 Principles of Marketing (3-0) 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 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 (3-0) 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 (3-0) 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 233f Fashion Buying (3-0) 3 hours
This course covers the fundamentals of effective buying as it relates to fashion retailing. Attention is given to the planning of correct purchases, the estimation of demand, the selection of sources of supply, and product merchandising. Prerequisite: Mgt 133f.

Mgt 234 Introduction to Public Relations (3-0) 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

MID-MANAGEMENT

organized to include two hours of lecture-discussion and one hour of seminar discussion each week. Prerequisite: None.

Mgt 234f Fashion Promotion (3-0) 3 hours

This course emphasizes the relationship which must exist between personal selling, visual merchandising, advertising, and fashion shows so that successful merchandising of fashion products may be accomplished by the fashion retailer. Prerequisite: None.

Mgt 235 Retail Business Management

(3-0) 3 hours

This course is a continuation of Mgt 132, Principles of Retailing. Emphasis is placed on the management of personnel, merchandise, and other resources of the retail store. Case studies are used to apply the principles of retail management to actual conditions. The course is organized to include two hours of lecture-discussion and one hour of seminar-discussion each week. Prerequisite: Mgt 132.

Mgt 236 Marketing Management (3-0) ... 3 hours

This course is a continuation of Mgt 231, Principles of Marketing. Emphasis is placed on the management of the activities associated with marketing and distribution processes and institutions. Case studies are used to apply the principles of marketing management to actual situations. The course is organized to include two hours of lecture-discussion and one hour of seminar-discussion each week. Prerequisite: Mgt 231.

Mgt 237 Human Resources Management

(3-0) 3 hours

This course examines the field of human relations as it applies to modern business management. Emphasis is placed on the productive management of the human resources available to a business or industrial firm. Innovative techniques of the behavioral science fields are introduced for discussion. Case studies are used to apply behavioral theories to actual situations. The course is organized to include two hours of lecture-discussion and one hour of seminar-discussion each week. Prerequisite: Mgt 131.

Mgt 237i Production Planning and

Control (3-0) 3 hours

This course is a continuation of Mgt 135i, Principles of Production Supervision. It emphasizes planning analysis and the control of

production operations. Attention is given to procurement and inventory control. Quality control, methods analysis, and work measurement are included as major sections of the course. Prerequisite: Mgt 135i.

Mgt 237p Petroleum Marketing Operations

(3-0) 3 hours

This course introduces the field of petroleum marketing. Emphasis is placed on personnel management, financial management, and plant management as they pertain to the marketing of petroleum products. Sales promotion at the retailing level is discussed. Case studies are used to apply marketing principles to actual petroleum product marketing situations. The course is organized to include two hours of lecture-discussion and one hour of seminar-discussion each week. Prerequisite: Mgt 231 and permission of the instructor.

Mgt 237s Principles of Supermarket Operations

(3-0) 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: Mgt 231 and permission of the instructor.

Mgt 238 Communication Management

(3-0) 3 hours

This is a creative communication course designed to provide the mid-management student with effective methods of creating understanding with his fellow employees and with his community within the management environment. Emphasis is placed on perfecting business communication techniques in the various channels of communication. Verbal, non-verbal, and written communication media will be covered as they pertain to the needs of the student. Prerequisite: None.

Mgt 238i Materials Management

(3-0) 3 hours

This course presents the non-technical, management-oriented skills needed in materials management. Attention is given to purchasing, inventory control, and traffic. Cost control and cost reduction are major sections of the course. Prerequisite: Mgt 135i.

Music

The Music Department of the college provides pre-professional training for the music major, as well as general studies for personal enjoyment and enrichment. 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 Community/Junior College 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 music 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.

Course of Study for Certificate of Completion in Music

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Mu 133	3	Mu 134	3
Mu 141	4	Mu 142	4
*Mu 113a	1	*Mu 113b	1
*Mu 112b, 112p, 112s, or 112w	1	*Mu 112b, 112p, 112s, or 112w	1
+ Mu 125a	2	+ Mu 125b	2
+ Mu 116c	1	+ Mu 116d	1
+ Mu 110f, 110g, or 110i	1	+ Mu 110f, 110g, or 110i	1
#Mu 117a	1	#Mu 117b	1
##Appl Mu 111a	1	##Appl Mu 111b	1
Appl Mu 120a or 130a	2-3	Appl Mu 120b or 130b	2-3
Engl 131	3	Engl 132	3
PE	1	PE	1
Orientation	1		



MUSIC

First Semester		Second Year		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.	Course	Sem. Hrs.
Mu 221	2	Mu 222	2	Mu 232	3
Mu 231	3	Mu 232	3	Mu 232	3
*Mu 213a	1	*Mu 213b	1	*Mu 213b	1
*Mu 112b, 112p, 112s, or 112w	1	*Mu 112b, 112p, 112s, or 112w	1	*Mu 112b, 112p, 112s, or 112w	1
+Mu 225a	2	+Mu 225b	2	+Mu 225b	2
+Mu 216c	1	+Mu 216c	1	+Mu 216c	1
+Mu 110f, 110g, or 110i	1	+Mu 110f, 110g, or 110i	1	+Mu 110f, 110g, or 110i	1
#Mu 217a	1	#Mu 217b	1	#Mu 217b	1
##Appl Mu 211a	1	##Appl Mu 211b	1	##Appl Mu 211b	1
Appl Mu 220a or 230a	2-3	Appl Mu 220b or 230b	2-3	Appl Mu 220b or 230b	2-3
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Phys 131	3	Hist 232 or Govt 232	3	Hist 232 or Govt 232	3
Hist 231 or Govt 231	3				

- *Required for Instrumental majors
- +Required for Vocal majors
- #Required for Keyboard majors
- ##Piano required for non-keyboard majors

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

MUSIC

- Mu 113a, 113b, 213a, 213b Concert Band (0-3) 1 hour each**
 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 daily rehearsals and all major performances. The band serves as a required laboratory for instrumental music majors. Prerequisite: None.
- Mu 113c, 113d, 213c, 213d Jazz Ensemble (0-3) 1 hour each**
 Jazz ensemble is open to musicians having jazz experience or to those with instrumental skills and a desire for learning jazz techniques. The course consists of a minimum of three hours of rehearsal per week and playing at special college functions. Prerequisite: None
- Mu 114a, 114b, 214a, 214b Orchestra (0-4) 1 hour each**
 The orchestra is open to students who can play

music of moderate difficulty upon some orchestral instruments. Prerequisite: None

- Mu 116a, 116b, 216a, 216b Vocal Ensemble (0-3) 1 hour each**
 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.
- Mu 118a, 118b, 218a, 218b Chamber Music (0-3) 1 hour each**
 This course is designed to examine and perform instrumental ensemble literature in which there is only one player to each part. The emphasis lies on the ensemble, not on the individual player, and each instrument is as important as any other in the performance of the

MUSIC

music. Prerequisite: adequate facility on an instrument.

- Mu 125a, 125b, 225a, 225b A Capella Choir (0-5) 2 hours each**
The A Capella 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.

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 catalog.

PRIVATE LESSONS

- Mu 130a, 130b Freshman Piano (0-1) 3 hours each**
This course is designed for a performance major in piano, and the minimum representative requirements are these: BACH: four three-part 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) 2 hours each**
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) 3 hours each**
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 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) 2 hours each**
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) 3 hours each**
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) 2 hours each**
This course is a continuation of Mu 120b, and the minimum representative requirements are these: Bach: four three-part Inventions or two

MUSIC

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) 1 hour each
 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 Mu 111a: None.

Mu 230a, 230b Sophomore Organ (0-1) 3 hours each
 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) 2 hours each
 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) 1 hour each
 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, 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) 1 hour each
 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 from 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) 1 hour each
 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 from the standard repertoire are to be prepared for presentation at faculty jury for grade. Prerequisite: Mu 111b.

Mu 120a, 120b Freshman Voice (0-1) 2 hours each
 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) 2 hours each
 This course is designed as a continuation of Mu

MUSIC

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) 2 hours each
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: Kreutzer *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) 2 hours each
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) 2 hours each
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; Wolffahrt-Issac-Lewis, *Thirty Studies for the Viola, Book I*; Wolffahrt, *Book II*; "Lyric Suite" by Grieg-Sitt. Prerequisite for Mu 120b: Mu 120a.

Mu 220a, 220b Sophomore Viola

(0-1) 2 hours each
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. Danel's *L'ecole du mecanisme*, 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.

Mu 120a, 120b Freshman Violoncello

(0-1) 2 hours each
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) 2 hours each
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) 2 hours each
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) 2 hours each
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) 2 hours each
This is a course designed for the music education major whose primary instrument is classi-

MUSIC

cal 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) 2 hours each
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, Pence, Mudarra, Frescobaldi, Rameau, Torroba, Turina, etc. Prerequisite for Mu 220b: Mu 220a.

Mu 120a, 120b Freshman Bassoon

(0-1) 2 hours each
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) 2 hours each
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 *Gambaro Studies*, and such representative solos as the Vivaldi *Concerto*, the Weber *Concerto*, and the Hindemith *Sonata*. Prerequisite: Mu 120b.

Mu 120a, 120b Freshman Flute

(0-1) 2 hours each
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) 2 hours each
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) 2 hours each
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) 2 hours each
This course is a continuation of Mu 120b, and the minimum representative requirements are these: all scales to be played from memory in

MUSIC

eight 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) 2 hours each
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) 2 hours each
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 Andraud *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) 2 hours each
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.

Mu 220a, 220b Sophomore Saxophone

(0-1) 2 hours each
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) 2 hours each
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*, Pottag, *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) 2 hours each
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, Pottag, 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.

MUSIC

Mu 120a, 120b Freshman Trombone

or Baritone (0-1) 2 hours each
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) 2 hours each
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) 2 hours each
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.

Mu 220a, 220b Sophomore Cornet or Trumpet

(0-1) 2 hours each
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) 2 hours each
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) 2 hours each
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) 2 hours each
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*

MUSIC

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) 2 hours each**
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) 1 hour each**
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.
- 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) 1 hour each**
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, 216c, 216d Opera Workshop (0-3) 1 hour each**
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) 1 hour each**
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

MUSIC

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.

Mu 141, 142, Freshman Music Theory (3-3) 4 hours each
This course includes rhythmic reading, sight-singing, 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) 2 hours each
Students analyze and sing melodies which en-

compass seventh chords, modes, and chromaticism. Partsinging is included. 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) 3 hours each
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 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.

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

Nursing

This nursing program is built on a career ladder concept incorporating the courses that prepare students to become nursing assistants, or to take licensure examinations to become licensed vocational nurses and/or registered nurses.

The curriculum is designed to allow the student maximum flexibility in education. A student has the option of completing EIGHT WEEKS for NURSING ASSISTANT, ONE YEAR for VOCATIONAL NURSING or TWO YEARS for REGISTERED NURSING. Successful completion of two years also qualifies the student to receive the Associate in Applied Science Degree.

Requirements for admission to the nursing program are high school graduation or its equivalent, satisfactory achievement on college entrance examinations, evidence of good physical and emotional health, two satisfactory character references, and approval of the admissions committee of the Department of Nursing. The admissions committee is charged with the responsibility of determining final acceptance of an applicant after weighing all available criteria. Because of limited enrollment, students are urged to apply early.

For admission, applicants should apply to the college and to the director of the program. There is no discrimination due to sex, race, cultural background or ethnic origin. English language proficiency is essential.

The student must satisfy the objectives for the respective level with a minimum grade of "C" in each required course. Also, each nursing student must be covered by health and accident insurance and student liability insurance. Students are responsible for their own transportation to the clinical facilities.

The nursing program centers about the common health problems in the United States and must be taken in sequence listed. Clinical experience is a part of each course (excluding Nursing 135), and includes medicine, surgery, obstetrics, pediatrics, selected special services, and community agencies.

The same program is offered by Odessa College in Midland beginning in the spring semester.

The following curriculum and suggested course of study is tentative. Final adoption is subject to approval by the Texas Education Agency.

Course of Study for Nursing (All Levels)

First Year

LEVEL 1*

First Semester

First Eight Weeks

Course	Sem. Hrs.
Biol 111	1
Nu 111	1
Nu 172	7

171



NURSING

LEVEL 2**

First Semester Second Eight Weeks		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 121t	2	Biol 143	4
Nu 118	6	Nu 127	6
Nu 164	6	Nu 156 <i>Nu 164</i>	<i>6</i>
<i>162</i>		Nu 176 <i>174</i>	7

Midwinter Session

Course	Sem. Hrs.
Nu 135 <i>133</i>	3

Summer Session

First Term		Second Term	
Course	Sem. Hrs.	Course	Sem. Hrs.
Nu 148 <i>145</i>	4	Nu 140 <i>147</i>	1
		Nu 149 <i>146</i>	4

Second Year

LEVEL 3***

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 244	4	Engl 132	3
Engl 131	3	Govt or U.S. Hist	3
Nu 261	6	Nu 262	6
Psy 111	1	PE	1
Psy 231	3	Psy 234	3

Summer Session

First Term		Second Term	
Course	Sem. Hrs.	Course	Sem. Hrs.
PE	1	Nu 243	4
Soc 231	3		

*Students successfully completing Level I receive the Certificate of Nursing Assistant.

**Students successfully completing Level II are eligible to write the State Board Examinations for licensure as a Vocational Nurse.

***Students successfully completing Level III are eligible to write the State Board Examinations for licensure as a Registered Nurse.

NURSING

- Nu 110 Vocational Adjustments (3-0) 1 hour**
This course aids the student in attaining the necessary knowledge regarding legal aspects, job responsibilities, and trends relating to the vocational nurse. Prerequisites: Nu 176, Nu 156, and Nu 127. Concurrent with Nu 149.
- Nu 111 Orientation to Nursing (1-0) 1 hour**
This course is designed to introduce the student to the nursing program. It orients the student to the role of the learner, personal hygiene and grooming, the health-illness continuum, the place of nursing in society, mental health concepts, nursing ethics, and legal aspects. No prerequisite. Concurrent with Nu 172 and Biol 111.
- Nu 113 Orientation to Nursing II (1-0) 1 hour**
This course is a continuation of the concepts presented in Nu 111. Mental health concepts will be continued, with emphasis on communication. Nursing ethics and legal aspects will be further examined and nursing history presented. Prerequisite: Nu 111 and Nu 172. Concurrent with Nu 164 and AH 121t.
- Nu 127 The Adult Life Cycle (2-0) 2 hours**
This course explores Erickson's stages of man during the adult years. Developmental tasks of the young and middle-aged adult are considered, with special emphasis placed on the needs of the elderly. Prerequisite: Nu 135. Concurrent with Nu 176 and Nu 156.
- Nu 135 Care of Children (48-0) 3 hours**
This course provides content on growth and development of the child, skills essential to pediatric nursing, nutrition for the infant and small child, and care of the well child. It also introduces the student to observations and care of the sick child. Taught in the midwinter session, this is a theory course in preparation for clinical experiences to be offered in Nu 156. Prerequisites: Nu 113, Nu 164, and AH 121t.
- Nu 148 Care of Patients with Unstable Health Conditions II (6-28) 4 hours**
Application of scientific principles and practice using the nursing process for total nursing care of patients with unstable medical and/or surgical problems. This course assists the student in developing beginning expertness in the role of the vocational nurse. Prerequisites: Nu 176, Nu 156, and Nu 127.
- Nu 149 Maternity Nursing (6-24) 4 hours**
This course prepares students to perform nursing care, including specialty skills, for maternity patients during pregnancy, through delivery, and immediate post-partum care, and nursing care of the newborn. Prerequisites: Nu 176, Nu 156, and Nu 127.
- Nu 156 Clinical Pradticum (0-20) 5 hours**
This course provides laboratory experiences to develop intermediate and advanced nursing skills in caring for patients with unstable health conditions. Prerequisite: Nu 135. Concurrent with Nu 176.
- Nu 164 Basic Nursing II (8-16) 6 hours**
This course covering the last eight weeks of the fall semester will prepare the student to perform basic nursing skills for patients with stable health deviations. There will be an introduction to beginning skills in recognizing signs and symptoms exhibited by patients, the process of problem-solving thinking, the administration of drugs, and diet therapy. Prerequisites: Nu 111, Nu 172, and Biol 111. Concurrent with Nu 113 and AH 131t.
- Nu 172 Basic Nursing I (8-24) 7 hours**
This course is taught the first eight weeks of the fall semester and prepares the student to perform selected basic nursing procedures for the comfort and safety of patients with self-care limitations. Beginning skills in observing, reporting, and recording, as well as communication skills, will be presented. No prerequisite. Concurrent with Nursing 111 and Biol 111.
- Nu 176 Care of Patients with Unstable Health Conditions I (7-0) 7 hours**
This course provides learning experiences to develop practical abilities required for assessing, identifying, and meeting the nursing requirements of patients with medical-surgical and/or psychiatric conditions. Also included is first-aid. Prerequisite: Nu 135. Concurrent with Nu 156.
- Nu 243 Nursing Trends and Transitions (3-24) 4 hours**
Consideration of occupational, professional, legal, and ethical aspects of nursing are included. Presents an overview of leadership and management skills. Current innovations in nursing and health care, as well as the role of the nurse as a member of the health team, is explored and practiced. Prerequisite: Nu 262.

NURSING

Nu 261 Care of Patients with Complex Health Problems I (3-12) 6 hours
Application of scientific principles and practice using the nursing process for total nursing care of patients with complex medical and surgical problems. Included also is disaster nursing and care of the patient undergoing surgery. Prerequisites: Nu 110, Nu 148, and Nu 149.

Nu 262 Care of Patients with Complex Health Problems II (3-12) 6 hours
A continuation of the application of scientific principles and practice using the nursing process for total nursing care of patients with complex medical-surgical and psychiatric problems. Prerequisite: Nu 261.



Office Education

This body of subject matter, or combinations of courses and practical experience, is organized into programs of instruction to provide opportunities for pupils to prepare for and achieve career objectives in selected office occupations. Learning experiences are designed to lead to employment, further education, and/or advancement of individuals in occupations in public or private enterprises or organizations related to the facilitating functions of the office.

Course of Study for Associate in Applied Science Degree in Office Careers

The Associate in Applied Science degree will be awarded for successful completion of the Office Careers curriculum in Office Education and consists of the following components:

GENERAL OFFICE EDUCATION

General Course Requirements	15 Semester Hours
Office Education Core	30 Semester Hours
General Office Education Emphasis	18 Semester Hours

MEDICAL OFFICE EDUCATION

General Course Requirements	15 Semester Hours
Office Education Core	30 Semester Hours
Medical Office Education Emphasis	18 Semester Hours

Both programs have the same general course requirements and core courses. Options are available from the list of emphasis courses in each program. Students will be placed in typewriting based on the proficiency level attained in high school courses and/or demonstrated by placement tests.

General Course Requirements

Course	Sem. Hrs.
Engl 130, OE 130 or Engl 131, 132	6
Govt 232	3
Math 132b or OE 131	3
Orientation 111 or Psy 111	1
PE	2

Office Education Core

Course	Sem. Hrs.
EDP 230	3
OE 131	3
OE 132 or OE 133	3
OE 133 or OE 231	3
OE 136	3
OE 137	3
OE 138	3
OE 139	3
OE 230	3
OE 238	3

OFFICE EDUCATION

**General Office Emphasis Courses
(18 semester hours)**

Course	Sem. Hrs.
BA 131b	3
BA 231L	3
BA 241a	4
BA 242a	4
Eco 230	3
EDP 131	3
OE 231	3
OE 235*	3
OE 236*	3
OE 237*	3

**Medical Office Emphasis Courses
(18 semester hours)**

Course	Sem. Hrs.
Biol 141	4
OE 234**	3
OE 235*	3
OE 236*	3
OE 237*	3
Psy 231	3
Psy 233	3
Soc 231	3

* Only two of the designated emphasis courses may be applied to a degree or certificate.

** Required of all Medical Office Majors.

Note: A Certificate of Technology will be awarded upon completion of 35 semester hours including a minimum of 30 semester hours of core courses.

**Course of Study for Associate in Applied Science Degree
in Secretarial Careers**

The Associate in Applied Science degree will be awarded for successful completion of the secretarial Careers curriculum in Office Education, and consists of the following components:

General Secretarial Education

General Course Requirements	15 Semester Hours
Secretarial Careers Core	30 Semester Hours
General Secretarial Education Emphasis	18 Semester Hours

Legal Secretarial Education

General Course Requirements	15 Semester Hours
Secretarial Careers Core	30 Semester hours
Legal Secretarial Education Emphasis	18 Semester Hours

Both programs have the same general course requirements and core curriculum. Options are available from the list of emphasis courses in each program. Students will be placed in typewriting and shorthand based on the proficiency level attained in high school courses and/or demonstrated by placement tests.

OFFICE EDUCATION

General Course Requirements

Course	Sem. Hrs.
Engl 130, OE 130 or Engl 131, 132	6
Govt 232	3
Math 132b or OE 131	3
Orientation 111 or Psy 111	1
PE	2

Secretarial Careers Core

Course	Sem. Hrs.
EDP 230	3
OE 131	3
OE 132	3
OE 133	3
OE 134	3
OE 135	3
OE 136	3
OE 137	3
OE 138	3
OE 139	3
OE 230	3
OE 238	3
Psy 231	3

**General Secretarial Emphasis Courses
(18 semester hours)**

Course	Sem. Hrs.
BA 131b	3
BA 231L	3
BA 241a	4
Eco 230	3
EDP 131	3
OE 235**	3
OE 236**	3
OE 237**	3
Psy 233	3

**Legal Secretarial Emphasis Courses
(18 semester hours)**

Course	Sem. Hrs.
BA 231L	3
BA 232L	3
LE 131	3
LE 133	3
LE 235	3
OE 232**	3
OE 235*	3
OE 236*	3
OE 237*	3
Soc 231	3

*Only two of the designated emphasis courses may be applied to a degree or certificate.

**Required of all Legal Secretarial Majors.

Note: A Certificate of Technology will be awarded upon completion of 35 hours including a minimum of 30 semester hours of core courses.

OFFICE EDUCATION

OE 121 Typewriting Skills for

Non-Majors (1-2) 2 hours

This course is offered for students in the Law Enforcement 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.

OE 130 Business English (3-0) 3 hours

This course is designed to give the student majoring in Office Education a thorough course in grammar. Special emphasis will be placed on sentence construction, punctuation, capitalization, vocabulary, and spelling. Prerequisite: None.

OE 131 Office Bookkeeping (3-0) 3 hours

This course is an introduction to the basic theory of double-entry bookkeeping as it applies to practical business situations relative to the single proprietorship. Emphasis is placed on the complete bookkeeping cycle including journalizing, posting, financial statements, special journals, and subsidiary ledgers. The course may be counted toward graduation or certification at Odessa College, but it may not be accepted for credit by all senior colleges.

OE 132 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 to 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.

OE 133 Intermediate Typewriting (3-2) . . . 3 hours

This course is designed for those who have had typewriting in high school or who have had OE 132 or the equivalent. Practice includes composition of business letters, typing of business letters, tabulating materials, and typing of manuscripts. Prerequisite: OE 132.

OE 134 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, at 60 to 80 wpm, of well written shorthand. Prerequisite: OE 132.

OE 135 Intermediate Stenography (3-3) . . 3 hours

This course is a continuation of OE 134 and

applies principles of Gregg shorthand to develop the ability to take accurately transcribed shorthand notes at 80 to 100 wpm. Prerequisite: OE 134.

OE 136 Business Correspondence (3-0) . 3 hours

This course is designed to give the student majoring in Office education special training in business and professional terminology, spelling, punctuation, vocabulary, grammar, and sentence structure in order to write effective business letters and reports. Prerequisite: OE 130 or Engl 130.

OE 137 Machine Transcription (3-0) 3 hours

A general intensive course in transcribing from recording machines using techniques involved in word processing. Prerequisite: OE 132; Corequisite: OE 133.

OE 138 Records Management and Duplication (3-0) 3 hours

A comprehensive course in the systems approach to records management including alphabetic, numeric, subject, and geographic filing, charge out, follow-up, transfer, retrieval, and retention of records. This course also includes training in the use, care, and operation of the commonly used duplicating and copying machines. Prerequisite: OE 132 or OE 133.

OE 139 Secretarial Practice (3-0) 3 hours

This course is designed to develop thorough knowledge and skills necessary in office procedures. A study is made of the duties and functions of the secretary. Modern office techniques, etiquette, telephone techniques, travel planning, mail routines, human relations, and office management are studied. Prerequisite: OE 132.

OE 230 Secretarial Simulation (3-3) 3 hours

Secretarial duties, responsibilities and personal qualifications are emphasized. Students will complete office projects designed to coordinate skills and apply knowledge acquired in preparatory courses. Prerequisite: OE 139.

OE 231 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 typing of legal documents, rough drafts, payrolls, invoices, business letters, telegrams, addressing of envelopes, manuscript work, and cutting of stencils. Prerequisite: OE 133.

OE 232 Dictation and Transcription (3-3) 3 hours

This course is a continuation of OE 233, with

OFFICE EDUCATION

emphasis on speed dictation, rapid transcription and vocabulary enlargement. A student should be able to write at a speed of approximately 100 to 120 wpm by the end of the course. Prerequisite: OE 233.

OE 233 Advanced Stenography (3-3) 3 hours

The purpose of this course is to increase speed and accuracy to 100-120 wpm in shorthand, typewriting, and transcription. Prerequisite: OE 135.

OE 234 Medical Terminology for Secretaries (3-0) 3 hours

An introduction to medical terminology with emphasis on elements of medical terms, standard medical abbreviations, spelling, and its application to medical Secretaries. Required of all Medical Secretary majors. Prerequisite: None.

OE 235 Elementary Machine Shorthand (Touch) (3-3) 3 hours

An introductory course for the mastery of Stenograph keyboard by touch system. Emphasis will be on phonetic applications, principles and rules of machine shorthand, prefix, and suffix formations, number practice, punc-

uation accuracy drills, note reading, phrasing mastery, and care of stenograph machine. Prerequisite: None.

OE 236 Intermediate Machine Shorthand (Touch) (3-3) 3 hours

Review of basic theory; development of automatic recall of 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. Prerequisite: OE 235.

OE 237 Production and Statistical Typewriting (3-2) 3 hours

In this course, each student will be required to plan, arrange, and complete office projects, with special emphasis on statistical reports. Prerequisite: OE 231.

OE 238 Business Machines (3-2) 3 hours

This course provides mathematical problem application and practice in the operation of ten-key adding machines, printing calculators, and electronic desk calculators. Prerequisite: None.

CLERICAL CERTIFICATE PROGRAM

Odessa College Business Department also offers a Clerical Office Training Program on a clock-hour non-credit basis. This program is designed for the student who does not wish to take the regular semester hour credit courses, but does desire to be qualified for business entry positions requiring generally accepted office standards of skills.

Enrollment is on each Monday throughout the year. Classes meet daily from 8:00 a.m. to 12:30 p.m. and from 10:00 a.m. to 2:30 p.m. The cost is \$40 per month plus books.

Although the program usually is non-credit, in special instances, a student may receive official college credit by meeting the admission requirements of the college and enrolling in the Clerical Certificate Program for credit. For more information please contact the department Chairman of the Office Education Department.

**Office Education
Office Careers**

(810 clock hour program)

Course	Clock Hours	Course	Clock Hours
Beginning or Intermediate		Intermediate or Advanced	
Typewriting	90	Typewriting	90
Business English	54	Machine Transcription	54
Office Bookkeeping	54	Office Simulation	108
Business Math	54	Filing	54
Office Machines	90	Business Communications and/or	
Office Seminar	108	Correspondence	54
			<hr/>
			TOTAL 810

**Office Education
Secretarial Careers**

(1026-clock hour program)

Course	Clock Hours	Course	Clock Hours
Beginning or Intermediate		Intermediate or Advanced	
Typewriting	90	Typewriting	90
ABC Shorthand	108	Intermediate Shorthand	108
Business English	54	Office Simulation	108
Office Bookkeeping	54	Filing	54
Business Math	54	Business Communication and/or	
Office Machines	90	Correspondence	54
Office Seminar	108	Machine Transcription	54
			<hr/>
			TOTAL 1026

CLERICAL CERTIFICATE PROGRAM COURSES

Beginning Typing (90 clock 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 to business letter forms, tabulations, manuscript displays, and reports is included.

Intermediate Typing (90 class hours)
This course is designed for those who have had typewriting in high school or who have had beginning typewriting. Practice includes com-

position of business letters, typing of business letters, tabulating materials, and typing of manuscripts.

Advanced Typing (90 class hours)
This course is designed for students who desire to join typewriting speed and knowledge of business forms. It includes practice work in the typing of legal documents, rough drafts, payrolls, invoices, business letters, telegrams, addressing of envelopes, manuscript work, and cutting of stencils.

OFFICE EDUCATION

Business English (54 class hours)

This course is designed to give the student a thorough course in grammar. Special emphasis will be placed on sentence construction, punctuation, capitalization, vocabulary, and spelling.

Office Bookkeeping (54 class hours)

This course is designed to prepare the student to perform elementary bookkeeping skills in the Accounting Cycle such as journalizing, posting, preparing a trial balance, income statement and balance sheet for a small business firm.

Office Machines (90 class hours)

This course provides mathematical problem application and practice in the operation of ten-key adding machines, printing calculators, and electronic desk calculators.

Filing (54 class hours)

This course is designed to aid the student to develop an understanding of, and an appreciation for, the need for keeping orderly records. A working knowledge of the rules and principles of alpha-numeric and geographic systems are given to the student.

Machine Transcription (54 class hours)

This course is designed to help the student use transcription equipment efficiently. The student will also learn techniques and procedures that make it possible for the student to carry out responsibilities such as using correct punctuation marks, using correct letter and report forms. The main purpose of this course is to develop the transcribing art.

Office Simulation (108 class hours)

Study of modern office practices; job application; resume; interview; and follow-up; handling of office mail; records management; preparation of various business reports; duplicating; human relations; office practice simulation.

Business Math (54 class hours)

Skill and accuracy is to be developed in the fundamental mathematical problems of business. To provide an intensive review of the fundamental operations — addition, subtraction, multiplication, division, fractions, decimals, and percent. To relate the computational skills to problems involving interest, discount, payrolls, depreciation, expense accounts, retail selling, and so on. To develop the ability to use shortcut methods and to work with speed and accuracy.

Beginning ABC

Shorthand (108 class hours)

A complete course in ABC speedwriting theory, dictation and transcription with dictation speed goals of from 50 to 60 words a minute.

Intermediate ABC

Shorthand (108 class hours)

A complete course in ABC speedwriting theory, dictation and transcription with dictation speed goals of from 60 to 80 words a minute.

Business Communications (54 class hours)

A study of the principles of effective business writing with related practice in business letter composition and other types of written business communications. Emphasis is upon correct and forceful English usage.

Business Correspondence (54 class hours)

This course is designed to give the students special training in business and professional terminology, spelling, punctuation, vocabulary building, grammar, and sentence structure as applied to the writing of effective business letters and reports.

Office Seminar (108 class hours)

This course consists of fifteen individual job training programs to prepare a student for employment. All skills are developed and applied in integrated fashion for each specific job. A student can select a required number of jobs and advance at his own rate.

Physical Education*

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

The principle 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.

Course of Study for Associate in Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Math 131 or More Advanced	3	Math 131 or More Advanced	3
Orientation 111	1	PE (Activity)*	1
PE (Activity)*	1	PE 132	3
PE 132a	3		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 143	4	Engl (Sophomore Level)	3
Engl (Sophomore Level)	3	Govt 232	3
Govt 231	3	H Ed 232	3
PE (Activity)*	1	PE (Activity)*	1
Elective	3	Elective**	3
Elective**	3	Elective**	3

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

- | | |
|--------------------------|--------------------------------|
| 1 class of gymnastics | 1 class of individual activity |
| 1 class of team activity | 1 class of dance activity |

Athletics or Senioritas De Las Rosas are not to be counted as part of the 4 activity classes for PE majors.

**Electives are to be selected from the following 3 hour classes based on senior institution requirements:

- PE 133, PE 233, PE 234, PE 236, PE 237,
Psy 231, Soc 231, Spch 131

PHYSICAL EDUCATION

PHYSICAL EDUCATION

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.

PE 111a Beginning Basketball (0-3)	1 hour	PE 112l Las Senioritas de las Rosas Drill and Dance Team (0-3)	1 hour
PE 211a Advanced Basketball (0-3)	1 hour	PE 211l Las Senioritas de las Rosas Drill and Dance Team (0-3)	1 hour
PE 111a Varsity Basketball (0-3)	1 hour	PE 212l Las Senioritas de las Rosas Drill and Dance Team (0-3)	1 hour
PE 112a Varsity Basketball (0-3)	1 hour	PE 111m Beginning Tap Dancing (0-3)	1 hour
PE 211a Varsity Basketball (0-3)	1 hour	PE 211m Advanced Tap Dancing (0-3)	1 hour
PE 212a Varsity Basketball (0-3)	1 hour	PE 111n Beginning Recreational Sports (0-3)	1 hour
PE 111b Beginning Badminton (0-3)	1 hour	PE 211n Advanced Recreational Sports (0-3)	1 hour
PE 211b Advanced Badminton (0-3)	1 hour	PE 111o Beginning Women's Basketball (0-3)	1 hour
PE 111c Beginning Bowling (0-3)	1 hour	PE 211o Advanced Women's Basketball (0-3)	1 hour
PE 211c Advanced Bowling (0-3)	1 hour	PE 111o Women's Varsity Basketball (0-3)	1 hour
PE 111d Beginning Softball (0-3)	1 hour	PE 112o Women's Varsity Basketball (0-3)	1 hour
PE 211d Advanced Softball (0-3)	1 hour	PE 211o Women's Varsity Basketball (0-3)	1 hour
PE 111e Beginning Gymnastics (0-3)	1 hour	PE 212o Women's Varsity Basketball (0-3)	1 hour
PE 112e Intermediate Gymnastics (0-3)	1 hour	PE 111p Physical Conditioning (0-3)	1 hour
PE 211e Advanced Gymnastics (0-3)	1 hour	PE 112p Physical Conditioning (0-3)	1 hour
PE 111e Varsity Gymnastics (0-3)	1 hour	PE 211p Physical Conditioning (0-3)	1 hour
PE 112e Varsity Gymnastics (0-3)	1 hour	PE 111q Beginning Fencing (0-3)	1 hour
PE 211e Varsity Gymnastics (0-3)	1 hour	PE 211q Advanced Fencing (0-3)	1 hour
PE 111f Beginning Football (0-3)	1 hour	PE 111r Varsity Track and Field (0-3)	1 hour
PE 211f Advanced Touch Football (0-3)	1 hour	PE 112r Varsity Track and Field (0-3)	1 hour
PE 111g Beginning Golf (0-3)	1 hour	PE 211r Varsity Track and Field (0-3)	1 hour
PE 211g Advanced Golf (0-3)	1 hour	PE 212r Varsity Track and Field (0-3)	1 hour
PE 111g Varsity Golf (0-3)	1 hour	PE 111s Beginning Swimming and Diving (0-3)	1 hour
PE 112g Varsity Golf (0-3)	1 hour	PE 112s Intermediate Swimming and Diving (0-3)	1 hour
PE 211g Varsity Golf (0-3)	1 hour	PE 221s Advanced Swimming and Diving (0-3)	1 hour
PE 212g Varsity Golf (0-3)	1 hour	PE 212s Red Cross Life Saving (0-3)	1 hour
PE 111h Beginning Social Dance (0-3)	1 hour	PE 111t Beginning Tennis (0-3)	1 hour
PE 112h Intermediate Social Dance (0-3)	1 hour	PE 112t Intermediate Tennis (0-3)	1 hour
PE 211h Advanced Social Dance (0-3)	1 hour	PE 211t Advanced Tennis (0-3)	1 hour
PE 111i Folk Dance (0-3)	1 hour	PE 111t Varsity Tennis (0-3)	1 hour
PE 111j Beginning Modern Dance (0-3)	1 hour	PE 112t Varsity Tennis (0-3)	1 hour
PE 112j Intermediate Modern Dance (0-3)	1 hour	PE 211t Varsity Tennis (0-3)	1 hour
PE 211j Advanced Modern Dance (0-3)	1 hour		
PE 111j Modern Dance: Theatre Dance Form (0-3)	1 hour		
PE 112j Modern Dance: Theatre Dance Form (0-3)	1 hour		
PE 211j Modern Dance: Theatre Dance Form (0-3)	1 hour		
PE 212j Modern Dance: Theatre Dance Form (0-3)	1 hour		
PE 111k Beginning Foreign Dance (0-3)	1 hour		
PE 211k Advanced Foreign Dance (0-3)	1 hour		
PE 111l Las Senioritas de las Rosas Drill and Dance Team (0-3)	1 hour		

PHYSICAL EDUCATION

PE 212t Varsity Tennis (0-3)	1 hour	PE 111y Beginning Judo and Karate (0-3)	1 hour
PE 111u Beginning Racquetball (0-3)	1 hour	PE 112y Intermediate Judo and Karate (0-3)	1 hour
PE 211u Advanced Racquetball (0-3)	1 hour	PE 211y Advanced Judo and Karate (0-3)	1 hour
PE 111v Beginning Volleyball (0-3)	1 hour	PE 111z Beginning Aerobics (0-3)	1 hour
PE 211v Advanced Volleyball (0-3)	1 hour	PE 211z Advanced Aerobics (0-3)	1 hour
PE 111w Beginning Archery (0-3)	1 hour		
PE 211w Advanced Archery (0-3)	1 hour		
PE 111x Beginning Handball (0-3)	1 hour		
PE 211x Advanced Handball (0-3)	1 hour		

PHYSICAL EDUCATION

PE 110 Defensive Tactics (0-3)

1 hour
This course is designed to teach a system of defense and counter-attack using the simple and effective maneuvers of judo, jujitsu, savate, boxing, wrestling, soccer, football and fencing. 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 of practice, and the psychological, sociological, and biological aspects are also studied. Prerequisite: None.

PE 133 Camping and Outdoor Education (2-2)

3 hours
The course will cover the general aspects of camping and survival in the wilderness. Topics will include camp crafts, ecology, campsite preparation, backpacking, edible plants, compass orientation, and map reading. The course will include a special project and outdoor laboratory experience. Camping fee charged. Prerequisite: None.

PE 233 The Techniques of Officiating Sports, Part I (2-2)

3 hours
This course is a study of the effective officiating methods and techniques for basketball, volleyball, and gymnastics. The areas of study include the following: protest, forfeits, injuries,

mechanics, rules, postponements, tournaments, and officials associations. Gymnastics would include individual scoring, value parts, dual meets, team sizes, and equipment requirements. Prerequisite: consent of the instructor.

PE 234 The Techniques of Officiating Sports, Part II (2-2)

3 hours
This course is a study of the effective officiating methods and techniques for track, tennis, and golf. The areas of study include the following: protest, forfeits, injuries, rainy day scheduling, postponements, rules, mechanics, tournaments, and officials associations. Prerequisite: consent of instructor.

PE 236 The Techniques of Coaching Sports, Part I (2-2)

3 hours
This class is a study of the fundamental skills, individual and team play, organization of practices, and handling of teams during the competitive season the basketball, volleyball, and gymnastics. Prerequisite: consent of instructor.

PE 237 The Techniques of Coaching Sports, Part II (2-2)

3 hours
This class is a study of the fundamental skill, individual and team play, organization of practices, and handling of Teams during the competitive season for track, golf, and tennis. Prerequisite: consent of instructor.

HEALTH EDUCATION

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 health organizations, and social problem and services. Prerequisite: None.

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.

Course of Study for Associate in Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
EDP 246a	3	Engl 132	3
Engl 131	3	Engr 111	1
Hist 231	3	Hist 232	3
Lang 141	4	Lang 142	4
Math 231*	3	Math 232	3
Orientation 111	1	PE	1
PE	1	Phys 143	4

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
Math 234	3	Math 235	3
PE	1	PE	1
Phys 241	4	Phys 242	4

*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 Music 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 141 College Physics (3-3) 4 hours

This course is a study of classical mechanics, molecular physics and heat 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.

Both Psychology and Sociology majors should plan their programs with the assistance of a counselor. Psychologists and sociologists are most frequently hired as college teachers and researchers. Applied fields for either include the following: counselors, personnel workers, ministers, social case workers, group workers, community organizers, labor-management mediators, medical social workers, etc.

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.

Therefore, students should plan their work at Odessa College so as to take those courses which the senior college requires at the freshman and sophomore 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.

Course of Study for Associate in Arts Degree in Psychology

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Math 135	3	PE	1
Orientation 111	1	Soc 231	3
PE	1	Soc 237	3
Psy 231	3	Elective	3

PSYCHOLOGY, SOCIOLOGY AND EDUCATION

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141, Chem 131 & 111, or Phys 141	4	Biol 142, Chem 132 & 112, or Phys 142	4
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Math 134	3	PE	1
PE	1	Phil 231	3
Psy 236	3	Psy 234	3

Approved electives: Soc 232; Eco 231; Math 132; Psy 233.

**Course of Study for Associate in Arts Degree
in Sociology**

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Math 135	3	PE	1
Orientation 111	1	Psy 231	3
PE	1	Soc 237	3
Soc 231	3	Approved Elective*	3
Approved Elective*	3		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141, Chem 131 & 111, or Phys 141	4	Biol 142, Chem 132 & 112, or Phys 142	4
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Govt 231	3	Govt 232	3
Math 134	3	PE	1
PE	1	Approved Elective*	3
Soc 236	3		

*Approved Electives: Phil 231; Soc 232; Soc 233; Soc 234; Eco 231; Psy 234.

PSYCHOLOGY, SOCIOLOGY AND EDUCATION

**Course of Study for Associate in Arts Degree
in Elementary Education**

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142 or H Ec 132	4
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Math 134 or 237	3	Math 132 or 238	3
Orientation 111	1	PE	1
PE	1	Psy 231	3
Spch 131	3		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	3
Geog 231	3	Geog 232	3
Govt 231	3	Govt 232	3
PE	1	Mu 131 or Dr 235	3
Physical Science (Chem 131 & 111, Ea Sc 141, or Geol 141)	4	PE	1
		Psy 234	3

PSYCHOLOGY, SOCIOLOGY, AND EDUCATION

**Course of Study for Associate in Arts Degree
in Secondary Education**

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Biol 141	4	Biol 142	4
Engl 131	3	Engl 132	3
Hist 231	3	Hist 232	3
Math 134 or 237	3	Math 132 or 238	3
Orientation 111	1	PE	1
PE	1	Psy 231	3
Spch 131	3		

PSYCHOLOGY, SOCIOLOGY AND EDUCATION

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Art 130	3	Engl (Sophomore Level)	3
Engl (Sophomore Level)	3	Govt 232	3
Govt 231	3	Mu 131	3
PE	1	PE	1
Phil 232	3	Psy 234	3
Physical Science (Chem 131 & 111, Ea Sc 141, Geol 141, or Phys 141)	4	Soc 231	3
Orien 111 Orientation (1-0)	1 hour	Psy 234 Child Psychology (3-3)	3 hours
A program of orientation is presented to encourage the student to become better acquainted with Odessa College and the various services and activities of potential relevance to each individual student. Problems of adjustment to college life are discussed. Prerequisite: None.		Emphasis is placed upon the development processes and environmental factors which shape the personality and affect the achievement of the child from pre-natal through adolescence. Laboratory requirements consist of observation and study of children. Prerequisite: None.	
Psy 111 Personal Development (1-0)	1 hour	Psy 236 Social Psychology (3-0)	3 hours
Using an informal class format, emphasis in this course is placed on helping the student identify his personal strengths and on developing the interpersonal skills necessary for functioning in the world today. Prerequisite: None.		A survey of the research and theories dealing with a study of human behavior in social situations. Topics include attitudes, prejudices, interpersonal attraction, group behavior, conformity, motivation, and conflict. The student may elect the subject area heading appropriate to his major. The student may not receive credit for both Psy 236 and Soc 236. Prerequisite: Psy 231, Soc 231, or consent of the instructor.	
Psy 121 Personal Development II (2-0)	2 hours	Soc 231 Introduction to the Study of Society (3-0)	3 hours
This course is a continuation of Psy 111. Although it carries no prerequisite, it is not designed for first semester students.		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.	
Psy 231 Introduction to Psychology (3-0)	3 hours	Soc 232 Social Problems (3-0)	3 hours
Basic problems and principles of experience and behavior are studied. Included topics are heredity and environment, growth and development, learning and conditioning, remembering and forgetting, emotions, motivation, perception, psychological testing, personality, adjustment, normal and abnormal behavior, and therapies. Prerequisite: None.		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: Soc 231.	
Psy 233 Personal Applications of Psychology (3-0)	3 hours	Soc 233 Sociology of the Family (3-0) ...	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.		Sociological analyses are made of human relationships pertaining to the varied aspects of courtship, mate selection, and marital adjust-	

SOCIOLOGY

ment with a study of the problems of adjustment in each stage of the life cycle. Prerequisite: None.

Soc 234 American Minorities (3-0) 3 hours

A study of the principal minority groups in American Society and their sociological significance; problems of inter-group relations, social movements, and related social changes and the theories explaining such changes. Prerequisite: Soc 231, or consent of the instructor.

Soc 236 Social Psychology (3-0) 3 hours

A survey of the research and theories dealing with a study of human behavior in social situations. Topics include attitudes, prejudice, interpersonal attraction, group behavior, con-

formity, motivation, and conflict. The student may elect the subject area heading appropriate to his major. The student may not receive credit for both Psy 236 and Soc 236. Prerequisite: Psy 231, Soc 231, or consent of the instructor.

Soc 237 Fundamental Research Design

(3-0) 3 hours

This course provides the student with an introduction to basic research designs utilized by those in the social and behavioral sciences. Topics will include the basic steps of the scientific methods, description and analytical studies, methods of data collection, use of available data collection, use of available data, and analysis and interpretation. Prerequisite: Math 135 and Psy 231 or Soc 231.



Radiologic (X-Ray) Technology

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

The program is approved by the American Medical Association, Council on Medical Education and the Joint Review Committee on Education 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 examination given by the American Registry of Radiologic Technologists in diagnostic x-ray technology.

The program curriculum is a balance of general educational and technical courses as well as supervised practicum work at local hospitals. These provide the student an opportunity for educational development as well as occupational competence during the 24 month program.

Because practicum space is limited, students are admitted on a selective basis. To be considered for selection for the beginning Fall semester class, the student must be a high school graduate or equivalent; achieve a satisfactory score on selected college entrance examinations; show evidence of good physical and mental health; have character references and approval by admissions committee for the program. The student must maintain a "C" average in all Radiologic Technology courses and an average of "C" in all courses or be dropped from the program.

Applicants or those seeking additional information should contact the Radiologic Technology Program Director at the college. All applications admission to the Fall Semester class must be received by the program director not later than June 30.

Course of Study for Associate in Applied Science

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 144x	4	AH 146x	4
AH 163x	6	AH 165x	6
Biol 143	4	Engl 131 or 131t	3
Orientation 111	1	Math 131 or 131t	3
PE*	1	PE*	1

First Summer Session

First Term		Second Term	
AH 131x	3	AH 132x	3
Govt or Hist 231	3		

RADIOLOGIC (X-RAY) TECHNOLOGY

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 244x	4	AH 246x	4
AH 263x	6	AH 265x	6
Mgt 131	3	Engl 132 or 132t or Spch 234	3
Psy 231	3		

Second Summer Session

First Term		Second Term	
AH 133x	3	AH 134x	3

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

RADIOLOGIC TECHNOLOGY

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 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: All 246x.

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.

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 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 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 radiation physics are taught along with the basic principles underlying the operation of x-ray equipment and auxiliary devices. Corequisite: AH 144x.

AH 165x Basic Radiographic Positioning (6-0) 6 hours
This course is designed to acquaint the student

RADIOLOGIC (X-RAY) TECHNOLOGY

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 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 technologists will spend a minimum of twenty-five hours per week in supervised practice of both common and specialized radiologic procedures described in classroom lecture. Radiotherapy and nuclear medicine rotations will occur with orientation and practice

sessions for student familiarization. Prerequisite: AH 244x. Corequisite: AH 265x.

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 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.

Reading

An effective citizen must read well, and reading courses develop efficient tools to use in today's world 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.

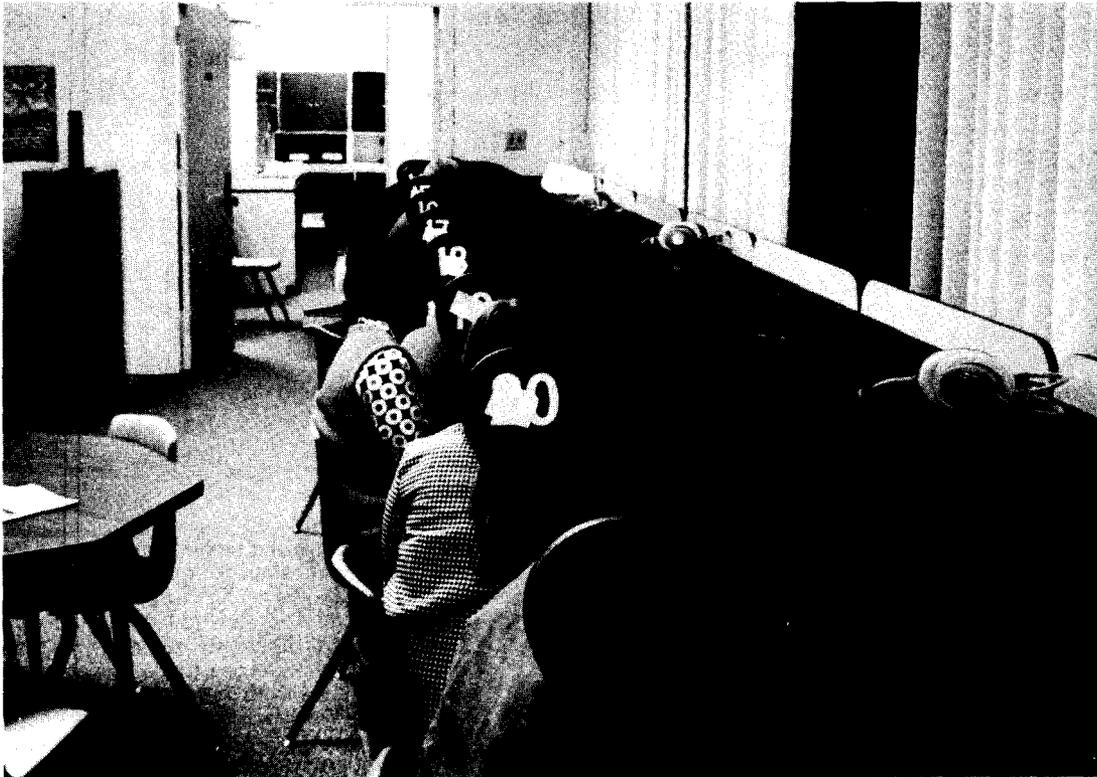
All professional fields need above-average abilities in reading. Developing awareness of the competencies underlying effective reading and insight into the psychology of reading will be excellent preparation for those interested in the fields of education and teaching. These courses will also serve as 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.



Real Estate

The primary objective of the Real Estate program is to prepare students for full-time employment in the Real Estate field. The completion of this program will lead to an Associate in Applied Science Degree in Real Estate. All courses in Real Estate are designed to provide basic employment skills for individuals seeking employment in real estate as well as to upgrade those presently employed in the industry.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 130 or Engl 131	3	Engl 131 or Engl 132	3
Math 130	3	Govt 231	3
Mgt 131	3	Mgt 234	3
Orientation 111	1	PE	1
PE	1	RE 133	3
RE 131	3	RE 134	3
RE 132	3		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Eco 230	3	BA 231	3
Mgt 238	3	RE 117	1
RE 231	3	RE 233	3
RE 232	3	RE 234	3
Approved Elective	3	RE 235	3
		Approved Elective	3

Approved Electives: Any other Real Estate Course; any other Mid-Management Course; any other Business Administration course; any other Economics course.

REAL ESTATE

RE 131 Principles of Real

Estate (3-0) 3 hours

This course is a general introduction to real estate as a profession. It includes a study of the nature of real estate and ownership, the principles and concepts of title transfer, title insurance, real estate marketing, financing, leasing, taxation, insurance, development, appraising, and the state license law in Texas. The course is designed to acquaint the student with the wide

range of subjects and terminology found in the practice of real estate. Prerequisite: None.

RE 132 Real Estate Appraisal (3-0) 3 hours

This course is designed to provide the student with the basic knowledge and skills necessary to demonstrate an application of cost, income, and market data approaches to real property value. It includes an examination of the nature of real property value, the functions and pur-

REAL ESTATE

poses of appraisal, and the methods of estimating residential market value. Prerequisite: None.

RE 133 Real Estate Finance (3-0) 3 hours

This course is designed to provide the student with the basic knowledge involved in real estate financing and investment. It includes a study of the institutions involved in real estate financing, the risks involved in financing real estate transactions, the instruments of financing, the terminology of financing, and real property taxation. Prerequisite: None.

RE 134 Real Estate Law (3-0) 3 hours

This course is a study of the principles of the laws which govern interests in real estate. It includes the concepts of acquisition, encumbrance, transfer, rights and obligations, and the state and federal statutes which apply to those concepts. The course will help the student analyze the legal consequences of various real estate relationships and transactions to determine when an attorney should be consulted. Prerequisite: None.

RE 231 Real Estate

Salesmanship (3-0) 3 hours

This course is designed to provide the student with the knowledge and skills needed in the effective selling of real estate. The course covers the opportunities in real estate, the basic elements of listing property, the basic elements of the offer between buyer and seller, and the basic elements of financing property. Each student will be required to establish a workable prospect system and to design a sales presentation book for listing and selling property. Prerequisite: RE 131.

RE 232 Real Estate

Investment (3-0) 3 hours

This course is designed to develop in each student an understanding of the characteristics and benefits of real estate investment. It covers investment analysis and taxation as well as forms of ownership, methods of financing investments, and various types of considerations involved in investments. Prerequisites: RE 131 and RE 133.

RE 233 Property Management (3-0) 3 hours

This course is designed to provide the student with the knowledge and skills needed in managing income producing property. It includes the utilization of sound accounting and reporting principles; the securing, qualifying, and contracting of tenants and lessees; the legal aspects of property management; and the maintenance, rehabilitation, renovation, and remodeling of income-producing properties. Prerequisites: RE 131 and RE 134.

RE 234 Real Estate Brokerage (3-0) 3 hours

This course is a study of the factors necessary in the establishment and operation of a real estate sales and brokerage office, including required terminology and the salesperson-broker relationships. The course will prepare the student to identify and utilize effective practices in coordinating and promoting a successful real estate brokerage. Prerequisite: RE 131 and RE 231.

RE 235 Real Estate Problems (3-0) 3 hours

This course is designed to provide the students with an opportunity to solve practical problems encountered in the real estate profession. The students will work in small groups with each student filling a different real estate position in the group. Each group will participate in problems which are assigned by the instructor and which will cover various facets of real estate practice. Prerequisite: Individual approval of the instructor.

RE 117 Real Estate Internship (0-20) 1 hour

The student is required to work at least 20 hours per week in a paid, part-time job in an approved firm. Real estate broker's offices, title companies, real estate mortgage companies, and building construction companies are examples of firms which normally will be approved as internship training stations. Students must be employed in occupational situations in which they receive practical training and experience compatible with their real estate career objectives. Enrollment in this course is limited to those students who have not had prior real estate work experience. Prerequisite: No less than 15 semester hours of course work in Real Estate course.

Refrigeration and Air Conditioning

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.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Math 131, 131t, or More Advnced . . .	3	DT 141 or Engr 131	4 or 3
Orientation 111	1	P.E.*	1
P.E.*	1	R/AC 133	3
R/AC 131	3	R/AC 133a	3
R/AC 131a	3	R/AC 134	3
R/AC 132	3	R/AC 134a	3
R/AC 132a	3		

Summer Session

First Term		Second Term	
Engl 131	3	Engl 132 or Spch 234	3
R/AC 135	3	R/AC 235	3

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Govt	3	Mgt 131	3
R/AC 231	3	R/AC 233	3
R/AC 231a	3	R/AC 233a	3
R/AC 232	3	R/AC 234	3
R/AC 232a	3	R/AC 234a	3

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

Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of forty-eight semester hours in R/AC courses.

REFRIGERATION AND AIR CONDITIONING

R/AC 131 Refrigeration Theory (3-0) 3 hours

This is a course in theory and is designed to give the students a sound basic understanding of heat transfer, behavior of gases, the refrigeration cycle, component parts of the compression refrigeration machine and its accessories. Prerequisite: None.

R/AC 131a Refrigeration Theory

Laboratory (0-7) 3 hours

This laboratory will illustrate and reinforce principles and concepts of R/AC 131 by giving the student practice on the basic refrigeration cycle. Prerequisite: R/AC 131.

R/AC 132 Basic Control Theory

(3-0) 3 hours

This course begins with basic electricity. It progresses to electric motors, design, and function of starters, contactors, relays, capacitors, overloads, and control circuits as applied to the refrigeration and air conditioning industry. Prerequisite: None.

R/AC 132a Basic Control Theory

Laboratory (0-7) 3 hours

This laboratory will illustrate and reinforce principles and concepts of R/AC 132 by giving the student practice on the basic controls of the refrigeration and air conditioning industry. Prerequisite: R/AC 132.

R/AC 133 Refrigeration and Air Conditioning

Component Analysis (3-0) 3 hours

This course deals with refrigeration and air conditioning components. It is designed to give the student an understanding in the theory and application of metering devices, evaporators, compressors, condensers, driers, sight glasses, and system accessories. Prerequisite: R/AC 131.

R/AC 133a Refrigeration and Air Conditioning

Component Analysis Laboratory

(0-7) 3 hours

This laboratory will illustrate and reinforce principles and concepts of R/AC 133 by giving the student practice on refrigeration and air conditioning components. Prerequisite: R/AC 133.

R/AC 134 Air Conditioning Fundamentals

(3-0) 3 hours

This course deals with gas controls, properties of gas and gas piping, gas combustion, gas burners, gas trouble shooting and venting for heating and absorption (gas) refrigeration sys-

tems. This is an indepth study in procedure of servicing and correcting difficulties with gas-fired equipment. Prerequisite: None.

R/AC 134a Air Conditioning Fundamentals

Laboratory (0-7) 3 hours

This Laboratory will illustrate and reinforce principles and concepts of R/AC 134 by giving the student practice on the gas-fired equipment. Prerequisite: R/AC 134.

R/AC 135 Fundamentals of Sheet Metal

Pattern Drafting and Layout

(1-2) 3 hours

This course covers the principles of basic sheet metal. The use of sheet metal tools, basic sheet metal layout, and the building of basic sheet metal components. Prerequisite: None.

R/AC 235 National Electric Code

(3-0) 3 hours

This is an applied course which will cover the National Electrical Code as applied to the refrigeration and air conditioning industry. Prerequisite: None.

R/AC 231 Advanced Control Theory

(3-0) 3 Hours

This course offers the student theory and application in design of both primary and secondary electrical systems used in the refrigeration and air conditioning industry. Prerequisite: R/AC 132.

R/AC 231a Advanced Control Theory

Laboratory (0-7) 3 Hours

This laboratory will illustrate and reinforce principles and concepts of R/AC 231 by giving the student job practice on installation and trouble shooting both primary and secondary electrical systems. Prerequisite: R/AC 211.

R/AC 232 Refrigeration and Air Conditioning

Analysis (3-0) 3 Hours

This course is designed to prepare students to be able to rate and select refrigeration and air conditioning equipment, design air distribution systems, psychometrics and estimate loads of both residential and commercial applications. Prerequisite: R/AC 131.

R/AC 232a Refrigeration and Air Conditioning

Analysis Laboratory (0-7) 3 Hours

This laboratory will illustrate and reinforce principles and concepts of R/AC 232 by giving the student practice on installing and testing residential or small commercial equipment. Prerequisite: R/AC 232.

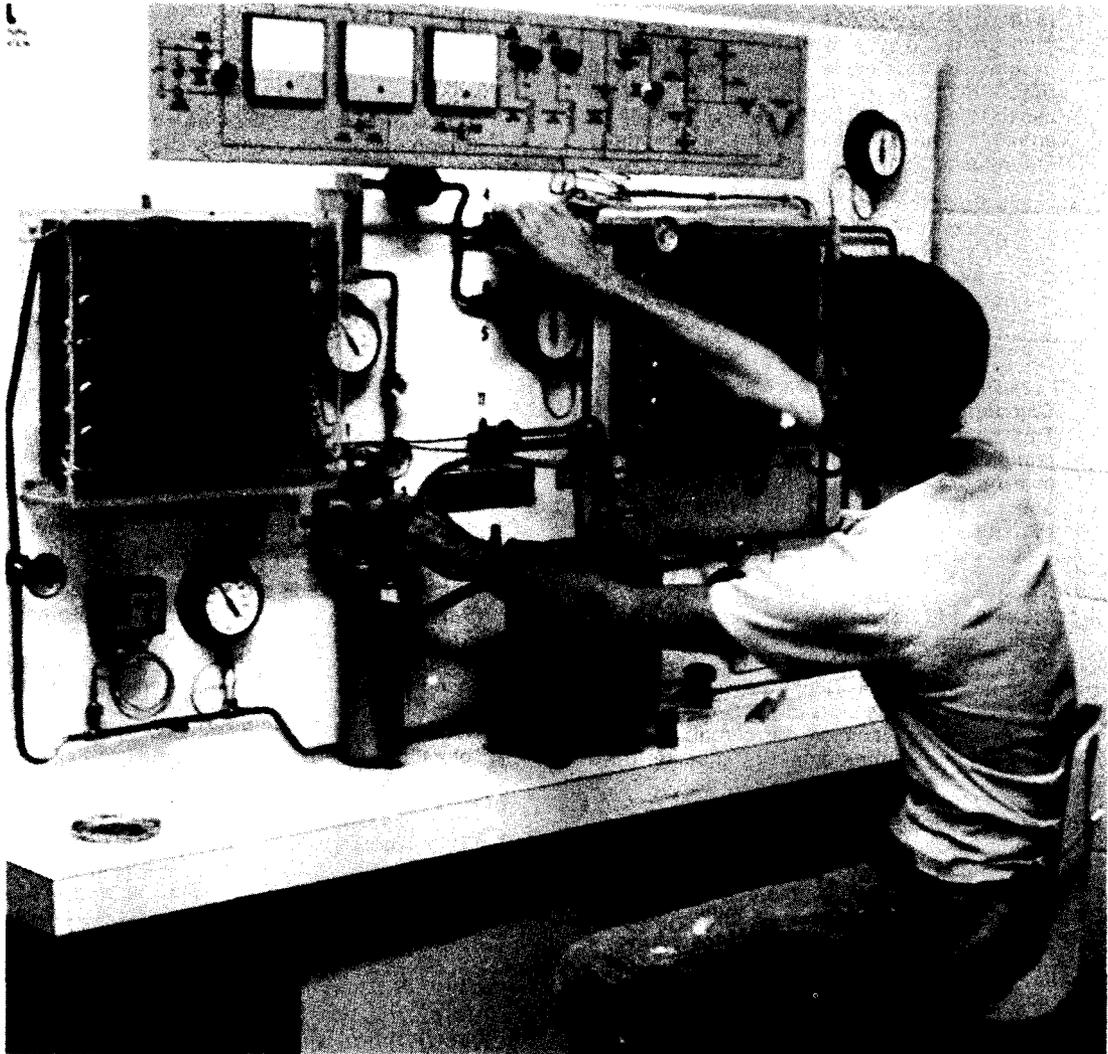
Refrigeration and Air Conditioning

R/AC 233 Electronic Control Theory (3-0) 3 Hours
This is an applied course which will give the student an understanding of semi-conductors, diodes, resistors, thermistors, thermocouples, rectifiers, and amplifiers, used in the refrigeration and air conditioning industry. Prerequisite: R/AC 132.

R/AC 233a Electronic Control Theory Laboratory (0-7) 3 Hours
This laboratory will illustrate and reinforce principles and concepts of R/AC 233 by giving the student practice on electronic equipment. Prerequisite: R/AC 233.

R/AC 234 Refrigeration and Air Conditioning Trouble Shooting (3-0) 3 Hours
This course of study will include trouble shooting the complete refrigeration and air conditioning system. It will cover both the electrical system and refrigeration cycle. Prerequisite: R/AC 131.

R/AC 234a Refrigeration and Air Conditioning Trouble Shooting (0-7) 3 Hours
This laboratory will illustrate and reinforce principles and concepts of R/AC 234 by giving the student practice trouble shooting refrigeration and air conditioning systems. Prerequisite: R/AC 234.



Respiratory Therapy

Odessa College offers an intensive program in Respiratory Therapy Technology in affiliation with area hospitals. The program is designed to provide a thorough understanding and proficiency in all facets of pulmonary care. This relatively new profession in paramedical fields of medicine includes working with life-support systems, and respiratory rehabilitation of the pulmonary cripple.

The program curriculum is a balance of general educational and technical courses as well as a supervised clinical work in local hospitals under the direction of a registered therapist. Medical direction is provided by an M.D. with proficiency in the field of pulmonary medicine. This setting provides the student with an excellent opportunity for educational development as well as occupational competence during the full two-year course of study.

Students are admitted prior to each fall semester on a selected basis because of limited space in the clinical area of study. 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 admissions committee for the program. The student must maintain a "C" average on all Respiratory Therapy courses and an average grade of "C" in all courses.

Students wishing to apply for admission or seeking additional information should contact the Department Chairman of the Respiratory Therapy Program. All applications for admission to the Fall Semester class must be received by the Departmental Chairman not later than June 15.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 133t	3	AH 121t	2
Biol 111	1	AH 141t	4
Biol 143	4	AH 114t	1
Chem 131 & Chem 111	4	Engl 131	3
Math 131	3	PE	1
Orientation 111	1	Elective	3

Summer Session

First Term		Second Term	
AH 115t	1	AH 132t	3
PE	1	Engl 132	3

RESPIRATORY THERAPY TECHNOLOGY

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
AH 231t	3	AH 212t	4
AH 234t	3	AH 233t	3
AH 251t	5	AH 236t	3
Govt/Hist	3	Biol 244	4
Mgt 233	3	Psy 231	3

Summer Session

First Term		Second Term	
AH 218t	1	AH 219t	1

*AH courses must be taken in order listed in course of study.

RESPIRATORY THERAPY

- AH 114 T Clinical Practicum I (0-10) 1 hour**
Under close supervision the student will gain experience in clinical application of respiratory therapy techniques. Prerequisites: None. Co-requisites: AH 121T & AH 141T.
- AH 115 T Clinical Practicum II (0-25) 1 hour**
Under close supervision will begin to develop proficiency in administering respiratory therapy procedures and individual skills and techniques. Prerequisites: AH 114T & AH 141T.
- AH 121 T Introduction to Pharmacology (2-0) 2 hours**
This course is designed to orient the students to pharmacological principles and their applications in medicine. The course includes general principles of sedatives and hypnotics, analgesics, central nervous system stimulants, drugs affecting the autonomic nervous system and the cardiovascular system and water and salt balance. Prerequisites: AH 133T, Math 131 & Biol 111. Corequisite: AH 141T.
- AH 132 T Cardiopulmonary Pathophysiology (3-0) 3 hours**
This course is designed to present to the student the abnormal conditions of the cardiopulmonary system and the effects these conditions produce. It will include: pathophysiology; definition of the various disease processes affecting the cardiopulmonary system; a description of the effects these processes have on the cardiopulmonary system; and a description of the general nature of treatment. Physicians and other recognized professionals will be invited as guest lecturers in this course. Prerequisites: Biol 133 and Biol 134.
- AH 133 T Medical Physics (2-2) 3 hours**
This course is a study of basic principles of physics as applied to Respiratory Therapy Technology. Included in this course is the study of gas laws, vapor pressures, heat, fluids, forces and medical instruments. Corequisites: Math 131 & Chem 131 and 111.
- AH 141 T Fundamentals of Respiratory Therapy I (4-3) 4 Hours**
A survey of the cardiopulmonary anatomy and physiology. The theory and importance of the proper administration and humidification of gases will be stressed. A laboratory complement to the lectures will allow students to study the structure of the cardiopulmonary system and use respiratory equipment. Prerequisite: AH 133 and Math 131.
- AH 212 T Case Study Seminar (1-0) 1 Hour**
This course will consist of case study presentation by the student. The respiratory therapy faculty, the medical director and the students will have the opportunity to discuss and evaluate each case as presented. Prerequisite: AH 141T, AH 251T and AH 234T.

RESPIRATORY THERAPY TECHNOLOGY

AH 218 T Clinical Practicum V (0-25) 1 Hour
Continuation of Clinical Practicum IV. Student will perform independently in the intensive care, coronary care areas. Prerequisite: AH 236T.

AH 219 T Clinical Practicum VI (0-25) 1 Hour
Clinical practice involving direction of hospital technicians, organizing work schedules and challenging the departmental organization. A one hour seminar discussing; budgeting, ordering and justifying equipment needs. Prerequisite: Mgt. 233.

AH 231 T Pulmonary Function Technology (3-2) 3 Hours
This course will consist of the theoretical basis for pulmonary laboratory physiological testing of lung functions and blood-gas analysis. The use of these procedures will be stressed and related to their clinical value in treatment of cardiopulmonary diseases. The students will be allowed to perform and calculate lung function studies and blood-gas analysis. Prerequisite: AH 251T. Corequisite: AH 234.

AH 233 T Cardiopulmonary Dynamics (3-2) 3 Hours
This course is a study of advanced concepts related to electrocardiography, cardiac-catheterization, respiratory rehabilitation and Hyperbaric oxygenation. Prerequisite: AH 231T.

AH 234 T Clinical Practicum III (0-25) 3 Hours
This course will consist of applying the theory of respiratory therapy in internal medicine, pediatrics and obstetrics emphasizing respiratory physiology; with associated clinical practice rotation in medical intensive care units, emergency rooms. Prerequisite: AH 115T.

AH 236 T Clinical Practicum IV (0-25) 3 Hours
This practicum gives the student an opportunity to develop his skills and abilities in applying the various techniques and procedures and to learn good clinical judgement. The student will rotate and practice the art in all areas of the hospital. At this time, the student is performing as a staff member in the department, developing his skills and minimal supervision is required. Prerequisite: AH 234T.

AH 251 T Fundamentals of Respiratory Therapy II (3-5) 5 Hours
An extensive survey of ventilators, including classification, application as intermittent therapy units, principles of operation, maintaining and repair will be studied. Also included is an introduction to ventilator usage in the clinical environment. The students will perform comparative studies using ventilators in conjunction with simulated lung device. Prerequisite: AH 141T.

Social Sciences

The Social Sciences deal with the three basic relationships which mankind has dealt with since the dawn of time. Those relationships involve man with his fellow man (History, Economics, and Government.); man with himself (Philosophy); and, man with God (Religion). No one could challenge the effect that philosophers, historical events, political theories, economic ideas, or religious concepts have had on the lives of men.

The four-semester curriculum outlined below leads to an Associate in Arts Degree. The Social Sciences provide the student with the analytical tools needed to become an effective participant in our democratic society, as well as opening the door to various career opportunities. A background in the Social Sciences is particularly suitable to government employment such as the Social Security administration, social welfare employment, the Federal Reserve banks, and other types of government career jobs. The Social Sciences also provide a background that is useful for a career in business and the professions.

Course of Study for Associate in Arts Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Eco 231	3	Eco 232	3
Engl 131	3	Engl 132	3
Hist 131	3	Hist 132	3
Lang 141	4	Lang 142	4
Math 134 or More Advanced	3	Math 132 or More Advanced	3
Orientation 111	1	PE	1
PE	1		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl (Sophomore Level)	3	Engl (Sophomore Level)	
Hist 231*	3	Hist 232*	3
Govt 231	3	Govt 232	3
Lang 231	3	Lang 232	3
PE	1	PE	1
Approved Elective**	3	Approved Elective**	3

*Hist 233 may be substituted for either Hist 231 or 232.

**Approved electives are Hist 233, 234, and Soc 234.

SOCIAL SCIENCES

ECONOMICS

- Eco 230 Introduction to Economics (3-0) 3 hours**
This is a broad survey course to permit the average citizen to increase his economic literacy. The course includes a discussion of economic resources, basic economic decisions, the price system, the role of money and banking, the problems of inflation and employment, and other personal and public economic issues. Recommended for Mid-Management majors and students who want a general knowledge of economics. May not be taken as a replacement for Economics 231 and/or 232. Prerequisite: None.
- 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 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.
- Hist 231 United States History to 1877 (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 1877 (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 Afro-American History (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.

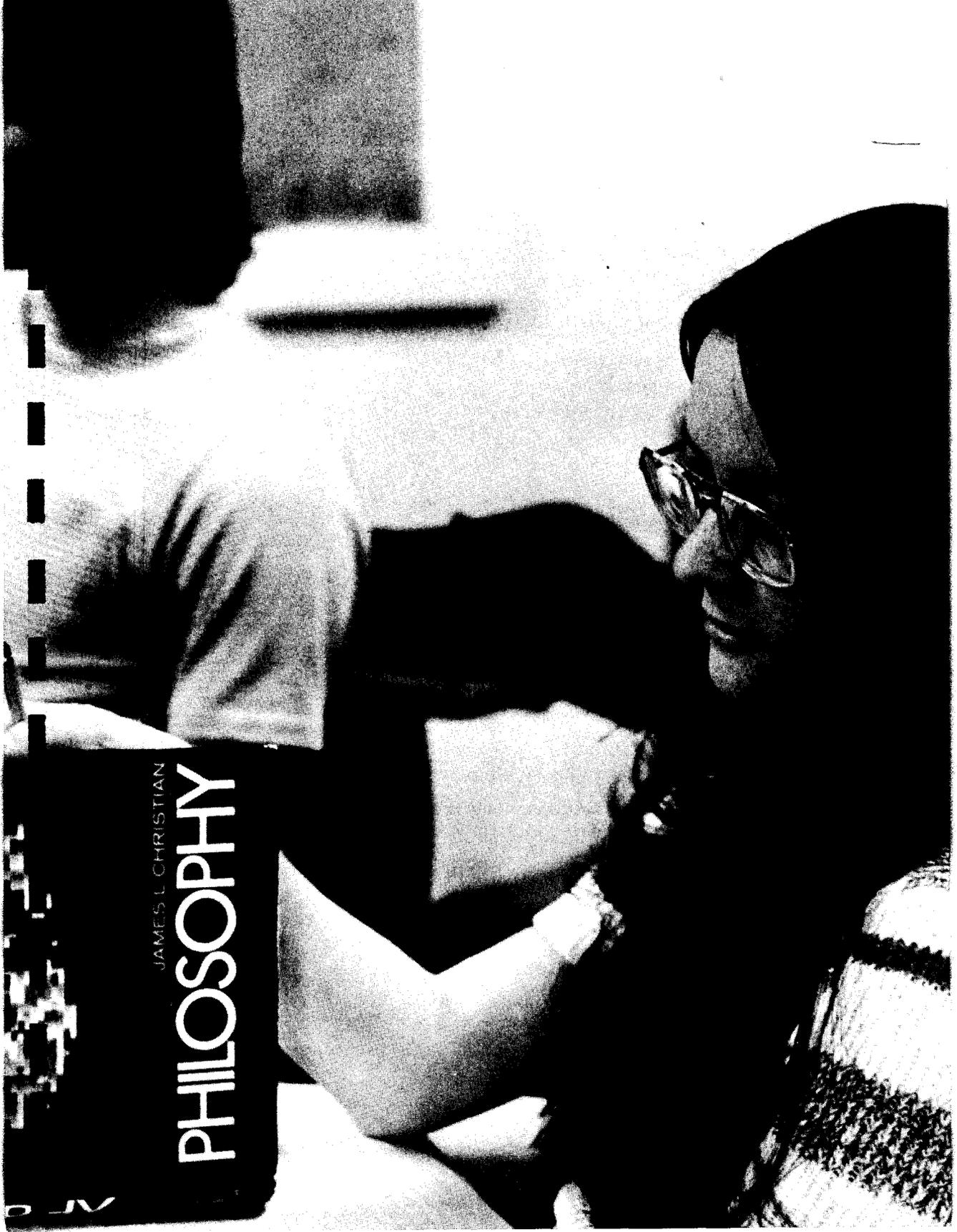
SOCIAL SCIENCES

PHILOSOPHY

- Phil 231 Introduction to Philosophy (3-0) 3 hours**
The introductory course in Philosophy is an adventure in ideas. Ultimate questions about the significance of our lives will be asked anew and with the insights gleaned from the world's greatest philosophers each student will seek to clarify their own ideas and beliefs concerning themselves, their world, and their ultimate destiny. Prerequisite: None.
- Phil 232 Philosophies to Live By (Ethics) (3-0) 3 hours**
An introduction to ethical theories based on answers given by the world's great philosophers to the questions, "What makes acts right?" and "what is the good life?" The nature of goodness, duty, and freedom will be discussed and selected ethical problems will be considered in the light of each of these basic ethical systems. Prerequisite: None.

RELIGION

- 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.
- Relg 131 Philosophy of Religion (3-0) 3 hours**
An examination of the nature and meaning of religion and religious expression. Emphasis will be upon the development of religious thinking in western civilization. Typical topics will be faith and reason, religions authority, science and religion, the problems and implications of freedom, evil and conscience. Prerequisite: None.
- Relg 132 History of Religion (3-0) 3 hours**
Historical investigation of the development of the world from prehistory to modern history. Emphasis will be placed upon role of religions in world history. Prerequisite: None.
- Relg 133 Comparative Religions (3-0) . . . 3 hours**
A survey of the religions of the world. Included are status of Hinduism, Buddhism, Confucianism, Taoism, Shinto, Judaism, Christianity and Islam. 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 associate degree program will have sufficient background in mathematics, management, communications, blueprint reading, and layout to interpret engineers' plans and instructions, and to work as a supporting technician with a minimum of orientation.

Course of Study for Associate in Applied Science Degree

First Year

First Semester		Second Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
DT 140 or DT 141	4	Math 131 or 131t	3
Orientation 111	1	PE*	1
PE*	1	WT 163	6
WT 161	6	WT 164	6
WT 162	6		

Second Year

Third Semester		Fourth Semester	
Course	Sem. Hrs.	Course	Sem. Hrs.
Engl 131	3	Engl 132 or Spch 234	3
Mgt 131	3	Govt	3
WT 261	6	WT 263	6
WT 262	6	WT 264	6

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

Students not desiring the AAS degree may receive a Certificate of Technology by completing a minimum of forty-eight hours in WT courses.

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.

WELDING

WT 164 Welding Layout and Fabrication

(2-8) 6 hours

This course places emphasis on the reading of blueprints and constructing various types of layouts according to specifications 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 reg-

ulators 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 (MIG)

(2-8) 6 hours

This course provides instructions on metallic inert gas (MIG) welding 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 Inert

Gas Welding (TIG) (2-8) 6 hours

This course places emphasis on the 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. Special assignments require the application of mathematics, print reading, fabrication and layout principles. Prerequisite or Corequisite: WT 263.



College Organization

BOARD OF TRUSTEES

1976-77

Arthur G. Green President
Wm. Michael Furman Vice-President
R. F. Juedeman Secretary
Max Malone Assistant Secretary
O. R. Clements James H. Gilliland
W. K. Green Bill Masterson
Phil Parker

ADMINISTRATION

Philip T. Speegle, B.A., M.Ed., Ed.D. President
Lee R. Buice, B.A., B.S., M.A., Ph.D. Assistant to the President
Miles A. Eckert, B.S., M.Ed., Ed.D. Dean of Student Development
Malcolm K. Hensley, B.B.A., M.B.A., C.P.A. Business Manager
Sidney J. Holden, B.A., M.A. Dean of Admissions and Registrar
Judith O. Meyer, B.A., M.L.S. Associate Dean of
Learning Resources Center
B. Gayle Noll, B.A., M.A. Director of Informational Services
Peter E. Petersen, B.S., M.E., M.B.A. Associate Dean of Adult and
Continuing Education
Bernhard T. W. Sedate, B.A., M.A. Dean of Instructional Administration
James R. Tarter, B.S., M.S., Ed.D. Associate Dean of Occupational Programs

DIVISION CHAIRMEN

Joe C. Buice, B.A., M.A., M.A., Ph.D. Humanities Division
Kenneth H. Hurst, B.S., M.S. Occupational and Technical Division
Robert P. Sturges, B.A., M.A. Human Development Division
Don L. Huff, B.S., M.S. Science and Health Occupations Division

ADMINISTRATIVE AND SUPPORT STAFF

Bob Blankenship, B.B.A. Purchasing Agent
Norine Bledsoe, B.A., M.A. Director of Financial Aid
Clydia B. Bowser, B.S., M.A. Counselor
David Carson, B.A., M.S. Learning Resources Specialist
Kelly Cash, B.A., M.A. Asst. to Dean of Admissions and Registrar
Clarice Claiborne, B.A. Director of Adult Basic Education

Vicki Dublin, B.F.A., M.F.A. Asst. to Dean of Adult & Continuing Education

Beulah Fleming Cafeteria Manager

Debbie Floyd, B.S., M.S. Director of Student Activities

Fred E. Gaither, B.A., M.A. Counselor

Colleen Goodgame, A.S. Program Analyst Operator

Roy H. Hart, C.C., B.S., M.Ed., Ed.D. Director of Special Services

Joe Hayes, B.B.A. Assistant Business Manager

Verlon Horn Controls Foreman

Martha E. Huff, B.A., M.S.L.S. Learning Resources Specialist

Horace W. McAdams Director of Student Building

Reed W. McFarland, B.A. Director of Physical Facilities

Patrick Murphy Operator, Computer Center

Bill M. Nelson, B.S., M.Ed., Ed.D. Veterans Recruiter-Coordinator

Thomas E. Reynolds, A.S. Superintendent of Buildings

Derrie B. Roark, B.A., M.L.S. Learning Resources Specialist

Edwin A. Shipman, B.S., M.Ed., Ph.D. Vocational Counselor

Joe Tave, B.S., M.S. Director of Human Resources

Wm. M. Trussell, B.A.E., M.E., M.L.S., Ed.D. Director of Instructional Development

W. Frank Wells, B.B.A. Director of the Computer Center

Max White, B.S. Landscape Architect

Melvin R. Whitehurst, B.S., M.Ed., Ed.D. Director of Counseling Center

Clara L. Willis, B.S., M.Ed., Ph.D. Vocational Counselor

FACULTY

Janis Adkins Reading Lab Paraprofessional

E. Maurice Alfred Associate Professor of Vocal Music
B.S., Hardin Simmons University; M.Mu.Ed., Texas Tech University.

Carolyn L. Anderson Assistant Professor of Nursing
R.N., Baptist State Hospital School of Nursing; B.S., University of Texas School of Nursing.

David Lee Atherton Associate Professor of Automotive Mechanics
B.A., University of Northern Iowa.

Lois E. Ball Associate Professor of English
B.A., Sul Ross State University; M.A., Southwest Texas State University.

Mary W. Barker Assistant Professor of Psychology
B.S., M.Ed., Sul Ross State University.

Thomas D. Barnett Assistant Professor of Television and Journalism
B.A., M.A., Texas Tech University.

James K. Bates Assistant Professor of Refrigeration and Air Conditioning
A.A.S., Odessa College

- Charles E. Baxley Instructor of Instrumental Music
B.M., M.Ed., Sul Ross State University.
- Norine J. Bledsoe Director of Financial Aid
A.B., Howard Payne College, M.A., Sul Ross State University.
- Clydia B. Bowser Counselor and Instructor of Personal Development
B.S., Prairie View A&M University; M.A., University of Texas of the Permian Basin.
- George G. Brazil Biology Paraprofessional
A.A., Western Texas College, B.S., University of Texas of the Permian Basin
- George W. Brewer Assistant Professor of Mathematics
B.S., Southeastern State College; M.S., Oklahoma State University.
- Rudolph A. Brewster Professor of English
B.A., Daniel Baker College; M.A., Southwest Texas State University; Ph.D., East Texas State University.
- Virginia A. Brown Assistant Professor of Physical Education and
Tennis Coach
B.S., Baylor University; M.Ed., North Texas State University.
- Joe C. Buice Chairman, Humanities Division and Professor of English
B.A., Baylor University; M.A., University of Colorado; M.A., University of Texas at Austin; Ph.D., East Texas State University.
- David R. Carson Learning Resources Specialist
B.A., Arkansas Polytechnical, M.S., East Texas State University.
- Jack D. Chapman Associate Professor of Mathematics
B.S., M.S., Stephen F. Austin State University.
- M. Dulan Clegg Assistant Professor of Mathematics
B.A., Bethany Nazarene College; M.A., George Peabody College.
- Vincent J. Coffey Professor of Biology
B.S., Norwich University; M.S., University of Iowa; Ph.D., University of Georgia.
- Elaine Conlee Professor of Office Education
B.B.A., University of Texas at Austin; M.S., M.B.A., Ed.D., North Texas State University.
- Jimmie Lou Conner Instructor of Nursing
R.N., Harris College of Nursing; B.S., Texas Christian University.
- Luther L. Corder Associate Professor of Business Administration
B.A., Eastern New Mexico University; M.B.A., West Texas State University.
- Judith L. Cornes Professor of English
B.A., M.A., University of Missouri; Ph.D., Southern Illinois University.

- Roger B. Corzine Associate Professor of Biology
B.S., University of Oklahoma; M.A., University of Colorado; M.S., Michigan State University.
- Gregory W. Craig* Lecturer of Medical Technology
M.T. (A.M.T.), A.S., San Antonio College.
- David F. Dawson* Lecturer of Medical Technology
B.S., Arkansas College; M.D., University of Arkansas
- Dorothy Dodd Professor of Drama
B.F.A., University of Texas, M.A., University of Washington, Ed.D., New York University.
- Billie B. Duncan Department Head and Associate Professor of Office Education
A.A.S., Odessa College; B.S., M.Ed., Sul Ross State University.
- Susan Elliott Learning Resources Paraprofessional
B.S., Kansas Wesleyan University.
- Bonnie Genelle Felio Instructor of Child Development
B.S., New Mexico State University.
- Peggy J. Fernandez Learning Resources Paraprofessional
B.S., Adams State College
- James M. Fields Assistant Professor of Mathematics
B.S., West Texas State University; M.S., Michigan State University.
- Peter A. Figert Associate Professor of Instrumental Music
B.S., M.A., Ball State University.
- Debbie Floyd Director of Student Activities and
Instructor of Personal Development
B.S., M.A., East Texas State University.
- Clinton W. Forbes Assistant Professor of Mid-Management
B.S., Wayland Baptist College, University of Texas of the Permian Basin.
- Imogene Freer Department Head and Professor of Reading
B.S., Southwestern State College (Okla.); M.S., Oklahoma State University; Ph.D., Michigan State University.
- Betty J. Friesinger Department Head and Associate Professor
of Business Administration
B.S., Southeastern State College; M.A., Sul Ross State University.
- Fred E. Gaither Counselor and Instructor of Personal Development
B.A., Colorado State College; M.A., Adams State College of Colorado.
- Nathan C. Galloway* Medical Director of Respiratory Therapy Program
B.S., M.D., Tulane University.

- Mary Jane Gentry Assistant Professor of History
A.A., Ranger Junior College; B.S., M.A., University of Texas at Austin.
- Elizabeth K. Gillette Department Head and Professor of English
B.S., M.S., Texas A. & I. University; Ph.D., East Texas State University.
- Gordon E. Gillette Department Head and Associate Professor of Psychology
and Sociology
B.A., Lycoming College; M.S., George Williams College.
- Mary L. Gilmour Associate Professor of Business Administration
B.B.A., University of Texas at Austin; M.B.A., Texas Tech University.
- Lonnie E. Goodman Instructor of Economics and History
B.A., University of Texas at Arlington; M.A., North Texas State University.
- Dana Graham Assistant Professor of Electricity, Electronics, and Drafting
B.S., M.Ed., Southwest Texas State University.
- Jeffrey S. Guilmette Instructor of Government
B.A., Occidental College, M.A., San Francisco State University.
- Paul T. Haenelt Instructor of Welding
- Mary Joyce Harding Department Head and Assistant Professor of
Home Economics
B.S., Texas Woman's University; M.S., Texas Tech University.
- Celia C. Harris Instructor of Nursing
A.A.S., R.N., Odessa College; B.S.N., West Texas State University.
- Roy H. Hart Director of Special Services and Professor of Personal Development
B.S., Sul Ross State University; M.Ed., Abilene Christian College; Ed.D., East Texas
State University.
- Thomas J. Heiting Professor of History and Government
B.A., Marquette University; M.A., New Mexico Highlands University; Ph.D., Texas
Tech University
- Jack W. Hendrix Department Head and Associate Professor of Music
B.Mus., M.Mus., North Texas State University.
- Frederic B. Hertenstein Department Head and Assistant Professor of
Respiratory Therapy
(A.R.R.T.).
- Delmos L. Hickmott Associate Professor of Art
B.S., North Texas State University; M.F.A., Instituto Allende, Mexico.
- Truett L. Hilliard Associate Professor of History and Philosophy
B.A., M.A., Eastern New Mexico University.

- Patricia L. Hodges Instructor of Physical Education and Director of
the Senioritas de las Rosas
B.F.A., M.F.A., Southern Methodist University.
- Kathryn Hoppe Instructor of Music
B.M., M.Mus., Indiana University.
- Betty Jo Hudson Instructor of Physical Education and
Director of Intramurals
B.S., Texas A. & I. University; M.A., Sul Ross State University.
- Martha E. Huff Learning Resource Specialist
B.A., M.S.L.S., East Texas State University.
- Don L. Huff Chairman Science and Health Occupations Division
and Assistant Professor of Biology
B.S., M.S., East Texas State University.
- Kenneth H. Hurst Chairman, Occupational and Technical Division and
Associate Professor of Engineering and Drafting Technology
B.S., M.Ed., East Texas State University.
- Rita M. Hurst Associate Professor of Office Education
B.S., M.S., East Texas State University.
- Peter D. Hyde Associate Professor of Computer Science
B.A., Harvard University, M.S.E., University of Pennsylvania.
- Betty Ruth Jackson Assistant Professor of Nursing
R.N., Harris College of Nursing; B.S.N., West Texas State University.
- Dorothy F. Jackson Instructor of Nursing
R.N., A.A.S., Odessa College.
- Wallace R. Jackson Associate Professor of Speech and Radio
B.A., Abilene Christian College; M.A., Northwestern University.
- John F. Johnson Department Head and Assistant Professor of
Machine Technology
- Keith H. Johnson Director of the Planetarium and
Associate Professor of Astronomy
B.A., Luther College.
- Sammie Lou Johnson Instructor of Mid-Management
B.C.E., Ozark Bible College.
- Arthur Jones Instructor of Respiratory Therapy
A.A.S., Harrisburg Community College, B.A., Temple University.
- George E. Jones Associate Professor of English
B.A., M.A., East Texas State University.

- Dick K. Kennedy Department Head and Associate Professor
of Economics and Government
B.S., M.A., West Texas State University.
- Ashok Khosla Professor of Physics
B.S., Delhi University; M.S., Purdue University; Ph.D., Rensselaer Polytechnic Institute.
- Jack E. Kitzmiller Instructor of Government
B.A., North Texas State University; M.A., University of Texas at Arlington.
- Daryl F. Lane, Jr. Professor of English
B.A., University of San Francisco; M.A., University of Wisconsin in Milwaukee; Ph.D., University of New Mexico.
- Billy Jack Lawrence Instructor of Physical Education
A.A., Tyler Junior College; B.S., Baylor University; M.Ed., East Texas University.
- Carolyn Sue Leach* Lecturer of Radiologic Technology
A.A.S., Odessa College; R.T. (A.R.R.T.).
- Justin P. LeVasseur* Medical Director of Radiologic Technology Program
B.S., M.D., Louisiana State University.
- Willie M. Longoria* Lecturer of Respiratory Therapy
A.A.S., Odessa College; C.R.T.T.
- G. Brent McAfee Assistant Professor of Geology
A.A., Odessa College; B.S., M.A., Sul Ross State University.
- Jean M. McColloch Instructor of Reading
B.A., Baylor University; M.Ed., University of Arizona.
- L. E. McColloch Assistant Professor of Physical Education
B.S., M.Ed., Texas Tech University.
- Darlyne McFall Instructor of Speech
B.A., M.A., Texas Tech University.
- Annette A. McMinn* Lecturer of Medical Technology
M.T. (A.S.C.P.), B.S., Texas Tech University.
- James R. Mason Associate Professor of Electricity and
Electronics Technology
B.S., Seton Hall University; M.A., New Jersey State College at Montclair.
- Eva. M. Mauldin Instructor of Nursing
B.S.N., Northwestern State University.
- Ronald D. Mayberry Instructor of Physical Education
and Men's Basketball Coach
B.S., Texas Christian University, M.Ed., West Texas State University.

- William J. Michalka, Jr. Professor of Business Administration
B.A., University of Texas at Austin; M.A., Sam Houston State College. Ph.D., North
Texas State University.
- Owen B. Monette Department Head and Assistant Professor of
Automotive Mechanics
- William Murchison Assistant Professor of Journalism and Photography
B.S., Stephen F. Austin State University; M.S., Illinois Institute of Technology.
- Bill M. Nelson Veterans Recruiter-Coordinator
B.S., Baylor University; M.Ed., North Texas State University, Ed.D., North Texas State
University.
- Donald C. Nichols Professor of Speech and Director of Forensics
B.A., Westmar College; M.A., Temple University; Ed.D., Nova University.
- Charles C. Nicolette* Lecturer of Radiologic Technology
B.S., M.D., Ohio State University.
- Marc A. Nigliazzo Professor of English
B.A., University of Texas at Austin; M.A., Texas A. & M. University; Ph.D. University of
New Mexico.
- Oliver G. Nordmarken Department Head and Professor of Law Enforcement
LL.B., J.D., University of North Dakota.
- Edward W. Orton Department Head and Associate Professor of Geology
B.S., University of Oklahoma; M.S., Louisiana State University.
- Maxine Parks Assistant Professor of Nursing
R.N., St. John's Hospital School of Nursing; B.S.N., University of Texas at Austin.
- Charles R. Payne Department Head and Assistant Professor of Diesel Mechanics.
- Betty S. Peak Associate Professor of Psychology
B.S., McMurry College, M.Ed., Ed.D., Texas Tech University.
- Edwin Barry Phillips, Jr. Department Head and Assistant Professor of Art
B.S., M.Ed., Texas Tech University.
- Janet R. Phillips Instructor of Nursing
R.N., B.S., Texas Woman's University.
- Ned Pilcher Assistant Professor of English
B.A., Texas Tech University; M.A., West Texas State University.
- Robert Bruce Porter Assistant Professor of History and Sociology
B.S., M.A., Eastern New Mexico University.
- Billy Powell Assistant Professor of Diesel Mechanics
A.A.S., Galveston College.

- John T. Price Assistant Professor of Building Trades
- Karen K. Redwine Instructor of Nursing
B.S.N., West Texas State University.
- Thomas Matthew Rees Associate Professor of Spanish
B.A., University of Utah; M.A., Stanford University.
- Helen K. Reinhart Professor of History and Government
B.A., Quincy College; M.A., Ph.D., University of Illinois.
- L. Glen Richardson Associate Professor of Chemistry
B.A., Hardin Simmons University; M.A., University of Texas at Austin.
- Mary E. Richardson Assistant Professor of Chemistry
B.A., Hardin Simmons University; M.A., University of Texas at Austin.
- Mary L. Roach Assistant Professor of English
B.A., Mary Hardin Baylor College; M.A., University of Texas at El Paso.
- Derrie B. Roark Learning Resources Specialist
B.A., M.L.S., Louisiana State University.
- Norman R. Robinson Instructor of Machine Technology
- R. Barry Rodenhaver Assistant Professor of Physical Education,
Athletic Director, and Golf Coach
B.S., Penn State University; M.A., University of Maryland.
- Robert Rountree III* Medical Director of Emergency
Medical Technology
B.S., McMurry College, M.D., University of Texas
- Kay Rutherford Office Education Paraprofessional
B.S., Southwest Texas State University.
- Carol Ann Sassin Associate Professor of Office Education
B.B.A., M.B.A., Sam Houston State University.
- Phyllis Schaefer Instructor of Nursing
R.N., St. Francis School of Nursing Education.
- Betty L. Seeker Assistant Professor of Nursing
R.N., A.A., Pasadena City College; B.S., College of the Southwest.
- James L. Segrest Instructor of Physical Education and Track Coach
B.S., Abilene Christian College; M.Ed., Southwestern State College (Okla.).
- William Leon Sherman Assistant Professor of Business Administration
B.B.A., Sam Houston State College; M.A., Sul Ross State College.
- Edwin A. Shipman Counselor and Professor of Personal Development
B.S., M.Ed., Texas Tech University; Ph.D., Northern Colorado University.

- George E. Sivertson Program Director and Instructor of Radiologic Technology
R.T. (A.R.R.T.).
- Clyde Frank Smith Department Head and Professor of Biology
B.S., M.S., University of Illinois; Ph.D., Cornell University.
- Joel D. Smith Program Director and Associate Professor of Medical Technology
B.A., The University of Texas at Austin; M.T. (A.S.C.P.).
- Roxie Stell Department Head and Associate Professor of Nursing
R.N., B.A., Michigan State University; M.Ed., Sul Ross State University.
- Nancy Stewart Office Education Paraprofessional
B.B.A., Baylor University.
- Wray D. Storey* Medical Director of Medical Technology Program
B.S., Geneva College; M.D., Duke University.
- Sidney Streicher Department Head and Associate Professor of
Mid-Management
B.S., University of Houston; M.Ed., University of Texas at El Paso.
- Nancy Sturges Assistant Professor of Office Education
B.A., Wheaton College; M.S., California State College at Fullerton.
- Robert P. Sturges Chairman, Human Development Division and
Associate Professor of History
B.A., University of Redlands; M.A., Chapman College.
- Charles E. Sweatt Department Head and Instructor of Mathematics
B.S., M.S., West Texas State University.
- E. Donald Taylor Department Head and Professor of Chemistry
B.S., University of Texas at Austin; Ph.D., Texas Tech University.
- Paul G. Tittle Assistant Professor of Mid-Management
B.A., Sam Houston State University.
- Wm. M. Trussell Director of Instructional Development
B.A.E., M.E., University of Mississippi, M.L.S., D.Ed., East Texas State University.
- Imogene Vaught Assistant Professor of English
A.A., Odessa College; B.A., M.A., Texas Tech University.
- Hugh L. Waldrum Assistant Professor of Mathematics
B.S., Sul Ross State University, M.A., University of Texas at Austin.
- Jean L. Wallman Instructor of L.V.N. Nursing (Alpine)
R.N., Milwaukee County Hospital School of Nursing.
- Janet R. Watlington Instructor of Nursing
R.N., B.S., Texas Woman's University.

- Maureen D. Watson Assistant Professor of Nursing
B.S., Madison College.
- Kenneth Weekes Department Head and Associate Professor of Welding
A.A., Ranger Junior College.
- Doyle L. Weldon Department Head and Instructor of Physical Education
B.S., West Texas State University; M.A., Northeast Missouri State College.
- Fred Wemple Instructor of Mathematics
B.S., Sul Ross State University; M.S., North Texas State University.
- Georgann Wemple Instructor of Psychology
B.A., University of Houston; M.A., St. Mary's University.
- Melvin Whitehurst Director of Counseling Center and
Professor of Personal Development
B.S., M.Ed., North Texas State University, Ed.D., East Texas State University.
- Lynn Whitson Writing Lab Paraprofessional
B.A., M.A., University of Texas of the Permian Basin.
- Stanley C. Williams Assistant Professor of English
B.A., M.Th., M.L.A., Southern Methodist University; M.A., Brown University.
- Clara L. Willis Counselor and Professor of Personal Development
B.S., M.Ed., Southwest Texas State Teachers College; Ph.D., Texas A&M University.
- George E. Willis Department Head and Professor of
Electrical/Electronics Technology
B.S., Southwest Texas State University, M.Ed., Sul Ross State University, Ed.D.,
Texas A&M University.
- Michael R. Willson Associate Professor of Physical Education and
Gymnastics Coach
B.S., M.A., Ohio State University.
- Anna F. Winn Assistant Professor of Nursing
R.N., B.S., University of Houston; M.S., University of Colorado.
- Norman L. Witcher Department Head and Associate Professor of
Refrigeration and Air Conditioning
C.C., Amarillo College.
- J. Michael Woods* Lecturer of Medical Technology
B.S., Angelo State University; M.T. (A.S.C.P.).
- William W. Worrell Instructor of Art
B.A., M.F.A., Texas Tech University.

Kenneth D. Yeilding Professor of History and Government
B.S., Hardin-Simmons University; M.A., University of Texas at El Paso; Ph.D., Texas
Tech University.

*Honorary Faculty Members. The title of Lecturer is awarded to those faculty who make a
substantial voluntary contribution of time and effort to the instructional programs of the
College.



Index

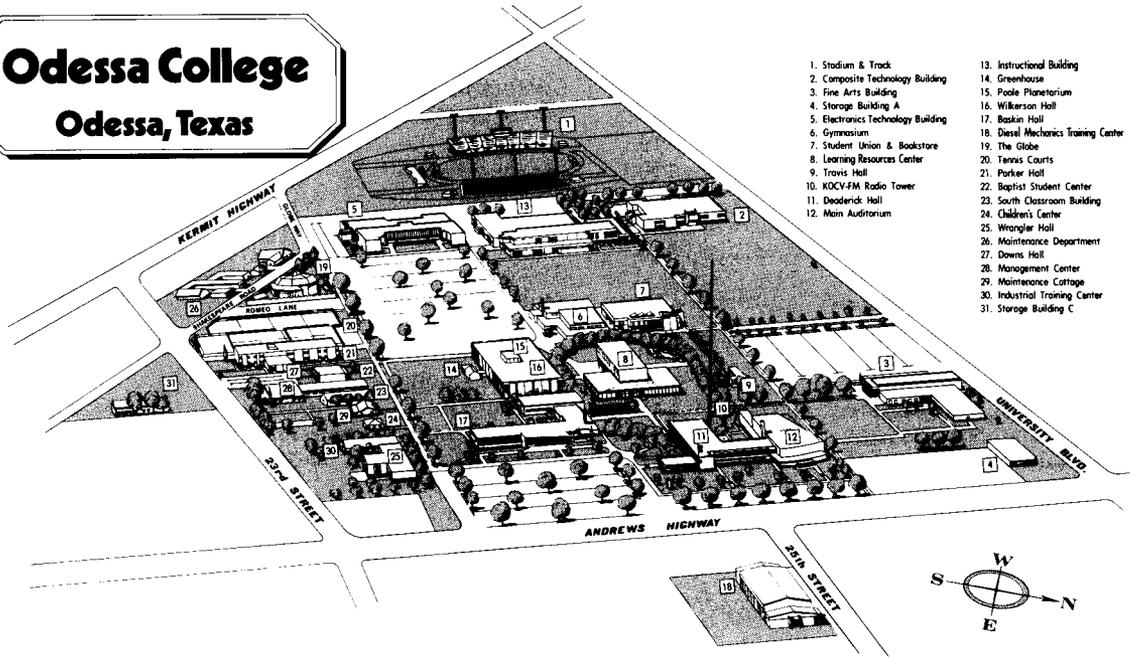
Absences and Class Attendance	28	Course Load	25
Accounting	55	Credit by Examination	29
Accreditation	6	Data Processing	83
Address Change	14	Dentistry	47
Administration	176	Deposit	15
Administrative Withdrawal	14	Diesel Mechanics	76
Admission Information	12	Dormitory Facilities	20
Adult Basic Education	32	Drafting	78
Adult and Continuing Education	32	Drama	67
Advance Standing Examinations	29	Early Admissions Program	29
Air Conditioning	160	Earth Science	98
Anthropology	97	Economics	171
Art	38	Education, Course of Study	155
Associate in Applied Science		Electrical and Electronics	
Degree	35	Technology	80
Associate in Arts Degree	34	Electronic Data Processing	83
Associate in Fine Arts Degree	35	Elementary Education	
Associate in Science Degree	34	Course of Study	155
Astronomy	97	Emergency Medical Technology	86
Athletics	22	Engineering	90
Auditing	14	English	107
Automotive Mechanics	44	Entrance Examinations	14
Basketball	23	Equal Opportunity	5
Band	22	Evening Classes	31
Basic Educational Opportunity Grant	17	Extension Centers	33
Bible Courses	173	Faculty	177
Biology	46	Fashion Merchandising	121
Board of Trustees	176	Federally Insured Loans	18
Building Trades	52	Financial Aid	16
Business Administration	54	Fire Protection Technology	93
Calendar	8	Foreign Language	108
Campus Map	190	Forensics	22
Certificate of Completion	36	GED Examination	13
Certificate of Technology	36	Geography	98
Change of Address	14	Geology	96
Chemistry	58	German	110
Child Development	61	Golf	23
Choir	22	Government	171
Class Attendance	28	Grade Point Average	26
Classification of Students	26	Grades	26
Clerical Certificate Program	145	Gymnastics	23
Clubs and Organizations	21	Health Education	150
College Work-Study Program	17	Hinson Hazlewood Loan Program	18
College Organization	176	History Courses	171
Commercial Photography	70	History of Odessa College	4
Communication and		Home Economics	99
Theatre Department	65	Honor Roll	29
Community Service Courses	32	Housing and Food	20
Compact Semester	32	Humanities	42
Computer Operations	83	Incomplete Grades	28
Counseling Center	20	Industrial Instrumentation	101

Industrial Supervision	121
Insurance Courses	56
Interim Session	32
Intramurals	22
Journalism	68
Law Enforcement Courses	105
Law Enforcement Education Program (LEEP)	18
Learning Resources Center	6
Legal Secretarial Education	143
Literature and Languages Department ..	107
Loans	18
Machine Shop	111
Machine Shorthand	144
Management	119
Map	190
Marketing Management	120
Mass Communication	68
Mathematics	113
Mathematics for Business Administration	56
Medical Laboratory Technology	116
Medical Office Education	141
Medicine, Course of Study	47
Mid-Management	119
Midwinter Session	32
Music	125
Nursing	136
Nursing Assistant	138
Nursing Student Scholarships and Loans	18
Organization and Staff	176
Office Education	142
Optometry	48
Pharmacy	49
Philosophy Courses	173
Photography	70
Physical Education	148
Physics	151
Police Science	103
Pre-Dentistry	47
Pre-Medical	47
Preregistration	14
Pre-Veterinary Medicine	48
Probation Policy	27
Psychology	153
Purpose of Odessa College	1
Radio-Television	72
Radiologic Technology	158
Reading	161
Real Estate	162

Refrigeration and Air Conditioning	164
Refund of Tuition	16
Religion Courses	173
Registered Nursing	136
Respiratory Therapy Technology	167
Schedule Change	28
Scholarships	18
Scholastic Standards	27
Secondary Education Course of Study	155
Secretarial Science	141
Senoritas de las Rosas	22
Shorthand	144
Social Science	170
Sociology	156
Spanish	110
Speech	74
Stenography	144
Student Activities	21
Student Assistance	16
Student Congress	21
Student Handbook	21
Student Life	20
Student Publications	22
Student Services	20
Summer Session	32
Supplementary Educational Opportunity Grant	17
Suspension Policy	27
Technical and Vocational Occupational Programs	31
Television	72
Tennis	23
Texas Public Education Grant	18
Theatre	65
Track	23
Transcript	30
Transfer of Credit	30
Trustees	176
Tuition and Fees	15
Tuition Grants	18
Typewriting	144
Valedictorian Scholarship	18
Veteran's Benefits	14
Veterinary Medicine	47
Vocational Nursing	136
Vocational Rehabilitation	18
Welding	174
Withdrawal from College	28
Work-Study Program	17
X-Ray Technology	158

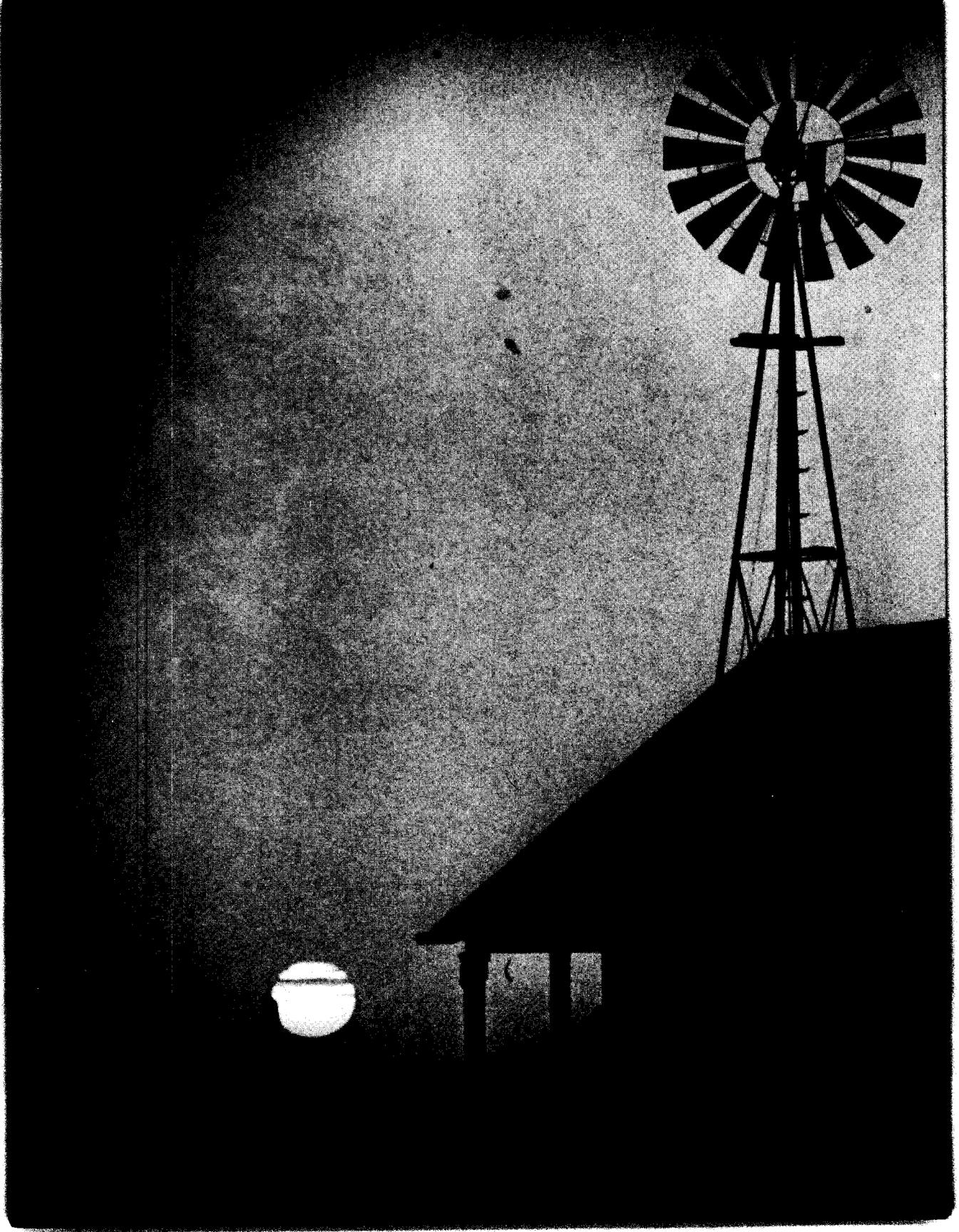
Campus Map

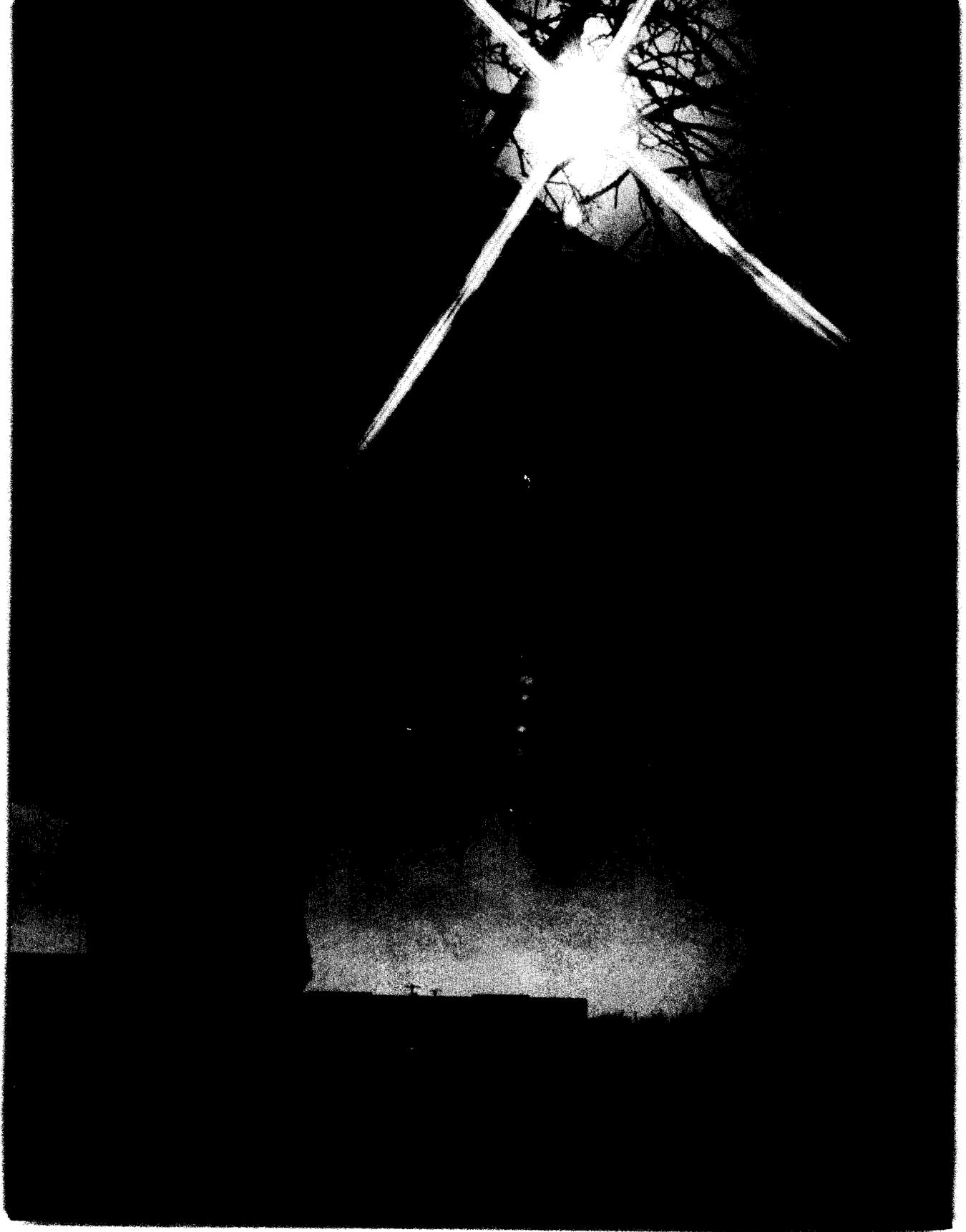
Odessa College
Odessa, Texas



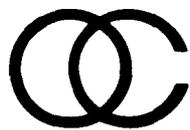
- | | |
|------------------------------------|--------------------------------------|
| 1. Stadium & Track | 13. Instructional Building |
| 2. Composite Technology Building | 14. Greenhouse |
| 3. Fine Arts Building | 15. Poole Planetarium |
| 4. Storage Building A | 16. Wilkerson Hall |
| 5. Electronics Technology Building | 17. Baskin Hall |
| 6. Gymnasium | 18. Diesel Mechanics Training Center |
| 7. Student Union & Bookstore | 19. The Globe |
| 8. Learning Resources Center | 20. Tennis Courts |
| 9. Travis Hall | 21. Parker Hall |
| 10. KOCV-FM Radio Tower | 22. Baptist Student Center |
| 11. Dealership Hall | 23. South Classroom Building |
| 12. Main Auditorium | 24. Children's Center |
| | 25. Wrangler Hall |
| | 26. Maintenance Department |
| | 27. Downs Hall |
| | 28. Management Center |
| | 29. Maintenance Cottage |
| | 30. Industrial Training Center |
| | 31. Storage Building C |

An Equal Opportunity College





Produced by the Odessa College Informational Services Office



Odessa College