Central Texas College

A Part of the American Educational Complex

1977-1979 Catalogue

Central Texas College

SEVENTH GENERAL CATALOGUE 1977-1979

Accredited By
Southern Association of Colleges and Schools

Approved By
Coordinating Board,
Texas College and University System
Texas Education Agency

Listed In
Report of Credit Given By
American Association of Collegiate
Registrars And Admissions Officers

Member Of
Association Of Texas Colleges And Universities
American Association Of Community And Junior Colleges
Texas Association Of Junior Colleges
Texas Association Of Public Junior Colleges
Texas Association of Collegiate Registrars And Admission Officers

TABLE OF CONTENTS

Central Texas College 1
Dedication 4
College President 5
Graduation 6
Board of Trustees 8
Telecomputer Grid 9
Campus 10
Campus Map 13
Worldwide Expansion 14
Executive Officers 15
Administrative Officers 16
Administrative Staff 16
Calendar 1977-1979 17
Calendar for School Years— Fall Semester 1977 through Summer Session 1979 18
General Information 23
Central Texas College "A Part of the American Educational Complex" 25
Educational Philosophy 26
Educational Objectives 26
Servicemen's Opportunity College 27
Transfer of Credits 28
Why You Should Attend CTC 28
Flow Chart 30
Admission Requirements 31
Recommended High School Program 32
G.E.D. Testing 33
What To Do Before Registration 33
Credits for Military and other Educational Experience 34
Credit by Institutional Examination 34
Degrees Conferred 35
Graduation With Honors 35
Degree Requirements 35
Graduation Exercises 37
Schedule of Tuition and Fees 38
Refund of Tuition 39
Financial Aid Programs 40
Vocational Rehabilitation 41
Residence Status 41
Class Membership 44
Visitors in a Class 44
Academic Load 44
Classification of Students 44
Class Hours 45
Evening College 45
Summer Session 45
Course Planning 45
Scholastic Honesty 45
Absences and Tardiness 46
Scholastic Standards 46
Honor Roll 46
Scholastic Probation and Suspension 47
Grades and Point Averages 47
Withdrawal from College 48
Transcripts 48
Student Records and Information 49
Student Life 49
Library 49
Athletic Program 49
Roy J. Smith Student Center 50
Dormitory 50
Housing Policy 50
Textbooks 51
Student Conduct 51
Firearms and Weapons 52
Campus Dress 52

Student Discipline 52
Summons to Administrative Offices 53
Parking Regulations 53
Curricula 54
Programs of Study 54
Agriculture 56
Air Conditioning and Refrigeration 57
Art 59
Commercial Art 60
Automotive Service and Repair 62
Diesel Mechanics 65
Aviation Maintenance Technology 66
Business Administration 70
Career Pilot 72
Child Development 76
Communications 79
English 79
Foreign Language 82
Journalism 84
Speech 85
Computer Science 87
Computer Operator 87
Electronic Data Processing Clerk 88
Developmental Studies 91
Drafting and Design 94
Education 97
Electronics Technology 99
Computer Maintenance 101
Consumer Electronics Servicing 103
Engineering 105
Environmental Control 107
Farm and Ranch Management 109
Farm and Ranch Production 110
Horse Management 111
Food Production 112
Animal Production 112
Plant Production 112
Hotel-Motel Management 115
Law Enforcement 117
Business Management 120
Applied Management 121
Mid-Management 122
Real Estate 123
Food Service Management 128
Mathematics 131
Music 133
Nursing, Associate Degree 138
Vocational Nursing 140
Office Administration 142
Office Assistant 143
Office Management 144
Offset Printing 147
Photography 148
Physical Education and Recreation 149
Recreation 150
Recreation Leadership 151
Science 154
Biology 154
Chemistry 154
Geology 155
Medical Technology 156
Pre-Med 156
Social Science 160
Juvenile Corrections 165
Small Gas Engine Repair 166
Maintenance Technology 168
Telecommunications 170
Welding 173

Dedication

Central Texas College Dedicated by the 36th President of the United States

An excerpt from the speech delivered by the President of the United States, Lyndon Baines Johnson, at the dedication of this College Dec. 12, 1967:

". . . just as our country lived through a great age of exploration in the last century, we have entered in this century another age. It will be remembered—I hope you are remembered with it—as the era of education.

"This college is proof of that.

". . . we come here today to dedicate this college . . . to dedicate it forever to the service of the people, and to the progress of America."

An excerpt from the speech delivered by the President of Central Texas College, Dr. Luis M. Morton, Jr., introducing the President of the United States, Lyndon Baines Johnson:

"How fitting it is that one so concerned with the cause of education and so dedicated to the welfare of our servicemen should dedicate a college so committed to helping not only our local citizens, but also the men in uniform who come from all parts of this Nation. No greater honor could come to Central Texas College than to have the President of the United States of America dedicate this new and dynamic institution of higher learning. The honor is doubly significant because the man who holds this highest office is a great humanitarian—dedicated to the causes of freedom, peace, and education in our land and throughout the world."

College President

What an unusual story there is to tell about the birth, the growth, and the development of Central Texas College. Noted educational authorities had recommended that the State of Texas not authorize the creation of this college.

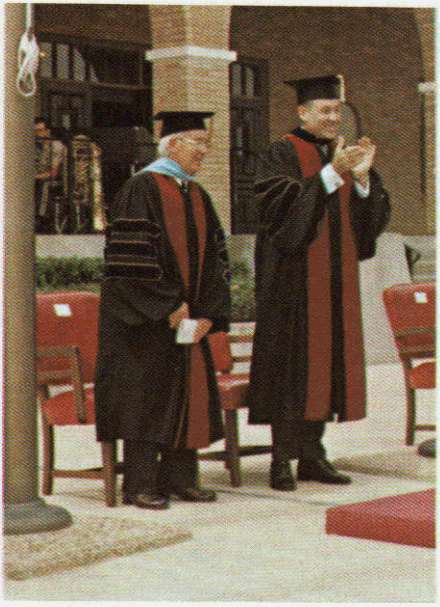
Why has this institution burst forth and succeeded in such a dramatic fashion? Obviously, the reasons for this success have been multi-fold. The people from the college district have supported this institution. The Board of Trustees, the administration and the faculty have worked in harmony to develop services for the students. Perhaps of greatest significance, the students have understood the many frustrations which came from the creation of a new institution. From the very beginning, like older brothers and sisters looking after the younger, they have sacrificed, helped and protected the institution through the years. Future students will be the beneficiaries of these unselfish contributions. Tens of thousands of students from Central Texas have attended Central Texas College which includes over 150 overseas sites scattered throughout Europe and the Far East. This year alone, approximately 30,000 students will be served at the central campus or one of its overseas sites.

On behalf of the Board of Trustees, the administration and the faculty, I take the sincere and simple pleasure of welcoming you to Central Texas College. Thank you.

Respectfully, L. M. Morton, Jr.

Dr. Luis M. Morton, Jr.
President

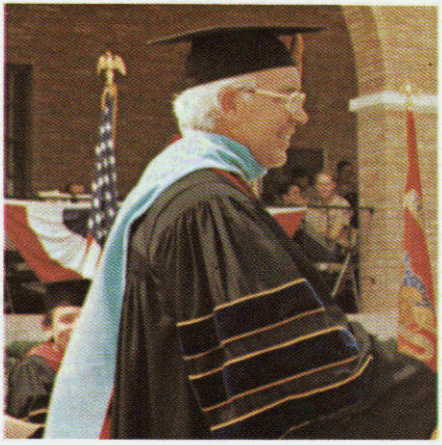
Graduation

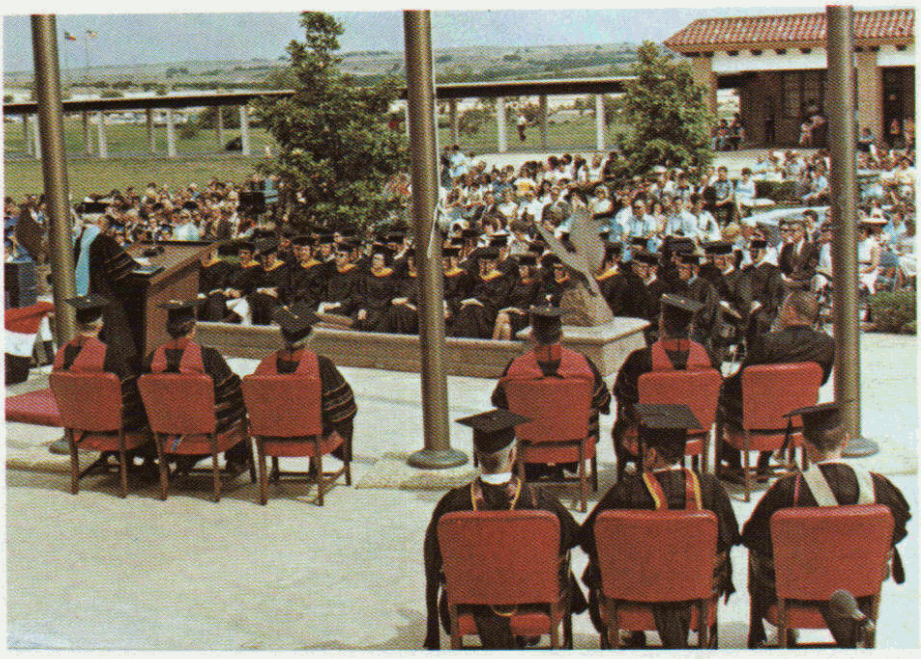


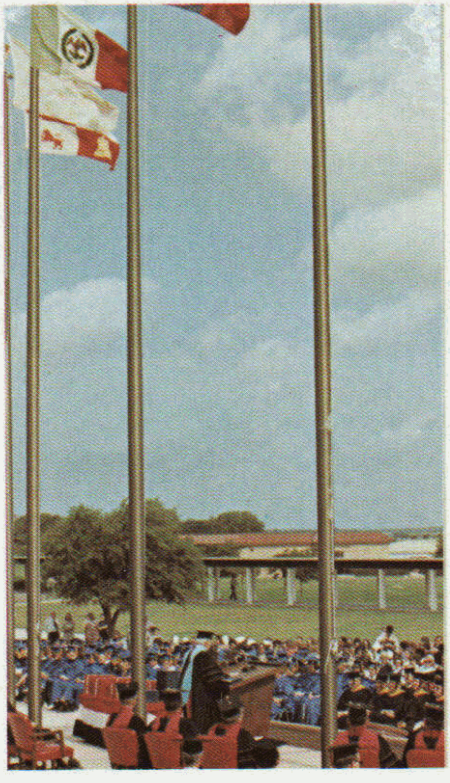
Dr. Terrel Howard Bell, U.S. Commissioner of Education, delivers the commencement address at the first joint graduation exercise of Central Texas College and American Technological University.

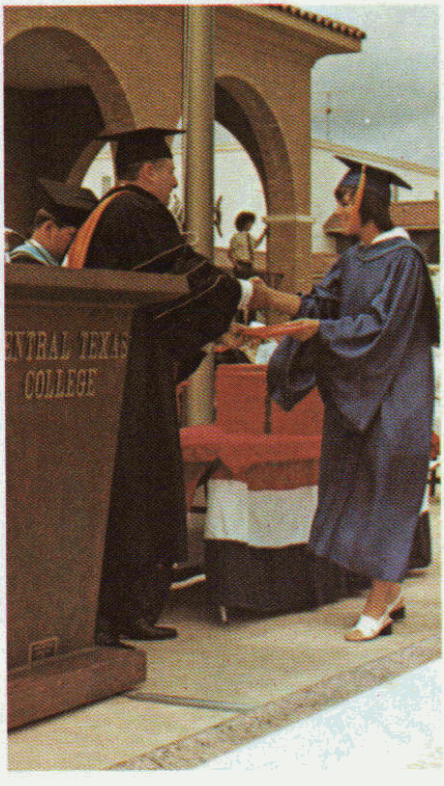
Graduation is held at the President Lyndon Baines Johnson Plaza, located in the center of the campus next to the Roy J. Smith Student Center.

Dr. Luis M. Morton, Jr., President of the College, confers the degrees on the graduates. The ceremony is carried "live" on television and radio throughout Central Texas.





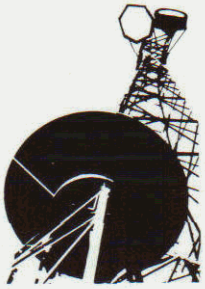



COLLEGE

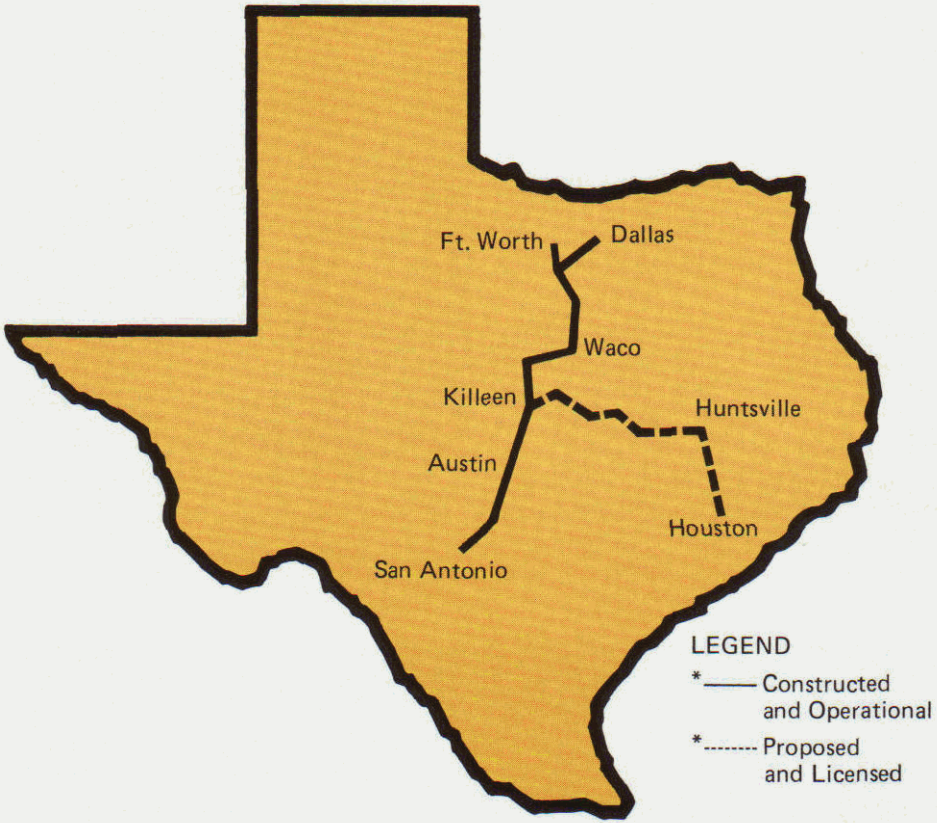
Board of Trustees

Standing from left to right: Marvin A. Mickan, Copperas Cove; William S. Bigham, Killeen, President; Dr. Luis M. Morton, Jr., Chief Executive Officer and President of Central Texas College; W. A. Roach, D.V.M., Killeen, Treasurer.

Seated from left to right: Cleo W. Bay, Killeen; Mrs. L. D. Frederick, Copperas Cove, Secretary; Guinn C. Fergus, Killeen; J. A. Darossett, Copperas Cove, Vice-President.



Telecomputer Grid



Central Texas College has pioneered a microwave communications system — The Texas Telecomputer Grid — which encompasses a semi-futuristic concept. The network contains two-way audio, color video and data capabilities. The extensive network connects metropolitan, suburban and rural population centers with regional concentrations of computer and television resources.

The Texas Telecomputer Grid is a tool in the hands of educators, enabling them to evaluate and deliver quality materials so vital to the solution of major educational problems facing Texas and the nation. Career educational courses have been provided to students throughout the state-wide distribution network using this highly specialized system.

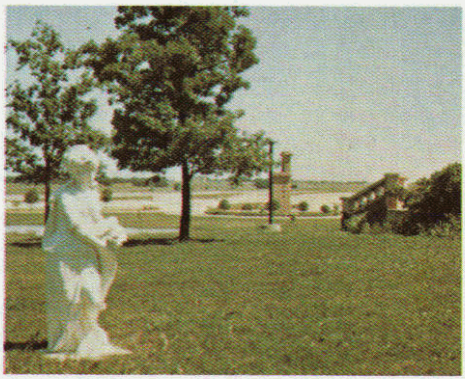
Campus

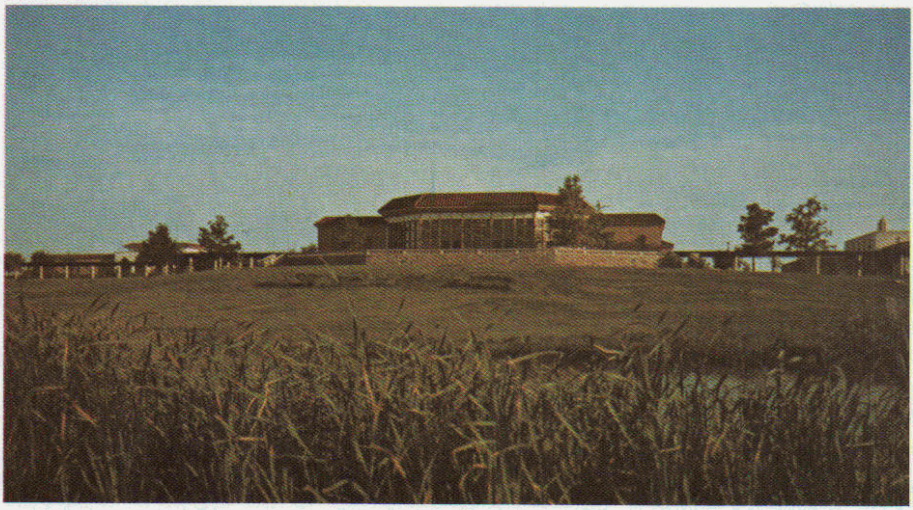
Central Texas College claims many distinctions, one of which is its beautiful campus.

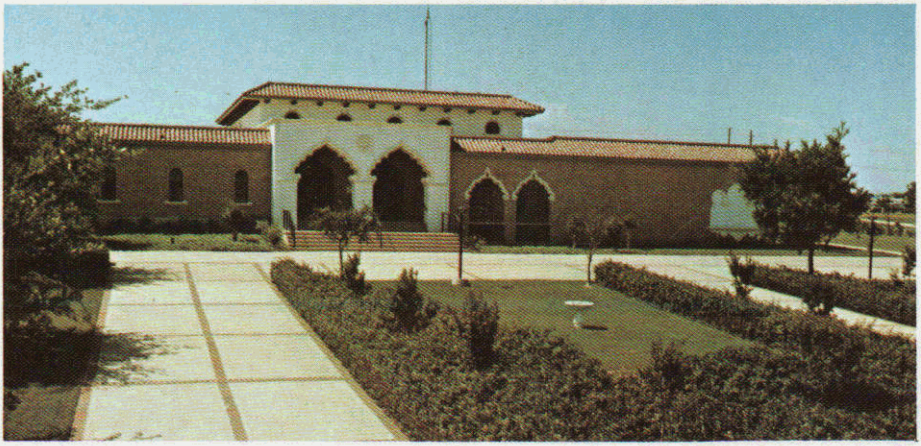
Central Texas College is located in the beautiful hill and lake country between Killeen and Copperas Cove. The classical Spanish exterior of each building is enriched by the soft blend of brick and mission tile roof.

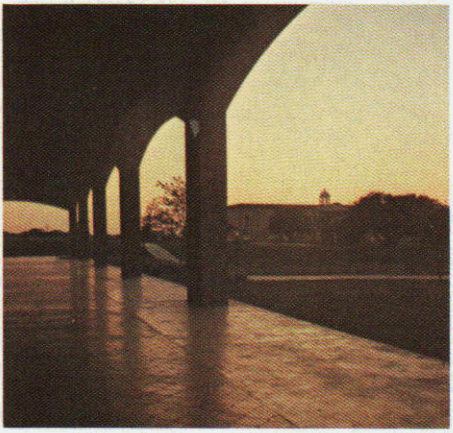
New facilities, advanced instructional methods and an excellent faculty provide the maximum support to help each student succeed in whatever career he chooses.

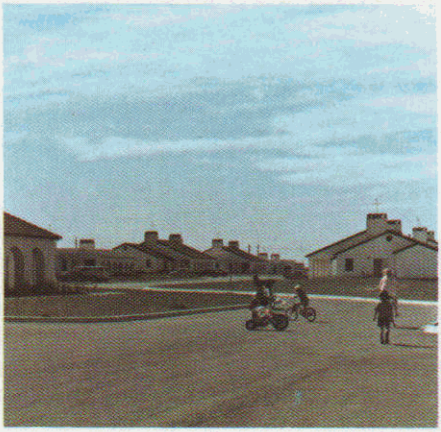
Innovative concepts in advanced technology have propelled Central Texas College into the exciting realm of the 21st Century.

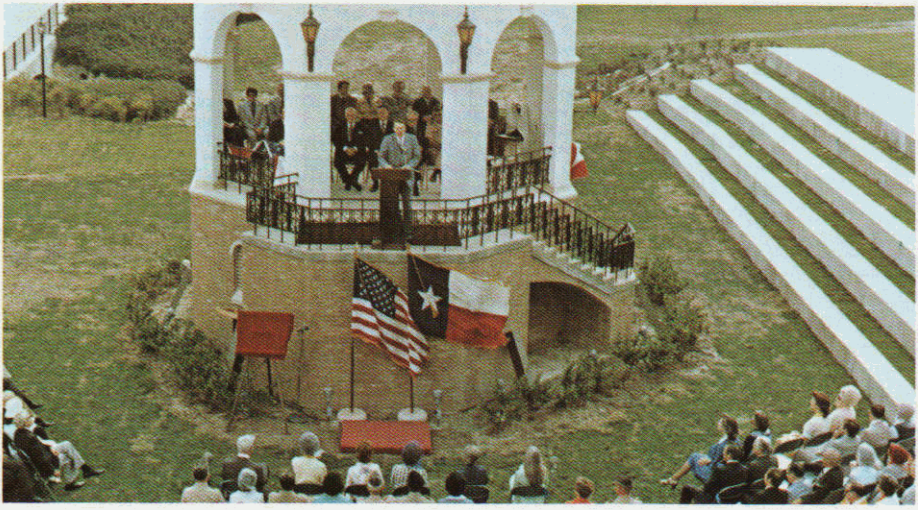


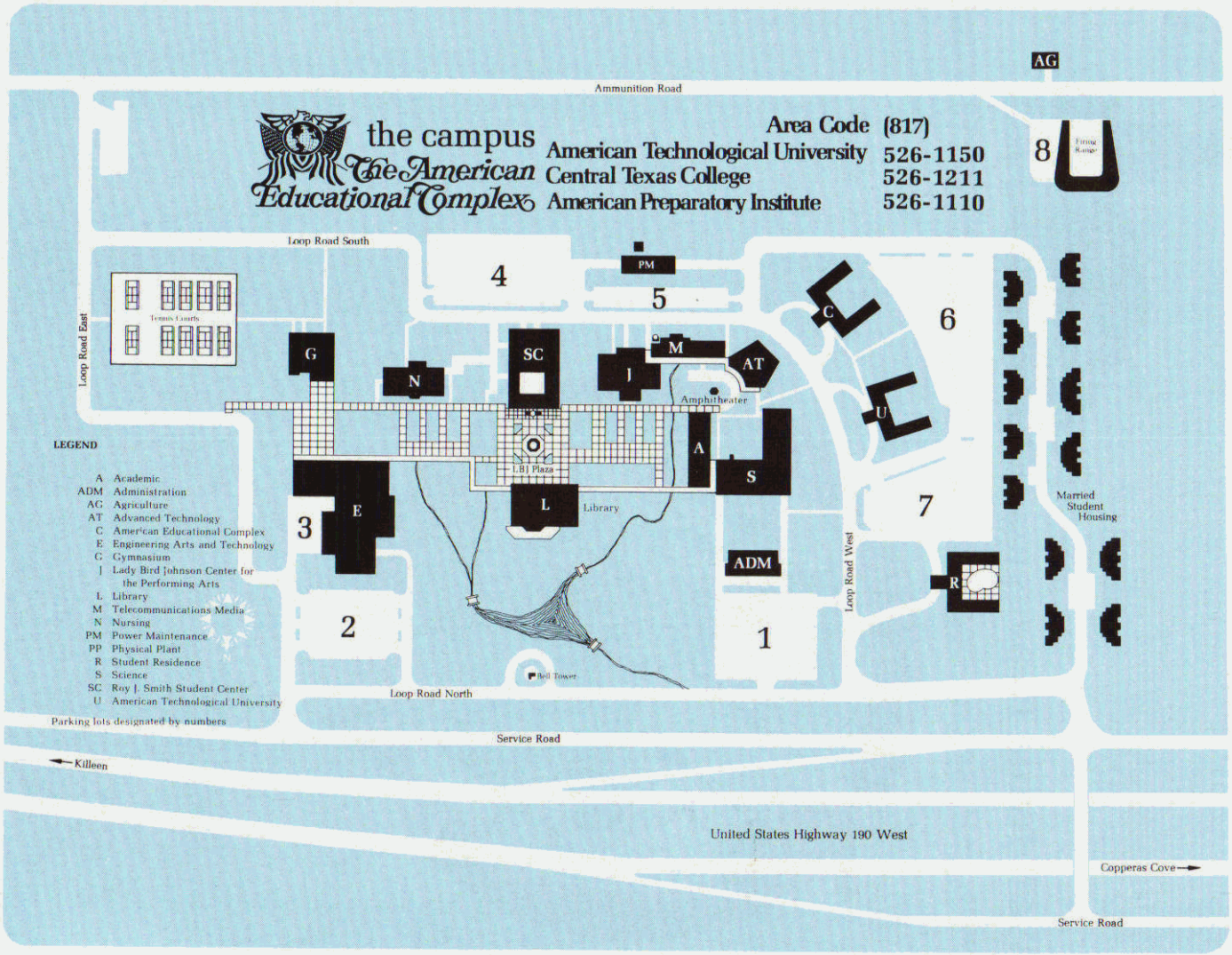


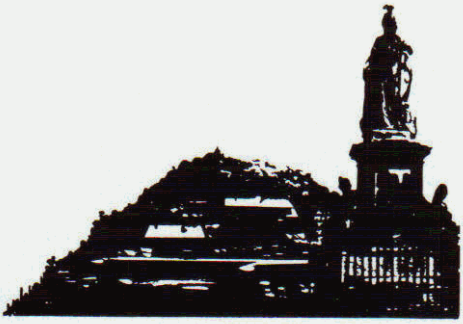









the campus
The American Educational Complex
Area Code (817)
American Technological University 526-1150
Central Texas College 526-1211
American Preparatory Institute 526-1110
AG
Ammunition Road
8
Firing Range
Loop Road South
Loop Road East
Tennis Courts
4
PM
5
C
6
G
N
SC
J
M
AT
Amphitheater
U
A
S
LBJ Plaza
L
Library
E
3
7
Married Student Housing
ADM
R
Loop Road West
2
1
Bell Tower
Loop Road North
LEGEND
A Academic
ADM Administration
AG Agriculture
AT Advanced Technology
C American Educational Complex
E Engineering Arts and Technology
G Gymnasium
J Lady Bird Johnson Center for the Performing Arts
L Library
M Telecommunications Media
N Nursing
PM Power Maintenance
PP Physical Plant
R Student Residence
S Science
SC Roy J. Smith Student Center
U American Technological University
Parking lots designated by numbers
Service Road
Killeen
United States Highway 190 West
Copperas Cove
Service Road



Worldwide Expansion

Having supported the United States Army at home with a wide variety of educational programs tailored to meet the specific needs of the military, Central Texas College was chosen to serve our armed forces overseas. This commitment to provide educational training overseas carries the same thrust of dedication which is characteristic of Central Texas College.

Central Texas College — Continental and Overseas Services — provides the opportunity for higher education to military personnel serving our country in foreign lands. Technical-vocational training is offered by the College at over 150 sites throughout Europe and the Far East, as well as at military bases in the United States and to the United States Navy, Pacific Fleet.

Executive Officers

Luis M. Morton, Jr. ..... President
B.S., The University of Houston
M.L., The University of Houston
Ph.D., The University of Texas
J.D., St. Mary's University
Post Doctoral Studies: Michigan State University, University of Colorado

Phillip R. Swartz ..... Vice-President for Policy & Planning
B.B.A., West Texas State University
M.B.A., West Texas State University
Post Graduate Studies: The University of Kentucky

John W. Moffitt ..... Dean of the College
B.S., Southwest Texas State University
M.A., Southwest Texas State University
Post Graduate Studies: The University of Texas, Nova University

Administrative Officers

Alvin Ornstein
Deputy to the President

Ben H. Wickersham
Dean of Occupational Education

Senior Administrative Staff

Sheridan D. Cavitt, Jr.
Dean of Admissions and Counseling

Noel H. Schnitz
Director of Library Services

Administrative Staff

Robert R. Dunlap
Director of Evening College

James R. Jimmerson
Director of Auxiliary Services

Lucius Owsley
Director of Food Services

David N. McLane
Registrar

Harry W. Powers
Director of Plant Maintenance and Operations

H. Allan Tolbert
Assistant to the Dean for Operations

Ted Woehl
Comptroller

Management Staff

James B. Baker
Airport Manager

Martha A. Cranford
Assistant Director of Library Services

George R. Criswell
Director of Testing

Raymond R. Tharp
Manager of Placement Services

George R. Warren
Director of Student Services

1977

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1978

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1979

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Central Texas College
Tentative Calendar

1977-1979
Fall Semester
1977

July 12 ..... Registration Begins
August 22 ..... Faculty In-Service Meetings
August 23 ..... Faculty Departmental Meetings
August 23 ..... Dormitory Students Report
August 24 ..... Orientation for New College Students
August 26 ..... Final Registration
August 29 ..... Instruction Begins
August 29 ..... Tuition Refund of 50% Begins
September 5 ..... Labor Day Holiday
September 6 ..... Last Day for 50% Tuition Refund
September 7 ..... Tuition Refund of 20% Begins
September 14 ..... Last Day to Register
September 14 ..... Last Day for Tuition Refund and to Pay in Full
September 14 ..... Official 12th Class Day
October 24 ..... Veterans Day Holiday
November 1 ..... Last Day to Apply for Diploma
November 4 ..... Last Day to Withdraw with a Possible "W" from a 12-Week Course
November 14-18 ..... Final Examination for 12-Week Courses
November 21 ..... Spring Registration Begins
November 24-27 ..... Thanksgiving Holiday
November 28 ..... Last Day to Withdraw with a Possible "W" from a 16-Week Course
November 28 ..... Instruction Resumes
December 9 ..... Instruction Ends
December 12-16 ..... Final Examinations for 16-Week Courses
December 16 ..... Fall Semester Ends

Spring Semester
1978

November 21 ..... Spring Registration Begins
January 12 ..... Faculty In-Service Meetings
January 13 ..... Faculty Departmental Meetings
January 13 ..... Final Registration
January 16 ..... Instruction Begins
January 16 ..... Tuition Refund of 50% Begins
January 23 ..... Last Day for 50% Tuition Refund
January 24 ..... Tuition Refund of 20% Begins
January 31 ..... Last Day to Register
January 31 ..... Last Day for Tuition Refund and to Pay in Full
January 31 ..... Official 12th Class Day
February 24 ..... Last Day to Apply for Graduation
March 20-26 ..... Spring Vacation

Spring Semester
1978
(Continued)

March 27 ..... Last Day to Withdraw with a Possible "W" from a 12-Week Course
March 27 ..... Instruction Resumes
April 10-14 ..... Final Examinations for 12-Week Courses
April 21 ..... Last Day to Withdraw with a Possible "W" from a 16-Week Course
May 5-11 ..... Final Examinations for 16-Week Courses
May 13 ..... Graduation Exercises

Summer Session
1978

Twelve-Week and First Six-Week Terms

April 25 ..... Registration Begins
May 26 ..... Final Registration
May 29 ..... Memorial Day Holiday
May 30 ..... Instruction Begins
May 30 ..... Tuition Refund of 50% Begins
May 31 ..... Last Day for 50% Tuition Refund
June 1 ..... Tuition Refund of 20% Begins
June 2 ..... Last Day for 20% Tuition Refund
June 2 ..... Last Day to Register for First 6-Week Course
June 8 ..... Last Day to Register for a 12-Week Course
June 27 ..... Last Day to Withdraw with a Possible "W" from a First 6-Week Course
July 4 ..... Independence Day Holiday
July 5 ..... Final Examinations for First 6-Week Courses

Twelve-Week and Second Six-Week Terms

July 5 ..... Final Registration for Second 6-Weeks
July 6 ..... Instruction Begins
July 6 ..... Tuition Refund of 50% Begins
July 7 ..... Last Day for 50% Tuition Refund
July 10 ..... Tuition Refund of 20% Begins
July 11 ..... Last Day for 20% Tuition Refund
July 11 ..... Last Day to Register for Second 6-Week Courses
July 14 ..... Last Day to Apply for Diploma
July 28 ..... Last Day to Withdraw with a Possible "W" from a 12-Week Course
August 4 ..... Last Day to Withdraw with a Possible "W" from a Second 6-Week Course
August 9-10 ..... Final Examinations for 12-Week Courses
August 10 ..... Final Examinations for Second 6-Week Courses
August 11 ..... Summer Session Ends

Fall Semester
1978

July 27 ..... Registration Begins
August 21 ..... Faculty In-Service Meetings
August 22 ..... Faculty Departmental Meetings
August 22 ..... Dormitory Students Report
August 23 ..... Orientation for New College Students
August 25 ..... Final Registration
August 28 ..... Instruction Begins
August 28 ..... Tuition Refund of 50% Begins
September 4 ..... Labor Day Holiday
September 5 ..... Instruction Resumes
September 5 ..... Last Day for 50% Tuition Refund
September 6 ..... Tuition Refund of 20% Begins
September 13 ..... Last Day to Register
September 13 ..... Last Day for Tuition Refund and to Pay In Full
September 13 ..... Official 12th Class Day
October 23 ..... Veterans Day Holiday
October 27 ..... Last Day to Withdraw with a Possible "W" from a 12-Week Course
November 1 ..... Last Day to Apply for Diploma
November 15-16 ..... Final Examinations for 12-Week Courses
November 20 ..... Spring Registration Begins
November 23-26 ..... Thanksgiving Holiday
November 27 ..... Instruction Resumes
November 27 ..... Last Day to Withdraw with a Possible "W" from a 16-Week Course
December 8 ..... Instruction Ends
December 11-15 ..... Final Examinations for 16-Week Courses
December 15 ..... Fall Semester Ends

Spring Semester
1979

November 20 ..... Spring Registration Begins
January 11 ..... Faculty In-Service Meetings
January 12 ..... Faculty Departmental Meetings
January 12 ..... Final Registration
January 15 ..... Instruction Begins
January 15 ..... Tuition Refund of 50% Begins
January 22 ..... Last Day for 50% Tuition Refund
January 23 ..... Tuition Refund of 20% Begins
January 30 ..... Last Day to Register
January 30 ..... Last Day for Tuition Refund and to Pay In Full
January 30 ..... Official 12th Class Day
February 23 ..... Last Day to Apply for Graduation
March 16 ..... Last Day to Withdraw with a Possible "W" from a 12-Week Course
April 4-5 ..... Final Examinations for 12-Week Courses
April 9-15 ..... Spring Vacation
April 16 ..... Instruction Resumes
April 20 ..... Last Day to Withdraw with a Possible "W" from a 16-Week Course
May 4-10 ..... Final Examinations for 16-Week Courses
May 12 ..... Graduation Exercises

Summer Session
1979

Twelve-Week and First Six-Week Terms

April 29 ..... Registration Begins
May 25 ..... Final Registration
May 28 ..... Memorial Day Holiday
May 29 ..... Instruction Begins
May 29 ..... Tuition Refund of 50% Begins
May 30 ..... Last Day for 50% Tuition Refund
May 31 ..... Tuition Refund of 20% Begins
June 1 ..... Last Day for 20% Tuition Refund
June 1 ..... Last Day to Register for a First 6-Week Course
June 7 ..... Last Day to Register for a 12-Week Course
June 26 ..... Last Day to Withdraw with a Possible "W" from a First 6-Week Course
July 3 ..... Final Examinations for First 6-Week Courses

Summer Session
1979

Twelve-Week and Second Six-Week Terms

July 3 ..... Final Registration Second Six Weeks
July 4 ..... Independence Day Holiday
July 5 ..... Instruction Begins
July 5 ..... Tuition Refund of 50% Begins
July 6 ..... Last Day for 50% Tuition Refund
July 9 ..... Tuition Refund of 20% Begins
July 10 ..... Last Day for 20% Tuition Refund
July 10 ..... Last Day to Register for Second 6-Week Courses
July 13 ..... Last Day to Apply for Diploma
July 27 ..... Last Day to Withdraw with a Possible "W" from a 12-Week Course
August 3 ..... Last Day to Withdraw with a Possible "W" from a Second 6-Week Course
August 8-9 ..... Final Examinations for 12-Week Courses
August 9 ..... Final Examinations for Second 6-Week Courses
August 10 ..... Summer Session Ends

General Information

Location of Campus

Central Texas College is a public two-year college located on U.S. Highway 190 between Killeen and Copperas Cove, Texas. The population in a ten-mile radius of Killeen is estimated to be 125,000. The Killeen-Temple Standard Metropolitan Statistical Area (SMSA) was the fastest growing metropolitan area in the State during the period 1970-1976 and the 7th fastest growing SMSA in the United States for the same period. The 560-acre campus is within minutes of streams and lakes in an outstanding recreational area.

Historical Background

The Central Texas College District was created in July, 1965, and was composed of the Killeen Independent School District, the Copperas Cove Independent School District, and the Nolanville Common School District. The bond issue to construct and equip the plant followed in October, 1965. In January, 1966, the Board of Trustees employed the President of the College, and opened offices in Killeen. The first several months were spent establishing the legal, financial, and academic framework for the College. Final plans and specifications for some of the buildings were completed in June and July of 1966 and construction of a Library Building, a Science Building, an Academic Classroom Building, a Technology Building, a Physical Education Building, an Administration Building, a Student Center, and a Maintenance Technology Building was begun. A Telecommunications Building was added in 1967, two dormitories were added in 1968, and in 1970 the Lady Bird Johnson Center for the Performing Arts was completed. Nursing facilities were completed in April, 1971.

Fifty-two married student apartments were completed for the Fall Semester, 1974. The apartments are carpeted and air-conditioned and follow the same Spanish decor as all other buildings on the Central Texas College campus. Married couples may apply for furnished or unfurnished one- or two-bedroom apartments.

In January, 1975, a new 24-acre reservoir was completed just behind the educational facilities on the Central Texas College campus. The reservoir provides needed irrigation for the Farm and Ranch Program and also provides a controlled environment for a Science Department research project to measure the impact of various species and subspecies of black bass on area lakes.

During the summer of 1975, the Advanced Technology Building was completed. The 34,000-square-foot building houses the Computer Science Department, an IBM 370/145 computer, a Hewlett Packard 2000 E minicomputer and two computer laboratories. Construction of the building began in 1973, and the two-story structure complements the Spanish architecture of the other campus buildings. Also in 1975, a media building extension was completed to house the College's expanding television and radio studios and control center for the Texas Telecomputer Grid microwave transmission system.

On December 12, 1967, the College received its greatest honor when the 36th President of the United States, Lyndon Baines Johnson, dedicated the College ". . . to the service of all the people . . . ." On this same date, the College was honored by the presence of Mrs. Oveta Culp Hobby, to whom the College Board of Trustees dedicated the College library. President Johnson joined in the dedication and ribbon-cutting ceremony for the Oveta Culp Hobby Memorial Library.

Three years following the dedication of the College, a Citizen's Advisory Committee, under the direction of Mr. Roy J. Smith and Mr. Ted C. Connell, both of Killeen, presented a written request to the Board of Trustees of the College to honor the former President from Texas. They believed that it would be fitting to build a memorial to the 36th President of the United States, who had remarked earlier to a crowd of over 30,000 at Central Texas College in 1967 that Central Texas College was proof that America had entered the age of education.

It was after the local citizens' request to build the Presidential Memorial that the Board passed a motion to dedicate the new Fine Arts Building to Lady Bird Johnson. The building is a reminder of Mrs. Johnson's interest and concern for beautifying America.

On the windy morning of December 10, 1970, former President Johnson and Lady Bird Johnson returned to Central Texas College for dedication ceremonies in their honor. They were greeted by friendly faces, outstretched hands, and an obvious warmth. The Presidential Memorial, constructed of red granite and white marble with bronze lettering, was unveiled by former President Johnson. The inscription on the Memorial reads, "History shall record that Lyndon Baines Johnson, 36th President of the United States, was the good shepherd of his people. . . . He dedicated his life to helping the poor, the neglected, the sick, the uneducated, and all those who sought equality, opportunity, and justice." The Memorial is located in the center of the College campus and is 25 feet long and 4 feet high.

The Lady Bird Johnson Center for the Performing Arts is located only a short distance from the Lyndon Baines Johnson Presidential Memorial. The beautiful Center contains a versatile main assembly and exhibition area with a continental seating arrangement for a variety of functions as well as classrooms and offices for the art and music departments.

Again on July 1, 1976, Central Texas College held a significant memorial tribute to Lyndon Baines Johnson and his family. Lady Bird unveiled the life-like bronze statute of her late husband. The eight-foot statue of Lyndon Baines Johnson stands on a marble base directly behind the LBJ Memorial on the College campus.

Central Texas College

a Part of

The American Educational Complex

Following unparalleled achievement, Central Texas College, a public community college, has evolved from a barren field in Central Texas to a multimillion-dollar educational complex. It all began in 1965, when Central Texans secured permission from the State of Texas and voted to create a college district. From the beginning, the challenge was enormous. The question was clear — whether to develop a traditional community college or dare to create a master plan for the future. Only time would reveal that Central Texas College was destined to become the agent for revolutionary change in education.

Boards of Trustees, Boards of Regents, business and industrial personnel, educators, military leaders, and a dedicated staff under the guidance of Dr. Luis M. Morton, Jr., formed the master plan for one of the most successful educational experiences America has ever witnessed. The union of minds developed a totally new educational complex to serve the total career development needs of a local population as well as the needs of military and civilian personnel throughout the world. Thus, the worldwide concept of the American Educational Complex had its beginning.

Considering cost effectiveness, efficiency, and immediate application to present needs and future growth, the officials who created the American Educational Complex recognized that no single institute could provide all the programs to meet the career development needs of people in commerce, business and industry, military, government, and the world society. With the creative union of three fully accredited educational institutions supported by research, a "total career educational program" from the elementary grade level through the graduate level of instruction has been possible. Thus, the American Educational Complex consists of American Preparatory Institute, a presecondary and secondary school; Central Texas College, a two-year college; American Technological University, a senior university; and the Research Institute for Advanced Technology, an applied research consortium. Each organization represents unique educational offerings which contribute to the total effectiveness of services provided through education.

Educational Philosophy

Central Texas College is dedicated to the philosophy that in a democracy the well-being of the individual, as well as the whole of society, depends upon the sound moral and educational development of its people. Since education is an individual, evolutionary and never-ending process, the College curricula are necessarily both flexible and extensive.

In order to insure the fullest service possible to the civilians of the surrounding area and to the personnel of Fort Hood, the educational programs of the College are geared to meet the needs of full-time as well as part-time civilian and military students. In order to accommodate the diverse educational needs of both the civilian and military sectors, Central Texas College necessarily provides a greater variety of educational programs than might be expected.

The objective of Central Texas College is to become a total learning environment, encompassing traditional and non-traditional forms of education. The guiding principle of the total learning environment is the College's commitment to meet the real educational needs of all the people. The College proposes to make available in its total learning environment the opportunity to succeed in life, which is the birthright of every American. This is why Central Texas College is dedicated "to the service of all the people . . . ."

Central Texas College has been held to be and presently is in compliance with Title VI of the Civil Rights Act of 1964, as amended. With respect to the admission and education of students, with respect to the employment and promotion of teaching and non-teaching personnel, with respect to student and faculty activities conducted on premises owned or occupied by the College and with respect to student housing situated on premises owned or occupied by the College, Central Texas College shall not discriminate either in favor of, or against, any person on account of his race, religion, sex, national origin or color.

Educational Objectives

1. **University Transfer Education**—The College provides the first two years of college work for those students planning to achieve a baccalaureate or higher degree.

2. **General Education**—The College provides general educational courses which will develop competence, skills, and attitudes essential to effective performance as an individual, as a citizen, and as a productive member of society. Within this academic framework are studies in communication and languages, social sciences and humanities, mathematics, physical and social development, as well as a program of co-curricular activities.

3. **Occupational Education**—The College provides courses which qualify students in vocational and/or technical fields and equip them for occupational competency.

4. **Area Service**—The College provides life-long education for adults, opportunities for cultural enrichment, special interest courses, lectures and

meetings designed to satisfy the special needs of business, of the military and of area groups.

5. **Personal Guidance**—The College provides guidance services which will enable the student to select with proper perspective the educational program that is compatible with his abilities, aptitudes and ambitions.

6. **Placement**—The College provides a Student Placement Center to assist graduating students and alumni in bringing their qualifications to the attention of possible employers.

Servicemen's Opportunity College

Because of its efforts to serve the educational needs of servicemen, Central Texas College has been designated a Servicemen's Opportunity College by the American Association of Community and Junior Colleges.

The College recognizes that the servicemen's educational needs are unique, that education is often acquired through non-traditional methods, and that college credit should be granted for professionally validated education acquired in non-traditional methods. The non-traditional methods of earning credits applicable toward a degree at Central Texas College are:

1. USAFI and/or DANTES Courses and Subject Standardized Tests
2. College Level Examination Program (CLEP)—both the General Examination and the Subject Examinations
3. Institutional Challenge Examinations
4. Credit for Military Schools attended as recommended by the American Council on Education
5. Credit for Physical Education for military service
6. MOS Training and Experience as recommended by the American Council on Education
7. American College Testing Program
8. College Board Admission Testing Program

Central Texas College accepts credits earned at other accredited institutions of higher learning which are applicable to the degree program of the student or for which Central Texas College offers an equivalent course. Through various combinations of these modes of non-traditional learning and transfer credits, a student may earn the major portion of the required credits for an associate degree. A minimum of 12 hours must be completed at Central Texas College, but not necessarily the last 12 hours of course work.

At any point in the post-secondary educational career, usually at the time of initial enrollment at Central Texas College, a serviceman may request Central Texas College to designate a college advisor who will prepare a course of study leading to the stated educational objective. The advisor will then continue to guide the serviceman's educational planning, even though the student may be required to relocate and attend other institutions. As long as the student is being guided by the counselor through correspondence, appropriate credits may be transferred to Central Texas College. Central Texas College will, in effect, function as a repository for all

academic records of the serviceman and will award the appropriate certificate or degree when the student has completed the program of study outlined originally by the counselor, has earned a minimum of 12 hours credit at Central Texas College, and has applied for the certificate or degree.

Transfer of Credits

Central Texas College is accredited by the Southern Association of Colleges and Schools. Credits will transfer in accordance with standard practices and degree requirements of other institutions.

If a student chooses courses in conformity with the degree requirements of his senior college choice, and if a grade of "C" or better is earned, there will be no difficulty in transferring the academic work, hour for hour, with the same grade earned.

Since the types of courses required for the same major may vary with different colleges, it is important that each student have a degree planning conference with the academic counselor prior to registering for classes.

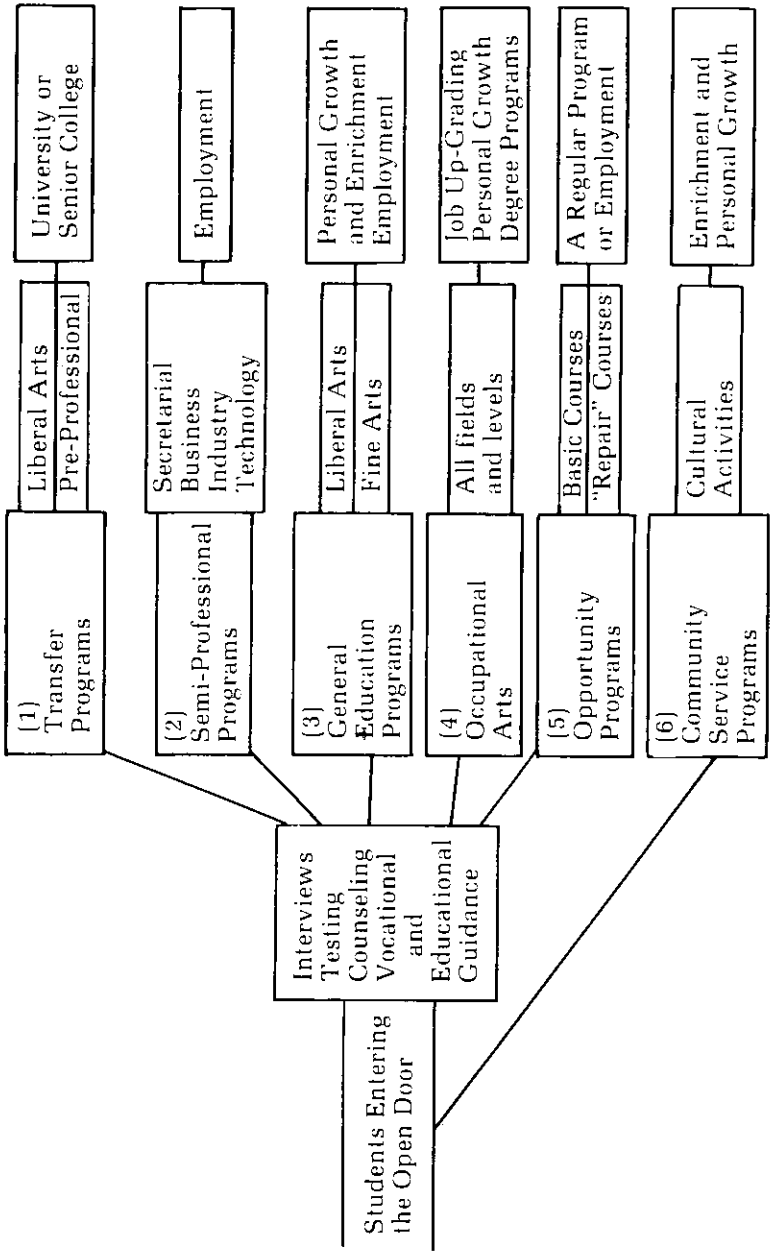
Precautions will be taken to see that each student is enrolled for the proper courses. Although the ultimate responsibility rests with each student to decide upon the institution to which he wishes to transfer and to see that he takes the proper course(s), Central Texas College recognizes its obligation to assist each student in the area of academic guidance.

Why You Should Attend Central Texas College

1. Central Texas College makes possible a less abrupt and less difficult transition from high school to university. With direct personal contact between teacher and student, the adjustment to college life and study is made easier and more pleasant.
2. Because most students may live at home and travel only a few miles to college, the cost of attending Central Texas College is much less than the cost of living away from home while attending college, even if a student should receive a partial scholarship from a larger college.
3. Dedicated teachers and counselors will give students maximum individual attention. Thus, the teacher may detect and help the student correct difficulties that might lead to failure and withdrawal from college.
4. Students who have subject or grade deficiencies for transfer to senior institutions are given an opportunity to correct such deficiencies, thus enabling them to go on to the completion of a university education which might otherwise be denied.
5. Adults who have not graduated from high school may be admitted on individual approval in order to gain enrichment from college study.

6. A major advantage at Central Texas College is that students will gain valuable experience through participation in student activities which will give them self-reliance, leadership abilities and the ability to get along well with others. These qualities are most important for good citizenship and a successful life after completing college.
7. Regardless of ultimate goals, students at Central Texas College should be better persons for having mingled in classes and social activities with people who have lived and traveled internationally.
8. The students, faculty, and administration of Central Texas College are dedicated to quality education, sound aspirations, proper social development and the general betterment of individuals and the world in which we live.
9. Central Texas College is a completely new and modern college with a distinctive character and personality. The campus is designed for maximum function and beauty. Students will find the scenery to be relaxing, as well as highly conducive to study and learning.

Flow Chart Showing Goals Which May Be Chosen By Students At Central Texas College



Admission Requirements

Students who hold diplomas from accredited secondary schools or GED equivalency certificates may enter Central Texas College upon the presentation of certified credentials. Students transferring from another college will be accepted if they are eligible to return to the transferring institution. Veterans and military personnel, as well as students of mature years who have not had the opportunity to complete a high school course, but who, by reason of special attainments, are prepared to undertake post high school work, may be admitted to certain areas of study if, in the judgment of College officials, such training will be of value to the student.

Early Admission Program

The Early Admission Program at Central Texas College offers an opportunity for high school juniors or seniors to earn college credits while concurrently enrolled in high school.

The Program is available throughout the year to any high school junior or senior in good standing, who is enrolled for a sufficient number of credits for high school graduation, subject to the following conditions:

1. The student must have written approval of his high school principal or counselor.
2. The student must satisfy the daily attendance policy of his high school.
3. The student must furnish written approval of his parent or guardian.
4. The student generally will be limited to not more than two college credit courses per semester.
5. The student will be expected to adhere to all policies of the College and the high school which he attends.
6. Central Texas College assumes no responsibility for loss of eligibility of high school students enrolled under this program to participate in Interscholastic League activities.

College credits will not be granted until the student submits an official high school transcript showing that he has been graduated from high school.

Students who meet the above criteria will be accepted to Central Texas College on individual approval.

Recommended High School Program*

Subjects	Freshman	Sophomore	Junior	Senior
English	English	English	English	English
Social Studies		Elective	U.S. History	Civics
Mathematics	Algebra	Geometry	Advanced Algebra for science majors; recommended for others	Advanced Mathematics for science majors
Foreign Language	Foreign Language	Continue the same language	(a) Continue the same language or (b) Begin another language	(a) Continue the same language or (b) Continue the second language
Physical Education	P.E.	P.E.	P.E.	P.E.
Electives	Recommended for all precollege students: typing, art, music, and additional courses in science and social science.			

*This is a recommended program (not specifically required). Variations will exist in the requirements for graduation from different high schools.

Students expecting to specialize in foreign language, music, drama or science in college should begin those subjects in high school. Students looking forward to a college major in the sciences, mathematics, medicine, business administration, law, music or pharmacy should include in their high school curriculum at least two years of algebra, one year of plane geometry and in most cases, one or more years of biology, chemistry and physics. Students who plan to major in engineering should take solid geometry or trigonometry and analytical geometry in addition to the above listed math courses.

General Educational Development Testing

The General Educational Development Test will be administered in the Testing Office to persons over 17 years old who are not high school graduates and who desire this certificate as an equivalent to the high school diploma. For additional information, contact the Office of the Director of Testing at 526-1254.

What To Do Before Registration

To insure that all requirements have been met for registration, you should:

1. Ask the Registrar of the last school you attended to send a transcript of your school record to the Records Office at Central Texas College. Do this at least two weeks before you come to register.
2. Arrange to take either the ACT (CTC Code No. 4081) or the SAT (CEEB) (CTC Code No. 6130) college guidance examination and request that your scores be mailed to Central Texas College. Either the ACT or the SAT examination will be accepted, but the ACT is preferred. Students should take the examination as early as possible so that scores may be used for guidance at registration. ACT or SAT scores must be on file before a student can receive a degree or certificate from CTC. Associate Degree Nursing students must have ACT scores on file before entering the nursing program.
3. Obtain an application for admission, complete it, and return it to the Records Office.
4. Be certain that you have had the required immunizations. State law requires all students entering college to have had diptheria/tetanus shots, or a minimum booster dose within the last 10 years. Students less than 19 years of age must have been immunized for polio within the last 10 years. A xerox copy of any document listing each immunization received by year will be acceptable if the document has been validated by signature or stamp of a physician or a public health clinic.
5. Make an appointment with the Office of Admissions and Counseling for an interview to obtain a copy of registration materials and secure assistance in planning your course program.
6. Pre-register at the College on the days established in the schedule bulletins.

Completion of the above items will facilitate your enrollment on or before final registration day. Students who fail to complete the above in advance may be given permission to register by the Office of Admissions and Counseling and will be on probationary status until all requirements have been met.

Credits for Military and Other Educational Experience

Military personnel who have completed two years of active military service and have completed 6 semester hours at Central Texas College with a 2.0 "C" overall grade point average may request credit for the four hours general physical education requirement.

This request must be submitted to the Office of Student Services with verification of the required military service (DD214 or the equivalent). After successful completion of 6 semester hours with a 2.0 "C" overall grade point average, service-connected educational experience and credits received from formal service schools listed in the 1976 *American Council on Education Guide to the Evaluation of Educational Experiences in the Armed Services* will be used to evaluate any additional college credits that might be applied toward a degree plan.

Two other testing programs may be used if adequate scores have been achieved on the test in the past six years. These tests are: USAFI/DANTES Comprehensive College Tests and the newer College Level Examination Program (CLEP). Any student seeking credit for courses under the above criteria should present documented credentials prior to taking a course for which a prerequisite is required. Student applicants for challenge examinations must present their credentials to the Director of Testing.

Credit by Institutional Examination

Students may request, in writing through the Director of Testing, permission to take a challenge examination. The student will be sent an application for challenging a course which must be returned to the Business Office with a twenty-five dollar non-refundable challenge fee. The student will then be notified as to the time and place to take the examination. Failure to appear for the examination will result in the loss of the challenge fee. Students must not have previously enrolled in the course for college level credit.

To obtain credit, the student must pass the examination with a grade of "A" or "B" and complete or have completed 6 semester hours of course work at Central Texas College with a 2.0 grade point average.

American College Testing Program Credit

Central Texas College will award, for superior achievement on the ACT, a maximum of 13 semester hours to entering freshmen who submit scores before enrollment at Central Texas College. Credits may be earned in ENGL 131, 132, MATH 131 and BIOL 141. After completion of 6 semester hours at Central Texas College with a minimum grade point average of 2.0 or "C," these credits will be entered on the official record of the student. Students

are not permitted to receive credit by examination in courses for which they have previously been enrolled. For entering freshmen who submit College Board scores, College credits may be earned in ENGL 131 and MATH 131 for superior achievement on the SAT and/or achievement tests/Advanced Placement Tests.

Degrees Conferred

Central Texas College will confer the degrees of Associate in Arts, Associate in Science, Associate in Applied Science, and Associate in General Studies. Degrees are ordered three times a year, at the end of the summer, fall and spring semesters respectively. It is the student's responsibility to make application for the degree. A person may be awarded only one degree from Central Texas College except when taking an additional 12 hours and securing the permission of the Dean of the College. The degree plan for receipt of a degree should be arranged with the student's department manager. Those pursuing an Associate in General Studies degree or other transfer degrees should make an appointment early in the semester with the Counseling Office to initiate their degree plans. Courses in Developmental Studies may not be used to satisfy degree requirements.

Graduation with Honors

Candidates for degrees from Central Texas College may graduate with highest honors or honors based upon the following criteria:

1. To graduate with honors, a candidate must have a 3.5 grade point average on a 4.0 scale with no grade below "B" on all course work taken.
2. In computing the candidate's grade point average, the grades in all courses taken at Central Texas College and all transferable courses taken at other accredited institutions of higher learning are included. If a course is repeated, the last grade earned in the course will be computed in the grade point average.
3. In any graduating class, the student with the highest grade point average above 3.5 will be designated as graduating with highest honors.
4. Formal public recognition for graduation with honors or highest honors is conferred only when the student participates in the formal commencement ceremonies.

Degree Requirements

Associate in Arts

A. Complete a minimum of 61 semester hours which must include:

1. Twelve semester hours of English
2. Six semester hours of American History

3. Six semester hours of American Government
4. Fourteen semester hours of foreign language or eight semester hours of foreign language and eight semester hours of science
5. Four semester hours of physical education activity courses
6. Psychology 111
7. A minimum of 18 semester hours of sophomore courses, 12 semester hours of which must be completed at Central Texas College

B. Have a minimum overall grade point average of 2.0 ("C" average)

C. Meet all other College requirements

Associate in Science

A. Complete a minimum of 66 semester hours which must include:

1. Twelve semester hours of English
2. Six semester hours of American History
3. Six semester hours of American Government
4. Four courses of science
5. Six semester hours of math
6. Four semester hours of physical education activity courses
7. Psychology 111
8. A minimum of 15 semester hours of sophomore courses, 12 semester hours of which must be completed at Central Texas College

B. Have a minimum overall grade point average of 2.0 ("C" average)

C. Meet all other College requirements

Associate in General Studies

The Associate in General Studies Degree will be awarded to students who complete a minimum of 61 semester hours in courses chosen from the total curricular offerings of the College. Selections should include courses from the social sciences, humanities, communications, and sciences and may include courses from the vocational and technical curricula. A minimum overall grade point average of 2.0 ("C") is required. A minimum of 12 semester hours must be completed at Central Texas College. Courses taken in Developmental Studies may not be used to satisfy degree requirements.

Associate in Applied Science

The Associate in Applied Science Degree will be awarded to students who meet curricular requirements for two-year technology programs. A minimum overall grade point average of 2.0 "C" is required. A minimum of

12 semester hours must be completed at Central Texas College. Courses taken in Developmental Studies may not be used to satisfy degree requirements.

Certificate of Completion

A Certificate of Completion will be awarded to students who fulfill the curricular requirements of special courses and programs.

Graduation Exercises

All students applying for a degree or certificate, to be awarded during or at the end of the Spring Semester, are expected to participate in practices for and in the actual graduation exercises.

In cases of extreme hardship, permission may be granted by the Director of Student Services to be excused from the graduation ceremony and practices. If the student feels that extreme hardship circumstances exist which will prevent attendance at graduation exercises, a written request to be excused from graduation must be submitted to the Director of Student Services. This must be done three weeks prior to the graduation exercise date, and the reasons for not participating in the graduation exercises must be stated. Students not participating in the graduation ceremony will not be recognized as graduating "in absentia."

Schedule of Tuition and Fees

1977-1979

TUITION

Central Campus

Semester Hours	Resident	Non-Resident
1	$ 25.00	$ 85.00
2	25.00	100.00
3	32.00	110.00
4	40.00	135.00
5	48.00	140.00
6	54.00	170.00
7	62.00	185.00
8	70.00	210.00
9	74.00	235.00
10	78.00	245.00
11	82.00	255.00
12	85.00	260.00
13	87.00	270.00
14	91.00	280.00
15	95.00	290.00
16	99.00	300.00
17	103.00	310.00
18	105.00	320.00

Individualized Instruction

(Tuition in addition to above semester hour tuition)

Career Pilot

CP 130	$ 850.00
CP 134	805.00
CP 234	985.00
CP 235	1,200.00
CP 235A	925.00
CP 235B	1,120.00
CP 236	590.00
CP 238	685.00
CP 238A	575.00
CP 238B	1,080.00
CP 238C	2,900.00
CP 238D	1,275.00
CP 239	1,305.00
CP 239I	735.00

Music

Piano

1 Semester Credit Hour	75.00
2 Semester Credit Hours	90.00
3 Semester Credit Hours	100.00

Other

1 Semester Credit Hour	50.00
2 Semester Credit Hours	60.00
3 Semester Credit Hours	75.00

Welding

4 Semester Credit Hours	40.00
5 Semester Credit Hours	50.00

Physical Education

Firearms	15.00
Bowling	20.00
Equitation	55.00

Fees

LABORATORY FEE (All Laboratory Courses)	$ 8.00
STUDENT SERVICE FEES (Per Semester)	
10 or more hours	$ 15.00
Less than 10 hours	$ 3.00
Graduation	$ 10.00
Credit Bank	$ 10.00
RETURNED CHECK FEE	$ 5.00

Deposits

Deposits

General Property Deposit	$ 10.00
Dormitory Property Deposit	$ 25.00
College Housing Deposit (without pet)	$100.00
College Housing Deposit (with pet)	$200.00

Housing (Monthly)

One-Bedroom Apartment	$195.00
Two-Bedroom Apartment	$225.00

Resident Hall Room and Board Plan (Per Semester)

Five-Day Plan	$670.00
Seven-Day Plan	$760.00
Athletic Plan	$885.00
Daily Occupancy Rate	$ 5.00

*Note: All tuition and fees are subject to change without notice.

Refunds

Tuition

Refunds of tuition and fees are made subject to the following regulations (all persons who enroll are expected to be aware of these regulations):

1. A refund of 50% will be made through the sixth class day, i.e., until the College offices close on the sixth class day.
2. A refund of 20% will be made through the twelfth class day.
3. No refund will be made after the end of the twelfth class day.
4. A request for refund must be completed in the Records Office. A check for the authorized amount will be mailed to the address shown on the request form.
5. Refunds for summer sessions and special courses will be calculated on a proportionate basis equivalent to the refund period for fall and spring semesters as stated above.

Property Deposit

Application for refund of Property Deposit should be completed at the Business Office at the end of the student's final semester at Central Texas College.

Housing Deposit

Application for refund of Dormitory or Married Student Housing Deposits should be submitted to the Auxiliary Enterprises Business Office in the Roy J. Smith Student Center.

Financial Aid Programs

Central Texas College participates in numerous financial aid programs designed to assist students who show serious interest in their education. Central Texas College believes that an effective program for student aid must be administered in such a way as to be consistent with the aims and purposes of the College. Students who participate in the various programs for financial aid must comply with the rules and regulations of the College to retain eligibility for the programs.

Central Texas College participates in the following financial assistance programs:

National Direct Student Loan
Federal Insured Student Loan
Nursing Student Loan
Basic Educational Opportunity Grant
Supplemental Educational Opportunity Grant
Nursing Student Scholarship
Law Enforcement Grant
Federal Work-Study Program
Institutional Scholarship
Hinson-Hazlewood Student Loan

Inquiries concerning student financial aid should be sent to:

Office of Student Financial Aid
Central Texas College
Highway 190 West
Killeen, Texas 76541

G.I. Bill

Central Texas College is an approved college for those who wish to attend and receive benefits under the Veterans Readjustment Benefits Act of 1966.

Students attending with the aid of their veteran's benefits should inquire at the Office of Veteran's Affairs prior to registration to obtain needed information relative to their enrollment and "certification" of attendance to the Veteran's Administration.

Students must see a counselor or their department managers and have degree plans completed prior to certification for their initial semester. Transfer students should have copies of all previous transcripts for initial counseling sessions.

Military Education Benefits

Many military personnel not eligible to participate under the Veterans Readjustment Benefits Act of 1966 may wish to attend Central Texas College under the Tuition Assistance Program which pays for 75% of tuition. (Department of Defense Appropriations Act of 1966, P.L. 80-213.)

War Orphans and Korean Veterans

Central Texas College is an approved college for those who qualify under these classifications.

Vocational Rehabilitation

The Texas Rehabilitation Commission offers assistance for tuition to students who have certain physical disabilities, provided the vocational objective selected by the disabled person has been approved by a representative of the Commission. Application for this assistance should be made to the nearest Texas Rehabilitation Office.

Placement

The Placement Office provides assistance to graduating students and alumni by bringing their qualifications to the attention of possible employers. Students interested in this service should register with the Placement Office located in the Administration Building.

Representatives of business and industry seeking potential employees may contact the Placement Office for information and to arrange interviews with students when appropriate.

Residence Status

Each student should be registered under the proper residence status and pay the correct tuition. The explanation below of what constitutes a nonresident and a resident is intended to assist the student in determining whether or not he qualifies as a resident of the State for tuition purposes. Any question as to whether the student should be classified as a resident of Texas should be discussed with the Registrar.

The term "residence" as used in State Law means "domicile"; the term "resided in" means "domiciled in." The Governing Board of each institution is required by law to assess nonresident tuition rates and is hereby authorized and directed to follow such rules, regulations, and interpretations as are issued by the Coordinating Board for the effective and uniform administration of the nonresident tuition provisions of this law. For the purposes of this law, the status of a student as a "resident" or "nonresident" student is to be determined as follows:

1.

   a. An individual under 18 years of age who is living away from his family and whose family resides in another state, or has not resided in Texas for the 12-month period immediately preceding the date of registration, shall be classified as a nonresident student.

   b. An individual 18 years of age or under whose family has not resided in Texas for the 12-month period immediately preceding the date of registration shall be classified as a nonresident student, regardless of whether he has become the legal ward of residents of

Texas, or has been adopted by residents of Texas while he is attending an educational institution in Texas, or within a 12-month period before his attendance, or under circumstances indicating that the guardianship or adoption was for the purpose of obtaining status as a resident student.

c. An individual 18 years of age or under, whose parents were formerly residents of Texas, is entitled to pay the resident tuition fee following the parents' change of legal residence to another state, as long as the individual remains continuously enrolled in a regular session in a state-supported institution of higher education.

2.

a. An individual 18 years of age or over who has come from outside Texas and who is gainfully employed in Texas for a 12-month period immediately preceding registration in an educational institution shall be classified as a resident student as long as he continues to maintain a legal residence in Texas.

b. An individual 18 years of age or over who resides out of the state or who has come from outside Texas and who registers in an educational institution before having resided in Texas for a 12-month period shall be classified as a nonresident student.

c. A nonresident student classification is presumed to be correct as long as the residence of the individual in the state is primarily for the purpose of attending an educational institution. After residing in Texas for at least 12 months, a nonresident student may be reclassified as a resident student as provided in the rules and regulations adopted by the Coordinating Board, Texas College and University System. Any individual reclassified as a resident student is entitled to pay the tuition fee for a resident of Texas at any subsequent registration as long as he continues to maintain his legal residence in Texas.

3. A nonresident who marries and remains married to a resident of Texas, classified as such under this Act at the time of the marriage and at the time the nonresident registers, is entitled to pay the resident tuition fee regardless of the length of time he has lived in Texas, and any student who is a resident of Texas who marries a nonresident is entitled to pay the resident tuition fee as long as he does not adopt the legal residence of the spouse in another state.

4.

a. An officer, enlisted person, or selectee of the Army, Army Reserve, Army National Guard, Air National Guard, Texas State Guard, Air Force, Air Force Reserve, Navy, Navy Reserve, Marine Corps, Marine Corps Reserve, Coast Guard, or Coast Guard Reserve of the United States, who is assigned to duty in Texas is entitled to register himself, his spouse, and their children in a state institution of higher education by paying the tuition fee and other fees or charges required of Texas residents, without regard to the length of time he has been assigned to duty or resided within the state.

b. As long as they reside continuously in Texas, the spouse and children of a member of the Armed Forces of the United States who has been assigned to duty elsewhere immediately following assign-

ment to duty in Texas are entitled to pay the tuition fees and other fees or charges provided for Texas residents.

c. The spouse and children of a member of the Armed Forces of the United States who dies or is killed are entitled to pay the resident tuition fee, if the wife and children become residents of Texas within 60 days of the date of death.

d. If a member of the Armed Forces of the United States is stationed outside Texas and his spouse and children establish residence in Texas by residing in Texas and by filing with the Texas institution of higher education at which they plan to register a letter of intent to establish residence in Texas, the institution of higher education shall permit the spouse and children to pay the tuition, fees, and other charges provided for Texas residents without regard to length of time that they have resided within the State.

5. A person who enrolls in an institution of higher education following separation from military service must be classified as a nonresident student unless: (1) the individual was a legal resident of Texas at the time of entry into military service and has not relinquished that residence; (2) the individual can prove that during military service he has, in fact, established a bona fide, legal residence in Texas at a time at least 12 months prior to registration; or (3) the individual has resided in Texas other than as a student for 12 months prior to registration and subsequent to discharge from service.

6. A teacher, professor, or other employee of a Texas institution of higher education is entitled to register himself, his spouse, and their children in a state institution of higher education by paying the tuition fee and other fees or charges required for Texas residents without regard to the length of time he has resided in Texas. A teacher, professor, or other employee of a Texas institution of higher education is any person employed at least one-half time on a regular monthly salary basis by a state institution of higher education.

7. An alien who is living in this country under a visa permitting permanent residence or who has filed with the proper Federal immigration authorities a declaration of intention to become a citizen has the same privilege of qualifying for resident status for fee purposes under this Act as has a citizen of the United States. A resident alien residing in a junior college district located immediately adjacent to Texas boundary lines shall be charged the resident tuition by that junior college.

8. Those aliens who are not permanent residents of the United States and/or who have not filed intention to become a citizen (with the proper federal immigration authorities) must be classified as foreign students for tuition purposes. Therefore, tuition for students who are citizens of any country other than the United States of America is the same as tuition required of other nonresident students.

9. The governing board of an institution of higher education may assess and collect from each nonresident student who fails to comply with the rules and regulations of the board concerning nonresident fees a penalty not to exceed $10 a semester.

Class Membership

The only way to become officially enrolled in a class at Central Texas College is to follow the established procedure for registration and payment of tuition and fees. No person is officially a student until all charges have been paid in full. Installment payment of tuition and fees is not permitted, except for Career Pilot fees.

Visitors In A Class

Permission to visit a class may be granted by the Dean of the College. Such permission carries with it permission to listen and observe, but not to enter into class discussion or laboratory work. This is not to be considered permission to audit a class on a full-time basis, nor will permission be granted to allow small children in class. Parents must make other arrangements for the care of their children during class meetings.

Academic Load

STANDARD LOAD: The actual number of semester hours taken by a full-time student will vary with the number of one-hour courses and laboratory courses taken. While the standard load is considered to be 15 semester hours, the actual hours for five solid courses plus physical education might be 17 or 18 semester hours. The normal load for completing degree requirements in two school years is five solid courses per semester, plus the required and/or elective one-hour courses.

MAXIMUM LOAD: Students are not permitted to take more than five courses of three or more semester hours value each during a semester. Additional one-hour courses may be taken in certain approved subject areas, but the total hours per semester may not exceed 19, without special overload permission.

If a student is in the last semester prior to graduation and must have extra hours to fulfill graduation requirements, he must receive permission from the Dean of the College to enroll for these extra hours.

MINIMUM LOAD: Since part-time as well as full-time students are welcome at Central Texas College, no minimum number of hours is required. Students who do not work and who are seeking a college degree are encouraged to take the maximum number of hours per semester. Students who plan to work part-time and students who may have difficulty with college-level courses are encouraged to consult the academic counselor for advice on the number of hours that should be taken.

Classification of Students

Freshman — A student with 30 semester hours or fewer recorded on his permanent record will be classified as a freshman.

Sophomore—A student with 31 semester hours or more recorded on his permanent record will be classified as a sophomore.

Maximum Hours for Transfer—As a general rule, senior colleges will accept a maximum of 66 semester hours of transfer credit from junior colleges. A student generally should not take more than this amount unless he secures written permission from the senior college he plans to attend.

Class Hours

College classes are generally in session four days per week. Most classes meet either on Monday and Wednesday or on Tuesday and Thursday, although some classes and labs meet on Friday. Most 16-week classes meet for one and one half hours per session. Most 12-week classes meet for one hour and fifty minutes per session. Most 6-week classes meet for one hour and fifty minutes per session four days a week, Monday through Thursday.

Evening College

Regular academic, as well as technical, vocational and adult education courses, are offered Monday through Thursday evenings from 6:00 p.m. to 10:30 p.m.

Summer Session

One 12-week term is offered during the summer. Maximum student load for this term is 14 semester hours.

Two 6-week terms are also offered for selected subjects during the summer. Classes meet daily, Monday through Thursday. The maximum student load is seven semester hours for each six-week term.

Course Planning

Proper planning of courses is important for each student in order to assure that his individual objectives may be attained. Each student at Central Texas College will have appropriate guidance in educational planning, and every effort will be made to help the student achieve his goal. Final responsibility for a proper and successful educational venture rests with the student.

Scholastic Honesty

All students of Central Texas College are required and expected to maintain the highest standards of scholastic honesty in the preparation of all work and in examinations. Each student should avoid:

1. Plagiarism—the taking of passages from writings of others without giving proper credit to the source.
2. Collusion—working together with another person in the preparation

of work unless such joint preparation is specifically approved in advance by the instructor.

3. Cheating—giving or receiving information on an examination.

Students found guilty of scholastic dishonesty are subject to appropriate disciplinary action and, in addition, are subject to having credit for courses cancelled. Such cancellation may be removed only be repeating the course(s).

Absences and Tardiness

Students are required to attend classes regularly. No unexcused absences or "cuts" are allowed. The student is responsible for all class work covered during an absence from class, even in cases where the instructor is satisfied that the absence was unavoidable. Failure to attend class regularly may result in administrative withdrawal of a student from a class or from the College. Excusable absences are those resulting from personal illness, emergencies arising within the family, official school-sponsored trips (approved by the Dean of the College) and military duties or orders requiring brief absences.

Students are expected to be in class on time.

The following specific rules apply to absences:

1. Each instructor shall keep a record of class attendance and shall determine when a student's absence is excused.
2. An administrative drop is initiated after a student has six consecutive or ten total unexcused absences. Absences are computed on class hours of instruction. Example: A class meeting for 1½ hours results in 1½ absences. One class hour is based on 50 minutes of instruction.
3. The Dean of the College will not grant excuses for absences. Students may be readmitted to class by the Dean; however, their absencs(s) will remain unexcused.

Scholastic Standards

Each student is expected to know his academic status at all times. Each student is responsible for knowing whether he has passed the minimum required work and whether he is eligible to continue in the College. An ineligible student who, nevertheless, registers in the College shall be dropped, and the student shall not receive special consideration on the plea of lack of knowledge of scholastic status. Student scholastic probation or suspension will be printed in the semester grade report. To be in good standing, a student is required to maintain at least an overall semester grade point average of 2.0. Those who fall below the 2.0 average will be subject to the policies of scholastic probation or suspension.

Honor Roll

Each semester, those students whose scholastic achievement is notable are

given public recognition by publication of the "Dean's Honor Roll." The Honor Roll includes the names of all students who have earned a grade point average of 3.5 in 12 or more semester hours for the preceding semester and who have no grades lower than "B." Students who carry a minimum of 15 semester hours and who meet this scholastic requirement are also eligible for membership in Phi Theta Kappa, National Honor Fraternity of American Junior Colleges.

Scholastic Probation and Suspension

A student at Central Texas College must achieve a 2.0 cumulative semester grade point average to avoid being placed on probationary status. If placed on probationary status, the student must achieve a 2.0 average the next semester he is enrolled.

A student placed on academic probation may be required to have a periodic conference with an academic counselor and/or instructors. If the student's performance should improve to the required standards upon the completion of one full semester, the probation status will be removed. Failure to achieve a 2.0 grade point average will result in the student being suspended from the College for one semester. Upon readmission, the student will again be placed on scholastic probation for the semester. Failure to meet the required standards after being readmitted will result in the student being suspended from the College for two semesters. The student must realize that he must achieve a 2.0 accumulative grade point average to qualify for graduation and that any course grade below "C" is normally not transferable to four-year institutions.

Any Central Texas College student failing to achieve a 1.0 semester grade point average during any given semester will be suspended immediately from Central Texas College for one semester and will be placed on academic probation when readmitted to the College.

A student on scholastic probation must attend classes regularly. He will be required to sign a probation agreement in the Student Services Office and to adhere to the rules therein.

Grades and Point Averages

Grading at Central Texas College is as follows:

Numerical Value	Grade
90-100	A—Superior (4 points per semester hour)
80-89	B—Above Average (3 points per semester hour)
70-79	C—Average (2 points per semester hour)
60-69	*D—Passing, but Unsatisfactory (1 point per semester hour)
0-59	F—Failure (0 points per semester hour)
	**I—Incomplete
	W—Withdrawn
	N—No Credit

The grade point average may be determined by dividing the hours attempted into the total accumulated quality points. Courses in which a grade of "W," "I," or "N" has been awarded are not used in grade point calculations. In the case of repeated courses, the latest hours and quality points for these courses will be considered in the final grade point average.

After a grade for a course has been awarded, questions concerning changing that grade must be resolved within six months, or prior to the end of the long semester following the one in which the grade was awarded, whichever occurs first.

*Students who receive a "D" grade are advised not to enroll in the next course for which this course was a prerequisite.

**An incomplete grade may be given only in those cases where, because of personal illness, death in the immediate family, school-sponsored trip or military orders, the student is unable to complete the final examination for a course. Prior approval from the instructor is required before the grade of "I" is recorded. A student who merely fails to take the final examination will receive a zero for the final and an "F" for the course.

To receive a grade in a course in which an "I" was awarded, the student must complete the course requirements within six months or prior to the end of the long semester following the one in which the "I" was awarded, whichever occurs first. Otherwise the "I" will become an "F."

Withdrawal from College

In order to be officially withdrawn from the College, a student must obtain and complete a withdrawal form and have it signed as indicated thereon. Beginning with the 13th class day and continuing through the 9th week of 12-week courses, and through the 13th week of 16-week courses, a student may initiate a withdrawal from a course through a counselor. The student's transcript will show "W" or "F" depending upon whether the student is passing or failing courses at the time of withdrawal.

An administrative withdrawal results when a student is absent from classes an excessive number of times without good reason and without notifying the instructor of the cause of absence (see Absences and Tardiness). In such cases, the student is dropped from all classes, constituting withdrawal from the College, and a grade of "F" is recorded for all courses from which he was withdrawn.

Transcripts

A permanent record showing the academic record of each student will be maintained by the College. Upon the student's written request, a transcript will be supplied to the Registrar at the college or university which the student expects to attend after transferring from Central Texas College. This first transcript is provided at no cost. An appropriate fee will be charged for all subsequent transcripts requested. No transcripts will be released for students who have delinquent records of any kind at Central Texas College.

Student Records and Information

To insure the right of privacy of the individual student, records maintained by the institution, including addresses, telephone numbers, etc., will be unavailable except as authorized in writing by the individual student. Such authorizations should be addressed to the Registrar.

Student Life

Social and cultural activities play an important part in the life of the college student. Often classroom instruction can be supplemented and enhanced by a well-developed program of activities. Central Texas College believes that in order to develop good qualities of leadership and to help create good fellowship and social goodwill, each student should be given the opportunity to develop to his full potential.

To this purpose then, some 15 clubs and organizations have been officially approved. The Council of Student Representatives uses both resources and fees of the student body to finance and plan many of the College's activities. In addition to the Council of Student Representatives, clubs include religious, political, social, and recreational organizations. Activities of the various clubs and organizations are coordinated at weekly or bimonthly meetings.

Library

The Oveta Culp Hobby Memorial Library is one of the outstanding junior college libraries in the nation. Over 40,000 hard-bound volumes and over 100,000 volume equivalents on microfiche are housed in this beautifully appointed building which was dedicated to a native of Killeen and the first Secretary of the Department of Health, Education and Welfare. President Lyndon B. Johnson joined the President of the College Board of Trustees, William S. Bigham, in the dedication to Mrs. Oveta Culp Hobby. The building has been scientifically planned. The volumes have been carefully selected to complement the instructional program of the College. Audiovisual resources and other advanced facilities to assist the student in reading and research are located in the library. The central location of the library and the great emphasis upon its contents indicates the strong desire of Central Texas College to have a superior academic program.

Athletic Program

Tennis is presently the only intercollegiate competitive sport at Central Texas College. In June, 1973, the Golden Eagles won the National Championship at the National Junior College Tournament at Ocala, Florida. The Eagles won the National Team Championship again in 1974. Also, they took first, second, and third places in singles at the 1977 National Junior College Tournament in Scottsdale, Arizona, and won the National Singles Championship and the National Team Championship.

Intramural sports programs have been organized for both men and women. These programs include football, basketball, volleyball, softball, table tennis, and tennis.

The college gymnasium is open from 5:30 to 9:30 p.m., Sunday through Thursday. It is closed on Friday and Saturday.

Roy J. Smith Student Center

The first floor of the beautiful Roy J. Smith Student Center is complete with a bookstore; dining area; inner landscaped court; snack bar; and a carpeted lounge area with a wood burning fireplace, beamed ceiling and color television. A large private game room for recreation is also provided.

The second floor of the Student Center houses a spacious recreation center which is complete with pinball machines, pool tables and ping-pong tables. Also located on the second floor of the Student Center is another snack bar for the convenience of the students.

This building, which provides the setting for many student activities, also becomes a gathering place for students during leisure time. It is one of the most popular buildings on campus.

Dormitory

Central Texas College operates a modern, air conditioned dormitory for men and women. Room requests are honored on a first-come, first-serve basis. A reservation deposit of $25.00 is required for each room application. This deposit is not refundable after 60 days prior to the beginning of the semester for which it was first intended. Five-day and seven-day board plans are available. The five-day plan consists of three meals a day, Monday through Friday, and the seven-day board plan consists of three meals a day, Sunday through Saturday. Payments for dormitory and board can be made in three equal installments: the first payment is due prior to entering the college dormitory, the second payment is due 30 days after the first class of the semester, the third payment is due 30 days after the second payment.

Residence hall students are required to be full-time students (enrolled in 12 or more semester hours).

Housing Policy

The dormitory housing program at Central Texas College is a part of the total educational plan of the College. All students who come from outside the College District and who desire to have housing within the College District while attending the College will be required to reside in the College dormitory.

Exception to this requirement will be made for students who come within any one of the following categories:

1. Students who live with parents or with blood relatives
2. Married students who live with their spouses

3. Students whose health conditions demand special attention which would not be available in the dormitories (A letter from a physician is required in such cases).

If College housing is not available, sophomore students may be permitted to live in off-campus housing until such time as they can be admitted to the dormitories. A student who gives false information concerning his place of residence will be subject to suspension from the College.

The President of the College will approve such operational rules and procedures as are necessary for implementation of this housing policy.

Textbooks

Students may purchase their textbooks and supplies from the College bookstore. Books may be resold to the bookstore at the end of a semester at a discounted price, provided they are in good condition and have not been discontinued.

Student Conduct

A student who enrolls at Central Texas College neither loses the rights nor escapes the responsibilities of citizenship. By enrolling in the College, each student signifies acceptance of the privileges and regulations and policies established by the Central Texas College Board of Trustees and agrees to abide by all regulations and standards established by the College. It must be clearly understood that College administrative personnel are charged with the responsibility to maintain discipline and will implement stated disciplinary procedures as required whereby students of Central Texas College will conduct themselves in a manner consistent with the standards of the College.

Harassment

Harassment, whether verbal or physical, by any student enrolled at Central Texas College, of any member of the student body, faculty, administration, or any other College employee, will be considered a serious breach of discipline and will be treated accordingly.

Any action, whether in the classroom, on the campus, or at a school-approved activity, subjecting any person to humiliation, indignity, discomfort, or interfering with any process in which the College is engaged, may be considered harassment.

Alcohol, Narcotics, and Drugs

Students are not to use intoxicating beverages, narcotics, or hallucinatory drugs on campus or while attending any school-sponsored activity. Any student on campus or at a school-sponsored function who is under the influence or in possession of any of these items will be subject to disciplinary procedures of the College and possible expulsion.

Anyone found in possession of, using, distributing illegal drugs or aiding those involved in such activities, will be immediately subject to public expulsion from the College. Notice of this action may be made a part of the student's permanent record. This information will be relayed immediately to proper civil and/or military authorities.

It is the responsibility of any student who has knowledge of such activity to report it immediately to the Director of Student Services.

Hazing

Students are not to haze other students. Any act that might intimidate a student or subject him to indignity or humiliation will be considered hazing.

Falsification of Records

Students who knowingly falsify any official College record are subject to disciplinary action which may include suspension from the College.

Students falsifying admission records may be denied admission to the College.

Firearms And Weapons

Only Peace Officers of the State of Texas are allowed to be armed. Firearms or weapons of any kind are prohibited anywhere on the Central Texas College campus, except when carried by Peace Officers of the State of Texas. Anyone found in violation of this rule will receive disciplinary action.

Persons residing in Married Student Housing may have registered firearms in their apartments, but they are not permitted to have these weapons on their person on the College campus except to transport these weapons on and off campus by the most direct route from their apartment. "The most direct route" is to use the road through the Married Student Housing area to the exit to U.S. Highway 190 only.

Campus Dress

Students will be required to dress appropriately everywhere on the campus at all times. Students in special areas (for example, physical education and laboratories) may require particular clothing for suitability and safety. Shoes are included in appropriate dress. Personal hygiene and grooming must conform to standards of cleanliness and neatness acceptable in a polite society. See the *Student Handbook* for additional guidelines.

A positive requirement for appropriate dress and grooming is based on the philosophy that these factors have a direct bearing on the attitudes and behavior of students and, thereby, on their educational performance and the general environment necessary for meeting the educational philosophy and objectives of the College.

Student Discipline

Students are admitted to Central Texas College for the purpose of educational, social, and personal enhancement. As students, they have rights, privileges, duties, and responsibilities, as prescribed by State and Federal Constitutions and statutes and policies of the Governing Board of the institution.

In all orderly, democratic societies, citizens enjoy certain freedoms and privileges prescribed and protected by society for the benefit of all. Likewise, students at Central Texas College enjoy certain freedoms and

privileges prescribed and protected for the maintenance of an orderly environment conducive to the fulfillment of the objectives of the institution.

Organized societies operate by laws, regulations, ethical and moral codes of conduct, and mutual respect for the role, authority and responsibility of each segment within the society. The college campus exists for the purpose of providing a place where students may acquire the knowledge, understanding, judgment and maturity necessary to function as effective and well-adjusted members of society. A college which fails to provide this atmosphere for the learning experience that will enable its students to achieve these qualities has failed both the society which provides for its existence and the students who have sought its services.

Central Texas College is dedicated and committed to fulfilling its mission in society. All students who enroll are expected to understand, respect, and support the role and purposes of the College. To teach students to become mature, capable, and productive members of society, the College has planned and organized every aspect of its operation to provide for an atmosphere conducive to the learning experience. This is true of student organizations, student social functions, extracurricular activities, and even the disciplinary procedures.

It is the desire and wish of College Board members, administrators, and faculty that the necessity for disciplinary procedures could be eliminated. Unfortunately, as in all societies, there are some who refuse to accept and understand the necessity for orderly and organized procedures and for regulations designed to protect the interests and welfare of the institution itself as well as the majority of its members.

For those few students who fail to understand and accept their role in an educational institution, the College has prescribed in the *Student Handbook* procedures for counseling and disciplinary action which are designed to help the students in every way possible. In essence, the disciplinary procedures are a part of the learning process for students, and students will be suspended or expelled from the College only if they fail to respond positively to disciplinary procedures.

Summons to Administrative Offices

On some occasions it will be necessary for a faculty member, counselor, or administrative official to contact an individual student. Any student receiving a summons from an administrative office must respond promptly as requested. A summons may take the form of a call from class, a notice on the official bulletin boards, or a notice by mail. Failure to respond to a summons renders the student subject to disciplinary action.

Parking Regulations

All campus parking and traffic regulations are printed in the *Student Handbook*. Each student is responsible for understanding and complying with these regulations.

Curricula

Many of the curricula presented on the following pages have been designed for students who wish to transfer to a senior college or university. The College counselors are available to assist the student in choosing from these suggested curricula or in working out special arrangements to meet particular educational plans. Courses listed in the catalogue will be selected in appropriate sequence for offering on the schedule of classes from semester to semester.

Curricula are also presented which are designed to lead to a terminal Associate Degree or to a Certificate of Completion.

Although academic counseling is available, it will remain the responsibility of each student to determine his major area of study, the senior college or university to which he wishes to transfer, and the required courses and their prerequisites.

Programs Of Study

Agriculture
Air Conditioning and Refrigeration
Art
Commercial Art
Automotive Service and Repair
Diesel Mechanics
Aviation Maintenance Technology
Business Administration
Career Pilot
Child Development
Communications
English
Foreign Language
Journalism
Speech
Computer Science
Computer Operator
Electronic Data Processing Clerk
Developmental Studies
Drafting and Design
Education
Electronics Technology
Computer Maintenance
Consumer Electronics Servicing
Engineering
Environmental Control
Farm and Ranch Management
Farm and Ranch Production

PROGRAMS OF STUDY (Continued)

Horse Management
Food Production
Animal Production
Plant Production
Hotel-Motel Management
Law Enforcement
Business Management
Applied Management
Mid-Management
Real Estate
Food Service Management
Mathematics
Music
Nursing, Associate Degree
Vocational Nursing
Office Administration
Office Assistant
Office Management
Offset Printing
Photography
Physical Education and Recreation
Recreation
Recreation Leadership
Science
Biology
Chemistry
Geology
Medical Technology
Pre-Med
Social Science
Anthropology
Geography
Government
History
Philosophy
Psychology
Sociology
Juvenile Corrections
Small Gas Engine Repair
Maintenance Technology
Telecommunications
Welding

Agriculture

Leading to the Associate in Science Degree

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Agriculture 131	3	*Agriculture Elective	3
Biology 141	4	*Agriculture Elective	3
English 131	3	Biology 142	4
History 131	3	English 132	3
Mathematics 131	3	History 132	3
Physical Education	1	Physical Education	1
Psychology 111	1		
	18		17

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Agriculture 234	3	*Agriculture Elective	3
Chemistry 141	4	Chemistry 142	4
Government 231	3	Government 232	3
English 231	3	English 232	3
*Elective	3	*Elective	3
Physical Education	1	Physical Education	1
	17		17

*Electives must be approved by the Department Manager. Student should check requirements of college or university to which he intends to transfer.

Course Descriptions for Agriculture

AG 131. Animal Husbandry. (3-2) Credit: 3

An introductory survey course. Farm animals as a source of food, clothing, and labor. The place of livestock in farming and ranching. The value of heredity and breeding for improvement, importance of judging, pedigrees, and proper nutrition. The place and adaptation of each class of livestock: show ring classification, and market and slaughter classes.

AG 132. Agronomy. (3-2) Credit: 3

Classification and distribution of farm crops, their use, production, and identification will be studied with emphasis being placed on those crops important to Texas. New crop improvement, value of rotation, use and need of fertilizer will be determined by soil testing. Meadow and pasture management will be practiced on the College farm. Weeds, plant diseases, and insect enemies will be discussed.

AG 136. Poultry Science. (3-2) Credit: 3

A basic course in poultry production involving breed, breeding, selection, feeding, care, and management, Marketing is emphasized because it is a specialized industry.

AG 234. Entomology. (3-2) Credit: 3

Chemical control of insects which affect crops and livestock. Control of external and internal parasites affecting animals. Safety factors in dealing with insecticides.

AG 235. Horticulture. (3-2) Credit: 3

Growth and structure of fruit, vegetable, and ornamental plants. Effects of environment on plant productions and principles and methods of propagation.

AG 239. Natural Resource Conservation. (3-0) Credit: 3

An introduction to the conservation of renewable natural resources. Includes the development for multiple use of water, range, forests, and wildlife.

Air Conditioning & Refrigeration

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Air Conditioning 140	4	Air Conditioning 142	4
Air Conditioning 141	4	Air Conditioning 143	4
Welding 146	4	Air Conditioning 144	4
Technical Mathematics 130	3	Drafting & Design 130	3
Psychology 111	1		—
	—		15
	16		

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Air Conditioning 241	4	Air Conditioning 243	4
Air Conditioning 242	4	Automotive 145	4
Drafting & Design 134	3	Management 136	3
Business 131	3	*Approved Elective	4
English 139	3		—
	—		15
	17		

Students receive a one-year certificate upon satisfactory completion of the first year of the above curriculum.

*Air Conditioning 245—Solar Heating Systems, or other elective approved by Department Manager.

Course Descriptions for Air Conditioning & Refrigeration

AC 140. Air Conditioning and Refrigeration Theory and Application. (2-4) Credit: 4

This course deals with the basic physical principles of an air conditioning system. Introduction to heat, heat movement, temperature, pressure, refrigerants, temperature pressure relationship to refrigerants, the refrigeration cycle, the major components of refrigeration systems and their relationship to each other. Introduction to the basic electrical devices found in air conditioning systems, i.e., motors, controls, etc. Use of special air conditioning tools and equipment, soldering and welding equipment. The use and care of specialized electrical testing and recording instruments is stressed.

AC 141. Basic Electrical Circuits. (2-4) Credit: 4

Instruction in basic electricity and its application. Introduces the student to the various electrical devices, their importance in electrical circuits, including those used in residential wiring. Methods of wire connections for new and repair service, making and testing electrical circuits, and the use of electrical measuring and testing equipment.

AC 142. Household Refrigeration Systems. (2-4) Credit: 4

Application of the refrigeration cycle to household refrigeration, including refrigerators, home freezers, and window air conditioning units. Instruction in service procedures for locating and correcting problems in the mechanical and electrical systems of units; trouble shooting, repairing and charging refrigeration equipment. Development of shop skills in the use of special refrigeration tools and equipment. Prerequisites: AC 140, AC 141.

AC 143. Heating Systems. (2-4) Credit: 4

The study of types of heating equipment and their application. Service procedures for locating and correcting problems in heating systems. Study of manufacturers information on various heating units and equipment, to enable the student to determine proper installation. Prerequisite: AC 140, AC 141.

AC 144. Residential Air Conditioning. (2-4) Credit: 4

Instruction in heat transfer through material, heat loss and heat gain calculations for residential heating and air conditioning systems, equipment selection and location, duct sizing and layout, controls and control circuits, installation and service procedures. Prerequisite: AC 140, AC 141.

AC 241. Control Theory And Application. (2-4) Credit: 4

Instruction in the operation of control devices, how they can be applied and varied to achieve the designed conditions. Includes interpretations and drawings of schematic and pictorial control circuit diagrams. Prerequisites: AC 140, AC 141.

AC 242. Commercial Refrigeration Systems. (2-4) Credit: 4

Types of commercial refrigeration units and systems. Instruction in controls and control circuits in commercial refrigeration. Heat loss and heat gain calculations for commercial applications, equipment selections, locating and piping procedures. Instruction in installation and service procedures for different systems. Prerequisite: AC 140, AC 141.

AC 243. Commercial Air Conditioning Systems. (2-4) Credit: 4

A course designed to cover heat transfer, heat loss and heat gain calculations as applied to commercial heating and air conditioning. Psychrometric of conditioned air, duct design and layout, equipment selection and location, shop drawings, controls and control circuits for automatic conditioning of air. Prerequisite: AC 140, AC 141.

AC 245. Solar Heating Systems. (2-4) Credit: 4

This course is an introduction to solar heating systems. Topics of instruction will include an overview of the basic components of the various systems and the operation, installation, maintenance, trouble-shooting, and service procedures of solar heating systems.

Art

First Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 131	3	English 132	3
History 131	3	History 132	3
Foreign Language 141	4	Foreign Language 142	4
*Art (Two courses)	6	*Art (Two courses)	6
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		17
	18		

Second Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 231	3	English 232	3
Government 231	3	Government 232	3
*Art (Two courses)	6	*Art (Two courses)	6
Foreign Language 231	3	Foreign Language 232	3
Physical Education	1	Physical Education	1
	—		—
	16		16

*Students should check the catalogue of the senior college to which they plan to transfer for particular art courses.

Commercial Art

First Year

First Semester *Subject*	*Hours*
English 131	3
Art 131	3
Art 133	3
History 131	3
Engineering 131	3
Psychology 111	1
Physical Education	1
	17

Second Semester *Subject*	*Hours*
Art 132	3
Art 134	3
History 132	3
Art 130	3
English 132	3
Physical Education	1
	16

Second Year

First Semester *Subject*	*Hours*
Art 136	3
Art 235	3
Art 231	3
Approved Elective*	3
English 231	3
Physical Education	1
	16

Second Semester *Subject*	*Hours*
Art 238	3
Art 236	3
Approved Elective*	3
English 232	3
Government 231	3
Physical Education	1
	16

*Approved electives will be determined by the Art Department Manager.

Courses Descriptions for Art

Art 130. Printing for Advertising Art. (2-4) Credit: 3

Fundamentals of various graphic techniques, classification of printing methods, composition, copy and art preparation, paper selection, type and letter styles and usage, trademarks, handlettering.

Art 131, 132. Freehand Drawing. (2-4) Credit: 6

A study of the basic drawing skills, including both abstraction and expressive drawing in charcoal, pencil, pen, wash, conte crayon, and mixed media.

Art 133, 134. Creative Design. (2-4) Credit: 6

Basic instruction in the elements and principles of design, with emphasis on the study of form and color theory.

Art 135. Color Composition. (2-4) Credit: 3

Theory of color and form involving definite technical procedures in properties of color theory and its application to painting.

Art 136. Figure Drawing. (2-4) Credit: 3**

A life drawing course emphasizing structure and action of the human figure.

Art 137. Landscape Composition. (2-4) Credit: 3**

Introduction to landscape and problems of form, movement, value control, and composition in pencil, charcoal, conte crayon, ink, and washes.

Art 138. History and Appreciation of Art. (3-0) Credit: 3

A survey of the major and minor arts from prehistoric times to the 14th century.

Art 139. History and Appreciation of Art. (3-0) Credit: 3

A survey of the major and minor arts from the 14th century to the present.

Art 231. Graphic Media. (2-4) Credit: 3

Creative experimentation with line etching, serigraphy, and other print making media.

Art 232. Oil Techniques. (2-4) Credit: 3

Introduction to the techniques of oil painting with emphasis on color and composition.

Art 233. Advanced Oil Painting. (2-4) Credit: 3

Continuation of exploring the medium with emphasis on individual expression. Prerequisite: Art 232.

Art 234. Watercolor Painting. (2-4) Credit: 3

Painting in watercolor stressing techniques of the medium and composition.

Art 235. Advertising Art I. (2-4) Credit: 3

An introduction to the basic processes and techniques of advertising art.

Art 236. Advertising Art II. (2-4) Credit: 3

Advanced study of advertising art and production.

Art 237. Pen and Ink Techniques. (2-4) Credit: 3

Study of the potentials of the medium with special attention given to study of three dimensional form, texture, and value.

Art 238. Interior Design. (2-4) Credit: 3

Home decoration with emphasis on use and recognition of principles of art, design, and color.

Art 239. Interior Decoration. (2-1) Credit: 3

A study to provide a working knowledge in well designed floor plans, interiors, and furnishings.

Art 239A. Ceramics. (2-4) Credit: 3

An introduction to making of pottery by hand and wheel methods.

Art 239B. Ceramics. (2-4) Credit: 3

Continuation of techniques of pottery making.

Art 239C. Handcrafts I. (2-4) Credit: 3

A study of the major crafts, including weaving, other textiles, enamels metal work, paper and mosaic. Designed for recreational leaders, teachers, workers with therapeutic art, or for anyone wishing to develop a hobby in one of the craft areas. Conducted as a workshop, each student choosing crafts of individual interest. Emphasis will vary from semester to semester.

Art 239D. Handcrafts II. (2-4) Credit: 3

Continuation of Art 239C.

Art 239E. Art Metals and Lapidary I. (2-4) Credit: 3

Introduction to metal forming techniques and instruction in basics of cutting, grinding, and polishing gemstones.

Art 239F. Art Metals and Lapidary II. (2-4) Credit: 3

Continuation of metal work, instruction in the lost wax method of metal forming, and continuing gemstone finishing.

**With the approval of the Art Department Manager, these courses may be repeated for credit.

Automotive Service & Repair

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Automotive 140	4	Automotive 141B	4
Automotive 141A	4	Automotive 144	4
Automotive 142	4	Automotive 147	4
Technical Mathematics 130	3	*Approved Elective	3-4
Psychology 111	1		
	16		15-16

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Automotive 148	4	Automotive 146	4
Automotive 241A	4	Automotive 241B	4
Automotive 149	4	Automotive 145	4
*Approved Elective	3-4	**Automotive/Diesel Mechanic Elective	4
English 139	3		
	18-19		16

*Welding 141—Beginning Gas Welding, Welding 146—Welding Fundamentals, Management 135—Introduction to Management or other electives approved by the Department Manager.

**Diesel Mechanics 141—Fuel Injection Systems, Diesel Mechanics 241—Diesel Engine Auxiliary Systems, Diesel Mechanics 242—Diesel Engine Service and Repair, or Automotive 242—Shop Organization and Management.

Course Descriptions for Automotive Service and Repair

AT 140. Shop Practices And Safety. (2-4) Credit: 4

A course designed to provide the student with basic automotive skills involving shop safety, automotive lifting devices, use of shop and flat rate manuals, measuring devices, fasteners, hand and power tool use, thread repair, soldering, automotive terminology, cleaning methods, and the basic nine systems of the automobile.

AT 141A. Internal Combustion Engine Fundamentals. (2-4) Credit: 4

This course is designed to provide the student with a knowledge of the internal combustion engine including the types, engine nomenclature, basic minor tune-up, pre-tear down diagnosis and engine removal procedures. Valve train service and valve grinding operations are also included. Prerequisite or corequisite: AT 140

AT 141B. Internal Combustion Engine Service. (2-4) Credit: 4

This course covers a brief review of combustion engine fundamentals. Work experience in valve train service, engine disassembly, repair and replacement of pistons, rings, crankshafts, camshafts, timing gears and chains, lubrication and cooling system service, and engine rebuilding procedures are included in this course.

AT 142. Automotive Electrical Systems. (2-4) Credit: 4

This course is designed to provide the student with a working knowledge of basic automotive electricity including Ohm's Law, wiring and wiring service, wiring diagrams, lighting circuits, magnetism, electrical accessory service, and the use of basic electrical test instruments. Prerequisite or corequisite: AT 140

AT 144. Fuel Systems. (2-4) Credit: 4

A course designed to provide an understanding of the theory, fundamentals of operation, and construction of the various types of carburetors, fuel pumps, and components of the fuel system, using established procedures, measuring tools, hand tools, and special testing equipment for testing and adjusting overhauled carburetors.

AT 145. Automotive Air Conditioning. (2-4) Credit: 4

A course designed to provide an understanding of the principles, design, construction, installation, and service procedures involved in automotive air conditioning, with special emphasis on system re-charging and compressor service.

AT 146. Engine Diagnosis and Emission Control. (2-4) Credit: 4

A course designed to provide an understanding of engine trouble-shooting procedures, utilizing the oscilloscope analyzer and the theory of operation, adjustment, diagnosis, and repair of all types of emission control devices. Prerequisites: AT 140, AT 141A, AT 141B, AT 142, AT 144

AT 147. Brake Systems. (2-4) Credit: 4

A course designed to provide an understanding of the nomenclature, theory of operation and service procedures involved in the brake system. The use of the brake drum lathe, shoe grinder, bleeder, and other equipment necessary to effect brake repairs will be taught with emphasis on power brake and dual braking systems.

AT 148. Steering And Suspension Systems. (2-4) Credit: 4

A course designed to provide the student with an understanding of the function, theory of operation, maintenance, diagnosis, and service procedures involved in the automotive steering and suspension systems, wheels, tires, steering gears, and linkages, wheel alignment factors, diagnosis repair and alignment procedures on live automobiles.

AT 149. Ignition, Starting, And Charging Systems. (2-4) Credit: 4

This course covers a review of automotive electrical systems, starting motor operations and service, charging system theory and service, ignition system theory and service including conventional and transistor systems and engine operating principles. Prerequisite or corequisite: AT 140

AT 241A. Standard Transmissions And Differentials. (2-4) Credit: 4

A course designed to provide an understanding of the function, construction, operation, and maintenance of manual shift transmissions, clutches, drive lines, and differentials.

AT 241B. Automatic Transmissions. (2-4) Credit: 4

A study of the theory of operation, construction and maintenance of fluid couplings and various automatic transmissions used in the modern automobile. This course emphasizes diagnostic repair and overhaul techniques applied on live units. Prerequisite: AT 241A

AT 242. Shop Organization And Management. (3-3) Credit: 4

A course designed to provide information and actual experiences in shop management, customer relations, warranty provisions, service salesmanship, organization and lay-out, general business practices, and in the use of time, rate and parts manuals. This course places special emphasis on established business principles and preparation for employment.

Diesel Mechanics

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Automotive 140	4	Diesel Mechanics 141	4
Automotive 141A	4	Automotive 141B	4
Automotive 147	4	Automotive 144	4
Technical Mathematics 130	3	Automotive 241A	4
Psychology 111	1		
	16		16

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Diesel Mechanics 241	4	Diesel Mechanics 242	4
Automotive 148	4	Automotive 146	4
Automotive 149	4	English 139	3
*Approved Elective	3-4	*Approved Elective	3-4
	15-16		14-15

*Automotive 142—Automotive Electrical Systems, Automotive 145—Automotive Air Conditioning, Automotive 241B—Automatic Transmissions, Management 135—Introduction to Management, Management 134—Work Organization, Welding 141—Beginning Gas Welding, Welding 146—Welding Fundamentals, *or other electives approved by Department* Manager.

Course Descriptions For Diesel Mechanics

DIEM 141. Fuel Injection Systems. (2-4) Credit: 4

A course of study designed to provide the student with an understanding of the theory of operation of the fuel injection system. The course of study includes the functions and applications of various injectors, nozzles, pumps, filters, and distribution systems. Prerequisites: AT 140, AT 141A, AT 141B, AT 142A, and AT 144.

DIEM 241. Diesel Engine Auxiliary Systems. (2-4) Credit: 4

A course designed to provide the student with an understanding of the theory of operation, construction, design, classification, and application peculiar to diesel engines. The course of study includes two and four cycle diesel engine functions, systems and components, heat, combustion, lubrication, fuels, intake and exhaust systems, supercharging, scavenging and cooling systems. Prerequisite: DIEM 141

DIEM 242. Diesel Engine Service And Repair. (2-4) Credit: 4

This course covers service techniques and a complete overhaul procedure of a diesel engine. Trouble-shooting, repairing, operating the engine, and performing test procedures is emphasized in this course. Prerequisite: DIEM 241

Aviation Maintenance Technology

A two-year Associate in Applied Science Degree program

First Year

First Semester

Subject	*Hours*
Aviation Maintenance 131	3
Aviation Maintenance 132	3
Aviation Maintenance 141	4
English 137	3
Approved Mathematics	3
Psychology 111	1
Physical Education	1
	18

Second Semester

Subject	*Hours*
Aviation Maintenance 133	3
Aviation Maintenance 134	3
Aviation Maintenance 241	4
Aviation Maintenance 251	5
Approved Elective	3
Physical Education	1
	19

Summer Semester

Subject	*Hours*
Aviation Maintenance 243	4
Aviation Maintenance 244	4
Aviation Maintenance 252	5
	13

Second Year

First Semester

Subject	*Hours*
Aviation Maintenance 245	4
Aviation Maintenance 246	4
Aviation Maintenance 253	5
Aviation Maintenance 254	5
	18

Second Semester

Subject	*Hours*
Aviation Maintenance 247	4
Aviation Maintenance 248	4
Aviation Maintenance 255	5
Aviation Maintenance 256	5
	18

Course Descriptions For Aviation Maintenance Technology

AVMT 131. Maintenance Publications. (2-2) Credit: 3

The basis of all maintenance is the proper use and interpretation of technical publications. This course deals with Federal Aviation Administration and manufacturers' publications. The student will be given instruction on the privileges and limitations of a mechanic according to FAR Part 65 and also be given practical work with descriptions of aircraft work performed and the completion of required maintenance forms and records.

AVMT 132. Weight and Balance. (2-2) Credit: 3

Since weight and balance of an aircraft are critical areas in maintenance, the student will be instructed on the weighing and computation of weight and balance of an aircraft. This course will also include basic physics principles and basic ground operations and servicing of aicraft to include starting, moving, securing aircraft and other service procedures.

AVMT 133. Aircraft Drafting. (2-2) Credit: 3

Since the beginning of any aircraft originates on the drafting board, the technician must be able to use drawings, blueprints, diagrams, charts, and graphs. This course prepares the student to draw sketches and finished drawings of repairs and alterations. In addition, instruction will be given on fabrication and installation of rigid and flexible lines and fittings.

AVMT 134. Airframe Materials and Corrosion Control. (2-2) Credit: 3

The course involves the proper use of cleaning and corrosion control materials that are used in aviation. Instruction will include the areas of identifying and selecting appropriate non-destructive testing methods; performing penetrant, chemical etching and magnetic particle inspections; performing basic heat-breaking processes; identifying and selecting aircraft hardware and materials; identifying and selecting cleaning materials; and actually performing aircraft cleaning and corrosion control.

AVMT 141. Basic Aircraft Electricity. (2-4) Credit: 4

This course is designed to introduce the student to the theory and practical applications of electricity. Topics of instruction include measuring voltage, current, resistance, continuity, leakage, capacitance, inductance and special applications of aircraft electrical circuits problems.

AVMT 241. Aircraft Finishes. (2-4) Credit: 4

This course covers the principles involved in service and repair of wood structures, selecting, testing, inspection, repairing and applying materials from fabric to fiberglass. In addition, painting, doping, applying trim and letters to the airframe of an aircraft are included.

AVMT 243. Airframe Inspection. (2-4) Credit: 4

The objective of this course is to prepare the student to perform uniform conformity and airworthiness inspections of both rotary and fixed wing aircraft. This course also covers the alignment check of structures, assembling aircraft, balancing and rigging moveable surfaces, and the jacking of aircraft. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 244. Aircraft Fuel Systems. (2-4) Credit: 4

This course covers the theory and practical experiences in inspection, repair, and service of aircraft fuel systems that include fuel dump systems, fluid quantity indicators, and fluid pressure and temperature indicators. Heating, cooling, pressurization systems, and oxygen equipment are also covered. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 245. Aircraft Instruments Systems. (2-4) Credit: 4

This course is designed to instruct the student in the repair, inspecting, servicing and installation of heading, speed, altitude, time, attitude, temperature, pressure and position indicating systems, ice and rain control systems and the maintenance of fire protection systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 246. Engine Electrical Systems. (2-4) Credit: 4

This course is designed to give instruction in the trouble shooting, repair, installation, and inspection of engine fluid rate of flow meters, temperature, pressure, and RPM indicators, fire detection and extinguishing systems, and the engine electrical systems that include wiring, controls, switches, indicators and protective devices. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 247. Engine Lubrication Systems. (2-4) Credit: 4

This course includes the identification and selection of lubricants as well as the repair, inspection, and trouble shooting of the components of the engine lubrication system. Als covered is the overhauling, repair, and inspection of magnetos and ignition harness for both reciprocating and turbine engines. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 248. Engine Cooling Systems. (2-4) Credit: 4

This course covers the theory and practical applications of the repair, inspection, trouble shooting, and servicing of the engine cooling and exhaust systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 251. Sheet Metal Structures. (2-6) Credit: 5

This course covers the theory and practical applications of aircraft sheet metal structures. Instructional topics include sheet metal layout, hand forming, machine forming and bending, and the use of conventional and

special rivets and fasteners. Inspection techniques and procedures of bonded structures, plastics, honeycomb structures, laminated sections, doors, and aircraft interior furnishings are covered in the course. Soldering, brazing, gas welding, and arc welding of all materials used in aircraft structures including magnesium, titanium, stainless steel and aluminum are included in this course. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 252. Hydraulics and Pneumatics. (2-6) Credit: 5

This course includes the repair, inspection and servicing of hydraulic and pneumatic power systems. Practical experiences include the inspection, servicing, and repair of landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 253. Aircraft Electrical Systems. (2-6) Credit: 5

This course is designed to prepare the student to perform inspection, maintenance, and repair and aircraft electrical systems, including wiring, controls, switches, and indicators both involved with alternating and direct current circuits. Also covered is the inspection and repair of the aircraft position and warning systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 254. Powerplant Maintenance. (2-8) Credit: 5

This course is designed to prepare the student to maintain, overhaul, repair, and inspect reciprocating engines from small powerplants to large radial designs and turbine engines. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 255. Engine Fuel Systems. (2-8) Credit: 5

This course covers the inspection, repair, servicing, and trouble shooting of fuel metering systems, fuel systems components, engine ice and rain control systems, heat exchangers, superchargers, and overhauling carburetors. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 256. Aircraft Propellers. (2-8). Credit: 5

Propellers are an intregal part of the majority of aircraft, therefore a great deal of study is devoted to this area. This course covers the repair, inspection, service, and trouble shooting of propeller synchronizing and ice controls, propeller control systems, fixed pitch, constant speed and propeller feathering and governing systems, removal and installation of propellers, balancing propellers and, identifying and selecting proper propeller lubricants. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

Business Administration

University degree requirements for the BBA vary considerably. For current requirements, each student should review the catalogue of the university to which he plans to transfer.

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Science 141	4	Science 142	4
Business 231	3	Business 232	3
English 131	3	English 132	3
Math 135*	3	Math 136*	3
Psychology 231	3	Business 131	3
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		17
	18		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Business 237**	3	Business 238**	3
English 231	3	English 232	3
Government 231	3	Government 232	3
History 131	3	History 132	3
Elective	3	Speech 131 or 233	3
Physical Education	1	Physical Education	1
	—		—
	16		16

*It is possible to substitute Math 231 (Calculus I) and Math 232 (Calculus II) for Math 135 and Math 136 if the student is going to enter such degree programs as actuarial science, business statistics, industrial management, and engineering as a route to the Bachelor of Business Administration degree.

**BBA majors may take two courses in accounting instead of two courses in foreign language to meet Central Texas College requirements for the Associate in Arts degree.

Course Descriptions for General Business

BUS 131. Introduction to Business. (3-0) Credit: 3

Provides overall picture of business operations; includes analysis of specialized fields within business organizations; identifies role of business in modern society.

BUS 132. Consumer Economics. (3-0) Credit: 3

A study of consumer goods and services as related to the home and family, problems and pitfalls associated therewith. This includes a study of family purchasing, advertising, commodity information, sales approaches from a consumer viewpoint and includes sources of advice and counseling. A course to permit the supervisor to better advise his subordinates on economic problems.

BUS 231. Principles of Economics I. (3-0) Credit: 3

Introduction to economic analysis; price-level changes; the creation of money; the Federal Reserve System and monetary policy; the national accounts; the consumption function; taxation; fiscal policy, public debt; the theory of economic growth and population problems. (Macroeconomics).

BUS 232. Principles of Economics II. (3-0) Credit: 3

Determination of relative prices; consumer demand analysis; the competitive firm; agricultural policy; the monopolistic firm; imperfect competition; business organization and government regulation; determinants of demand; the economic view of taxation and public expenditure; regional economics; international trade and finance; foreign economic policy. (Microeconomics).

BUS 233. Intermediate Accounting I. (3-0) Credit: 3

A detailed study of financial accounting with emphasis on financial statements, current assets, current liabilities, property, plant, and equipment, present value concepts, short-term investments, and intangible assets. Prerequisites: Business 238 with a minimum grade of C.

BUS 234. Intermediate Accounting II. (3-0) Credit: 3

Continuation of Business 233. Long-term liabilities; corporate capital; accounting for leases and pensions; analysis of financial statements; sources and uses of funds; long term investments; and price-level impact on financial statements. Prerequisite: Business 233.

BUS 235. Introduction to Managerial Accounting. (3-0) Credit: 3

A study of the methods by which accounting data is used by management in planning, coordinating, and controlling the operations of a business. Measurement of financial position; analysis of financial statements; cost accumulation and analysis; budgeting; product costing; and quantitative decision techniques. Prerequisite: Business 238.

BUS 236. Personal Finance. (3-0) Credit: 3

Personal and family accounts budgets, budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting, home ownership, wills, trust plans.

BUS 237. Principles of Accounting I. (3-0) Credit: 3

Analysis and recording of business transactions; use of journal and ledgers; accounting statements; payroll records and payroll taxes, introduction to partnership accounting, special journals and ledgers; voucher system.

BUS 238. Principles of Accounting II. (3-0) Credit: 3

Continuation of Principles of Accounting 237. Internal control; partnership and corporation accounting for manufacturing concerns; analysis and interpretation of statements. Prerequisite: Business 237.

Career Pilot

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Career Pilot 131	3	Career Pilot 132	3
Career Pilot 133	3	Career Pilot 134	3
Career Pilot 130	3	Career Pilot 232	3
English 131	3	Career Pilot 135	3
Approved Mathematics	3	English 132	3
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		16
	17		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Career Pilot 231	3	Career Pilot 233	3
Career Pilot 234	3	Career Pilot 237	3
Career Pilot 230	3	Career Pilot 235	3
Government 231	3	Government 232	3
Physics 140	4	*Approved Elective	3
Physical Education	1	Physical Education	1
	—		—
	17		16

*Approved Electives: CP 236, CP 238, CP238A, CP 238B, CP 238C, CP 238D, CP 239, CP 239I, BUS 131, BUS 231, BUS 232, BUS 237, MGMT 135, MGMT 232, MGMT 235, MGMT 236.

CP 235A and CP 235B are substitutes for CP 234 and CP 235 for Rotary Wing Transition students.

Course Descriptions for Career Pilot

CP 130. Basic Flight. (.8-2.8) Credit: 3

Flight training for completion of the Private Pilot Certificate. A minimum of 57 hours of instruction is provided, including 25 hours of dual flight, of

which two hours will be in the simulator. Twenty hours of solo flight and twelve hours of oral instruction and briefings. The instruction in the course more than meets the requirements for a Private Pilot Certificate. Prerequisite: CP 133, or concurrent enrollment.

CP 131. Aircraft Science. (3-0) Credit: 3

This course serves as an introduction to the study of several basic sciences in the aeronautical field, as applied to their theoretical and practical use in aircraft construction and design.

CP 132. Propulsion Systems. (3-0) Credit: 3

Aircraft engine theory and principles of operation of various types of aircraft engines; reciprocating, turboprop, turbojet, and turbofan. Consideration is also given to thermal, mechanical and volumetric efficiencies, superchargers, engine accessories, controls and instrumentation.

CP 133. Air Navigation. (3-0) Credit: 3

The principles of flight, basics of air traffic control, weather facts, navigational procedures and airplane operation as are pertinent for the Private Pilot. Upon successful completion of this course, the student has sufficient knowledge to pass the FAA written examination for the Private Pilot Certificate.

CP 134. Intermediate Flight. (.8-3.1) Credit: 3

First phase of Commercial Pilot training. A minimum of 63 hours of instruction is provided, including 15 hours of dual, of which 2 hours will be in the simulator. Thirty-five hours of solo flight and thirteen hours of oral instruction and briefings.

CP 135. Advanced Air Navigation. (3-0) Credit: 3

The Federal Aviation Regulations covering the privileges, limitations, and operations of a commercial pilot. Basic aerodynamics and the principles of flight which apply to airplanes. Inspection and certification requirements will be covered and operating limitations, high altitude operations, physiological considerations, weight and balance computations, significance of the use of airplane performance speeds, cruise control, and the Airman's Information Manual will be emphasized. Prerequisite: CP 133.

CP 230. Commercial Aviation. (3-0) Credit: 3

This course covers air traffic control procedures pertaining to Commercial Pilot, aviation weather and advanced navigational procedures. Advanced flight maneuvers, low altitude enroute charts, approach plates, and Airman's Information Manual. Also, airplane performance factors on a high performance aircraft with retractable gear and flaps and constant speed propeller. Prerequisite: CP 135.

CP 231. Aerodynamics. (3-0) Credit: 3

This course covers the physical properties of air, airflow, standard atmosphere, forces on solids moving through air, lift, drag, planform, air foil selection, and performance factors.

CP 232. Meteorology. (3-0) Credit: 3

Aviation meteorological phenomena affecting aircraft flight. Interpretation of the basic concepts of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing and fog. Analysis and use of weather data for flight planning and safe flying.

CP 233. Air Transportation. (3-0) Credit: 3

The development and present status of air transportation, federal legislation, characteristics and classification of air carriers; the organization and functions of the FAA and the Civil Aeronautics Board are reviewed.

CP 234. Advanced Flight. (.9-3.4) Credit: 3

Commercial and instrument flight training. A minimum of 69 hours of instruction is provided, including 20 hours of dual instruction with 4 hours in the simulator, 35 hours of solo, and 14 hours of oral briefings. Prerequisites: CP 134 and CP 230, or concurrent enrollment.

CP 235. Commercial Flight. (.8-3.1) Credit: 3

Commercial and instrument flight training to prepare the student for the FAA Commercial Pilot Certificate with Instrument Rating. A minimum of 63 hours of instruction is provided, including 30 hours of dual flight of which 5 hours will be in the simulator. Twenty hours of solo flight and thirteen hours of oral instruction and briefings. Prerequisite: CP 234 and CP 237, or concurrent enrollment.

CP 235A. Commercial Transition Flight I. (.8-3.1) Credit: 3

This is the first of two courses to transition Commercial Rotorcraft Helicopter Pilots to Commercial Airplane Single Engine Land Rated Pilots. The course covers 63 hours of instruction which includes 20 hours of dual flight with 1 hour in the simulator, 30 hours of solo flight and 13 hours of oral instruction and briefings. Prerequisite: FAA Commercial Rotorcraft Helicopter Rating. Class II, FAA Medical and CP 230, or concurrent enrollment.

CP 235B. Commercial Transition Flight II. (.8-3.1) Credit: 3

A continuation of CP 235A to complete the requirements for a Commercial Single Engine Land Aircraft Rating. The course consists of 63 hours of instruction which includes 30 hours of dual flight of which 5 will be in the simulator and 5 hours in a complex aircraft; 20 hours of solo flight with 5 hours in a complex aircraft and 13 hours of oral instruction and briefings. Prerequisite: CP 235A.

CP 236. Multi-Engine Flight. (.8-.8) Credit: 3

This course of flight training leads to the FAA Multi-Engine Pilot Rating. This course is designed to give the advanced pilot a greater depth of aircraft experience. A minimum of 24 hours of instruction is provided, including 12 hours of dual flight and 12 hours of oral instruction and briefings. Prerequisite: CP 235 or a Commercial Pilot Certificate.

CP 237. Aviation Radio System. (3-0) Credit: 3

Basic radio fundamentals as used by the pilot. A description and practical use of various radio aids to safe aerial navigation, including Very High Frequency Omni Direction Range (VOR). Instrument Landing System (ILS), Direction Finding (DF), and others. Charts and approach plates as adapted to radio navigation, including the use of the Flight Information Manual and ATC procedures. Prerequisite: CP 230.

CP 238. Instructor Rating. (2.5-1.6) Credit: 3

This flight course prepares the experienced pilot for the FAA Certified Flight Instructor Certificate for airplane. Includes 25 hours of dual flight and 40 hours of oral instruction and briefings. Prerequisite: Commercial Pilot Certificate.

CP 238A. Instrument Flight Instructor. (1.4-1.4) Credit: 3

A program of advanced flight training to prepare the experienced Instrument Pilot to pass the FAA requirements for the Instrument Flight Instructor Certificate for airplane. A minimum of 44 hours of instruction is provided, including 20 hours of dual flight and two hours for FAA check flight, and 22 hours of oral instruction and briefings. Prerequisite: Certified Flight Instructor Certificate and Instrument Rating.

CP 238B. Multi-Engine Flight Instructor. (1.4-1.4) Credit: 3

This course is designed to prepare an applicant for the FAA Multi-Engine Flight Instructor Flight Test. A minimum of forty-four hours of instruction is provided, including twenty hours of dual flight instruction, two hours for the FAA check flight and twenty-two hours of oral instruction and briefing. Prerequisites: FAA Multi-Engine Rating and FAA Flight Instructor Single-Engine Land Rating.

CP 238C. Commercial Helicopter Rating. (.9-3.2) Credit: 3

Additional Category Commercial Helicopter Rating Course. A minimum of sixty-six hours of instruction is provided, including thirty hours of dual instruction, twenty hours solo, and fifteen hours oral instruction briefing, and one hour for the FAA Check Flight. Prerequisites: FAA Commercial Pilot Rating Single-Engine Land.

CP 238D. Helicopter Instructor Rating. (2.5-1.6). Credit: 3

This course prepares a pilot who is helicopter rated for the FAA Certified Flight Instructor Certificate for helicopter. This course includes 40 hours of ground training and 25 hours of instructor training which involves 20 hours dual flight in a helicopter and 5 hours of practice ground instruction by the student. Prerequisites: Commercial Pilot Certificate with a helicopter category rating.

CP 239. Airline Transport Pilot. (1.7-1.7) Credit: 3

The Airline Transport Rating is the most comprehensive rating issued by the Federal Aviation Administration. Flight and ground training to qualify for the certificate is provided, which includes 25 hours of dual flight and two flight hours for the FAA Check Flight, and 27 hours of oral instruction and briefings. Prerequisite: First Class FAA Medical Certificate, Age 23, 1,500 hours of approved flight time, and Instrument Rating.

CP 239I. Instrument Flight. (1.9-2.2) Credit: 3

The necessary instruction to qualify for the FAA Instrument Rating. A minimum of 65 hours of instruction is provided, including 35 hours of dual flight and 30 hours of oral instruction and briefings. Prerequisite: Commercial Pilot Certificate.

Child Development

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Child Development 131	3	Child Development 132	3
Child Development 141	4	Child Development 134	3
Child Development 143	4	Child Development 142	4
English 137*	3	Psychology 233	3
Psychology 111	1	Speech 131	3
Physical Education	1	Physical Education	1
	19		17

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Child Development 231	3	Child Development 232	3
Child Development 261	6	Child Development 241	4
Government 231	3	Child Development 262	6
Sociology 231	3	Government 232	3
Elective**	3		16
	18		

*English 131—Composition and Rhetoric may be substituted for English 137.

**Sociology 236—Marriage and the Family; Education 232—Educational Psychology or another course approved by the Department Manager may be substituted.

Course Descriptions For Child Development

CHDV 131. Introduction to Child Development. (2-2) Credit: 3

This course covers the history, philosophy and ethics of child care, types of child care, facilities, laws and standards that are applicable to child care centers. Emphasis is placed on the responsibilities and duties of the child care worker. Experiences are gained in how to provide for the child's health needs and how to make the child care center a safe place for children.

CHDV 132. Child Nutrition. (2-2) Credit: 3

This course emphasizes how food and feeding contribute to and affect the young child's growth and development. Topics on menu planning, food purchasing and storage, serving methods, and how the child care worker can assist in developing desirable eating habits are included in this course.

CHDV 134. Developmental Language. (2-2) Credit: 3

The objective of this course is to provide the student the knowledge and skills to develop the language ability of young children. Practical experiences are gained in teaching language activities in a child care center. Emphasis is placed on developing special materials and techniques for bilingual and multicultural children.

CHDV 141. Learning Programs. (2-4) Credit: 4

This course covers methods of planning, working with young children for opportunities in the child's active participation, experimentation and problem solving using materials to provide the greatest scope of experience and learning.

CHDV 142. Child Guidance. (2-4) Credit: 4

This course includes a study of human relations in the nursery school and the child care center. Topics of study include theoretical and practical experiences in becoming effective in guiding the young child through speech, emotional development, physical activities and the concept of caring for property of others.

CHDV 143. Creative Expression. (2-4) Credit: 4

Creative activities, both structured and unstructured in arts, crafts, music, dance, literature, storytelling, dramatic play and recreational play, are covered in this course. Practical experiences are gained by working with the young in a child care center.

CHDV 231. The Exceptional Child. (2-2) Credit: 3

This course is designed to provide a basic knowledge of the child with behavioral problems. The special problems of mental retardation and conditions such as autism are included. Practical experiences at a child care center will cover etiology, diagnosis, characteristics and the daily and long-term management of the exceptional child. Prerequisite: CHDV 131.

CHDV 232. Parent-Child Relationships. (2-2) Credit: 3

This course is a study in parent-child experiences and responsibilities and how they affect child behavior and development. Emphasis placed on experiences to stimulate a positive identification for family and self-concept, through thinking and reasoning skills and a positive attitude toward behavior management at each age and stage of development. Included is a study of the abused and neglected child.

CHDV 241. Pre-School Center Management. (2-4) Credit: 4

This course covers the theoretical and practical aspects of managing a pre-school center. The main emphasis is placed on developing a management system for a pre-school center that would include budgeting, record keeping, nutrition, health, safety, referral services and personnel practices, including employer/employee relations. Prerequisite: Sophomore standing in the Child Development program.

CHDV 261. Learning Theories Seminar and Practicum. (1-15) Credit: 6

This course includes on-the-job experiences with opportunities for direct involvement in an approved program activity for the child development major. In addition to the practicum, seminar time is spent with community resource persons. Prerequisite: Sophomore standing in the Child Development program.

CHDV 262. Special Projects. (1-15) Credit: 6

This course is designed to allow the advanced Child Development student the opportunity to undertake a project that involves working with pre-school age children. The area of specialization would be selected and performed under the supervision of the instructor. Prerequisite: Sophomore standing in the Child Development program.

Communications

English

First Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 131	3	English 132	3
Mathematics 132	3	Mathematics 133	3
Foreign Language 141*	4	Foreign Language 142*	4
Science 141*	4	Science 142*	4
History 131	3	History 132	3
Psychology 111	1	Physical Education	1
Physical Education	1		
	19		18

Second Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 231, 233, or 237**	3	English 232, 234, or 238**	3
Foreign Language 231	3	Foreign Language 232	3
Science 141*	4	Science 142*	4
Government 231	3	Government 232	3
Elective	3	*Elective*	3
Physical Education	1	Physical Education	1
	17		17

*Check particular foreign language and science required by senior institution where student wishes to transfer.

** Check sophomore literature requirements at senior institution where student wishes to transfer. Most senior institutions will grant only lower-level credit for these courses.

** NOTE: English 231-232, 233-234, and 237-238 are paired courses. Though department majors may elect any pair of courses, they must take *both courses in the pair* to fulfill department degree requirements.

Course Descriptions for English

ENGL 130. English Fundamentals. (3-0) Credit: 3

A study of basic composition skills with emphasis on sentence structure, paragraph structure, and grammar. Not intended for non-English speaking students.

ENGL 130R. Basic English I. (1-2) Credit: 3

A review of English fundamentals emphasizing the development of reading techniques by improving reading comprehension and rate, word recognition, and vocabulary development. Instruction is also given in phonics and spelling.

ENGL 131R. Basic English II. (1-2) Credit: 3

A continuation of Basic English I. A continued review of English fundamentals with the emphasis on the further development of reading techniques by improving reading comprehension and rate, word recognition, and vocabulary development.

ENGL 131. Composition and Rhetoric. (3-0) Credit: 3

Composition of short papers, with emphasis on sentence structure, paragraph development, and paper organization. Analysis of expository prose.

ENGL 132. Composition and Rhetoric. (3-0) Credit: 3

An introduction to literature: the short story, poetry, drama, and the novel. Composition of short papers with emphasis on interpretation and analysis of literary selections, optional research paper. Prerequisite: English 131 or advanced standing.

ENGL 133, 134. English for Foreign Speaking Students. (3-2) Credit: 3

Speaking and writing for students whose native language is not English. Intended to aid foreign students in attaining greater facility in the use of the English language.

ENGL 137. Business English. (3-0) Credit: 3

Fundamentals of grammar, punctuation, and sentence structure as employed in written business communications. Word study; sentence analysis; punctuation; paragraphing; planning. Required for all students majoring in Office Administration.

ENGL 139. Communications Skills. (3-0) Credit: 3

This course includes topics of instruction in grammatical construction; spelling; punctuation; writing effective business letters; preparation of technical reports, business forms and blanks; speaking to groups; business meetings; personal interviews; telephone conversations; and social speech situations.

ENGL 231. English Literature. (3-0) Credit: 3

A survey of English literature from Beowulf through the eighteenth century. The study includes selections of poetry, prose, and drama. Prerequisites: English 131, 132.

ENGL 232. English Literature. (3-0) Credit: 3

A survey of English literature beginning with the Romantic period and including masterpieces of Victorian and contemporary writers. The study includes selections of poetry, prose, and drama. Prerequisites: English 131, 132.

ENGL 233. World Literature. (3-0) Credit: 3

A study of masterpieces of Western World Literature from Homer through the eighteenth century. Prerequisites: English 131, 132.

ENGL 234. World Literature. (3-0) Credit: 3

A study of masterpieces of Western World Literature from the eighteenth century to the present. Prerequisites: English 131, 132.

ENGL 237. American Literature. (3-0) Credit: 3

Survey from the beginning to 1860. This course treats briefly of colonial writers and writings 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. Prerequisites: English 131, 132.

ENGL 238. American Literature. (3-0) Credit: 3

Survey from 1860 to the present. Considers the major literary movements in poetry, prose, and drama. Prerequisites: English 131, 132.

ENGL 239. Technical Writing. (3-0) Credit: 3

The writing of technical reports. Oriented toward the technical/vocational fields. Recommended for all technical/vocational students.

Foreign Language

First Year

First Semester Subject	Hours	Second Semester Subject	Hours
English 131	3	English 132	3
Major Language 141	4	Major Language 142	4
Mathematics*	3	Mathematics*	3
History 131	3	History 132	3
Science 141*	4	Science 142*	4
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		18
	19		

Second Year

First Semester Subject	Hours	Second Semester Subject	Hours
English 231	3	English 232	3
Major Language 231	3	Major Language 232	3
Government 231	3	Government 232	3
Science 141**	4	Science 142**	4
Second Language 141***	4	Second Language 142***	4
Physical Education	1	Physical Education	1
	—		—
	18		18

*Check senior college catalogue for specific math or substitute courses.
**Science recommended.
***Second language requirement varies with senior colleges. Check senior college catalogue carefully.

Course Descriptions for Foreign Language

French

FR 141. Beginning French. (3-3) Credit: 4

This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

FR 142. Beginning French. (3-3) Credit: 4

Elementary grammar is completed. Pronunciation, drill, and conversation based on reading are continued. Stress is given to everyday conversational phrases. Prerequisite: French 141.

FR 231. Intermediate French. (3-0) Credit: 3

This course includes grammar review, composition, and reading of French

masterpieces, with conversation based on material read. Prerequisite: French 141, 142, or two years of French in an accredited high school.

FR 232. Intermediate French. (3-0) Credit: 3

This course continues the drill on syntax as needed for reading, composition, and conversation. Prerequisite: French 231.

German

GERM 141. Beginning German. (3-3) Credit: 4

For those who have had no previous work in German. The essential grammar expression. Three laboratory hours per week are required for the memorization and presentation of German dialogues by the students.

GERM 142. Beginning German. (3-3) Credit: 4

A continuation of German 141. Prerequisite: German 141 or its equivalent.

Spanish

SPAN 141. Beginning Spanish. (3-3) Credit: 4

This course consists chiefly of the study of Spanish grammar and development of vocabulary. Conversation in Spanish is stressed.

SPAN 142. Beginning Spanish. (3-3) Credit: 4

This course is a continuation of Spanish 141, with continued emphasis on conversation. Prerequisite: Spanish 141.

SPAN 231. Intermediate Spanish. (3-0) Credit: 3

A review grammar text is used. Continued emphasis is placed on conversation, correct pronunciation, and correct writing. Readings from various Spanish-American authors are studied. Prerequisite: Spanish 141, 142, or two years of Spanish at an accredited high school.

SPAN 232. Intermediate Spanish. (3-0) Credit: 3

This course continues the readings from Spanish-American authors. Grammar, composition, and conversation are emphasized. Prerequisite: Spanish 231 or equivalent.

Journalism

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Journalism 141	4	Journalism 142	4
English 131	3	English 132	3
History 131	3	History 132	3
Speech 131	3	Psychology 231	3
Elective*	3	Elective*	3
Psychology 111	1	Physical Education	1
Physicial Education	1		—
	—		17
	18		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 231	3	English 232	3
Government 231	3	Government 232	3
Economics 231	3	Economics 232	3
Sociology 231	3	Sociology 232	3
Physical Education	1	Physical Education	1
	—	Elective*	3
	13		—
			16

*Check with senior institution catalogue for appropriate course choice.

Course Descriptions for Journalism

JOUR 141. Communications Media. (3-3) Credit: 4

This course is designed to give the student an understanding and respect for the mass media of the modern world. It includes a survey of all the mass communicative media, their purposes, and methods of operation.

JOUR 142. News Gathering and Reporting. (3-3) Credit: 4

Designed to acquaint the student with fundamental news gathering and writing techniques for the print medium. It includes instruction and practice in interviewing, writing, and discussion of news sources and values.

Speech

First Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 131	3	English 132	3
History 131	3	History 132	3
Foreign Language 141	4	Foreign Language 142	4
Speech 131	3	Speech 133	3
Speech 132	3	Theatre 132	3
Psychology 111	1	Physical Education	1
Physical Education	1		
	18		17

Second Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 231	3	English 232	3
Government 231	3	Government 232	3
Foreign Language 231	3	Foreign Language 232	3
Speech 231*	3	Speech/Thet Elective*	3
Speech/Thet Elective*	3	Theatre 231	3
Physical Education	1	Physical Education	1
	16		16

*Theatre majors should substitute THET 232 for SPCH 231 and should elect to take THET 133 and 134.

Course Descriptions for Speech

SPCH 131. Fundamentals of Speech. (3-0) Credit: 3

Instruction is given in speech preparation and delivery with emphasis on communication through audience analysis, gesturing, and vocal variety. Students will have opportunity for practice in the researching, outlining, and presentation of speeches.

SPCH 132. Voice and Diction. (3-0) Credit: 3

To develop and establish good vocal habits through a study of the principles and practices of the techniques involved in excellence of voice and diction. Drill work and materials for practice are selected to suit individual needs.

SPCH 133. Oral Interpretation. (3-0) Credit: 3

Study and practice in the principles of the oral reading of literature. Attention is paid to analyzing good literature and to recreating the logical and emotional content for an audience. Group oral interpretation is also studied.

SPCH 231. Persuasive Speaking. (3-0) Credit: 3

A course of study which emphasizes knowledge of audience and individual responses to the speaker-supplied stimuli, emotional and logical reasoning. Practice in all types of persuasive speaking is an essential part of the course. Prerequisites: SPCH 131, 233, or consent of the instructor.

SPCH 233. Business Speech. (3-0) Credit: 3

Designed to aid the prospective business or professional person in preparing various types of speaking assignments such as he might encounter in his career. It is planned for agriculture, business, and home economics majors. Emphasis is on structure and techniques of presentation.

SPCH 111, 112. Forensic Practicum. (1-2) Credit: 1 (Fall, Spring)

Practice of all types of speaking, reading, debating, and discussing skills. It is designed to prepare the student for contest work and may be repeated for credit.

THET 132. Basic Theatre Practice. (3-3) Credit: 3

A practical course in the elements of theatre production. Includes discussion of the hierarchy of the production staff, of the duties of each assigned position, and of the planning necessary to produce a play.

THET 133. Acting I. (3-3) Credit: 3

A basic course in the creation of characters which focuses on stage movement, use of voice, use of gestures, and concentration. The student will present solo, duet, and group scenes.

THET 134. Acting II. (3-3) Credit: 3

A detailed study of varying theories of acting and their practice. Attention will also be paid to acting styles and accents. The student will perform in various period scenes.

THET 231. History of the Theatre. (3-0) Credit: 3

A study of the progressive growth of the theatre through examination of the playwrights, designers, and actors in each period. The course will cover the period from the early Greeks through 1900.

THET 232. Stagecraft. (2-4) Credit: 3

Scene design and stage lighting. A study of lighting, equipment and methods, and a study of basic set design and structure, and a study of makeup for youth, old age, and character.

THET 111, 112. Stagecraft Practicum. (0-2) Credit: 1 (Fall, Spring)

Practice in all phases of play production. It may be repeated for credit.

Computer Science Curriculum

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Computer Science 143	4	Computer Science 138	3
Computer Science 135	3	Computer Science 139	3
Approved Elective*	3	Computer Science 138A	3
English 131	3	English 132	3
Mathematics Option**	3	Mathematics Option**	3
Psychology 111	1	Physical Education	1
Physical Education	1		
	18		16

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Computer Science 234	3	Computer Science 239A	3
Computer Science 243	4	Computer Science 238	3
Approved Elective*	3	Approved Elective*	3
Business 237	3	Business 238	3
Government 231	3	Government 232	3
Physical Education	1	Physical Education	1
	17		16

*Electives must be approved by the Department Manager.
**Students without a strong mathematics background should enroll in MATH 131-Intermediate Algebra and MATH 135-Finite Mathematics I. All other students should take MATH 135 and MATH 136-Finite Mathematics II or MATH 138-Elementary Statistics.

Computer Operator

A one-year Certificate program

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Computer Science 135	3	Computer Science 134	3
Computer Science 140	4	Computer Science 138A	3
Computer Science 143	4	Computer Science 139	3
Office Administration 234	3	Computer Science 141*	4
English 137	3	Business 131	3
Psychology 111	1		
	18		16

*Computer Science course may be substituted by Department Manager.

Electronic Data Processing Clerk

A one-year Certificate program

First Semester	
Subject	*Hours*
Computer Science 130	3
Computer Science 131	3
Computer Science 140	4
Office Administration 234	3
English 137	3
Psychology 111	1
	17

Second Semester	
Subject	*Hours*
Computer Science 132	3
Computer Science 138A	3
Office Administration 235	3
Computer Science*	3
Approved Elective*	3
	15

*Electives must be approved by Department Manager.

Course Descriptions For Computer Science

CS 130. Computers and Society. (3-0) Credit: 3

A non-technical survey course intended for non-computer science majors which studies the role that computers play in our society. The purpose is to give a basic, general, and accurate picture of what computers are, do and can do, and to lay to rest myths and mystiques concerning computers. The effects the computers have had and are having on society are studied and used to project what effects they may have in the future. An introduction to data representation slow-charting and computer program logic is presented to the non-computer science major to write a simple computer program.

CS 131. Beginning Keypunching. (1-3) Credit: 3

Elements of keypunch operation. Designed to give the typist beginning skills in keypunch operation. Recommended for all beginning keypunch operators. Drills and exercises to develop punching accuracy and speed. Prerequisite: Typing speed of 30 WPM.

CS 132. Advanced Data Entry. (1-3) Credit: 3

Advanced keypunch and verifier operation; program card design and preparation; direct data entry techniques; drills to develop maximum efficiency and speed; some on-the-job training is required for the completion of the course. Prerequisite: CS 131.

CS 133. Computer Library Management. (2-3) Credit: 3

Concepts of data processing library management. Introduces card, tape, and disk library management. Some on-the-job training is required for completion of the course.

CS 134. Computer Center Operations. (3-0) Credit: 3

This course covers operational theories, concepts, and terminology that is

necessary for an understanding of how software and hardware interface together to provide a total system. Modern computer center workflow and throughput are emphasized in the course. Prerequisite: CS 140 and concurrent enrollment in CS 139.

CS 135. Introduction to Systems Analysis. (3-2) Credit: 3

Introduction to problems from business and science using logical and mathematical techniques particularly suited to characteristics of the digital computer. Problems involve qualification of descriptive data, manipulation of these data, and expression of analysis in descriptive terms. Includes documentation and flow-charting methods. Prerequisite: CS 143 or concurrent enrollment.

CS 136. Introduction to Computer Operations. (2-3) Credit: 3

Basic card handling procedures and machine applications with job execution at local and remote job entry stations. Includes concepts for operation of unit record and computer card systems.

CS 138. COBOL Programming. (3-2) Credit: 3

This course is designed to provide the student with skills and fundamentals in solving business data processing problems using Full American National Standard COBOL. The student becomes effective in COBOL programming techniques involving sequential files. Table searching, control breaks, and a coverage of Indexed Sequential file handling are presented.

CS 138A. RPG Programming. (2-3) Credit: 3

Report Program Generator, a problem oriented language involving fixed program logic, file description, input, calculation, output of practical business oriented problems on card, tape, and disk systems.

CS 139. Computer Organization. (3-2) Credit: 3

This course is designed to give the student an understanding of the fundamental principles by which computers work and how these principles affect and govern programming techniques. Emphasis is placed on the IBM System 360/370 because of its prominence in the market place. Prerequisite: CS 143.

CS 140. Introduction to Computer Operations & Library Management. (3-3) Credit: 4

This course includes modern concepts and operation of input and output devices and PCM equipment currently in use by the Data Processing Industry. The duties and responsibilities of 1/0 control clerks and the computer librarian are emphasized.

CS 141. Advanced Operations Lab. (1-15) Credit: 4

This course consists of supervised work in the college computer center. The students learns to operate the computer and peripheral equipment. Prerequisites: CS 140, Corequisite: CS 134 and approval of Department Manager.

CS 143. Introduction to Computer Science and Computer Programming. (3-3) Credit: 4

This course is intended to be the first course for Computer Science majors and no prior knowledge of computers or programming is assumed. The programming language, FORTRAN, and flow-charting are introduced at the beginning of the course so that the student will have a better idea of what a computer does before investigating how it functions.

Approximately half of the lectures and nearly all of the laboratories are devoted to programming and flow-charting. Programming assignments will run concurrently with other fundamental topics such as historical development of computers, typical present day hardware and software, and computer applications.

CS 231. Introduction to Computer Center Management. (3-0) Credit: 3

Planning, organizing, and controlling data processing installations. Managerial aspects in the introduction and use of computer systems and management concepts. Prerequisite: Twelve hours of Computer Science.

CS 232A. FORTRAN Programming. (3-2) Credit: 3

This course is designed for the computer science major to augment his algorithmic and programming talents, and to offer the non-computer science major a thorough coverage of the FORTRAN language to employ as a tool to solve business or scientific problems. Emphasis is placed on multi-dimensional arrays, use of functions and subprograms, searching and sorting techniques, and direct access processing. Prerequisite: 6 hours of mathematics.

CS 232B. Programming for Business Statistics. (3-2) Credit: 3

Relevance of data processing in business; impact of computer systems on decision making; heuristic and algorithmic computing techniques using FORTRAN or BASIC to include computation of means and standard deviations, simple regression, contingency tables, and curve plottings. Prerequisite: Math 135 and CS 143.

CS 234. Advanced COBOL. (3-2) Credit: 3

This course is designed to offer the student of COBOL programming an in-depth study of the theory, programming techniques, and needed programming efficiencies that will be required of the prospective COBOL programmer. A thorough coverage is given to tile design and the special features of ANS COBOL language. Emphasis is placed on multi-dimensional table handling, searching and sorting techniques, and Indexed Sequential and Random file manipulation. Prerequisite: CS 138

CS 235. PL/1 Programming. (3-2) Credit: 3

Business and scientific computer applications are developed using PL/1. Emphasis is placed on advanced programming concepts. Prerequisite: CS 143, CS 138.

CS 236. Conversational Languages. (3-2) Credit: 3

Programming and testing sample programs written in a remote terminal-oriented language, such as BASIC, Conversational FORTRAN and APL. Prerequisite: CS 143 or consent of Instructor.

CS 237. Field Projects. (1-5) Credit: 3

Practical application of course work in systems analysis and commercial or scientific programming depending upon students degree options. Prerequisite: Consent of Instructor.

CS 238. Systems Analysis. (3-2) Credit: 3

The methodology, techniques, and tools used in performing in-depth analysis of information systems destined for computer implementation are described in their relationships within the overall study. The use and requirements associated with decision tables, study plans, testing plans, and documentation are emphasized. Prerequisite: CS 135, CS 138.

CS 239A. Introduction to Operating Systems and Job Control Language. (2) Credit: 3

A study of computer operating system concepts including program libraries, program intercommunication, and the structure and transportation of data sets. A Job Control Language (JCL) is taught in addition to the use of standard Utility Programs. Prerequisites CS 234 and CS 243.

CS 239B. Introduction to Teleprocessing Systems. (3-2) Credit: 3

Requirements and fundamentals of a teleprocessing system's design and programming; transmission capabilities and control; program protection and relocation; features and application of transmission devices. Prerequisite: CS 243.

CS 243. Assembler Language Programming. (3-3) Credit: 4

Assembler language programming for the current college system. Programming and debugging of business oriented problems with emphasis on the standard and decimal instruction set and the sequential access method. Prerequisites: CS 139 and CS 143.

Developmental Studies

The Developmental Studies Program is designed to meet the educational needs of those students who require selective refresher course work prior to attempting college academic or technical vocational programs.

Entry into these courses is voluntary but definitely encouraged for those individuals who score low on entrance examinations. Trained counselors evaluate test results and prior experience in recommending course work. Some students may require refresher work in only one subject while others may require remedial training in several subjects.

Successful completion does not count toward degree requirements.

However, results will be computed in grade point averages. Developmental courses are listed below.

Course Descriptions For Developmental Studies

ART 130A. Introduction to Fine and Applied Arts. (3-0) Credit: 3

An introductory course designed to give the student a fundamental understanding of the creation and appreciation of diverse modes of communicating ideas and emotions through different mediums, within the context of fine and applied arts. Provisions for special activities will ensure that a culturally heterogeneous student group may concentrate on building upon, learning, and sharing expressive experiences unique to the student's cultural heritage.

BIOL 140. Introduction to Natural Science. (3-3) Credit: 4

A developmental course for the non-science major utilizing selected topics for biological science, principally related to the anatomy and physiology of man.

COMM 132. Developmental Communications. (1-2) Credit: 3

A course offered in a laboratory setting to improve reading comprehension and rate and word recognition. Specific areas of study include syllabication, phonetic analysis, context clues, word elements, sequence, setting, main ideas, drawing conclusions, and making inferences.

EDUC 130. College Study Skills. (1-2) Credit: 3

Designed for improvement of study systems. Emphasis is placed on high level study skills and the improvement of time management, effective listening and notetaking, marking tests, learning through media, concentration, retention of information, and taking examinations.

GEOG 131. Exploring Societal Elements. (1-2) Credit: 3

An introduction to various social institutions and political, governmental, and financial organizations and systems. Special emphasis is placed on the cultural aspects of various countries in comparison to those of local communities in the United States. The effect of physical conditions on local economics, politics, and culture is also studied.

GOVT 130. Introduction to American Institutions. (3-0) Credit: 3

An introduction to contemporary American social, economic, and political institutions with the emphasis on foundations of civil liberty and the individual's rights and responsibilities relative to equality and citizenship in a free society.

HIST 130. Introduction to American History. (3-0) Credit: 3

A course to provide a basic understanding of emerging social, economic, and political institutions emphasizing the effects of the American past on the present and the future. Technological advances, civil rights, women's rights, and the problems of crime and poverty are included.

MATH 130A. Developmental Mathematics I. (1-2) Credit: 3

An introductory course including instruction in mathematical operations with rational numbers, the application of measurement systems to geometric problems, and an introduction to basic probability and statistics.

MATH 130B. Developmental Mathematics II. (1-2) Credit: 3

A mathematical approach to consumer-oriented and family living problems, including budgeting, balancing a checkbook, calculating wages and payroll deductions, and completing federal income tax forms.

MATH 130C. Developmental Mathematics III. (1-2) Credit: 3

Developmental mathematics for technical fields, including algebra, integers, mathematical sentences, rational numbers, and polynominals.

PSYC 130. Human Development. (3-0) Credit: 3

A course employing the basic principles of psychology, designed to help the student identify personal strengths and career interests, and to develop those interpersonal skills necessary for functioning in the student's chosen field or vocation. Care is taken to identify and build upon the student's strengths, especially as these are related to diverse cultural and/or native language capabilities, that may help assure success in the student's chosen field or vocation.

READ 130, 131. Reading and Comprehension. (1-2) Credit: 6

A course offered in a laboratory setting, using varied instructional techniques, designed to help students improve their proficiency in reading comprehension and rate, word recognition and vocabulary development.

SCI 140. Introduction to Physical Science. (3-3) Credit: 4

An introductory course for students who need to acquire a basic understanding of the philosophy and methods of science. A review of basic principles and theories and their application to problem solving, will be provided. Topics will be selected from various fields of physical science.

SCI 141. Career Oriented Physics. (3-3) Credit: 4

A developmental course for students who need to acquire a basic understanding of the relationships between applied physics and selected technologies.

SPCH 130. Developmental Speech. (1-2) Credit: 3

An introductory course emphasizing structure and different techniques of presentation, as well as principles and methods of discussion. Designed to identify deficiencies and strengths, and to develop and improve interpersonal skills and the student's ability to communicate through effective speech.

WRIT 130. Developmental Writing I. (1-2) Credit: 3

A course offered in a laboratory setting, using varied instructional techniques, designed to identify deficiencies and improve basic writing skills necessary for the student who intends to pursue college-level academic work.

WRIT 131. Developmental Writing II. (1-2) Credit: 3

A course in a laboratory setting to develop the ability to locate specific types of material, interpret and summarize information, analyze data and draw conclusions, and to prepare and present the findings in written form.

WRIT 132. Developmental Writing III. (1-2) Credit: 3

A course designed to extend reading, research, and writing skills. Emphasis is placed on reference materials relating to consumers, including deceptive trade practices, terms used in written contracts, and a wide variety of consumer oriented literature.

Drafting And Design

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	*Hours*
Drafting & Design 131	3
Drafting & Design 132	3
Drafting & Design 133	3
Technical Mathematics 130	3
Psychology 111	1
Physical Education	1
Approved Elective*	3-4
	17-18

Second Semester	
Subject	*Hours*
Drafting & Design 143	4
Drafting & Design 232	3
Drafting & Design 244	4
English 137	3
Physical Education	1
Technical Mathematics 131	3
	18

Second Year

First Semester	
Subject	*Hours*
Drafting & Design 241	4
Drafting & Design 242	4
Drafting & Design 243	4
Physical Education	1
Approved Elective*	3-4
	16-17

Second Semester	
Subject	*Hours*
Drafting & Design 245	4
Drafting & Design 246	4
Drafting & Design 248	4
Physical Education	1
Approved Elective*	3-4
	16-17

*DD 130, DD 134, MATH 131, MATH 132, MATH 133, ENGL 131, ENGL 132, ART 131, OP 131, TV 145, or others approved by Department Manager.

Course Descriptions for Drafting and Design

DD 130. Blueprint Reading. (2-2) Credit: 3

The fundamentals of blueprint reading and sketching as they apply to machine drawing.

DD 131. Engineering Graphics. (2-4) Credit: 3

Freehand and instrument drawing, dimensioning, fastening, pictorial methods, charts and graphs, projection drawings, geometry of graphical construction. Required for beginning engineering students. This course is a prerequisite for all drafting courses except DD 130 and DD 134.

DD 132. Advanced Drafting. (2-4) Credit: 3

A course mainly concerned with pictorials. Includes the theory of oblique and isometric drawings. Also covered are one and two point perspectives and shade and shadow applications. Prerequisite: DD 131.

DD 133. Technical Illustration. (2-4) Credit: 3

Introduction to pictorial drawings as used in industrial catalogs, assembly sheets, newspaper publications, and promotional literature. Work to be done in various media to include pencil, ink, transfer tapes, and air brush. Prerequisite: DD 131 and DD 132.

DD 134. Architectural Blueprint Reading. (2-2) Credit: 3

The fundamentals of blueprint reading for the construction trades. The course includes familiarization with standard terms, sizes, scales, estimating, and commercial practice.

DD 143. Machine Drawing. (2-4) Credit: 4

Drawing and manufacturing processes; training in producing various kinds of advanced drawings; commercial practices and economics; the use of standard parts, sizes, symbols, and abbreviations. Prerequisite: DD 131 and DD 132.

DD 232. Descriptive Geometry. (2-4) Credit: 3

Involves point, line and plane relationships, auxiliary views, intersections, and flat pattern development. Emphasis is placed on practical solutions to realistic engineering problems relating to aerospace, mining, and geology. Prerequisite: DD 131.

DD 241. Sheetmetal and Pipe Drafting. (2-4) Credit: 4

Design and detailing of sheetmetal layout; design and detailing of pipe systems making use of standard practices and symbols; includes single line, double line, plan profile, and isometric drawings of duck and pipe systems.

DD 242. Architectural Drafting. (2-4) Credit: 4

A study of the preparation of architectural plans; elevations; sections; site plans; various building details; room finish, door and window schedules; and structural drawings.

DD 243. Electronic Drafting. (2-4) Credit: 4

A study of layout and preparation of finished electronic and electrical drawings, stressing modern representation used for pictorial drawings; wiring and connection diagram; printed circuits; control circuits; and schematic diagrams. Some review of lettering and mechanical drawing principles. Prerequisite: DD 131.

DD 244. Structural Drafting. (2-4) Credit: 4

A study of A.I.S.C. specifications and standards; structural theory and data; designing and detailing structural members and connections. Design and development of details and specifications for light industrial structures to include structural steel pipe, and reinforced concrete rods. Prerequisite: DD 131

DD 245. Topographic Drafting. (2-4) Credit: 4

This is an introductory course in map drafting utilizing surveyors field notes as a basis for calculating bearings and closures and drawing plats, contours, and profiles. This course also includes a unit on surveying which consists of actual field problems of transient tape-stadia surveying. Prerequisites: DD 131, DD 232, TMTH 130 and TMTH 131, or permission of Department Manager.

DD 246. Industrial Practice. (2-4) Credit: 4

This course is designed to give specialized practice to the student in his major field of interest. The student will complete actual jobs for area industries to gain realistic experience in his chosen career.

NOTE: must be taken during last semester of the sophomore year.

DD 248. Principles of Design. (2-4) Credit: 4

Theory and practice of design as related to engineering and technology. Analysis in the areas of architecture, machine design, structural design, and product development.

TMTH 130. Technical Mathematics I. (3-0) Credit: 3

A course designed to fill the needs of students in industrial and technical programs. To perform calculations and measurements and to solve mathematical problems for the shop, construction site, design and drafting rooms. It covers arithemetic fundamentals, development of "number sense", basic algebra, geometry, and the elements of the slide rule and calculating machines.

TMTH 131. Technical Mathematics II. (3-0) Credit: 3

This course is a continuation of Technical Mathematics I, and includes a study of algebra, trigonometric functions, graphs of trigonometric functions, solution of triangles, and plane and solid geometry. Prerequisites: MATH 130, TMTH 130, or permission of Department Manager.

Education

First Year

First Semester *Subject*	*Hours*
English 131	3
History 131	3
Science 141	4
Foreign Language 141	4
Elective	3
Physical Education	1
Psychology 111	1
	19

Second Semester *Subject*	*Hours*
English 132	3
History 132	3
Science 142	4
Foreign Language 142	4
Speech 131	3
Physical Education	1
	18

Second Year

First Semester *Subject*	*Hours*
English 231	3
Government 231	3
Foreign Language 231	3
Psychology 231	3
Sociology 231	3
Physical Education	1
	16

Second Semester *Subject*	*Hours*
English 232	3
Government 232	3
Foreign Language 232	3
Psychology 232	3
Sociology 232	3
Physical Education	1
	16

Course Descriptions for Education

EDUC 136. Seminar For Teachers Aides. (3-0) Credit: 3

This course is designed to help prepare teachers aides to handle the various types of reading, mathematics, disciplinary, and audio-visual media situations they face in day-to-day school activities.

EDUC 221. Mechanics and Teaching of Penmanship. (2-0) Credit: 2

In this course a brief study is made of the objectives and procedures of teaching writing in the elementary grades. It is designed for the improvement of handwriting and the techniques of teaching both manuscript and cursive writing.

EDUC 231. Introduction to Education. (3-0) Credit: 3

A survey course in the social foundations of American education.

EDUC 232. Educational Psychology. (3-0) Credit: 3

Emphasis is given to the study and application of those aspects of

psychology which influence the effectiveness of the teaching and learning process.

EDUC 233, 234. Art Education. (3-3) Credit: 6

Designed to inculcate in the student a respect for free, creative child art and to present to him methods that have succeeded in evoking that type of art.

EDUC 235. Introduction to Speech and Hearing Therapy. (3-0) Credit: 3

Description, etiologies, basic principles of treatment and prognosis of the more frequently encountered communication disorders. Required observation of various disorders in speech clinic.

EDUC 236, 237. Speech Correction. (3-0) Credit: 6

An introduction to the study of speech correction. A survey of the defects of speech with particular emphasis on articulation defects and voice problems. Consideration of fundamental diagnostic and therapeutic principles in the school and clinic. One hour per week clinical observation required. A technical and professional course in the causes, nature, symptoms, and rehabilitation of disordered speech. Review of current theories and recent experimental work. (6 hours speech).

EDUC 238, 239. Teaching Music at the Elementary Level. (3-0) Credit: 6

Recruiting students for the elementary school instrumental and vocal programs; preliminary organization; judging the ability of the student to benefit by the instrumental program and choosing the instrument most suitable to the student; instrumental class problems, methods and materials, rhythmic development of the child, introduction of notation and sight reading.

Electronics Technology

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Electronics Technology 131	3	Electronics Technology 132	3
Electronics Technology 135	3	Electronics Technology 142	4
Electronics Technology 141	4	Electronics Technology 143	4
Electronics Technology 144	4	Computer Maintenance 241	4
Engineering 131	3	English 137	3
Psychology 111	1		
	18		18

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Electronics Technology 242	4	Electronics Technology 243	4
Electronics Technology 244	4	Electronics Technology 234	3
Electronics Technology 245	4	Electronics Technology 247	4
Approved English	3	Electronics Technology 249	4
		Elective*	3-4
	15		18-19

*Elective must be approved by Department Manager.

Course Descriptions for Electronics Technology

ET 131. Technical Mathematics I. (3-0) Credit: 3

A study of the basic concepts of math and algebra and the use of the slide rule and the electronic calculator in their manipulation.

ET 132. Technical Mathematics II. (3-0) Credit: 3

A study in the solution of trigometric problems through the use of tables, slide rule, and the electronic calculator. Prerequisite: ET 131, or equivalent.

ET 135. Assembly Methods. (1-5) Credit: 3

A study of modern assembly methods and practices used in industry, including the design, layout, and construction of electronic apparatus.

ET 141. Direct Current Circuits. (3-3) Credit: 4

A study of the elementary principles of electronics, including DC circuits as related to series and parallel resistive, capacitive, and inductive networks, and the use of Ohm's Law, Kirchoff's Laws, and the power formulas in analyzing these networks.

ET 142. Alternating Current Circuits. (3-3) Credit: 4

A study of single and polyphase AC circuits and the use of Kirchoff's Laws, as well as Thevenin's, Norton's, and Superposition Theorems in analyzing these circuits. Prerequisite: ET 141, or equivalent.

ET 143. Introduction to Electron Devices. (3-3) Credit: 4

An introduction to vacuum tubes, transistors, and other semiconductors, their composition, characteristics, theory of operation and circuit applications.

ET 144. Basic Test Equipment. (3-3) Credit: 4

The use, theory of operation, and repair of the basic electronic test equipment ranging from the VOM through the Dual Beam Oscilloscope.

ET 234. Broadcast-Equipment Maintenance. (1-6) Credit: 3

The operation, preventive maintenance procedures, and troubleshooting of modern day radio and television broadcast equipment. The course gives the student that much needed practical experience that can only be gained in a live station atmosphere. Prerequisite: ET 245, or equivalent.

ET 242. Advanced Test Equipment. (3-3) Credit: 4

The use and calibration of Test Equipment used in servicing complex electronic hardware. Observation of waveforms of electronic apparatus. Prerequisite: ET 144, or equivalent.

ET 243. Special Intensive Study. (1-9) Credit: 4

An intensive study in the design, theory of operation, and construction techniques used in a field which holds special interest to the student. Prerequisite: Approval of the Department Manager.

ET 244. Solid State Devices. (3-3) Credit: 4

The study of the solid state devices used throughout industry, their characteristics and relations to circuits in both low and high frequency application. Prerequisite: ET 143, or equivalent.

ET 245. Communications Circuits I. (3-3) Credit: 4

A study of those basic circuits used throughout industry today. Prerequisite: ET 143, or equivalent.

ET 246. Integrated Devices. (3-3) Credit: 4

A basic study of the many types of IC's in use today. The course will include digital, linear, and LED type devices.

ET 247. Communications Circuits II. (3-3) Credit: 4

A study of communications circuits necessary for the successful acquisition of an FCC first class license. Prerequisite: ET 245, or equivalent.

ET 248. Industrial Electronic Control Circuits. (3-3) Credit: 4

A study of special purpose electronic control circuits and systems as applied by industry today. This course will include theory and operation,

maintenance, diagnostic troubleshooting, and repair of these special purpose circuits. Prerequisite: ET 142, or equivalent.

ET 249. Electronic Systems Troubleshooting. (3-3) Credit: 4

This course includes theoretical and practical laboratory assignments in the study of techniques used in signal tracing and logical circuit diagnosis of different types of analog electronic systems.

Computer Maintenance

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Computer Maintenance 145	4	Computer Maintenance 241	4
Electronics 131	3	Electronics 132	3
Electronics 135	3	Electronics 142	4
Electronics 141	4	Electronics 143	4
Electronics 144	4	English 137	3
Psychology 111	1		—
	—		18
	19		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Computer Maintenance 242	4	Computer Maintenance 247	4
Computer Maintenance 243	4	Computer Maintenance 248	4
Electronics 242	4	Engineering 131	3
Electronics 244	4	*Elective	4
	—	Approved English	3
	16		—
			18

*Technical Electives must be selected from the Broadcast Electronics, Computer Maintenance, or Radio-Television Servicing curricula; all electives must be approved by the Computer Maintenance Department Manager.

Elective options include CM 239, CM 249, and ET 248.

Course Descriptions for Computer Maintenance

CM 145. Introduction to Computer Circuits. (3-3) Credit: 4

An introduction to computer circuitry. This course explains the difference between analog and digital circuits and discusses computer and digital circuit applications. Covers Logic Circuits, Boolean Algebra, and Simplification Theorems.

CM 239. On-Line Maintenance. (1-6) Credit: 3

The operation, preventive maintenance procedures, and troubleshooting of modern day computer equipment. The course gives the student the much needed practical experience that can only be gained in a live computer atmosphere. Prerequisite: CM 243, or equivalent.

CM 241. Digital Circuits. (3-3) Credit: 4

A review of the basic gates and gating networks used in digital circuits, and an intensive study of Boolean Algebra, as well as the theory and operation of flip-flop, registers, and counter circuits. The course also covers numbering systems, arithmetical circuitry, and control element circuitry.

CM 242. Memory Devices and Analysis. (3-3) Credit: 4

A study of the selection of memory devices, principles of storage, timing controls, operation, analysis of memory problems, troubleshooting and repair. Prerequisite: CM 241, or equivalent.

CM 243. Computer Systems and Operational Programming. (3-3) Credit: 4

The study of the theory of operation of computer systems, to include instructions, logic diagrams, circuits schematics, programming as a troubleshooting tool, flow-charting, and operational characteristics.

CM 247. Computer Circuit Analysis. (3-3) Credit: 4

The study of pulse generation, shaping circuits, trigger circuits, synchronization and counting circuits. Prerequisite: CM 243, or equivalent.

CM 248. Computer Maintenance and Troubleshooting. (3-3) Credit: 4

The study of advanced diagnostic programming, including the finding, documenting and repairing of computer malfunctions. Prerequisite: CM 243, or equivalent.

CM 249. Peripheral and Interfacing. (3-3) Credit: 4

The study of machine peripheral interface techniques, including magnetic tape, paper tape, CRT, printer and card readers as well as industrial usage interface. Prerequisite: CM 243, or equivalent.

Consumer Electronics Servicing

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Television 141	4	Electronics Technology 142	4
Electronics Technology 141	4	Electronics Technology 143	4
Electronics Technology 135	3	Television 145	4
Electronics Technology 144	4	Computer Maintenance 241	4
English 137	3		
Psychology 111	1		
	19		16

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Television 149	4	Television 235	3
Television 242	4	Television 246	4
Television 248	4	Television 249	4
Business 131	3	Elective*	3-4
		Approved English	3
	15		17-18

*Elective must be approved by Department Manager.

Course Descriptions for Consumer Electronics Servicing

TV 141. Home Music System. (3-3) Credit: 4

A study in the specifications, theory of operation, and the interrelationships of those components used in the modern home music system; including Stereo and Quad receivers and amps, turntables, tape decks, including reel to reel, eight track, and cassette formats, equalization networks, and mixing systems.

TV 145. Electronic Communications Fundamentals. (3-3) Credit: 4

Course covers those basic electrical and electronic fundamentals and circuits used in modern applications, such as communications, sound, and test equipment.

TV 149. Television Theory and Servicing. (3-3) Credit: 4

A study of electron tube and semiconductor circuits peculiar to television receivers and practical methods for troubleshooting and servicing. Prerequisite: TV 145, or equivalent.

TV 235. TV Shop Practices. (1-6) Credit: 3

An in-depth study of basic procedures used in the modern TV shop. Includes record keeping, stocking and order procedures, shop management, and advanced techniques of TV repair. Prerequisite: TV 149, or equivalent.

TV 241. Music System Servicing. (3-3) Credit: 4

A study in the analysis, diagnosis, and correction of a wide range of problems that appear in modern electronic music systems. Prerequisite: TV 242.

TV 242. Radio Systems. (3-3) Credit: 4

An in-depth study of the circuitry, both discrete and integrated, used in today's AM and FM tuner amps, including both two and four channel multiplexing. Prerequisites: TV 141, TV 145.

TV 243. Tape Recorders and Turntables. (3-3) Credit: 4

A study of both the mechanics (including gears, pulleys, belts, and drive mechanisms), and electric circuits (for amplification, biasing, and equalization), in tape recorders and turntables. Prerequisites: TV 141, TV 145.

TV 245. Electronic Trouble-Shooting. (3-3) Credit: 4

A study of those trouble-shooting techniques that apply to certain categories of electronic equipment. This course may be taken twice for credit with the approval of the program director, provided a different category of equipment is covered. Prerequisite: ET 242.

TV 246. Sound Systems. (3-3) Credit: 4

A fundamental course covering the components, specifications, and installation techniques of sound reinforcement, public address, paging, and sound distribution systems.

TV 247. Closed Circuit TV. (3-3) Credit: 4

The principles of closed circuit television systems and components, including the theory and servicing techniques as applied to cameras, monitors, and coupling networks. Prerequisite: TV 149.

TV 248. CATV and MATV Systems. (3-3) Credit: 4

Course covers fundamentals of design and servicing of TV antenna and head end systems and the distribution of TV signals in small or large "cable" systems.

TV 249. Advanced Television Servicing. (2-4) Credit: 4

The operation and service of the more complicated television receiver circuits are covered in this course. Special attention is given to the use of techniques and equipment for the most economical solutions to difficult problems. Includes an introduction to transistorized and color television. Prerequisite: TV 149.

Engineering

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Engineering 131	3	Engineering 232	3
Mathematics 134	3	Mathematics 232	3
Mathematics 231	3	English 132	3
English 131	3	Science 142*	4
Science 141*	4	Physical Education	1
Psychology 111	1	Elective	3
Physical Education	1		—
	—		17
	18		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
History 131	3	History 132	3
English 231**	3	English 232**	3
Government 231	3	Government 232	3
Mathematics 233	3	Physics 242	4
Physics 241	4	Elective	3
Physical Education	1	Physical Education	1
	—		—
	17		17

*Check senior college catalogue for specific science requirement. Variations occur with different senior colleges.

**Check senior college catalogue for Technical English requirement.

Course Descriptions for Engineering

ENGR 131. Engineering Graphics. (2-4) Credit: 3

Freehand and instrument drawing, dimensioning, fastening, pictorial methods, charts, and graphs, projection drawings, geometry of graphical construction. Required for beginning engineering students.

ENGR 143. Machine Drawing. (2-4) Credit: 4

Drawing and manufacturing processes; training in producing various kinds of advanced drawings; commercial practices, and economics; the use of standard parts, sizes, symbols, and abbreviations. Prerequisite: ENGR 131.

ENGR 232. Descriptive Geometry. (2-4) Credit: 3

Involves point, line and plane relationships, auxiliary views, intersections,

and flat pattern development. Emphasis is placed on practical solutions to realistic engineering problems relating to aerospace, mining, and geology. Prerequisite: ENGR 131.

ENGR 242. Architectural Drafting. (2-4) Credit: 4

A study of the preparation of architectural plans; elevations; sections; structural drawings. Prerequisite: ENGR 131

ENGR 243. Electronic Drafting. (2-4) Credit: 4

A study of layout and preparation of finished electronic and electrical drawings, stressing modern representation used for pictorial drawings; wiring and connection diagram; printed circuits; control circuits; and schematic diagrams. Some review of lettering and mechanical drawing principles. Prerequisite: ENGR 131

ENGR 244. Structural Drafting. (2-4) Credit: 4

A study of A.I.S.C. specifications and standards; structural theory and data; designing and detailing structural members and connections. Design and development of details and specifications for light industrial structures to include structural steel pipe, and reinforced concrete rods. Prerequisite: ENGR 131

Environmental Control

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Environmental Control 131	3	Environmental Control 132	3
Chemistry 141	4	Environmental Control 133	3
English 131	3	Chemistry 142	4
Speech 131	3	English 239	3
Physical Education	1	Mathematics 133	3
	14	Physical Education	1
			17

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Environmental Control 231	3	Environmental Control 233	3
Environmental Control 232	3	Environmental Control 234	3
Environmental Control 221	2	Environmental Control 222	2
Biology 144	4	Environmental Control 243	4
Physics 141	4	Business 231	3
Physical Education	1	Physical Education	1
	17		16

Course Descriptions for Environmental Control

EC 131. Water and Waste Water Technology. (3-0) Credit: 3

A study of method of disease transmission, hygienic excreta disposal, municipal and industrial waste water collection and treatment, characteristics of water, water treatment, protection of ground water, insect and rodent control, solid waste collection and disposal, milk and food sanitation, swimming pool sanitation, and industrial hygiene.

EC 132. Aquatic Biology. (2-3) Credit: 3

A study of fresh water as an environment, its physical and chemical characteristics; and characteristics of plant and animal communities which inhabit it. The morphology, life history and taxonomy of fresh water aquatic organisms. (Field trips required.)

EC 133. Solid Waste Management. (3-0) Credit: 3

Types of solid waste, physical and chemical method of handling solid waste, possibilities of re-cycling (re-using) solid waste material, possibilities for by-products from solid waste.

EC 221. Pollution Abatement Seminar. (2-0) Credit: 2

Particular problems involving pollution and control in our environment are to be presented and discussed by students in oral reviews. The "how, why, and what-to-do" aspects of pollution are to be stressed.

EC 222. Pollution Abatement Seminar. (2-0) Credit: 2

A continuation of EC 221.

EC 231. Air Pollution. (2-3) Credit: 3

Sources of air pollution-industrial, municipal, automotive; physical and chemical nature of air pollutants. Laboratory techniques for detecting air pollutants. Control and treatment of air pollution.

EC 232. Industrial Waste Control. (2-3) Credit: 3

Company policies, organizational problems, legal responsibilities in waste control; investigations into possible regional pollution, and preventive tactics that could be employed.

EC 233. Instrumentation. (2-3) Credit: 3

An elementary study of hydraulic, pneumatic, mechanical, electronic control systems and components. It includes a basic description, analysis, and explanation of instrumental controls for a waste water plant. Typical performance characteristics, accuracy, and application of instruments are studied.

EC 234. Water Quality Control. (2-3) Credit: 3

A study of basic principles of water purification, including aeration, sedimentation, rapid sand filtration, chlorination, treatment chemicals, taste and odor control, bateriological control, mineral control, design criteria, maintenance programs, and operational problems. New processes and recent developments are studied. Criteria rules, regulations, forms, and records associated with the field are considered.

EC 243. Water and Waste Water Chemistry. (3-3) Credit: 4

Theory and laboratory techniques for all control tests of water purification and analysis, including color, turbidity, pH, hardness, coagulation, chlorides, flourides, iron, manganese, bactericides, nitrates, and organic compounds which may be present in water. Qualitative and quantitative analysis are to be stressed in this area.

Farm and Ranch Management

A two-year Associate in Applied Science Degree program

First Year

First Semester *Subject*	*Hours*
Farm & Ranch Management 135	3
Farm & Ranch Management 133	3
Farm & Ranch Management 137	3
Agriculture 131	3
Biology 141	4
Physical Education	1
	17

Second Semester *Subject*	*Hours*
Farm & Ranch Management 134	3
Agriculture 136	3
Farm & Ranch Management 138	3
Agriculture 132	3
Biology 142	4
Physical Education	1
	17

Second Year

First Semester *Subject*	*Hours*
Farm & Ranch Management 231	3
Farm & Ranch Management 233	3
Farm & Ranch Management 237	3
Agriculture 234	3
English 137	3
Physical Education	1
	16

Second Semester *Subject*	*Hours*
Farm & Ranch Management 232	3
Agriculture 235	3
Farm & Ranch Management 236	3
Farm & Ranch Management 248	4
Mathematics 137	3
Physical Education	1
	17

Farm and Ranch Production

A two-year Certificate program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Farm & Ranch Management 135	3	Farm & Ranch Management 134	3
*Farm & Ranch Management 133	3	Agriculture 136	3
Farm & Ranch Management 137	3	Farm & Ranch Management 138	3
Agriculture 131	3	Agriculture 132	3
	12		12

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Farm & Ranch Management 231	3	Farm & Ranch Management 232	3
Farm & Ranch Management 233	3	Agriculture 235	3
Farm & Ranch Management 237	3	Farm & Ranch Management 236	3
Agriculture 234	3	Farm & Ranch Management 248	4
	12		13

*AG 239—Natural Recource Conservation may be selected in place of FRMG 133—Wildlife Management

Horse Management

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	*Hours*
Farm & Ranch Management 137	3
Farm & Ranch Management 139A	3
Agriculture 131	3
Biology 141	4
English 137	3
Physical Education	1
Psychology 111	1
	18

Second Semester	
Subject	*Hours*
Farm & Ranch Management 139B	3
Agriculture 132	3
Biology 142	4
Mathematics 137	3
Physical Education	1
Elective*	3
	17

Second Year

First Semester	
Subject	*Hours*
Farm & Ranch Management 237	3
Farm & Ranch Management 239A	3
Farm & Ranch Management 239C	3
Agriculture 234	3
Elective*	3
	15

Second Semester	
Subject	*Hours*
Farm & Ranch Management 134	3
Farm & Ranch Management 232	3
Farm & Ranch Management 233	3
Farm & Ranch Management 239B	3
Elective*	3
	15

*Electives: Agriculture 239, Farm & Ranch Management 133, Farm & Ranch Management 135, Farm & Ranch Management 136, Farm & Ranch Management 138, Farm & Ranch Management 231, Farm & Ranch Management 235, Farm & Ranch Management 236, Farm & Ranch Management 248, Farm & Ranch Management 249, or other courses approved by the Department Manager.

Food Production

A one-year Certificate program

First Semester *Subject*	*Hours*
Farm & Ranch Management 135	3
Farm & Ranch Management 137	3
Farm & Ranch Management 233	3
Farm & Ranch Management 237	3
	12

Second Semester *Subject*	*Hours*
Farm & Ranch Management 138	3
Agriculture 235	3
Farm & Ranch Management 248	4
Agriculture 132	3
	13

Animal Production

A one-year Certificate program

First Semester *Subject*	*Hours*
Farm & Ranch Management 237	3
Farm & Ranch Management 137	3
Farm & Ranch Management 233	3
Agriculture 131	3
Agriculture 234	3
	15

Second Semester *Subject*	*Hours*
Farm & Ranch Management 134	3
Agriculture 136	3
Farm & Ranch Management 236	3
Farm & Ranch Management 248	4
	13

Plant Production

A one-year Certificate program

First Semester *Subject*	*Hours*
Farm & Ranch Management 135	3
Farm & Ranch Management 231	3
Agriculture 234	3
Agriculture 239	3
	12

Second Semester *Subject*	*Hours*
Farm & Ranch Management 138	3
Agriculture 235	3
Farm & Ranch Management 248	4
Agriculture 132	3
	13

Course Descriptions for Farm and Ranch Management

FRMG 133. Wildlife Management. (3-0) Credit: 3

An introduction to the wildlife and fishery resources of the United States, with special reference to Texas. The importance of plants and animals in our economic cultural life. An account of what has happened to North American wildlife, with considerations of specific plans and methods for its rehabilitation, maintenance, and increase.

FRMG 134. Range Management. (3-2) Credit: 3

Range management for the southwestern part of the United States. Physical features affecting range conditions, problems in range management, administration and management of range lands, identification of major grasses and legumes.

FRMG 135. Soil Science. (3-2) Credit: 3

A basic course in soils in which principles of the physical, chemical, and biological properties of the soil are covered. Soil fertility and testing are emphasized.

FRMG 137. Animal Health. (3-2) Credit: 3

Students will study the basics of internal and external parasites, principal diseases of livestock, identification and control of diseases and pests.

FRMG 138. Vegetable Production. (2-3) Credit: 3

Principles and practices in producing vegetable crops, including organic gardening, soil management, composting, starting, transplanting and growing plants, insect control, fertilizing, and harvesting. Laboratory consists of application of the above practices.

FRMG 139A. Elementary Horsemanship. (3-2) Credit: 3

This course includes theoretical and laboratory instruction in the proper grooming, saddling, bridling, and mounting of the horse. Proper body posture and hand position of the rider is also covered. Additional topics of instruction include the anatomy of the horse and riding in western saddles.

FRMG 139B. Intermediate Horsemanship. (3-2) Credit: 3

This course is a continuation of FRMG 139A and includes the development of the balanced seat, hands and posture at the natural gaits of the western stock horse. Additional topics of instruction include the use of caveletti, jumping, methods of transportation and care of horses while in transit. Prerequisite: FRMG 139A or approval of the Department Manager.

FRMG 231. Farm Mechanics I. (2-3) Credit: 3

Basic farm skills in tool conditions, sketching, carpentry, concrete, farm surveying, and small engine repair.

FRMG 232. Farm Mechanics II. (2-3) Credit: 3

A second course in farm shop skills for the agriculture student. Construc-

tion, repair and maintenance of farm machinery; covers metal work, including arc welding, oxy-acetylene welding, cutting, and soldering.

FRMG 233. Feeds and Feeding. (3-0) Credit: 3

Chemical compositions of feeds, nutrients, requirements of farm animals, utilization of feeds, formulating and balancing rations.

FRMG 236. Livestock Marketing. (3-2) Credit: 3

Areas of livestock production and consumption, problems of producers and consumers, study of the agencies concerned with processing and distribution of meat and by-products, slaughtering of livestock, future marketing. Use of farm and ranch records and accounts.

FRMG 237. Livestock Production. (3-2) Credit: 3

The principles involved in and the practical application of breeding, feeding, care, and management of cattle, swine, sheep, poultry, and rabbits. Fitting animals for livestock show will also be included.

FRMG 239A. Horse Production. (3-2) Credit: 3

This course includes theoretical and laboratory instruction in the history, evolution, breeding, and functions of the horse. Basic principles of equine nutrition, reproduction, inheritance, disease and parasite prevention and control, skeletal and muscular form, and function of the horse are also covered. Additional topics of instruction include the proper care and handling of horses for work and for pleasure. Prerequisite: AG 131.

FRMG 239B. Advanced Equitation. (3-2) Credit: 3

This course includes theoretical and laboratory instruction in stock seat equitation, western riding techniques, the judged arena and timed events in horsemanship. Prerequisite: FRMG 139B or approval by Department Manager.

FRMG 239C. Animal Breeding. (3-2) Credit: 3

This course includes theoretical and laboratory instruction in principles of genetics, kinds of matings, horse selection, hybrid vigor, pedigree, artificial insemination, and pregnancy testing. Prerequisite: AG 131, BIOL 141, and BIOL 142.

FRMG 248. Food Preservation. (3-3) Credit: 4

The principles and practices involved in the processing and preservation of fruits, vegetables, and other food products. Units to be included are field selection, processing, freezing, canning, curing, and storing.

FRMG 249. Farm Equipment Maintenance and Repair. (3-3) Credit: 4

This course covers the theory and practical laboratory experiences in the proper maintenance, repair and operation of farm and ranch equipment. Emphasis is placed on preventive maintenance, use of manufacturers' repair manuals, troubleshooting, and diagnostic testing of defective equipment, and a comprehensive study of various equipment repair methods and techniques.

Hotel-Motel Management

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Hotel-Motel 132	3	Hotel-Motel 133	3
Restaurant Management 131	3	Hotel-Motel 134	3
Management 136	3	Restaurant Management 133	3
English 137	3	Business 237	3
Mathematics 137	3	Office Administration 138	3
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		16
	17		

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Hotel-Motel 232	3	Hotel-Motel 235	3
Hotel-Motel 233	3	Hotel-Motel 236	3
Restaurant Management 135	3	Hotel-Motel 231	3
Management 232	3	Hotel-Motel 234	3
Business 235	3	Restaurant Management 232	3
Physical Education	1	Physical Education	1
	—		—
	16		16

Course Descriptions for Hotel-Motel Management

HM 132. Hotel/Motel Organization and Administration. (3-0) Credit: 3

This course includes management and organization of hotel industry, communications, accounting, personnel relations and administration, management of guests. Planning for today and tomorrow.

HM 133. Front Office Procedures. (3-0) Credit: 3

This course includes hotel organization and services, front office salesmanship, cashiering, front office posting, accounting for guest charges, procedures and form for accounting controls.

HM 134. Hotel/Motel Sales Promotion. (3-0) Credit: 3

This course includes sales planning, media advertising to include outdoor, radio, and TV; mail advertising; personal sales; telephone selling; individual and group room business; food and beverage sales and sales incentive.

HM 231. Hotel/Motel Law. (3-0) Credit: 3

This course includes a study of the consequences resulting from a lack of foresight on the part of management, understanding of the attitudes of courts toward innkeepers involved in litigations, and an awareness of the responsibilities law imposes upon the innkeeper.

HM 232. Supervisory Housekeeping. (3-0) Credit: 3

This course includes organization of a housekeeping department of a hotel, job schedules, job breakdown, floor care, stain removal, fire inspection, purchasing records, equipment records, linen inventory and care, carpeting and care, and basic interior design.

HM 233. Food and Beverage Management. (3-3) Credit: 3

This course includes entire food and beverage operations from purchasing, receiving, storage, to preparation and service of same.

HM 234. Hotel/Motel Financial Management. (3-0) Credit: 3

This course includes accounting of business for creditors, owners, and government; control of payroll and other operational expenses; and profit making management.

HM 235. Hotel/Motel Maintenance. (3-0) Credit: 3

This course includes a study of the organization, terms and concepts common to building maintenance. Maintenance functions to be studied include heating, plumbing, electrical, refrigeration and air conditioning, communications and signal systems, kitchen equipment, fire prevention and protection, and elevator systems.

HM 236. Recreational Services. (3-0) Credit: 3

This course includes the study of the needs of guest recreation and entertainment, space available for these activities, cost of operation and maintenance, layout and design and direct and indirect benefits.

Law Enforcement

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Law Enforcement 131	3	Law Enforcement 137	3
Law Enforcement 132	3	Law Enforcement 138	3
Law Enforcement 133	3	Law Enforcement 139	3
Law Enforcement 134	3	Sociology 231	3
English 131	3	English 132	3
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		16
	17		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
*Law Enforcement Elective	3	*Law Enforcement Elective	3
Law Enforcement 234	3	Law Enforcement 238	3
**Elective	3	**Elective	3
Government 231 or 232	3	**Elective	3
Psychology 231	3	Speech 233	3
Physical Education 218B	1	Physical Education 218C	1
	—		—
	16		16

Students receive a certificate of competency upon satisfactory completion of the core curriculum (LE 131, LE 132, LE 133, LE 134, LE 137, LE 138, LE 139), and the four PE courses (PE 218, PE 218A, PE 218B, PE 218C).

*Student desiring to concentrate in a specific option should take the following courses:

Patrol/Traffic Majors: LE 135, LE 233, LE 236, LE 239
Correctional/Courts Majors: LE 136, LE 231, LE 237, LE 239A

**Approved Electives: Choice of course in Humanities, Social Science, or in Law Enforcement Administration. Electives must be approved by Law Enforcement Department Manager.

Course Descriptions for Law Enforcement

LE 131. Introduction to Law Enforcement. (3-0) Credit: 3

History, development, and philosophy of law enforcement in a democratic society, introduction to agencies involved in the administration of criminal justice; career orientation.

LE 132. Criminal Investigation. (3-0) Credit: 3

Introduction to the fundamentals of criminal investigation, including theory and history, conduct at crime scenes, collection and preservation of evidence.

LE 133. Legal Aspects of Law Enforcement. (3-0) Credit: 3

History and philosophy of modern criminal law, including the structure, definition and application of statutes and leading case law; the elements of crimes and penalties; general provisions of the Penal Code.

LE 134. Criminal Procedures and Evidence. (3-0) Credit: 3

Introduction to the rules governing the admissibility of evidence and types of evidence; criminal procedure in various courts, review of the Texas Code of Criminal Procedure, including laws of arrest, search and seizure, and leading case law on each topic.

LE 135. Traffic Law. (3-0) Credit: 3

This course is designed to cover all laws pertaining to the control and enforcement of traffic. The student is taught the use of spot maps and rharts, the techniques of enforcement, and the maintenance of good public relations. An analysis of the Texas Motor Vehicle Code is given.

LE 136. Survey of Corrections. (3-0) Credit: 3

A general course describing the history and evolution of the corrections process. Covers all aspects of institutional and community based corrections.

LE 137. Police-Community Relations. (3-0) Credit: 3

The role of the individual law enforcement officer in achieving and maintaining positive public response; inter-group relations and public information.

LE 138. Police Role in Crime and Delinquency. (3-0) Credit: 3

Study of deviate behavior and current criminological theories, with emphasis on police applications; crime prevention and the phenomena of crime as it relates to juveniles.

LE 139. Police Organization and Administration. (3-0) Credit: 3

Principles of organization and management as applied to law enforcement agencies; introduction to concepts of organizational behavior. Responsibility of first line supervision is emphasized.

LE. 231. Probation and Parole. (3-0) Credit: 3

Course will provide the student with some understanding of the evolution of criminal corrections and explore with the student the many avenues which the corrections field branches into. To develop in each student a basic understanding of the various types and methods of correction so that they can function efficiently in the field.

LE 233. Law Enforcement Seminar. (2-2) Credit: 3

A problem course. Prerequisite: Approval of Law Enforcement Department Manager.

LE 234. Juvenile Procedures. (3-0) Credit: 3

The organization, functions, and jurisdiction of juvenile agencies; the processing and detention of juveniles, case disposition; juvenile statutes and court procedures.

LE 236. Traffic Planning and Administration. (3-0) Credit: 3

This course consists of the application of traffic problems from the administrative point of view, including engineering, education, and enforcement at the supervisory level.

LE 237. Penology (Jail Operation and Management). (3-0) Credit: 3

A survey of the basic concepts of penal and correctional rationale as employed by criminal justice administrators. An overview of the operation and management principles of the institutional setting will be examined in depth.

LE 238. Patrol Administration. (3-0) Credit: 3

Discussion of the administration of beat surveys, special problems arising while the officer is on patrol, improvement in patrol methods, observation of persons and things, preventive techniques, methods of handling complaints, and the development of contacts.

LE 239. Provost Marshal Operations. (3-0) Credit: 3

The principles of organization and administration as applied to the operational system of a military Provost Marshal's office, as well as that of the Inspector General's. Practical training in conduct of briefings, management, and attendant qualities of leadership, and some phases of dissent conditions which might impair role and mission of the post command.

LE 239A. Correctional Control and Administration. (3-0) Credit: 3

The course prepares the student to perform supervisory functions related to control of prisoners and contraband; segregation and accountability of prisoners; procedures required at a correctional facility; emergency measures; prisoner privileges; and the records and reports of the detention center.

Business Management

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	*Hours*
Management 134	3
Management 135	3
Management 136	3
Business 131	3
English Elective*	3
Psychology 111	1
	16

Second Semester	
Subject	*Hours*
Management 232	3
Management 239	3
Business/Management/ Office Administration Elective**	3
Office Administration 139***	3
Speech Elective****	3
	15

Second Year

First Semester	
Subject	*Hours*
Management 231	3
Business 231	3
Business 237/Office Administration 234 Option	3
Business/Management/Office Administration Elective**	3
Computer Science 130	3
	15

Second Semester	
Subject	*Hours*
Business 232	3
Business 238/Office Administration 235 Option	3
Business/Management/Office Administration Elective**	3
Office Administration 237	3
Elective*****	3
	15

*ENGL 130—English Fundamentals, ENGL 137—Business English or ENGL 131—Composition and Rhetoric.
**Any course from the Business, Management, or Office Administration programs with approval of the Department Manager.
***Mathematics elective may be substituted with approval of the Department Manager.
****SPCH 131 — Fundamentals of Speech, SPCH 233 — Business Speech.
*****Elective must be approved by Department Manager.

Applied Management

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours
Business 132	3
Computer Science Elective*	3
Management 135	3
Management 136	3
English 137	3
Psychology 111	1
Physical Education	1
	17

Second Semester Subject	Hours
Business 236	3
Mathematics 137	3
Office Administration 138	3
Speech 131	3
Approved Elective*	3
Physical Education	1
	16

Second Year

First Semester Subject	Hours
Business 237	3
Management 232	3
Management 239	3
Speech 233	3
Approved Elective*	3
Physical Education	1
	16

Second Semester Subject	Hours
History 231	3
Management 232A	3
Management 239A	3
Approved Elective*	3
Approved Elective*	3
Physical Education	1
	16

*Business 131, Business 238, Management 130A, Management 134, Management 134A, Management 137, Management 137A, Management 138R, Management 139, Management 231, Management 232B, Management 233R, Management 234, Management 235, Management 236, Management 238R, Management 239B, Office Administration 237, Sociology 239, CS 130, CS 143.

Mid-Management

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	Hours
Management 135	3
Management 136	3
Management 140M	4
Business 131	3
English*	3
Psychology 111	1
	17

Second Semester	
Subject	Hours
Management 138R	3
Management 141M	4
Management 232	3
Mathematics 137	3
Social Science Elective**	3
	16

Second Year

First Semester	
Subject	Hours
Management 239	3
Management 240M	4
Business 237	3
Economics***	3
Speech****	3
	16

Second Semester	
Subject	Hours
Management 231	3
Management 241M	4
Business 238	3
Law Related*****	3
Elective******	3
	16

*English 130, English 137, or English 131.
**Sociology 231, Psychology 231, Government 231, or other elective approved by the Department Manager.
***Business 231 or Business 232.
****Speech 131 or Speech 233.
*****Management 235, Management 236, or Management 238R.
******Elective must be approved by Department Manager.

Caution: Mid-Management is a controlled entry program with various state and school requirements that apply to the program (i.e., approved training station, hours worked per week, geographic location, etc.). Before completing the curriculum requirements of this particular program, please check with a Mid-Management instructor/co-ordinator.

Real Estate

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	*Hours*
Management 135	3
Management 136	3
Management 138R	3
Business 131	3
English Elective*	3
Psychology 111	1
	16

Second Semester	
Subject	*Hours*
Management 139R	3
Management 239	3
Business 231	3
Mathematics 137	3
Social Science Elective**	3
	15

Second Year

First Semester	
Subject	*Hours*
Management 240R	4
Business 232	3
Business 237	3
Real Estate Elective***	3
Elective****	3
	16

Second Semester	
Subject	*Hours*
Management 231	3
Management 241R	4
Business 238	3
Real Estate Elective***	3
Speech Elective*****	3
	16

*English 130, English 137, or English 131.
**Social Science elective approved by Department Manager.
***Management 233R, Management 231R, Management 238R, Management 232R, or other Real Estate course.
****Must be approved by Department Manager.
*****Speech 131 or Speech 233.

Caution: Real Estate is a controlled entry program with various state and school requirements that apply to the program (i.e., approved training station, hours worked per week, geographic location, etc.). Before completing the curriculum requirements of this particular program, please check with a Mid-Management instructor/co-ordinator.

Course Descriptions for Management

MGMT 130A. Organization and Management. (3-0) Credit: 3

Organizational structure can have considerable impact on the manner in which an organization functions. The student studies the complex variables over which managers can exercise control to determine proper structure. While surveying management topics such as planning, decision making, organizing, staffing, and controlling, this course deals, in specific terms, with how the organization must be structured to fit its environment, and operation.

MGMT 134. Work Organization. (2-2) Credit: 3

Methods and techniques of planning and organizing work. Principles of time and motion as related to efficient use of worker and work place. Application of work simplification procedures for maximum efficiency of operation. Application of specific programs to current organizational principles.

MGMT 134A. Fundamentals of Industrial Management. (3-0) Credit: 3

Application of the systems approach to the unification of all areas from human factors to environmental factors are covered along with the manner and methods through which work can be simplified yet made more meaningful and satisfying.

MGMT 135. Introduction to Management. (3-0) Credit: 3

This course is designed to give the student a knowledge and understanding of management theories and functions which are essential to the person planning a career in business or industry.

MGMT 136. Human Relations. (3-0) Credit: 3

A study of "Human Relations" as an emerging scientific discipline of study in which basic concepts and principles concerning man at work are emphasized. It is structured to explain the "ways" and "wherefores" of the behavior of industrial man.

MGMT 137. Insurance. (3-0) Credit: 3

Introduction to theory and practice of insurance, including life, fire, automobile, and personal and business risk.

MGMT 137A. Safety (OSHA). Credit: 3

A study of safety as it relates to the military, industrial, and business communities. Special emphasis will be given the requirements of the Occupational Safety and Health Act as it affects management and employees.

MGMT 138R. Real Estate Fundamentals I. (3-0) Credit: 3

This course includes a study of the economic and social impact of real estate, contracts, property rights, various real estate instruments such as deeds, deeds of trust, mortgages, leases and liens; insurance and investment factors.

MGMT 139. Income Tax. (3-0) Credit: 3

Income tax legislation; present income tax law and regulations; treasury decisions, court decisions, and departmental rulings; income tax problems and returns.

MGMT 139R. Real Estate Fundamentals II. (3-0) Credit: 3

This course includes a study on sources of funds; influences of the Federal Reserve System; secondary mortgage market; agency operation and functions; title search, examination, registration and closing procedures; residential and income property valuation; urban land development; and city, state, and federal land planning regulations.

MGMT 140M. Mid-Management Internship. (1-20) Credit: 4

This course consists of on-the-job management training that utilizes the principles, skills and knowledge gained in the theoretical setting of the classroom. The student is employed at an approved work station under the supervision of the college mid-management coordinator. Prerequisite: Credit or current enrollment in BUS 131, MGMT 135, and MGMT 136.

MGMT 141M. Mid-Management Internship II. (1-20) Credit: 4

This course is a continuation of MGMT 140M. Prerequisite: MGMT 140M and current enrollment or credit in MGMT 232 and MGMT 138R.

MGMT 230. Credit and Collections. (3-1) Credit: 3

The elements of mercantile and consumer credit; organization of a credit department; sources of credit information; collection tolls and procedures.

MGMT 230R. Real Estate Brokerage. (3-0) Credit: 3

Techniques and skills required to effectively operate a broker's office in today's economy, including organization of brokerage operations; personnel selecting, training, and retention; sales, marketing, and advertising policy formulation, and general functions of the modern brokerage office. Prerequisite: MGMT 138R or consent of Department Manager.

MGMT 231. Marketing and Sales. (3-0) Credit: 3

A study of those aspects of marketing which will achieve a conceptual understanding and serve the needs of business competence. Emphasis is placed on the economic aspect of marketing and the relationship to freedom and democracy.

MGMT 231R. Real Estate Appraisal. (3-0) Credit: 3

This course includes an analysis and valuation of real estate as needed by buyer, sellers, lendors, and investors. Emphasis is placed on cost income and market data approaches to appraisal. Case methods are used to demonstrate appraisal principles and practices.

MGMT 232. Personnel Management. (3-0) Credit: 3

The dynamic role of management as it relates to personnel, with emphasis

on the management aspects important to the line executive or supervisor. Personnel functions and procedures are viewed in the light of management objectives, while personnel management is treated as an active and dynamic process which is motivated by basic human drives.

MGMT 232A. Law and Legal Assistance. (3-0) Credit: 3

Nature and scope of the law, court systems, law of contracts, principal and agent as relates to the military. Explanation of bailments, carriers, mortgages, securities, negotiable instruments, banks and banking, wills and estates. The procedures of obtaining and acquiring legal assistance for both military and civilian cases in or out of the continental limits of the United States of America are addressed. Emphasis is given on the knowledge required by the supervisor to counsel his subordinates in the areas of law and legal assistance.

MGMT 232B. Fundamentals of Systems Management. (3-0) Credit: 3

Introduction to the "systems" concept of management and integration of this concept with the more traditional "principles" approach. This course combines theory and application of systems management and focuses on systems as they exist in many fields such as education, law enforcement, military, industry, and a variety of nonprofit organizations.

MGMT 232R. Real Property Management. (3-0) Credit: 3

Introduction to the property management field, including professional organizations, management responsibilities, lease negotiations, insurance and tax aspects, advertising, and public relations. Prerequisite: MGMT 138R or consent of Department Manager.

MGMT 233R. Real Estate Finance. (3-0) Credit: 3

This course includes the study of federal and state practices in mortgages and real estate finance, also includes a survey of savings and loan associations, commercial banks, life insurance companies, and mortgage bankers. Prerequisite: MGMT 138R or consent of Department Manager.

MGMT 234. Labor-Management Relations. (3-0) Credit: 3

Labor relations aspects of personnel management are emphasized; selection and placement, discipline and morale, promotions, lay-offs, job evaluation, incentive systems, profit sharing, and the influence of collective bargaining and legislation on personnel policies. Methods used by organized labor and employers in industrial conflicts.

MGMT 235. Business Law I. (3-0) Credit: 3

Nature and scope of law; court system; law of contracts; principal and agent, business organizations, including partnerships and corporation; Texas community property laws.

MGMT 236. Business Law II. (3-0) Credit: 3

Additional studies in law of business, dealing with bailments, carriers,

mortgages, suretyships, negotiable instruments, banks and banking, wills and estate, sales, bankruptcy.

MGMT 237. Life Insurance. (3-0) Credit: 3

Principles of life insurance; business and personal use in insurance; classification and analysis of policies; reserves and policy values; organization and administration of life insurance companies.

MGMT 238R. Real Estate Law. (3-0) Credit: 3

Contains a study of sources of real estate law, legal estates and ownership, deeds, contracts, law of agency and brokerage, escrow agreements, closing of sales, title assurance methods, mortgages, liens, leases, homesteads, wills, administration of estates, zoning and building ordinances, property taxation, and other matters of law which pertain to real estate transactions.

MGMT 239. Supervision. (3-0) Credit: 3

A course designed to provide an understanding of: planning work, leadership, decision making, work problem solving, human behavior, and personnel relations.

MGMT 239A. Personnel Counseling. (3-0) Credit: 3

Systematic study of major theories of personnel counseling with supervised experience in role-playing utilizing these approaches.

MGMT 240M. Mid-Management Internship III. (1-20) Credit: 4

This course is a continuation of MGMT 141M. Prerequisite: MGMT 141M and current enrollment or credit in BUS 237 and MGMT 239.

MGMT 240R. Real Estate Internship I. (1-20) Credit: 4

This course consists of on-the-job training in the real estate profession that utilizes the principles, skills, and knowledge gained in the theoretical setting of the classroom. The student works at an approved work station under the supervision of a college coordinator. Prerequisite: Sophomore standing or consent of Department Manager.

MGMT 241M. Mid-Management Internship IV. (1-20) Credit: 4

This course is a continuation of MGMT 240M. Prerequisite: MGMT 240M and current enrollment or credit in MGMT 231 and BUS 238.

MGMT 241R. Real Estate Internship II. (1-20) Credit: 4

This course is a continuation of MGMT 241R. Prerequisite: Sophomore standing or consent of Department Manager.

Food Service Management

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	*Hours*
Restaurant Management 131	3
Restaurant Management 132	3
Restaurant Management 133	3
Hotel/Motel 130	3
English 137	3
Psychology 111	1
	16

Second Semester	
Subject	*Hours*
Restaurant Management 135	3
Restaurant Management 136	3
Restaurant Management 137	3
Math 137	3
Management 136	3
	15

Second Year

First Semester	
Subject	*Hours*
Restaurant Management 134	3
Restaurant Management 234	3
Management 232	3
Management 234	3
Management 239	3
	15

Second Semester	
Subject	*Hours*
Restaurant Management 233	3
Restaurant Management 235 A.	3
Restaurant Management 236	3
Management 235	3
*Elective	3-4
	15-16

*Restaurant Management 221—Food Service Terminology, Restaurant Management 235—Management Practice, Restaurant Management 241—Classical Food Preparation, or Restaurant Management 242—Exhibition Work.

Course Descriptions For Food Service Management

RMGT 131. Food Preparation and Serving. (3-3) Credit: 3

An introduction to techniques of food preparation. Includes preparation of vegetables, pastries, oven dishes, soups, salads, meats, fish, and poultry. Techniques include experimental cookery, food marketing and preservation, serving and table service.

RMGT 132. Nutrition. (3-0) Credit: 3

A study of dietary needs; the role of proteins, fats, carbohydrates, minerals, and vitamins; factors to be considered in proper selection and preparation of foods for maximum nutritional value.

RMGT 133. Sanitation and Safety. (3-0) Credit: 3

Personal cleanliness; sanitary practices in food preparation; cause, investigation and control of illness caused by food contamination; food storage and refrigeration; sanitation of dishes, equipment, and kitchens; cleansing materials, garbage and refuse disposal; safety precautions, and accident prevention.

RMGT 134. Work Organization. (2-2) Credit: 3

Methods and techniques of planning and organizing work. Principles of time and motion as related to efficient use of worker and work place. Application of work simplication procedures for maximum efficiency of operation.

RMGT 135. Food Purchasing. (3-0) Credit: 3

Applied theory of food and beverage purchasing; factors affecting selections, standards, quality, and prices; techniques of receiving, storing, and issuing supplies, foods, and materials; applied theory of cost control, pricing and portions.

RMGT 136. Menu Planning. (3-0) Credit: 3

Basic factors of planning menus; variety and nutrition in menu planning; technique of preparing attractive menus and maintaining budgetary controls; types of menus for various public and private institutions.

RMGT 137. Meat Science. (3-0) Credit: 3

An introductory course in raising, slaughtering, and packing meats, fish, and poultry, accompanied by an intensive study of wholesale and retail cuts of beef, veal, pork, and lamb. Emphasis is placed on the knowledge of grades, bone structure, muscle configuration, and appropriate cooking methods of hotel and restaurant meat cuts.

RMGT 221. Food Service Terminology. (2-0) Credit: 2

This course is an introduction to the terminology utilized in the food service industry.

RMGT 233. Cafeteria Management. (3-0) Credit: 3

This course points out the specific differences between an industrial cafeteria and a conventional restaurant and explains how to cope with the unusual problems of industrial and institutional feeding.

RMGT 234. Marketing and Sales Promotion. (3-0) Credit: 3

A course designed to develop an understanding of what must be done in order to bring the wheels of production and consumption in the United States into mesh. The business activities that direct the flow of goods and services from the producer to the ultimate consumer are analyzed. Coordination of personal selling, advertising, produce design, market research, and customer relations/services are the individual ingredients of sales promotion, and each is examined in detail. Advertising is studied as the

force that creates prospects of countless products, converts these prospects into customers, and keeps customers returning and buying.

RMGT 235. Management Practice. (1-9) Credit: 3

This course consists of on-the-job management training that utilizes the principles, skills, and knowledge gained in the theoretical setting of the classroom. The student is employed in an approved work station in the food service industry under the supervision of a college coordinator. Prerequisite: Sophomore standing and consent of Department Manager.

RMGT 235A. Financial Management. (3-0) Credit: 3

Methods and application of financial management within the combined food service facility. Primary emphasis upon sales accountability and internal controls utilized within bar, food, dining room, and hotel operational areas. Secondary emphasis on budgeting and forecasting with applications of effective labor/sales ratios.

RMGT 236. Layout and Design. (3-0) Credit: 3

Fundamentals of equipment layout for optimum production and operational efficiency. This course will include procedures to design and decorate remodeling projects.

RMGT 241. Classical Food Preparation. (3-3) Credit: 4

This course emphasizes the fine points of culinary skills and theory. Concentration on the preparation of menus. Responsibility of the Chef and Sous-Chef.

RMGT 242. Exhibition Work. (3-3) Credit: 4

Taught in conjunction with Classical Food Preparation. This course is designed to assist the student in professional employment. The essence of exhibitions, buffets, and center pieces-the role of the Executive Chef will be emphasized. This course will include an exhibition planned and prepared by the student.

Mathematics

First Year

First Semester Subject	Hours	Second Semester Subject	Hours
Mathematics 132	3	Mathematics 134	3
Mathematics 133	3	Science or Foreign Language*	4
Science or Foreign Language*	4	Elective*	3
English 131	3	English 132	3
History 131	3	History 132	3
Psychology 111	1	Physical Education	1
Physical Education	1		17
	18		

Second Year

First Semester Subject	Hours	Second Semester Subject	Hours
Mathematics 231	3	Mathematics 232	3
English 231	3	English 232	3
Government 231	3	Government 232	3
Science 141	4	Science 142	4
Elective*	3	Elective*	3
Physical Education	1	Physical Education	1
	17		17

*Consult senior college catalogue for required or recommended courses.

This curriculum is recommended for students pursuing either an Associate in Arts degree or an Associate in Science degree from Central Texas College. Freshmen with adequate background may enroll in Math 231 (Calculus) during the Fall semester with the permission of the Manager of the Mathematics Department.

Course Descriptions for Mathematics

MATH 130. Introductory Algebra. (3-0) Credit: 3

Designed for students desiring a review of fundamental algebraic operations. This course may not be used as a part of the requirements for a major in mathematics. Topics considered include operations with signed numbers, exponents, operations with polynomials, factoring, operations on rational expressions, solving linear equations.

MATH 131. Intermediate Algebra. (3-0) Credit: 3

Includes a brief review of fundamental algebraic operations, linear equations, systems of linear equations, determinants, quadratic functions, inequalities, exponential functions, logarithmic functions. Prerequisite: Math 130 or equivalent.

MATH 132. College Algebra. (3-0) Credit: 3

Includes consideration of quadratic functions, systems of quadratic equations, quadratic inequalities, matrices, binominal theorem, exponential functions, sequences, progressions, series, and applications. Prerequisite: Math 131 or equivalent.

MATH 133. Trigonometry. (3-0) Credit: 3

Wrapping function, circular functions, trigonometric functions, use of tables, identities, applications, to right triangles and oblique triangles, inverse functions, trigonometric equations, logarithms. Prerequisite: Math 131 or equivalent.

MATH 134. Analytic Geometry. (3-0) Credit: 3

An algebraic treatment of straight lines, circles, parabolas, hyperbolas, ellipses. Transformation of coordinates, curve sketching, polar coordinates. Prerequisite: Math 133 or equivalent.

MATH 135. Finite Mathematics. (3-0) Credit: 3

Symbolic logic, set theory, induction, permutations, combinations, counting methods, probability. Prerequisite: Math 131 or equivalent.

MATH 136. Finite Mathematics. (3-0) Credit: 3

A continuation of Math 135. Introduction to statistics, graphing, vectors, matrices, linear programming, and theory of games. Prerequisite: Math 135.

MATH 137. Business Mathematics. (3-0) Credit: 3

Introduction to the arithmetic processes in business, including interest, mortgage, taxes, insurance, payroll, inventory deductions, discounts, depreciation, annuities.

MATH 138. Elementary Statistics. (3-0) Credit: 3

Collection and tabulation of data, bar charts, graphs, sampling, averages, dispersion, correlation, index number, normal curve, probability, inferential statistics, applications.

MATH 139. Modern Math. (3-0) Credit: 3

An introduction to topics taught in the modern elementary curriculum-modern algebra, geometry, sets, number systems, relations, functions, equivalence, congruence.

MATH 231. Calculus I. (3-0) Credit: 3 (Fall)

A first course in differential calculus. Prerequisite: Math 134 or concurrent enrollment in Math 134 or equivalent.

MATH 232. Calculus II. (3-0) Credit: 3 (Spring)

A first course in Integral Calculus. Prerequisite: Math 231 or equivalent.

MATH 233. Advanced Calculus. (3-0) Credit: 3

A further study of limits, functions, sequences, series, elementary differential equations, partial derivatives, multiple integrals, surface integrals. Prerequisite: Math 232 or equivalent.

MATH 234. Differential Equations. (3-0) Credit: 3

Fourier series, linear differential equations, Laplace transforms, and series solution, all with applications. Prerequisite: Math 233.

Music

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 131	3	English 132	3
History 131	3	History 132	3
Music 121E	2	Music 122E	2
Music 131*	3	Music 132	3
Choir	1	Choir	1
Applied Music**	1-2	Applied Music**	1-2
Psychology 111	1	Music 130	3
Physical Education	1	Physical Education	1
	15-16		17-18

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 231	3	English 232	3
Government 231	3	Government 232	3
Music 133	3	Music 134	3
Music 241	4	Music 242	4
Choir	1	Choir	1
Applied Music**	2-3	Applied Music**	2-3
Physical Education	1	Physical Education	1
	17-18		17-18

*Elementary Education majors may fulfill their music requirements by electing Music 131-132 and piano.

**Elementary Education majors and music majors having no previous instruction in applied music should select applied music courses numbered 111-112 for the freshman year for piano, brass, woodwinds, or voice.

Course Descriptions for Music

MU 111C. Choir. (1-2) Credit: 1

This course is recommended to all students who enter music courses, but it is open to all college students. Preparation for on-campus and public performances.

MU 121E. Ear Training. (1-1) Credit: 2

This course is designed to help the student develop the aural skills pertinent to proficiency in music theory. It includes the study and proper identification of melodic patterns, intervals, chords and triads, and exercises in melodic and harmonic dictation. Prerequisite: credit or enrollment in MU 131.

MU 122E. Ear Training. (1-1) Credit: 2

A continuation of MU 121E. Sight singing, intervals, triads and seventh chords, asymmetric and mixed meters. Exercises in melodic and harmonic dictation. Prerequisite: MU 121E and credit or enrollment in MU 132.

MU 130. Music Appreciation. (3-0) Credit: 3

This course is designed for the music student as well as for the general college student. It emphasizes intelligent, directed listening to music with attention focused on the materials, the forms, and the periods and styles of music. Course work will also cover the relation of music to other areas of cultural development.

MU 131. Music Fundamentals. (3-1) Credit: 3

An introduction to music through the audio-visual relative solimization method. Study of the pentatonic, modal and diatonic scales, key signatures, intervals, triads, cadences, introduction to four-part writing. Ear training, sight singing, melodic dictation in simple and compound meters. Cadences and canons on the keyboard.

MU 132. Music Theory. (3-1) Credit: 3

A continuation of Music 131 with an introduction to the harmonic materials of the 18th and 19th centuries. Harmonic progressions with root and inverted triads, the dominant seventh chord, secondary dominants, sequences. Analysis of short works. Ear training, sight singing, dictation. Relative solmization method employed throughout. Cadences, canons, sequences on the keyboard. Prerequisite: MU 131 or consent of instructor.

MU 133. Music Literature. (3-1) Credit: 3

A survey of the development of music from the end of the Ancient World to the present time, with an in-depth study of the music from the 15th century through the 19th century. Principal forms, periods, and composers and the literature of each of the historical periods.

MU 134. Music Literature. (3-1) Credit: 3

A continuation of Music 133 with an in-depth study of music in the periods of the late 19th and 20th centuries; the concurrent symphonic and concert literature of today; voice, choral, and instrumental organizations.

MU 241. Intermediate Harmony. (3-2) Credit: 4

A study of the harmonic materials of the 18th and 19th centuries through analysis and Figured Bass exercises. Dominant and secondary seventh chords, secondary dominants, the diminished seventh chord, altered chords, nonharmonic tones. Melody harmonizations, dictation. Sequences with seventh chords on the keyboard. Prerequisite: MU 132.

MU 242. Advanced Harmony. (3-2) Credit: 4

The study of harmony as an organizing element of the large-scale musical structure. Diatonic, chromatic and enharmonic modulations. Melody harmonizations, analysis of larger works, harmonic dictation. Modulations to related and distant keys on the keyboard. Prerequisite: MU 241.

MU 230P. Piano Pedagogy. (2-1) Credit: 3

Open to music majors only. The study of piano teaching methods from the beginning through the intermediate grades. The development of technique, memory, style, and musicianship. The planning of a balanced repertoire, review and evaluation of piano literature. Laboratory includes supervised practice teaching. Prerequisite: credit or enrollment in MU 221P and MU 132 or consent of instructor.

Applied Music

MU 111P. Class Piano I. (0-1) Credit: 1

Introduction to the keyboard, the study of Mikrokosmos Vol. I by Bartok, easy selections from the classic, romantic, and contemporary piano literature. Memory work is emphasized throughout. Scales up to 4 key signatures. One hour class lesson per week, one hour daily practice required. Prerequisite: credit or enrollment in MU 131.

MU 112P. Class Piano II. (0-1) Credit: 1

A continuation of 111P. Technique scales and arpeggios to 4 key signatures, selected Czerny studies. Literature: Little Dances by Bach, a classic Sonatina, selections from the romantic and contemporary piano literature. Memory work is emphasized throughout. One hour class lesson per week, one hour daily practice required. Prerequisite: MU 111P or consent of instructor.

MU 113P. Class Piano III. (0-1) Credit: 1

For students with a considerable keyboard skill. All scales and arpeggios on 4 octaves, Czerny studies. Literature: short preludes and two-part inventions by Bach, a classic Sonatina or Sonata, romantic and modern compositions. Memory work is emphasized throughout. One hour class lesson per week, one hour minimum daily practice required. This course is a preparation for private piano and may be repeated until the student is ready to meet the entrance requirements for 121P.

MU 114P. Class Piano IV. (0-1) Credit: 1

A continuation of MU 113P. All scales on 4 octaves in thirds, sixths and the octave. Major, minor, dominant and diminished seventh arpeggios. Literature: short preludes and two-part inventions by Bach, a classic

Sonatina or Sonata, romantic and modern compositions. Memory work is emphasized. One hour class lesson per week, one hour minimum daily practice is required. This course is a preparation for private piano and may be repeated until the student is ready to meet the entrance requirements for MU 121P. Prerequisite: MU 113P or consent of the instructor; credit or enrollment in MU 132.

MU 121P. Piano. (0-1) Credit: 2

Private Piano. Technique: *Czerny's School of Velocity* and scales and arpeggios. Repertoire: two and three part inventions by Bach, Sonatas of Scarlatti, a complete classic Sonata, works by composers from the 19th and 20th centuries. All work is to be memorized. One 45-minute lesson per week. Two hours daily practice required. Prerequisite: MU 113P or 114P or audition, credit or enrollment in MU 132.

MU 122P. Piano. (0-1) Credit: 2

A continuation of MU 121P. One 45-minute private lesson per week. Two hours daily practice required. Prerequisite: MU 121P.

MU 221P and 222P. Piano. (0-1) Credit: 2

Technique includes all scale and arpeggios on 4 octaves and Clementi's *Gradus ad Parnassum*. Repertoire: WTC Preludes and Fugues by Bach, a Sonata by Haydn, Mozart, or Beethoven; etudes and preludes by Chopin impressionistic and modern compositions; one movement of a standard Concerto. Student is required to memorize all material. One 45-minute private lesson per week. Two hours daily practice required. Prerequisite: MU 122P.

MU 231P and 232P. Advanced Piano. (0-1) Credit: 3

Scales in all keys in double thirds. Repertoire: Partitas, Suites, Preludes, and Fugues by Bach. A Beethoven Sonata, works of Chopin, Liszt, Brahms, Debussy, Schumann. One complete standard Concerto. Student is requested to memorize all the material. One hour private lesson per week. Three hours of daily practice required. Prerequisite: MU 222P.

Organ

MU 121O and 122O. Organ. (0-1) Credit: 2

Beginning students work with the Gleason method of organ playing to develop correct manual and pedal technique. The literature includes works of Bach, Franck, and early Baroque composers. One 45-minute private lesson per week. Prerequisite: two years of piano study.

MU 221O and 222O. Organ. (0-1) Credit: 2

A continuation of Organ 122. Development of manual and pedal technique, the study of the representative works of the masters of the Organ. One 45-minute private lesson per week. Prerequisite: MU 122O.

Voice

MU 111V and 112V. Class Voice. (0-1) Credit: 1

These courses are concerned with the most basic principles of singing; correct breathing, posture, and the proper use of the vocal anatomy, i.e. palate, larynx, and tongue. The literature is quite simple and understanding. One hour class lesson per week. Prerequisite: credit or enrollment in MU 131.

MU 121V and 122V. Voice. (0-1) Credit: 2

A continuation of the principles of 111V and 112V, with greater depth and concentration. Students learn to improve breath control, diction, and tone quality. The literature includes songs in English, Italian, and for more advanced students, German and French. One 45-minute private lesson per week. Prerequisite: MU 112 and/or audition.

MU 221V and 222V. Voice. (0-1) Credit: 2

A continuation of Voice 121 and 122. More difficult songs from the classic and romantic literature, oratorio and operatic arias, modern French songs, 20th century American songs. One 45-minute private lesson per week. Prerequisite: MU 122V.

Brasses and Woodwinds

MU 111B. Brass Instruments. (0-1) Credit: 1

This course meets the needs of students who desire elective private instruction on all brass instruments.

MU 111W. Woodwind Instruments. (0-1) Credit: 1

This course meets the needs of students who desire elective private instruction on all woodwind instruments.

MU 113B. Brass Ensemble. (0-1) Credit: 1

This course is designed to meet the needs of brass students who wish to explore brass ensemble music from Baroque to modern compositional style and technique.

MU 113S. Stage Band. (0-1) Credit: 1

Open to any instrumentalist by audition. An exploration in modern jazz techniques and compositional style.

MU 113W. Woodwind Ensemble. (0-1) Credit: 1

This course is designed to meet the needs of woodwind students who wish to explore woodwind ensemble music from classical to modern compositional style and techniques.

Associate Degree Nursing

A two-year Associate in Applied Science Degree program

The Associate Degree Nursing program provides a general education together with nursing education on a college level. The student receives classroom instruction and coordinated clinical experience in the nursing care of patients in area health agencies under supervision and guidance of the college faculty. Upon completion of the two year program, the student receives the Associate in Applied Science Degree in Nursing from Central Texas College and is eligible to write the licensing examination to become a Registered Nurse. The Associate Degree Nursing program is approved by the Board of Nurse Examiners for the State of Texas.

Admission Requirements: Applicants for the program must follow the regular procedures for admission to Central Texas College. In addition, the following is required for admission to the Nursing program: 1. Application for the Nursing program. 2. Physical examination report evidencing good health and signed by a licensed physician. 3. A composite score of 15 on the ACT or equivalent test. Transfer students must have a composite score of 15 on the ACT or equivalent test or a grade point average of 2.5 in required courses of the nursing curriculum if the ACT composite score is lower than 15. 4. A personal interview with a member of the Nursing Department.

In order to maintain acceptable standing and continue progress, the student must earn a grade of C or higher in each course. A student that does not successfully complete any course in nursing curriculum may apply for readmission only one time. This also applies to transfer students.

The two-year Associate Degree Program must be completed within a period not to exceed four calendar years.

The number of students admitted to the Nursing Program will depend on the adequacy of resources to meet the educational objectives of the program.

Admission Procedures: A student seeking admission to the School of Nursing must present: 1. an application for admission to nursing courses, 2. two official copies of transcripts from each institution attended, at least one of which must include high school units and a report of scores on the ACT test, 3. a health history and physical examination. The deadline for submission of applications to the School of Nursing are as follows:

Fall Semester: June 1
Spring Semester: October 1

Associate Degree Nursing

First Year

First Semester

Subject	*Hours*
Nursing 191	9
Biology 145	4
Psychology 233	3
Psychology 111	1
	17

Second Semester

Subject	*Hours*
Nursing 192	9
Biology 146	4
Psychology 231	3
	16

Summer Semester

Subject	*Hours*
English 131	3
Sociology 231	3
	6

Second Year

First Semester

Subject	*Hours*
Nursing 291	9
Biology 144	4
English 132	3
	16

Second Semester

Subject	*Hours*
Nursing 292	9
Nursing 213	1
	10

Summer Semester

Subject	*Hours*
Nursing 234	3
Social Science Elective	3
	6

Course Descriptions for Nursing

NU 191. Fundamentals of Nursing. (5-12) Credit: 9

This course provides an overview of the health care field and the role of the nurse as a member of the health care team. Experiences are designed to assist the student in developing skills in the areas of interpersonal relations, communication, observation, health teaching, and the physical care of mildly ill patients. Units on normal nutrition and calculation of solutions and drug dosage are included. Area health agencies provide opportunity for clinical observation and practice.

NU 192. Medical-Surgical Nursing I. (4-15) Credit: 9

This course is a development of knowledge, skills, and attitudes necessary for planning, implementing, and evaluating the nursing care of adult

patients with medical and surgical problems. Includes study of disease processes involving all body systems, diet therapy, pharmacology, prevention, rehabilitation, and mental health concepts. Prerequisite: NU 191.

NU 213. Nursing Trends Seminar. (1-0) Credit: 1

This course is designed to ease the transition from student to graduate status through exploration of patterns of patient care, areas of employment, legal and professional responsibilities, current issues and trends. The seminar method is used throughout. Prerequisite: Sophomore standing.

NU 234. Psychiatric Nursing. (2.7-16) Credit: 3

This experience will center on the prevention and treatment of psychiatric conditions, including special therapies and the roles of the nurse in caring for the emotionally ill persons. Students are guided in the techniques of interpersonal and intergroup relationships in giving nursing care. Aspects of mental health are studied in various settings. This course is offered in a six week summer session only.

NU 291. Maternal and Child Health Nursing. (4-15) Credit: 9

The mother, child, and family are considered as a community unit in this course. Experience in the nursing care of the mother during pregnancy, delivery and post-partum periods, and the infant during the neonatal period are included, as well as selected experiences with the well child. Emphasis is placed on the different needs of children with illness due to the influence of developmental stages and pathological conditions. Family planning, health teaching and family problems of daily living are also discussed. Prerequisite: NU 192.

NU 292. Medical-Surgical Nursing II. (4-15) Credit: 9

This course aids the student in developing skills in caring for patients with more complicated medical-surgical nursing problems. The patient and significant other persons are considered in the planning and administering of nursing care in the hospital and following discharge. This includes planning for discharge and continuing care in the home or in other agencies. Experiences in team nursing will provide the student with the opportunity to function as a team member and to develop beginning skills of team leading. Lectures, seminars, audio-visual aids, and nursing conferences will be utilized in addition to clinical practice. Prerequisite: NU 192.

Vocational Nursing

The Vocational Nursing program includes four semesters of theory and clinical practice. Upon satisfactory completion of the program, the student is awarded a Certificate of Completion and is eligible to write the State Board Examination for Licensed Vocational Nurses.

Admission requirements: Applicants for the Vocational Nursing program must meet the same admission requirements for the Associate Degree

Nursing program with the following addition: three references must be listed on the application.

In order to maintain acceptable standing and continued progress, the student must earn a grade of "C" or higher in each course required in the nursing curriculum.

A student that does not successfully complete any course in the nursing curriculum may apply for readmission only one time. This also applies to transfer students.

Applicants to the Vocational Nursing program are admitted in the Spring semester only.

Vocational Nursing

First Year

First Semester	
Subject	*Hours*
Nursing 191	9
Nursing 101	0
Biology 145	4
Psychology 111	1
	14

Summer Semester	
Subject	*Hours*
English 131	3
Psychology 233	3
	6

Second Year

First Semester	
Subject	*Hours*
Nursing 192	9
Biology 146	4
Nursing 102	0
	13

Second Year	
Subject	*Hours*
Nursing 291	9
Biology 144	4
Nursing 103	0
	13

Course Descriptions for Vocational Nursing

NU 101. Vocational Nursing Practicum I. (0-9) Credit: 0

The practicum consists of nine clock hours per week in clinical practice within a health care facility. This clinical experience provides the student with additional opportunity to apply the theory learned in Fundamentals of Nursing. Corequisite: NU 191.

NU 102. Vocational Nursing Practicum II. (0-9) Credit: 0

The practicum consists of nine clock hours per week in clinical practice

within a health care facility. This clinical experience provides the student additional opportunity to apply the theory learned in Medical Surgical Nursing I. Corequisite: NU 192.

NU 103. Vocational Nursing Practicum III. (0-9) Credit: 0

The practicum consists of nine clock hours per week in clinical practice within a health care facility. This clinical experience provides the student with additional opportunity to apply the theory learned in Maternal & Child Health Nursing. Corequisite: NU 291.

Office Administration

General Secretarial Curriculum

A one-year Certificate program

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Office Administration 135	3	Office Administration 136	3
Office Administration 131*	3	Office Administration 132*	3
Office Administration 133*	3	Office Administration 134*	3
Mathematics 137	3	Office Administration 139	3
English 137	3	Office Administration 138	3
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		16
	17		

*Beginning or advanced levels of shorthand and typewriting will be determined by the student's previous training in these skills and/or by placement tests. Electives may be chosen by students who receive advanced standing in shorthand and typing. Courses may be chosen leading toward general, medical, or legal secretarial programs upon departmental approval.

Administrative Secretarial Curriculum

A two-year Associate in Applied Science Degree program

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Office Administration 135	3	Office Administration 136	3
Office Administration 131*	3	Office Administration 132*	3
Office Administration 133*	3	Office Administration 134*	3
English 137	3	Mathematics 137	3
Office Administration 139	3	Office Administration 138	3
Psychology 111	1	Physical Education	1
Physical Education	1		—
	—		16
	17		

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Office Administration 234	3	Office Administration 235	3
Office Administration 231*	3	Office Administration 233*	3
Office Administration 232*	3	Office Administration 237	3
Business 231	3	Computer Science 130	3
Computer Science 131	3	Elective*	3
	15		15

*Beginning or advanced levels of shorthand and typewriting will be determined by the student's previous training in these skills and/or by placement tests. Electives may be chosen by students who receive advanced standing in shorthand and typing. Courses may be chosen leading toward general, medical, or legal secretarial programs upon departmental approval.

Office Assistant

A one-year Certificate program

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
Office Administration 234	3	Office Administration 235	3
Office Administration 133*	3	Office Administration 134*	3
Office Administration 135	3	Management 135	3
Mathematics 137	3	Office Administration 139	3
English 137	3	Office Administration 138	3
Psychology 111	1	Physical Education	1
Physical Education	1		16
	17		

*Beginning or advanced levels of shorthand and typewriting will be determined by the student's previous training in these skills and/or by placement tests. Electives may be chosen by students who receive advanced standing in shorthand and typing. Courses may be chosen leading toward general, medical, or legal secretarial programs upon departmental approval.

Office Management

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Office Administration 234	3	Office Administration 235	3
Office Administration 133*	3	Office Administration 134*	3
Office Administration 135	3	Management 135	3
Mathematics 137	3	Office Administration 138	3
English 137	3	Office Administration 139	3
Psychology 111	1	Physical Education	1
Physical Education	1		
	17		16

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Management 134	3	Office Administration 237	3
Management 136	3	Management 236	3
Management 235	3	Management 232	3
Speech 233	3	Management 239	3
Computer Science 130	3	Approved Elective	3
	15		15

*Beginning or advanced levels of typewriting will be determined by the student's previous training in these skills and/or by placement tests. Electives may be chosen by students who receive advanced standing in typing to fulfill hour requirements. Courses may be chosen from courses appropriate for the student's major and with approval of the Department Manager.

Course Descriptions for Office Administration

OA 131. Beginning Shorthand. (3-3) Credit: 3

Introduction to Gregg shorthand. Reading, writing, theory principles, brief forms.

OA 132. Intermediate Shorthand. (3-3) Credit: 3

Continuation of OA 131 and designed to reinforce theory and speed building.

OA 133. Beginning Typewriting. (3-3) Credit: 3

A beginning course in touch typewriting for the mastery of machine parts and the keyboard. Special emphasis of speed development, including an introduction to letter writing, tabulating, and preparing manuscripts.

OA 134. Intermediate Typewriting. (3-3) Credit: 3

A continuation of OA 133. Additional skill in terms of accuracy and speed will be evidenced by students. Composition and typing of business letters, tabulation, and manuscripts of more demanding content will be instructed.

OA 135. Clerical Practice. (2-1) Credit: 3

Procedures of filing and finding operations employed in business offices, standard filing systems. Training in the operation of spirit duplicators, mimeograph, and dry copy machines. Training in proficiency in handling the mail, telephone techniques, and handling receptionist duties. Considerable emphasis and training in integrating these activities into an office environment will be instructed.

OA 136. Secretarial Practice. (3-1) Credit: 3

This course is designed for the student who wishes to prepare for a career as an executive secretary. More advanced mailable letters, typing from transcribing machines, organization of meetings and conferences, travel arrangements, information sources, and human relations skills are studied. Students are trained in word processing procedures. Students are introduced to various "needs" theories such as Abraham Maslow's hierarchy of needs. Students are guided into the solution of office problems due to personality problems. Group work, group dynamics, and student evaluations are utilized extensively in this course.

OA 138. Business Correspondence. (3-0) Credit: 3

A course designed to teach effective business writing and to give practice in composing all types of business letters and reports. Typing ability and sound background in English are strongly recommended.

OA 139. Business Machines and Calculations. (3-3) Credit: 3

Technique familiarization in the operation of the most commonly used office machines. Computation; calculations; speed drills; percentages, discounts and net values, chain discounts; business forms.

OA 231. Advanced Shorthand. (3-3) Credit: 3

Improvement of ability to take dictation and transcribe mailable copy. Theory principles; brief form derivatives; vocabulary development; speed building; mailable transcription; office style dictation.

OA 232. Advanced Typewriting. (3-3) Credit: 3

This course includes advanced work in such specialized production as tabulation, inter-office correspondence, manuscripts, telegrams, stencil cutting and mimeograph operation, legal forms, medical forms, special inter-office forms, and additional work on the arrangement of business letters with special features.

OA 233. Advanced Transcription. (3-3) Credit: 3

A continuation of skill building in Gregg shorthand with concentration on transcribing into mailable copy from office-style dictation. Special emphasis will be given to the inter-relatedness of specialized office activities and terminologies as they relate to an administrative secretarial position. Prerequisite: OA 231.

OA 234. Bookkeeping I. (3-3) Credit: 3

Elementary principles of bookkeeping, journalization; posting, statements, special journals; subsidiary ledgers. Special emphasis is placed on personal, family and small business accounting systems.

OA 235. Bookkeeping II. (3-3) Credit: 3

Analysis and recording of business transactions; use of journal and ledgers; trial balance and work sheets; adjusting and closing entries; accounting statements; payroll records and payroll taxes; introduction to partnership accounting; special journals and ledgers; business papers and business procedures relating to accounting voucher system.

OA 237. Office Administration and Procedures. (3-0) Credit: 3

This course includes topics of instruction in office procedures, work simplification, selection and training of office workers, supervision, office etiquette and ethics, and an analysis of the responsibilities of the manager, secretary, clerk, and other office workers. The student is given an opportunity to relate knowledge, information and skills acquired in previous academic courses. Special emphasis is placed on the relationship of the various systems that affect the modern office.

OA 238. Office Occupations Internship. (1-5) Credit: 3

The student will be provided a combination of occupationally related classroom instruction and on-the-job training in cooperation with offices within the Office Administration Department and other campus offices. Actual work training will be available in the following areas: typewriting, filing, duplication, use of telephone, preparation of correspondence, voice transcription machines, recordkeeping, proofreading, etc.

OA 239. Office Administration Internship. (1-5) Credit: 3

Students will be provided a combination of occupational related classwork instruction and on-the-job training in cooperation with Office Administration offices and other campus offices. Students will demonstrate advanced competencies with work experiences in the following areas: taking dictation, typewriting, letter composing, telephone procedures, filing, work scheduling, financial calculating, duplicating, transcribing from dictation equipment, etc.

Offset Printing

A one-year Certificate program

First Semester	
Subject	*Hours*
Offset Printing 131	3
Offset Printing 132	3
Offset Printing 133	3
Offset Printing 134	3
Office Administration 133	3
	15

Second Semester	
Subject	*Hours*
Offset Printing 135	3
Offset Printing 136	3
Offset Printing 137	3
Offset Printing 138	3
Office Administration 139	3
	15

Course Descriptions for Offset Printing

OP 131. *Introduction to Offset Printing.* (2-4) Credit: 3

This course offers the student an introduction to offset printing with a general survey of various printing processes and their uses in industry. The history of printing, the techniques involved in the production and distribution of printing materials, the kinds of printing industries, and printing terminology are included. It provides an introduction to all equipment and how each piece of equipment relates to the total plant operation.

OP 132. Camera and Darkroom Procedures, Stripping and Platemaking I. (2-4) Credit: 3

Basic camera operations and darkroom procedures including percentage size calculations,simple line shots, and film processing by the tray method. Basic techniques in the precise layout of simple line negatives, halftones, and, combinations. Selection of proper plates for specific jobs and the exposing and developing of plates.

OP 133. Offset Press Operation I. (2-4) Credit: 3

Basic theory and techniques in the operation of the small (duplicator) offset press, including the "offset principle", feeding of all types of stock, image position, sheet delivery, and the maintaining of correct image density.

OP 134. Bindery Operations. (2-4) Credit: 3

Theory and operation of the paper cutter, paper drill, stitcher, collator and folder, and basic binding techniques. The course includes actual print shop production-type activities utlilizing this equipment. The course also contains a study of the basic characteristics of paper and ink and the processes involved in the manufacture.

OP 135. Copy Preparation, Cost Estimating, and Pricing. (2-4) Credit: 3

A study of the basic types of copy layout techniques and composing equipment, including the operation of the IBM Selectric Composer and the strip printer. Procedures for estimating the expenses of and determining the amount of customer charges. Prerequisite: OP 131 or OP 132 or OP 133.

OP 136. Camera and Darkroom Procedures, Stripping and Platemaking II. (2-4) Credit: 3

Advanced theory and techniques of line copy reproduction, halftone reproduction, including duotone color and multi-color stripping and plate processing of line copy. Prerequisite: OP 132.

OP 137. Offset Press Operation II. (2-4) Credit: 3

Advanced offset press operation including printing of large solids, duotone and multi-color line copy. Students will train on more advanced equipment and improve the skills acquired in previous offset press operation course. Prerequisite: OP 133.

OP 138. Offset Printing Equipment Maintenance. (2-4) Credit: 3

A thorough study of the adjustments, preventative maintenance and simple repair of darkroom, composing room, press room, and bindery equipment. Prerequisite: OP 131 or OP 133.

Photography

A one-year Certificate program

First Semester		Second Semester	
Subject	*Hours*	*Subject*	*Hours*
Photography 131	3	Photography 133	3
Photography 132	3	Photography 134	3
Telecommunications 231	3	Photography 135	3
Communications Elective	3	Telecommunications 237	3
*Approved Elective	3	*Approved Elective	3
Psychology 111	1		
	16		15

*ART 130—Printing for Advertising Art, BUS 131—Introduction to Business, SPCH 131—Fundamentals of Speech, OP 132—Camera and Darkroom Procedures, Stripping and Platemaking I, TELE 133—Beginning Television Production, TELE 232—Advanced Television Production, TELE 238—Telecommunications Practicum, or other electives approved by Department Manager.

Course Descriptions For Photography

PHOTO 131. Introduction to Photography. (2-4) Credit: 3

The course emphasizes the handling of small cameras, film exposure, processing, contact printing, and basic enlarging. Flash and existing light photography is studied with news features, action photography, end storytelling photographs. Printing and composing photographs for publications is included.

PHOTO 132. Portrait Photography. (2-4) Credit: 3

A study is made of fundamental lighting, camera techniques, posing, composition, processing, and printing as applied to portraiture. Experience in retouching negatives and prints, mounting and making storytelling pictures for fashion and advertising is provided. Prerequisite: Photo 131 or consent of instructor.

PHOTO 133. Advanced Photography. (2-4) Credit: 3

The course includes elements of composition and film exposure development for specific gamma, studied sensitometry, advanced photographic printing characteristics of printing papers, processing for contrast, print balance, and toning are included. Principles of filters and lenses and advanced focusing techniques are studied. Prerequisite: Photo 131 or consent of instructor.

PHOTO 134. Commercial Photography. (2-4) Credit: 3

A study is made of the fundamental differences between commercial and advertising photography. Although both are studied, emphasis will be on the commercial level such as products, houses, factories, weddings, and party photography. Emphasis on what a commercial photographer does, how he sets up a business, what equipment he needs, how he finds clients, what prices to charge, and new trends in the field are reviewed. Prerequisite: PHOTO 131/132 or consent of instructor.

PHOTO 135. Advanced Print Making. (2-4) Credit: 3

This course includes special instruction and laboratory work in advanced print making, mounting, display, toning and tinting, and special procedures in graphic techniques in print making with higher contrast materials. Preparation of a black and white portfolio is included. Prerequisite: PHOTO 131/132/133/134 or consent of instructor.

Physical Education and Recreation

Physical Education
First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 131	3	English 132	3
History 131	3	History 132	3
Biology 141	4	Biology 142	4
Speech 131	3	Math (Approved)	3
Physical Education 132	3	Physical Education 131	3
Physical Education	1	Physical Education	1
Psychology 111	1	Physical Education	1
	18		18

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 231	3	English 232	3
Government 231	3	Government 232	3
Psychology 231	3	Sociology 231	3
Physical Education 231	3	**Physical Education 235**	3
Biology 145	4	Elective	3
Physical Education	1	Physical Education	1
Physical Education	1	Physical Education	1
	18		17

Students majoring in Physical Education may not repeat activity courses for credit.

Recreation

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 131	3	English 132	3
History 131	3	History 132	3
Biology 141	4	Biology 142	4
Speech 131	3	Recreation 134	3
Recreation 133	3	Physical Education 131	3
Physical Education	1	Physical Education	1
Psychology 111	1	Physical Education	1
	18		18

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
English 231	3	English 232	3
Government 231	3	Government 232	3
Art 239C	3	Sociology 231	3
Psychology 231	3	Physical Education 231	3
Physical Education 235	3	Physical Education	1
Physical Education	1	**Approved Recreation Activity**	3
Physical Education	1	Physical Education	1
	17		17

Recreation Leadership

The two-year curriculum in the Recreation Leadership Program is designed to prepare the student for work in the field of recreation in the community, hospitals, industry, armed forces, and in private, public, or church camps. Upon completion of this course, a certificate will be awarded.

First Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Approved English	3	Approved English	3
Mathematics 133	3	Speech 131	3
Recreation 133	3	Recreation 134	3
Physical Education 131	3	Recreation 135	3
Physical Education 111	1	Physical Education 110	1
Physical Education 117	1	Physical Education 112	1
Psychology 111	1	Physical Education 115	1
	15		15

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Psychology 231	3	Sociology 231	3
Art 239C	3	Art 239D	3
Recreation 233	3	Physical Education 235	3
Recreation 237	3	Recreation 239	3
Physical Education 231	3	Recreation 238	3
Physical Education 214	1	Physical Education 215 or 218	1
	16		16

Physical Education one-hour activity courses may be taken in any sequence, but may not be repeated.

Course Descriptions for Physical Education

Course Number	*Title of Course*
PE 110	Football and Basketball
PE 111	Volleyball and Softball
PE 112	Beginning Badminton
PE 113	Beginning Bowling
PE 114	Equitation
PE 115	Folk and Square Dance
PE 116	Beginning Swimming
PE 117	Beginning Tennis
PE 118	Beginning Golf
PE 119	Basketball and Soccer
PE 210	Advanced Bowling
PE 211	Advanced Swimming
PE 212	Intermediate Tennis
PE 213	Advanced Golf
PE 214	Tumbling
PE 215	Figure Development
PE 216	Advanced Badminton
PE 217	Modern Dance
PE 218	Physical Conditioning
PE 218A	Aerobics
PE 218B	Defensive Tactics
PE 218C	Firearms
PE 219	Varsity Athletics

PE 131. Foundations of Physical Education. (3-0) Credit: 3

A course which introduces the student to the fields of health, physical education, and recreation. Emphasis on the scope and organization of professional activities, opportunities and qualifications of the professional physical educator.

PE 132. Foundations of Health. (3-0) Credit: 3

A fundamental course in principles and problems of healthful living. Emphasis on current information and thought to be applied to individual daily lives.

PE 231. Sports Officiating. (3-0) Credit: 3

Theory and practice in techniques of officiating. Officiating experience.

PE 235. Safety and First Aid. (3-0) Credit: 3

Health knowledge and practice with regard to individual and group welfare; personal hygiene; community health problems; communicable disease control and health organizations. Instruction in American National Red Cross first aid methods for emergency treatments of injuries and sudden illness.

Course Descriptions for Recreation

REC 133. Foundations of Recreations. (3-0) Credit: 3

Development, structure, purposes, and functions of the professional fields in recreation.

REC 134. Principles of Recreational Leadership. (3-0) Credit: 3

Development of skills and leadership ability in various program areas of recreation. Observation of programs sponsored by city recreation, boys clubs, and armed forces.

REC 135. Theory and Practice of Teaching Sports. (3-0) Credit: 3

Designed to teach the student evaluation procedures, rules, and improvement of skills. Emphasis is on methods and materials.

REC 233. Camp Counseling. (3-0) Credit: 3

Understanding the child in camp setting, techniques of cabin counseling, general aspects of programming, campcraft, nature study, and social and physical recreation appropriate to camp programs.

REC 235. Program Planning for Recreation. (3-0) Credit: 3

Designed to teach the student procedures, techniques, and methods in planning, developing, and implementation of a recreation program.

REC 237. Theory and Practice of Teaching Aquatics. (3-0) Credit: 3

Basic skills, professions, and safety techniques in swimming and water safety. Emphasis on methods and materials.

REC 238. Outdoor Recreational Sport. (3-0) Credit: 3

A course designed to equip the student with the knowledge, skills, and appreciation of the outdoor recreational sports, games, and activities needed to organize and administer a varied program of recreation.

REC 239. Field Work in Recreation. (3-0) Credit: 3

Working in an assigned recreation program under supervision. Course includes observations, participation, and supervised leadership.

Science

Biology
First Year

First Semester Subject	Hours
Biology 141	4
Chemistry 141	4
History 131	3
English 131	3
Mathematics 133	3
Physical Education	1
Psychology 111	1
	19

Second Semester Subject	Hours
Biology 142	4
Chemistry 142	4
History 132	3
English 132	3
Mathematics 134	3
Physical Education	1
	18

Second Year

First Semester Subject	Hours
Biology 241	4
Geology 141	4
Government 231	3
English 231	3
Physical Education	1
	15

Second Semester Subject	Hours
Biology 242	4
Geology 142	4
Government 232	3
English 232	3
Physical Education	1
	15

Chemistry
First Year

First Semester Subject	Hours
Chemistry 141	4
Mathematics 133**	3
History 131	3
English 131	3
Psychology 111	1
Physical Education	1
	15

Second Semester Subject	Hours
Chemistry 142	4
Mathematics 134**	3
History 132	3
English 132	3
Psychology 231	3
Physical Education	1
	17

Second Year

First Semester Subject	Hours	Second Semester Subject	Hours
Chemistry 241	4	Chemistry 242	4
Mathematics 231	3	Chemistry 243	4
Government 231	3	Government 232	3
English 231	3	English 232	2
Elective*	3	Mathematics 232	3
Physical Education	1	Physical Education	1
	17		18

*Check senior institution catalogue as requirements vary.
**Students deficient in mathematics must take college algebra as a remedial course. This course should be taken during the summer school term prior to the freshman year.

Geology
First Year

First Semester Subject	Hours	Second Semester Subject	Hours
Geology 141	4	Geology 142	4
Mathematics 132	3	Mathematics 133	3
History 131	3	History 132	3
Chemistry 141	4	Chemistry 142	4
English 131	3	English 132	3
Physical Education	1	Physical Education	1
Psychology 111	1		
	19		18

Second Year

First Semester Subject	Hours	Second Semester Subject	Hours
Mathematics 231	3	Mathematics 232	3
Biology 241	4	Biology 242	4
Government 231	3	Government 232	3
Mathematics 134	3	Psychology 231	3
English 231	3	English 232	3
Physical Education	1	Physical Education	1
	17		17

Medical Technology
First Year

First Semester *Subject*	*Hours*
Biology 145	4
Chemistry 141	4
English 131	3
History 131	3
Mathematics 131	3
Psychology 111	1
	18

Second Semester *Subject*	*Hours*
Biology 146	4
Chemistry 142	4
English 132	3
History 132	3
Mathematics 133	3
	17

Second Year

First Semester *Subject*	*Hours*
English 239	3
Government 231	3
Biology 144	4
Biology 241	4
Chemistry 241	4
	18

Second Semester *Subject*	*Hours*
Psychology 231	3
Government 232	3
Chemistry 243	4
Biology 233	3
Chemistry 242	4
	17

Pre-Med
First Year

First Semester *Subject*	*Hours*
Biology 141	4
Chemistry 141	4
Mathematics 132	3
English 131	3
History 131	3
Physical Education	1
Psychology 111	1
	19

Second Semester *Subject*	*Hours*
Biology 142	4
Chemistry 142	4
Mathematics 133	3
English 132	3
History 132	3
Physical Education	1
	18

Second Year

First Semester *Subject*	*Hours*
Biology 241	4
Chemistry 241	4
Government 231	3
English 231	3
Physical Education	1
	15

Second Semester *Subject*	*Hours*
Biology 242	4
Chemistry 242	4
Government 232	3
English 232	3
Chemistry 243	4
Physical Education	1
	19

Course Descriptions for Biology

BIOL 141. General Biology. (3-3) Credit: 4

Fundamental principles of living organisms, including chemical and physical properties of life, tissue organization and function, cellular processes, and genetics. Audio tutorial method of instruction.

BIOL 142. General Biology. (3-3) Credit: 4

Fundamental concepts and mechanisms of the organ systems of both plants and animals. Includes ecology, adaptation, natural selection, and classification. Audiotutorial method of instruction.

BIOL 144. Microbiology. (3-3) Credit: 4

Fundamental principles of microbiology; includes study of morphology, physiology, and classification of microbes and their relations to soil, food, water, disease, and immunology. Designed for nursing and pre-med students.

BIOL 145. Human Anatomy. (3-3) Credit: 4

Basic human anatomy designed for nursing and pre-med students. Laboratory includes anatomical models and displays, audio-visual materials, experiments, and taped instructional materials.

BIOL 146. Human Physiology. (3-3) Credit: 4

Fundamental study of the chemical interrelationships of human systems. Digestion, respiration, excretion, muscular activities, reproduction, and metabolism are included. Basic physiological instruments and techniques are included in the lab.

BIOL 231. Field Biology. (2-3) Credit: 3

A course designed to introduce the student to the concepts and techniques of field ecology and field problems as applied to living communities. The laboratory will include instrumentation, measurements, and analysis of populations.

BIOL 233. Genetics (3-0) Credit: 3

The study of the physical basis of inheritance and the laws of heredity and variations. Genetic problems are emphasized. Human genetic dysfunctions and modern research in genetic control is discussed. Prerequisite: Biology 141 and 142 or consent of the instructor.

BIOL 241. Invertebrate Zoology. (3-3) Credit: 4

Classification, anatomy, physiology, and ecology of the invertebrates. Dissection and identification of structures are included in the laboratory. Field trips for the collection of invertebrates are required at minimal student expense. Prerequisite: Biology 141 or 142 or consent of the instructor.

BIOL 242. Vertebrate Zoology. (3-3) Credit: 4

Structure, development, physiology, and natural history of the vertebrate animals; emphasis will be placed on North American forms; field trips are required at minimal student expense. Prerequisite: Biology 141, 142, or consent of the instructor.

Course Descriptions for Chemistry

CHEM 140. Introduction to General Chemistry. (3-3) Credit: 4

The course covers the fundamentals of general and descriptive chemistry with applications from modern living, medicine, agriculture, etc. This course is designed for the non-science-major, the agriculture major, the home economics major, the nursing major, and any student needing a laboratory science credit.

CHEM 141, 142. General Chemistry. (3-4) Credit: 8

A thorough study of the modern concepts and fundamental principles of chemistry. Quantitative experiments are stressed during the first semester of laboratory and the qualitative analysis of the common cations and anions and an introduction to quantitative analysis is studied in the second semester laboratory. The course is designed for science majors and minors. The course includes three hours lecture, one hour recitation, and three hours of laboratory per week. Prerequisite: Two years of high school algebra and Math 132, or consent of instructor.

CHEM 240. Introductory Organic Chemistry. (3-3) Credit: 4

A study of organic chemistry for students of agriculture, allied health sciences, and home economics. Basic principles, nomenclature, principal reactions and methods of synthesis and the major classes of carbon compounds and their biological applications are included. Sequel course for Chem. 140.

CHEM 241, 242. Organic Chemistry. (3-4) Credit: 8

This course provides a thorough foundation in organic chemistry. A mechanistic approach is utilized in an integrated study of aliphatic and aromatic compounds. Extensive use is made of mechanisms and chemical bonding descriptions. Absorption spectra and mass spectra of organic compounds are studied. The course is designed for science majors and minors. Prerequisite: Chemistry 141, 142, or consent of the instructor.

CHEM 243. Quantitative Analysis. (3-4) Credit: 4

This is a study of the theory and practice of chemical analysis. The study of errors is introduced. Simple instrumental methods of analysis are introduced. The course is intended for science majors and minors and medical technology majors. The course includes two hours of lecture, one hour of recitation, and four hours of laboratory per week.

Course Descriptions for Physics

PHY 140. Survey of Physics. (3-3) Credit: 4

A survey of the fundamental principles of physics designed to acquaint students with the basic concepts of physics, contemporary physics, and modern thinking.

PHY 141. College Physics. (3-3) Credit: 4

Fundamentals of classical mechanics, heat, and sound are discussed. This course is primarily for students who plan to major in medicine, dentistry, veterinary medicine, pharmacy, and for all other students needing a two semester course in physics. The course includes three hours of lecture, one hour of recitation, and two hours of laboratory per week. Prerequisite: Math 133 or registration therein.

PHY 142. College Physics. (3-3) Credit: 4

A continuation of Physics 141, fundamentals of classical electricity, magnetism, light, wave-motion, atomic and nuclear physics are covered. Prerequisite: Physics 141, or consent of the instructor.

PHY 241. Modern Physics. (3-3) Credit: 4

Mechanics and heat for science majors and minors, and engineering majors. Vector algebra and calculus are used. The course includes three hours of lecture, one hour of recitation, and two hours of laboratory per week. Prerequisite: Math 231 or registration therein.

PHY 242. Modern Physics. (3-3) Credit: 4

Electricity, magnetism, wave-motion and light, an introduction to modern physics for science majors and minors, and engineering majors. Vector algebra and calculus are used. The course includes three hours of lecture, one hour of recitation, and two hours of laboratory per week. Prerequisite: Physics 241 or equivalent.

Course Descriptions for Geology

GEOL 141. Physical Geology. (3-3) Credit: 4

An introductory course in the nature and properties of the materials which make up the earth. Topics included are processes of glaciation, volcanism, weathering, and erosion. Modern theories such as plate tectonic are also studied. Field work, including the study of local rocks and minerals, is an integral part of the course.

GEOL 142. Historical Geology. (3-3) Credit: 4

The course involves a study of the record of life forms that developed throughout geological time. It also covers the development of the earth from its cosmic beginning to current land forms. Principles of stratigraphy, paleontology, geologic time, plate tectonics, and hypotheses of earth origin are studied in the course. Field work, including the study of local fossil fauna, is an integral part of the course.

Course Descriptions for Space Science

ASTR 131. Survey of Astronomy. (3-1) Credit: 3

A non-mathematical approach to the solar system. Beginnings of astronomy, motions of celestial bodies, minor members of the solar system, atoms and light are studies. Planetarium and observatory used in laboratory work.

ASTR 132. Descriptive Astronomy. (3-1) Credit: 3

A non-mathematical approach to the analysis of star light, stellar characteristics, stellar evolution, the sun, galactic characteristics, cosmology are included. Planetarium and observatory used in laboratory work.

Social Science

First Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
English 131	3	English 132	3
History 131	3	History 132	3
Foreign Language 141	4	Foreign Language 142	4
Science 141	4	Science 142	4
Mathematics 131	3	Mathematics 133	3
Physical Education	1	Physical Education	1
Psychology 111	1		
	19		18

Second Year

First Semester		*Second Semester*	
Subject	*Hours*	*Subject*	*Hours*
English 231	3	English 232	3
Government 231	3	Government 232	3
Foreign Language 231	3	Foreign Language 232	3
Social Science*	3	Social Science*	3
Elective	3	Elective	3
Physical Education	1	Physical Education	1
	16		16

*Social Science course should be related to major or minor if possible.

Course Descriptions for Social Science

Anthropology

ANTH 231. Physical Anthropology. (3-0) Credit: 3

Principles of physical anthropology, human evolution, race, heredity, the organic basis of culture, cultural history through the Paleolithic stage.

ANTH 232. Cultural Anthropology. (3-0) Credit: 3

Principles of cultural anthropology, cultural history from the Mesolithic stage through civilization, culture, and social organization in preliterate and literate societies, impact of western culture on preliterate societies.

Geography

GEO 231. Elements of Physical Geography. (3-0) Credit: 3

The basic physical elements of geography: Maps, climate, and natural resources.

GEO 232. Cultural and Regional Geography. (3-0) Credit: 3

A survey of the climate regions of Earth and the manner in which man adapts to his particular environment. A comparison of the various cultures ranging from hunting and gathering societies to the modern industrial world.

Government

GOVT 231, 232. State and Federal Government. (3-0) Credit: 6

Fulfills the legislative requirement for six hours of American Government. A functional study of the American constitutional and governmental system, federal, state, and local. Special attention to Texas. The origins and development of the American governmental system; federal-state and interstate relations; lesser units of government; the individual as a citizen, person, and voter; political parties. Legislative, executive, and judicial functions in federal and state governments; financing governmental activities; foreign relations and national defense; governmental services and functions.

GOVT 239. Introduction to Political Science. (3-0) Credit: 3

This course is designed to introduce the student to the general area of political science and to provide knowledge and understanding of political fundamentals, public law, political dynamics, public policy, theory and organization of the modern state, and international relations.

History

HIST 131. History of the United States to 1877. (3-0) Credit: 3

English colonization; the Revolution; adoption of the Constitution; growth of nationalism; cotton and the slavery problem; war for southern independence. Reconstruction.

HIST 132. History of the United States from 1877. (3-0) Credit: 3

New social and industrial problems; rise of the progressive movement; United States emergence as a world power; World War I; reaction and the New Deal; World War II; contemporary America.

HIST 133, 134. History of Western Civilization. (3-0) Credit: 6

A survey of the development of European civilization. Major topics include the Graeco-Roman heritage, the barbarian migrations, the growth and development of the Church, the rise of capitalism, medieval society, and the origin of nationalism in Europe. The Age of Reason and the French Revolution, the Napoleonic Wars, the growth of nationalism and democracy in the 19th century, the causes and consequences of the two World Wars and the rise of dictatorship.

HIST 135, 136. History of England. (3-0) Credit: 6

Survey of the development of English society and government, reviewing such topics as Roman Britain; the Anglo-Saxon conquest and institutions; Norman origins; decline of feudalism and rise of nationalism; the evolution of English Common Law; the development of Parliament; struggles between Church and state, crown, and nobles, nobles and commoners; King versus Parliament; the growing power of the Prime Minister; the Industrial Revolution; rise of world power; critical later years.

HIST 231. International Relations and U.S. Foreign Policy. (3-0) Credit: 3

A study of international relationships and problems in world affairs; organization and processes used to arrive at foreign policy decisions of the United States; the elements of international communist ideologies; and the evolution of American foreign policy since 1945.

HIST 235. History of Religion. (3-0) Credit: 3

A study of the origin, progress, and development of the Christian religion. Attention will be given to the development of beliefs and the rise of denominations.

HIST 236. World Religion. (3-0) Credit: 3

A survey course dealing with the origins, tenets, and development of the major world religions. Deductive method used to understand religion as a phenomenon in man's life. Discussion of Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, and Islam.

Philosophy

PHIL 231. Introduction to Philosophy. (3-0) Credit: 3

A general introduction to critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; study of methods and types of evidence utilized by authority, intuition, revelation, reason and scientific methods, and a study of the nature of philosophy, including its relation to religion, science, and art.

PHIL 232. Introduction to Ethics. (3-0) Credit: 3

Study of basic principles of the normal life, with critical examination of traditional and current theories of the nature of goodness, happiness, duty, and freedom.

PHIL 233. Logic. (3-0) Credit: 3

Nature and methods of correct reasoning; deductive proof; inductive proof; fallacies; arguments.

PHIL 237. Old Testament History & Philosophy. (3-0) Credit: 3

A general survey of the Old Testament as to origin, literature, and history with special study of the institutions, religions, and national life of the Hebrew people.

PHIL 238. New Testament History & Philosophy. (3-0) Credit: 3

The course will consist of a survey of all the New Testament literature: The Synoptic Gospels, the Johanine Corpus, Acts, the Pauline Letters, and the General Epistles. Particular attention will be given to the methods and results of contemporary critical research in the New Testament studies. Thus, both primary sources (New Testament documents) and secondary literature on the New Testament will be used.

Psychology

PSYC 111. Psychology of Personal and Social Development. (1-0) Credit: 1

Designed to orient the student to college life, and to help him to understand his personal problems, such as separation from family, study habits, use of time, vocational choices.

PSYC 231. Introduction to Psychology. (3-0) Credit: 3

Basic principles of human experience and behavior involving biological, environmental, and sociological studies. An overview course including an introduction to the major studies of psychology. Recommended for students of sophomore standing.

PSYC 232. Personality Adjustment. (3-0) Credit: 3

A study of psychological concepts and principles related to healthy personality and social adjustment.

PSYC 233. Child Growth and Development. (3-0) Credit: 3

The purpose of this course is to develop an understanding of children and to engender a real interest in them. Consideration is given to the human organism as it develops physically, mentally, emotionally, and socially; problems of adjustment.

PSYC 234. Psychology of Adolescence. (3-0) Credit: 3

This course is designed to succeed Child Psychology. Physical, mental, emotional, and social growth and development of the adolescent from puberty to maturity are studied.

Sociology

SOC 231. Introduction to Sociology. (3-0) Credit: 3

The study of human society; human behavior and personality as a product of group life; community organization; social change and current social problems.

SOC 232. Contemporary Social Problems. (3-0) Credit: 3

Identification and analysis of contemporary social problems, development of criteria for evaluating problems for social betterment.

SOC 233. Criminology. (3-0) Credit: 3

Causes and manifestations of delinquency; case studies of criminals and their social milieu; the offender and agencies of his adjustment; analysis and evaluation of penal methods.

SOC 234. Social Institutions and Processes. (3-0) Credit: 3

Sociological concepts and principles that are basic to an understanding of the complexity of modern society. Students, through firsthand observation and course materials are familiarized with social institutions, class structures, and social processes which produce social organization and disorganization. Major social institutions are viewed from the standpoint of social structure and social processes, and their future roles in society's operation and influence upon the individual and groups.

SOC 235. Social Psychology. (3-0) Credit: 3

The origin and development of personal behavior in interpersonal situations.

SOC 236. Marriage and the Family. (3-0) Credit: 3

A study of problems in courtship, marriage, and family living as they relate to the social structure of American society.

SOC 237. Introduction to Sociological Research. (3-0) Credit: 3

Collecting, analyzing, and interpreting sociological data. Specification of theories as researchable propositions and procedures for verification.

SOC 238. Juvenile Justice System. (3-0) Credit: 3

The juvenile justice system; history, philosophy and evaluation of the juvenile court, juvenile court practices and procedures; neglect, dependency and delinquency, jurisdiction of the court; the role of the police officer, the correctional officer and the social welfare worker in the juvenile justice system.

SOC 238A. Sociology of Delinquency. (3-0) Credit: 3

Social forces that promote juvenile lawlessness will receive major focus. Comparative characteristics of urban and rural delinquents will be studied, along with the impact that social institutions and community attitudes have on aggravating and mitigating delinquent behavior.

Juvenile Corrections

First Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 131	3	English 132	3
History 131	3	History 132	3
Psychology 231	3	Psychology 232	3
Sociology 231	3	Psychology 233	3
Psychology 111	1	Sociology 232	3
Physical Education	1	Physical Education	1
	14		16

Second Year

First Semester *Subject*	*Hours*	*Second Semester* *Subject*	*Hours*
English 239	3	Sociology 238	3
Government 231	3	Government 232	3
Sociology 236	3	Sociology 233	3
Sociology 238A	3	Psychology 234	3
Elective	3	Elective	3
Physical Education	1	Physical Education	1
	16		16

Small Gas Engine Repair

A two-year Associate in Applied Science Degree program

First Year

First Semester Subject	Hours	Second Semester Subject	Hours
Small Gas Engine Repair 141	4	Small Gas Engine Repair 144	4
Small Gas Engine Repair 142	4	Small Gas Engine Repair 145	4
Small Gas Engine Repair 143	4	Small Gas Engine Repair 146	4
Technical Mathematics 130	3	English 137	3
Psychology 111	1	Welding 146	4
	16		19

Second Year

First Semester Subject	Hours	Second Semester Subject	Hours
Small Gas Engine Repair 241	4	Small Gas Engine Repair 244	4
Small Gas Engine Repair 242	4	Small Gas Engine Repair 245	4
Small Gas Engine Repair 243	4	Small Gas Engine Repair 246	4
Management 137A	3	Management 239	3
	15		15

Course Descriptions for Small Gas Engine Repair

SGER 141. Gas Engine Fundamentals. (2-4) Credit: 4

This course covers the theory and repair practices on two cycle, four cycle and wankel engines, both air cooled and water cooled.

SGER 142. Ignition Systems. (2-4) Credit: 4

This course covers the theory and repair practices on the various component parts of the ignition system. Proper testing and service procedures are performed on battery ignition systems, solid state ignitions, capacitor discharge systems and on magneto systems.

SGER 143. Shop Practices. (2-4) Credit: 4

The course covers an introduction to shop safety, use of hand and power tools, use of precision measuring instruments, and other special tools used in small engine repairs.

SGER 144. Carburetion, Fuel, and Lubrication Systems. (2-4) Credit: 4

This course is designed to provide the student with knowledge and skills to rebuild and service different types of carburetors, lubrication systems, exhaust systems, flame arrestors that are found on the various types of small gas engines.

SGER 145. Motorcycle Engine Service. (2-4) Credit: 4

This course is designed to provide the student the necessary skills to disassemble and assemble motorcycle power plants, repair and replace drive train components, use special tools particular to motorcycle repair, and to use applicable parts and service manuals.

SGER 146. Lawn Care Equipment Service. (2-4) Credit: 4

This course covers the theory and repair practices on all types of power lawn care units including lawn mowers, riding mowers, garden tractors, rotary tillers, and other similar items of equipment.

SGER 241. Advanced Motorcycle Repair. (2-4) Credit: 4

This course is a continuation of SGER 145 with special emphasis placed on chassis and system repair including front and rear suspension systems, hub and wheel repair, transmissions, and brakes. Prerequisite: SGER 145.

SGER 242. Chain Saw Service. (2-4) Credit: 4

This course covers the theory and repair practices on all types of modern chain saws and related equipment.

SGER 243. Marine Inboard/Outboard Service. (2-4) Credit: 4

This course covers the theory and practical lab work including disassembly and assembly of the power head and lower drive unit, analysis of engine malfunctions component inspection, use of special tools, and the use of service and parts manuals that are applicable to marine inboard/outboard engines.

SGER 244. Stationary Power Plant Service. (2-4) Credit: 4

This course covers the theory and repair practices necessary on stationary power plants, self-contained generating units and related units.

SGER 245. Recreational Vehicle Engine Service. (2-4) Credit: 4

This course covers the theory and repair practices that are necessary to service snowmobiles, off-the-road vehicles, and other related units.

SGER 246. Special Projects. (1-8) Credit: 4

The purpose of this course is to allow the student to develop one or more special projects related to small gas engine repair under the supervision of the program instructor. Prerequisite: Sophomore standing and 24 semester hours of Small Gas Engine Repair courses.

Maintenance Technology

A two-year Associate in Applied Science Degree program

First Year

First Semester	
Subject	*Hours*
Maintenance Technology 141	4
Maintenance Technology 143	4
Air Conditioning 140	4
Management 137A	3
Mathematics 137	3
Psychology 111	1
	19

Second Semester	
Subject	*Hours*
Maintenance Technology 142	4
Maintenance Technology 144	4
Air Conditioning 141	4
Drafting & Design 130	3
Small Gas Engine Repair	4
	19

Second Year

First Semester	
Subject	*Hours*
Maintenance Technology 241	4
Maintenance Technology 243	4
Air Conditioning 142	4
Welding 146	4
English 137	3
	19

Second Semester	
Subject	*Hours*
Maintenance Technology 242	4
Maintenance Technology 244	4
Maintenance Technology 245	4
Air Conditioning 143	4
Elective	3
	19

Course Descriptions for Maintenance Technology

MTNT 141. Carpentry I. (2-4) Credit: 4

This course covers the theory and practical application of the use of basic hand and power tools, safety; an overview of residential and light commercial building construction, including foundations, exterior and interior walls, and roof framing.

MTNT 142. Carpentry II. (2-4) Credit: 4

This course is a continuation of MTNT 141, with additional emphasis placed on cabinetry, exterior and interior trim and finish work, including door and hardware installation. Prerequisite: MTNT 141 or consent of Department Manager.

MTNT 143. Electricity I. (2-4) Credit: 4

This course covers the theory and practical application of basic electricity, including Ohm's Law, AC/DC circuits, control devices, motor starters, transformers, and rectifiers.

MTNT 144. Electricity II. (2-4) Credit: 4

This course is a continuation of MTNT 143, with special emphasis on electrical maintenance, service and repair procedures for residential and light commercial buildings. Topics of study include wiring with romex cable, exterior and interior lighting systems, and motor installation. Prerequisite: MTNT 143 or consent of Department Manager.

MTNT 241. Masonry I. (2-4) Credit: 4

This course covers the theory and practical applications of laying common brick, concrete tile, and instruction in applying ceramic tile.

MTNT 242. Masonry II. (2-4) Credit: 4

This course is a continuation of MTNT 241, with additional emphasis placed on setting forms and the pouring and finishing of concrete slabs. Prerequisite: MTNT 241 or consent of Department Manager.

MTNT 243. Plumbing I. (2-4) Credit: 4

This course covers the theory and practical application of the use of basic hand and power tools used in plumbing; safety; the cutting, threading, and joining of different types of pipe.

MTNT 244. Plumbing II. (2-4) Credit: 4

This course is a continuation of MTNT 243, with special emphasis on plumbing maintenance, service, and repair procedures for residential and light commercial buildings. Prerequisite: MTNT 243 or consent of Department Manager.

MTNT 245. Painting and Refinishing. (2-4) Credit: 4

This course covers the theory and practical application of painting and refinishing residential and light commercial buildings. Topics of study include various types of paint, the preparation of surfaces to be painted, use of hand and power tools, refinishing damaged furniture surfaces, and the proper maintenance of finished surfaces.

Telecommunications

A two-year Associate in Applied Science Degree program

First Semester Subject	Hours	*Second Semester* Subject	Hours
Telecommunications 131	3	Telecommunications 133	3
Telecommunications 132	3	Telecommunications 134	3
Telecommunications 135	3	English 132	3
English 131	3	Journalism 142	4
Journalism 141	4	Speech 131	3
Psychology 111	1		—
	—		16
	17		

Second Year

First Semester Subject	Hours	*Second Semester* Subject	Hours
Telecommunications 231	3	Telecommunications 232	3
Telecommunications 233	3	Telecommunications 236	3
Telecommunications 239A	3	Telecommunications 237	3
Telecommunications 235	3	Telecommunications 238	3
*Elective	3	*Elective	3
	—		—
	15		15

*TELE 234—Broadcast Operations, TELE 239B—Telecommunications Field Projects, TELE 239C—Telecommunications Seminar, TELE 239D—Telecommunications Field Projects, or electives approved by Department Manager.

Course Descriptions for Telecommunications

TELE 131. Introduction to Broadcasting. (3-3) Credit: 3

This is a survey course tracing the history of broadcasting from 1884 to the present. Besides history, the course will present information on comparative systems of broadcasting and on the basic operational procedures of radio and television stations. Preparation for the FCC Radio-Telephone Operator's Third Class Permit is included in this course of study.

TELE 132. Beginning Radio Production. (3-3) Credit: 3

In this course the fundamental techniques and practices of production and programming are emphasized with a great deal of practical experience in the KNCT-FM studios. Production of various types of programs including interviews, documentaries, and basic news will be studied. Each student will be trained to competently operate a radio control board, turntables, and tape recorders.

TELE 133. Beginning Television Production. (3-3) Credit: 3

This course is designed to give the student the fundamental skills of camera operation, microphone techniques, basic set design, basic graphics, and lighting. In addition, each student will produce and direct his own commercials. A basic study of the operations of a television station will be covered.

TELE 134. Station Sales/Management. (3-0) Credit: 3

This course is designed to give the student a working knowledge of the broadcast industry; how individual radio and television stations program, sell spots and time, set up management responsibilities, negotiate scheduling with network, and advertising. It also covers the legal and ethical aspects of broadcasting through a use of the FCC Rules and Regulations. Audience measurement and what it means will also be studied.

TELE 135. Radio-Television Announcing. (3-3) Credit: 3

This course covers the duties and responsibilities of the announcer, such as operation of the audio console, announcing commercial copy, announcing station breaks, newscasting, interviewing, etc. Special emphasis is given in the areas of voice and diction and pronunciation. Practical experience will be offered through the use of the KNCT-FM, KNCT-TV facilities.

TELE 231. Television Film I. (3-3) Credit: 3

This course is designed to introduce the student to the fundamentals of cinematography and its applications in the television industry. Basic filming techniques will be covered, and each student will learn to shoot 16mm motion picture cameras, edit, story board, and process film. Laboratory exercises will provide for the shooting of at least 200 feet of film per student.

TELE 232. Advanced Television Production. (3-3) Credit: 3

This course offers advanced training in television production. Included will be experience as cameraman, floor director, talent, lighting, director, technical director, producer, graphics, film director, video tape operator, and audio engineer. Practical experience in weekly television program production will be available through the use of station KNCT-TV. In addition, a critical look will be given to television programming techniques, types of station structure, and innovative technological breakthroughs.

TELE 233. Advanced Radio Production. (3-3) Credit: 3

The major emphasis in this course is advanced training in the production of radio commercials, promotion announcements, documentaries, newscasting, and interviewing. An in-depth study of the programming formulas and different types of radio broadcasting is presented. Each student will be responsible for weekly programming to be aired over radio station KNCT-FM.

TELE 234. Broadcast Operations. (3-3) Credit: 3

This course is designed to provide the student of broadcasting with specific areas of study in promotion, graphics, traffic, continuity, and programming

for both radio and television. The laboratory for this course will be the study of and implementation of an assessment of audience needs survey.

TELE 235. Broadcast Writing. (3-3) Credit: 3

This course covers the stylistic writing techniques as needed for commercial copy, promotional copy, news editing, radio-television show formats, and individualistic creative writing for drama or documentaries. Practical experience will be available through stations KNCT-FM and KNCT-TV.

TELE 236. Communications Law. (3-0) Credit: 3

This course is an in-depth study of the Federal Communications Commissions Rules and Regulations, treaties, and laws pertaining to the overall operation of the broadcast station; a survey of copyright laws, libel and slander laws, contracts and other legal responsibilities associated with broadcasting.

TELE 237. Television Film II/Electronic News Gathering. (3-3) Credit: 3

Advanced film production, color processing, and editing are covered during the first half of the semester. Electronic news gathering techniques with mini-cameras are covered the second half of the semester. Much emphasis is given to news photography and on-the-job training. Students are given weekly assignments for KNCT newscasts.

TELE 238. Telecommunications Practicum. (1-6) Credit: 3

The purpose of this course is to give each student an opportunity to receive practical experience in a specialized area of study. A student may choose his individual study practicum from any of the following broadcast-related areas: Graphic arts, set design, photography, cinematography, broadcast journalism, radio production, television production, broadcast promotion, traffic and continuity.

TELE 239A. Technical Aspects of Broadcasting. (3-0) Credit: 3

This course will offer invaluable practical experience to the student because he will be usually working under the pressure of time; each student will be participating in live newscasts over KNCT-FM and KNCT-TV. In-depth news reporting, editing methodology, and news writing, as well as technical production will be covered.

TELE 239B. Telecommunications Field Projects. (1-5) Credit: 3

The field projects will constitute an on-the-job training experience for all the students. The laboratory portion will place the student in responsible production positions for on-air broadcast activities on KNCT-TV and/or KNCT-FM. Each student will produce and direct at least three major TV or radio programs on a regularly scheduled basis. In conjunction with this practical training, the student will compile a daily log of his work experience for in-class discussion and criticism. Prerequisite: TELE 133.

TELE 239C. Telecommunications Seminar. (3-0) Credit: 3

This seminar is designed to allow the student of broadcasting to take an in-depth look at the industry he will soon serve. Individual investigation will be conducted on the current trends in broadcasting, major issues facing the broadcaster, and the importance of broadcasting in today's society. Considerable discussion on such issues as freedom of the press and the future of broadcasting will take place. This course will give the student an up-to-date and realistic perspective of his chosen industry.

TELE 239D. Telecommunications Field Projects. (1-5) Credit: 3

A continuation of Telecommunications 239B, this course consists of on-the-job training as a production member of KNCT-TV or KNCT-FM for on-air operations. Prerequisite: TELE 239B.

Welding

A one-year Certificate program

First Semester	
Subject	*Hours*
Welding 141	4
Welding 142	4
Drafting & Design 130	3
Technical Mathematics 130	3
Psychology 111	1
	15

Second Semester	
Subject	*Hours*
Welding 151	5
Welding 152	5
Welding 153	5
Welding 154	5
	20

Course Descriptions for Welding

WELD 141. Beginning Gas Welding. (2-4) Credit: 4

Intensive classroom instruction will be conducted in oxy-acetylene welding. Fusion type welds will be made under a variety of positions, conditions, and materials. Instruction will include use and operation of oxy-acetylene cutting torch.

WELD 142. Beginning Arc Welding. (2-4) Credit: 4

Intensive classroom instruction will be conducted in electric arc welding. Welds will be made in all positions with various types of electrodes. A basic understanding of metal properties and characteristics will accompany all instructional materials.

WELD 151. Advanced Arc Welding. (2-6) Credit: 5

Theory and practice of shielded metal arc welding on tests required by industry. Emphasis will be placed on preparing the student for certification tests. Prerequisite: WELD 142.

WELD 152. Advanced Welding Processes (MIG & TIG). (2-6) Credit: 5

Theory and practice of MIG & TIG welding. Course to include study of shielding gases used in these processes.

WELD 153. Weld Testing Methods. (2-6) Credit: 5

Theory and practice of making basic destructive and non-destructive weld test. This will include guided bend, nick break, liquid penetrant, and magnetic particle testing. Prerequisite: WELD 142.

WELD 154. Welding Fabrication and Lay-out. (2-6) Credit: 5

Practical application of steel fabrication and general lay-out work. Blueprint with welding symbols will be used on all projects. Prerequisite: WELD 142 and DD 130.

Continuing Education

The purpose of this non-credit program is to meet the continuing educational requirements of the community. To achieve this purpose, organized programs of instruction are provided in response to expressed needs. Generally, classes provide training for the individual; however, special interest groups can also be accommodated within the scope and philosophy of the program.

Classes are geared to the changing needs of the area and changing requirements of businesses, industries, and the desires of local citizens. There are no limits to the number or variety of courses. Classes are often offered in the vocational business fields as well as practical arts. Area employees and businessmen are periodically consulted for recommendations as to types of courses needed. In addition, the appreciation of, and participation in practical arts and vocational interests in encouraged. These courses are an important segment of the Continuing Education Program.

Any further information may be obtained by contacting the Director of the Evening College.

Typical courses are listed below:

Agriculture/Horticulture

Landscaping
Horse Care and Management
Vegetable Gardening
Houseplants

Arts & Hobbies

Guitar I
Guitar II
Macrame
Crewel Embroidery
Needlepoint

Athletics and Recreational

Jazz Dancing
Advanced Square Dancing
Ballroom Dancing
Belly Dancing
Hunter Safety
Intermediate Sailing
Ladies Self Defense
Sailing
Scientific Fishing
Slimnastics
Square Dancing
Techniques of Horseback Riding
Ladies Firearms

Business

Local Recording Agents
Federal Service Entrance Exam
Fundamentals of Tax Preparation
How to Prepare for ACT, SAT, & College Boards
Securities Investments
Wills, Trusts, and Probate

Communications

Conversational German
Conversational Spanish I
Conversational Spanish II
Interpersonal Communications

Educational

Driver Education (Adults and Under 18)
Defensive Driving
Dog Obedience Training
Small Engine Repair
Automotive Orientation
You, Your Child, and Drugs
Federal Aviation Regulations

Homemaking

Microwave Cooking
Gourmet Cooking
Interior Decoration
Intermediate Sewing
Sewing I
Quilting

Science

Medical Terminology
Solar Energy

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