

Career Programs

Transfer Programs

Students may enroll in Cochise College in one of several courses of study. It is the purpose of the College to present as broad a curriculum as possible in order to meet both community and regional needs, and also to give the general, specialized, and technical training, so necessary in our increasingly complex society.

Students who enroll with one purpose will frequently change their objectives. It is the philosophy of this institution that all fields are worthy occupational areas for the individual, and all instructors and counseling personnel assume responsibility to assist the student in finding the educational program best suited to his interests and abilities. Transfer from one program to another will always be made if it seems desirable.

Selection of a Major: The selection of a major is an indication of the goal toward which the student concentrates his efforts, whether it be mastery of a field of knowledge or development of marketable competencies. If a student is undecided about his major, he may find assistance in making a decision by studying further this section of the catalog.

Career Programs

Nontransfer career programs at Cochise College are intended for the student who wishes to extend his education by completing two years of college. The programs offered in career studies are designed to prepare men and women for employment upon completion of two years of education rather than to satisfy the course requirements essential for transfer to a four-year college or university.

Career programs in merchandising, law enforcement, practical nursing, office careers, drafting, and civil technology are offered at Cochise. Each career program has been developed with the aid of business and industrial advisory committees to insure students of quality instruction and to enhance their opportunities for successful employment. (Information relating to additional occupational curricula may be secured through the Office of Admissions.)

Upon completion of the required two years of studies, students will receive an Associate in Arts or Associate in Science degree. The College Placement Bureau will assist graduates in finding permanent full-time positions in fields of specialization.

In addition to the established two-year career programs listed above, the college will offer a variety of occupational short-term, non-credit extension courses upon request of business and industry.

Curriculum Guides

The curricula outlined in the following pages include general education courses intended to broaden the student's understanding of himself and his world. It is assumed that through such courses the student will develop a sense of personal and social responsibility and understandings appropriate to his vocation and community affairs.

Civil Technology

The education of Civil Technicians at Cochise College is planned to most efficiently produce a graduate who will be effective and will be in demand in the field of Civil Engineering. The College studies develop a basic understanding of the arts and sciences needed, and the attainment of skills necessary in the performance of jobs common to civil engineering and construction. The technicians trained in this program may assist the civil engineer in planning, directing, inspecting, and supervising these kinds of projects.

Slight modifications of the program may be permissible during the sophomore year to prepare the student for specific employment opportunities.

SUGGESTED PROGRAM

Freshman Year

First Semester	Cr	Second Semester	Cr
Freshman Orientation	1	Physical Education	1
English 1a	3	Speech	3
Physical Education	1	Fine Arts Elective	3
Social Science Elective	3	Materials of Construction	2
Orientation to Civil Tech.	2	Plane Surveying	4
Genrl Engineering, Drawing (incl. blueprint reading)	3	College Algebra	3
Trigonometry	3		
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	16		

Sophomore Year

Third Semester	Cr	Fourth Semester	Cr
Physical Education	1	Physical Education	1
Social Science Elective	3	Elective	3
Elective	3	Concrete Materials	4
Route Surveying	3	Intro. to Hydraulics &	2
Physics	3	Hydrology	
Communications & Reports	3	Elements of Construction	3
	—	General Land Surveying	3
	16		
			16

TYPICAL EMPLOYMENT OPPORTUNITIES

Surveyor, construction foreman, estimator, structural draftsman, engineering aid, topographer, materials tester, materials salesman, specification writer

Drafting Technology

The curriculum in Drafting Technology develops draftsmen who prepare engineering documents or drawings for the transfer of ideas from the designer to the producer of products. Draftsmen are responsible for the completeness and accuracy of drawings, simple calculations, and records. Preparation for this career requires a knowledge of mechanics, mathematics, and building materials.

The program of studies for Drafting Technology may be obtained from the Office of Admissions.

Law Enforcement

The magnitude and complexity of today's law enforcement and rehabilitation activities dictate the need for appropriately educated law enforcement personnel. The program at Cochise College is designed to prepare graduates for the challenging and demanding opportunities which exist in public service and private industry.

The selection of law enforcement officers presents a diversified picture of minimum standards established by individual agencies. Failure to meet proper requirements may exclude persons from acceptance into the program. This program is open to both men and women.

SUGGESTED PROGRAM

Freshman Year

First Semester	Cr	Second Semester	Cr
Freshman Orientation	1	Speech	3
English 1a	3	Physical Education	1
Physical Education	1	Elective	3
Intro. to Law Enforcement	3	Police Organ. & Admin.	3
Social Science Elective	3	General Psychology	3
Elective	3	Elective	3
First Aid - Safety	2		
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	16		16

Sophomore Year

Third Semester	Cr	Fourth Semester	Cr
Communications & Reports	3	Defensive Tactics	1
Science Elective	3	Fine Arts Elective	3
Police Patrol Functions	3	Criminal Investigation	4
Criminal Law	4	Police Arsenal-Weapons	1
Elective	3	Arrest, Search, & Seizure	3
Health Education	1	Juvenile Delinquency	3
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	17		15

TYPICAL EMPLOYMENT OPPORTUNITIES

Industrial security officer, parole and probation officer, penal officer, patrolman (state, local), dispatcher, private investigator

Middle Management (Merchandising)

Students who select this dynamic career program may choose one of several avenues to successful employment to which a knowledge of marketing, merchandising, distribution (buying, selling, and promotion) is important. Outstanding graduates may be preferred candidates for junior executive positions.

The purpose of this career program is to combine a broad general education with an understanding of customer needs, and business and marketing practices. Second year students will receive valuable on-the-job training with pay in carefully selected merchandising institutions. This career program is open to both men and women.

SUGGESTED PROGRAM

Freshman Year

First Semester	Cr	Second Semester	Cr
English 1a	3	Speech	3
Physical Education	1	Science Elective	3
Social Science Elective	3	Business Law	3
Intro. to Business Finance	3	Fine Arts Elective	3
Salesmanship	3	Physical Education	1
Freshman Orientation	1	Principles of Marketing	3
Accounting 1	3		
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	17		16

Sophomore Year

Third Semester	Cr	Fourth Semester	Cr
Problems of Distribution	3	Trends and Practices in	12
Physical Education	1	Marketing & Management	
Economics	3	Seminar (Supervised on-	3
Intro. to Data Processing	3	job training)	
Communications & Reports	3		
Principles of Advertising	3		—
	—		15
	16		

TYPICAL EMPLOYMENT OPPORTUNITIES

Retail, wholesale, industrial salesman, buyer, merchandising assistant, assistant store or branch manager, warehouse supervisor, manufacturer's agent

Practical Nursing

The Practical Nursing program requires three semesters of study (or the equivalent thereof) and is designed to prepare students to function in a wide range of technical nursing skills under the supervision and guidance of the physician and professional nurse.

Classes are held on campus and in local hospitals where the class instruction and supervised practical nursing work aid the students to develop an understanding and competency of nursing, principles of skills. Upon completion of the program the student is eligible to take the state board examination for becoming a licensed practical nurse. This career program is open to men and women.

The curricular program of studies for practical nursing may be obtained from the Office of Admissions.

Secretarial Studies

Recent advances of business have opened a variety of opportunities in office careers. Interesting secretarial positions are available in government, foreign service, transportation, television, manufacturing, banking, and professional areas.

In accordance with the recommendations of office administrators the curriculum stresses mastery of office skills, English usage, and desirable personal traits.

In the program outlined, the student is advised to enter the skill classes which mark the present level of his or her proficiency in these fields. This career program is open to both men and women.

SUGGESTED PROGRAM

Freshman Year

First Semester	Cr	Second Semester	Cr
Freshman Orientation	1	English 1b or Speech	3
English 1a or Communications & Reports	3	Fine Arts Elective	3
Physical Education	1	Physical Education	1
Social Science Elective	3	Advanced Typing	3
*Intermediate Typing	3	Intermediate Shorthand	3
Elementary Shorthand	3	Office Procedures	3
Business Machines	2		—
	—		16
	16		

Sophomore Year

Third Semester	Cr	Fourth Semester	Cr
Elective	3	Science Elective	3
Social Science Elective	3	Physical Education	1
Physical Education	1	Elective	3
Advanced Shorthand	3	Business Law	3
Business Math or Acctg 1a	3	Personnel Psychology	3
Communications & Reports or Elective	3	College Secretarial Procedures	3
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	16		16

* Students who have had no typewriting background will, of course, enroll in beginning typewriting.

TYPICAL EMPLOYMENT OPPORTUNITIES

Executive secretary, copywriter, office machines specialist, account specialist, general secretary

Transfer Programs

For the student who wishes to extend his education further to include a bachelor's (four-year) degree, Cochise College offers the first two years of the four-year program. In addition he may remove any high school grade or subject deficiencies which are required for entrance to the four-year college or university of his choice.

Students who plan to transfer to Arizona universities, or to other colleges and universities, should consult the specific catalog with the aid of their counselors to determine lower division requirements for junior standing. Catalogs of major universities and colleges are available in the Library or the Student Personnel Office.

The student who plans to graduate from Cochise College and wishes to obtain junior standing in another college or university has five requirements to fulfill.

- (1) He must clear up any entrance deficiencies in grades or subject matter if the senior college to which he expects to transfer requires it;
- (2) He must fulfill the general requirements of the senior college which are prescribed for all students;
- (3) He must fulfill his own pre-major requirements, i.e., the lower division requirements for his upper division major;
- (4) He must fulfill the general education requirements of Cochise College, see academic regulations section of this catalog;
- (5) He must earn a cumulative grade point average of 3.000 or better.

Students taking this program should carefully check the catalog of the college or university to which they will transfer and consult their advisor before planning a two-year program.

ROTC Program

Under the provisions of the ROTC Vitalization Act of 1964, junior college men are now eligible to immediately enter the Advanced ROTC Program when they transfer to a four-year college or university. Information relative to this program may be secured from the Dean of Students.

Courses of Instruction

Numbering of courses -

Courses designated 1 through 99 carry college level credit. The number to the left of the title of the course is the identification number of the course, viz. 1a General Biology.

Courses carrying a letter designation X, viz. 01X Fundamental Mathematics, may be used to complete graduation requirements toward the Associate Degree but may not be counted as transfer courses.

Credit value -

The number to the right after the course title indicates the number of units of credit given for the semester. The course description, 7 Plane Surveying 4, would indicate that the course is one semester in duration and that four units of credit are given. The number of lecture and laboratory hours per week is given at the conclusion of each course description. When laboratory work is not indicated, the course is considered to be a lecture; the word "lecture" does not imply that class discussion or participation is not an essential part of the course work.

Prerequisites -

The prerequisites as shown in the description for each course must be met before enrollment in the course is permitted. Prerequisites stated are intended to insure that the student will have sufficient preparation to assure a reasonable chance of success.

Schedule of classes -

The College reserves the right to make additions or deletions to the list of course offerings during the year, or to cancel those sections in which enrollment is not great enough to justify continuance. The Semester Schedule, published each Fall and Spring, is the official list of courses offered.

Anthropology

1a	INTRODUCTION TO ANTHROPOLOGY	3 UNITS
	Prerequisite: None.	
	Origin and antiquity of man.	
	Lecture 3 hours.	
1b	INTRODUCTION TO ANTHROPOLOGY	3 UNITS
	Prerequisite: None.	
	Development of culture.	
	Lecture 3 hours.	
85a	NATIVE PEOPLES OF THE SOUTHWEST	3 UNITS
	Prerequisite: None.	
	Prehistoric Indians.	
	Lecture 3 hours.	
85b	NATIVE PEOPLES OF THE SOUTHWEST	3 UNITS
	Prerequisite: None.	
	Modern Indian groups.	
	Lecture 3 hours.	

Art

3	BASIC DESIGN	3 UNITS
	Prerequisite: None.	
	Elements of visual perception and organization in two- and three-dimensional media.	
	Lecture 2 hours, Laboratory 4 hours.	
6	BASIC DRAWING	3 UNITS
	Prerequisite: None.	
	Representational drawing and expressive pictorial design.	
	Lecture 2 hours, Laboratory 4 hours.	
7	SURVEY OF WORLD ART	3 UNITS
	Prerequisite: None.	
	Analysis and appreciation of the art and architecture of Western civilization through the Gothic era and the world of prehistoric and primitive cultures.	
	Lecture 3 hours.	
8	SURVEY OF WORLD ART	3 UNITS
	Prerequisite: None.	
	Analysis and appreciation of the art and architecture of Western civilizations, Renaissance through Modern times; important Eastern cultures, tracing the development of their national styles.	
	Lecture 3 hours.	

20

TWO DIMENSIONAL DESIGN

3 UNITS

Prerequisite: Art 2.

Manipulation, control, and structuralization of pictorial space, working with many materials. An historical and contemporary approach to composition.

Lecture 2 hours, Laboratory 4 hours.

31

THREE-DIMENSIONAL DESIGN

3 UNITS

Prerequisite: Art 2.

A studio course with an inquiry into the use of volume and mass relationships as they exist in actual space, experimentation in the use of various materials, and an emphasis upon the establishment of visually meaningful relationships.

Lecture 2 hours, Laboratory 4 hours.

45

BEGINNING FIGURE DRAWING

3 UNITS

Prerequisite: None.

Drawing of the human figure, with the emphasis on the organic form, relationships, motion, rhythm, and gesture; with a secondary emphasis on the figure in its environment.

Laboratory 6 hours.

80

BEGINNING PAINTING

3 UNITS

Prerequisites: Art 3, Art 6.

Elementary course in pictorial organization and in methods and techniques of oil painting.

Laboratory 6 hours.

Biology

B5
1a-1b

GENERAL BIOLOGY

4-4 UNITS

Prerequisites: 1a is a prerequisite for 1b.

Principles and concepts of biology, including historical development, with reference to organization, function, heredity, and evolution of micro-organisms, plants, and animals.

Lecture 3 hours, Laboratory 3 hours.

12

FOUNDATIONS OF SCIENCE: BIOLOGY

3 UNITS

Prerequisites: Chemistry 12 and Physics 12 or equivalent courses.

Basic concepts of both animals and plants; emphasis on the processes and interrelationships of living things with each other and their surroundings.

Lecture 2 hours, Laboratory 3 hours.

Botany

1	GENERAL BOTANY	4 UNITS
Prerequisites: Chemistry 2a, Chemistry 12, or high school chemistry.		
Basic course in botany for students of plant or animal science. An introduction to the principles of biology as illustrated by plants, with emphasis on morphology and physiology.		
Lecture 3 hours, Laboratory 3 hours.		

Business

1a-1b	PRINCIPLES OF ACCOUNTING	3 UNITS
Prerequisite: 1a is a prerequisite for 1b.		
Recording transactions, theory of debit and credit, classification of accounts, and preparation and interpretation of financial statements as applied to sole proprietorships, partnerships, and corporations.		
Lecture 3 hours, Laboratory 2 hours.		

3a-3b	INTERMEDIATE ACCOUNTING	3-3 UNITS
Prerequisites: Business 1a and 1b.		
Basic process and concepts of accounting; form and content of income statements and balance sheets, accounting for stockholder's equity, theory, and problems involved in accounting assets and liabilities, income determination, analysis and interpretation of financial statements.		
Lecture 3 hours, Laboratory 2 hours.		

4	BUSINESS MATHEMATICS	3 UNITS
Prerequisite: None.		
Fundamental business operations; percentages, interest, bank discount, ratio and proportion, measurements, partial payments, installment buying, personal borrowing, payroll and wage systems, consignment buying, social security taxes and benefit insurance, FHA financing, averages, and graphical presentations.		
Lecture 3 hours.		

6	ELEMENTARY TYPING	3 UNITS
Prerequisite: None.		
Development of basic typewriting skills and techniques. Introduction to letter styles and forms, tabulations, and manuscript writing. Students who have had typing in high school should enroll in Business 7.		
Laboratory 5 hours.		

7	INTERMEDIATE TYPING	3 UNITS
	Prerequisite: Business 6, or high school typing, or permission of the instructor.	
	Improvement of typewriting skills; stresses techniques and accuracy in problem typing, as well as net rate in time writings. Includes all styles of business letters and business forms.	
	Laboratory 3 hours.	
8	ADVANCED TYPING	3 UNITS
	Prerequisite: Business 7 or permission of the instructor.	
	Further development of typewriting skill; special problems in business letters, manuscripts, tabulation, and various business forms.	
	Laboratory 4 hours.	
9	SURVEY OF AMERICAN BUSINESS	3 UNITS
	Prerequisite: None.	
	Fundamental characteristics and functions of modern business, with emphasis on career opportunities and business finances.	
	Lecture 3 hours.	
10	ELEMENTARY SHORTHAND	3 UNITS
	Prerequisites: Business 6 or equivalent, a minimum grade of 3 in English, or permission of the instructor.	
	Emphasis on theory. Students are expected to attain a minimum speed of 60 words a minute on familiar material and to make accurate transcriptions. Students who have had shorthand in high school should enroll in Business 11.	
	Laboratory 5 hours.	
11	INTERMEDIATE SHORTHAND	3 UNITS
	Prerequisite: One year of shorthand in high school, or Business 10 with a grade of 3 or better, or permission of the instructor.	
	Improvement of shorthand skills; development of dictation speed to a minimum of 80 words a minute on new material.	
	Laboratory 5 hours.	

12 ADVANCED SHORTHAND & TRANSCRIPTION 3 UNITS
Prerequisite: Business 11 with grade of 3 or better, or two years of shorthand in high school, or permission of the instructor.
Emphasis on dictation, vocabulary development, and transcription. Students are expected to attain a minimum skill of 100 words a minute on new material.
Laboratory 5 hours.

18 CALCULATING MACHINES 2 UNITS
Prerequisite: None.
Practice and development of skill in operating rotary calculators, key-driven calculators, ten-key and full-key adding machines, and printing calculators.
Laboratory 2 hours.

21 TAXATION PRINCIPLES AND PROCEDURES 3 UNITS
Prerequisites: Business 1a, 1b.
Tax laws, accounting procedures, and preparation of required United States and Arizona Income Tax Returns as they apply to individuals and business. This course is intended for those who do not anticipate specialization beyond the junior college level, but is of college level and may in some cases be accepted for transfer.
Lecture 3 hours.

31 BUSINESS LAW 3 UNITS
Prerequisite: None.
Basic legal principles involved in laws of contracts, negotiable instruments, property, business organizations. Special attention given to Arizona Statutes and court cases. Intended for those who do not anticipate specialization beyond the junior college level, but is of college level and may in some cases be accepted for transfer.
Lecture 3 hours.

51 INSURANCE 3 UNITS
Prerequisite: None.
Principles and practices of insurance including coverage available, buying methods, procedures for settling claims, and analysis of contracts and forms purchased by the average individual.
Lecture 3 hours.

53	SALESMANSHIP Prerequisite: None. Career opportunities in sales work, practical and psychological factors in selling, development of desirable sales personality, current techniques in conducting sales campaigns. Members of the class will engage in practical sales demonstrations. Lecture 3 hours.	3 UNITS
55	PRINCIPLES OF MARKETING Prerequisite: Business 53. Principles involved in the distribution of goods and services from the producer to the ultimate consumer, including functions of wholesaling, retailing, direct selling, risk taking, storage, etc. Lecture 3 hours.	3 UNITS
57	PROBLEMS OF DISTRIBUTION Prerequisite: Business 55. Case study and individualized approach to problems encountered by business men and women in distribution. Students will study in depth facets of distribution which are particularly appealing to them and which have specific vocational significance. Lecture 3 hours.	3 UNITS
59	PRINCIPLES OF ADVERTISING Prerequisite: None. Role of advertising in distribution, including advertising media, advertising organizations, advertising copy, layout, and production. Lecture 3 hours.	3 UNITS
62	OFFICE PROCEDURE Prerequisite: None. General office procedures, including duties of office workers, personal qualifications, systems of filing, preparation of reports, handling mail, and operation of duplication machines most commonly found in business offices. Lecture 3 hours.	3 UNITS
64	COLLEGE SECRETARIAL PROCEDURES Prerequisite: Business 62. Finishing course for secretarial students, including study of office organization, layout, work flow, procedure, standards, personnel, and supervision procedures. Lecture 3 hours.	3 UNITS

72 INTRODUCTION TO DATA PROCESSING 3 UNITS
Prerequisite: None.
Survey of data processing, including the history of tabulating machines and electronic computers and the role of the punch card in data processing descriptions. Functions of various machines, introduction to the use of programming of electronic computers, study of systems, procedures, and charting.
Lecture 3 hours.

91 TRENDS AND PRACTICES IN MARKETING MANAGEMENT 12 UNITS
Prerequisite: Business 57.
Culminating effort of students enrolled in the middle management program. Consists of paid supervised employment in wholesaling, retailing, service, or other distributive occupations. Students will normally live off campus in market areas.
Seminars by appointment.

93 SEMINAR IN MARKETING AND MANAGEMENT 3 UNITS
Prerequisite: Business 57.
Designed to dovetail theory and practice. Problems encountered by students in their training stations will be discussed. (To be taken concurrently with Trends and Practices in Marketing and Management.)
Lecture 3 hours.

Chemistry

2a GENERAL CHEMISTRY 4 UNITS
Prerequisites: One year of high school chemistry with a grade of 3 or better, or Chemistry 12 and Math 11.
Introduction to the general principles of chemistry, emphasis upon quantitative relationships; properties of matter are related wherever possible to present concepts of atomic structure.
Lecture 3 hours, Laboratory 3 hours.

2b GENERAL CHEMISTRY 4 UNITS
Prerequisites: One year of high school chemistry with a grade of 3 or better, or Chemistry 12 and Math 11.
Continuation of Chemistry 2a with emphasis upon chemical equilibrium and a study of the elements through group relationships on periodic tables. Principles of ionic equilibrium are studied in the laboratory by means of experiments in acid-base equilibria, solubility products, and a modified scheme of qualitative analysis.
Lecture 3 hours, Laboratory 3 hours.

Prerequisite: No previous chemistry background is assumed, and any mathematics needed will be developed in the course.

The classification and structure of matter and the principles of chemical reactions.

Lecture 2 hours, Laboratory 3 hours.

20a

QUANTITATIVE ANALYSIS**4 UNITS**

Prerequisites: Math 20 and Chemistry 2b.

Introduction to quantitative chemical analysis involving the fundamentals of volumetric and gravimetric analysis. Careful manipulative technique, integrity, and accuracy are stressed in the laboratory.

Lecture 2 hours, Laboratory 6 hours.

20b

QUALITATIVE ANALYSIS**4 UNITS**

Prerequisites: Math 20 and Chemistry 2b.

Theory and practice of qualitative inorganic analysis. Should be taken by students who plan to teach chemistry, study medicine, or do research work in science.

Lecture 2 hours, Laboratory 6 hours.

40a-40b

ORGANIC CHEMISTRY**4.4 UNITS**

Prerequisite: Chemistry 2b.

General principles of organic chemistry; laboratory preparation of organic compounds.

Lecture 3 hours, Laboratory 3 hours.

Civil Technology

1

ORIENTATION TO CIVIL TECHNOLOGY**2 UNITS**

Prerequisite: None.

The role of the technician in the field of civil engineering and land surveying; basic engineering principles, concepts of measurement, construction techniques, and related elementary problems in emphasizing the use of slide rule.

Lecture 2 hours.

2

GENERAL ENGINEERING DRAWING**3 UNITS**

Prerequisite: None.

Mechanical drafting as pertains to lettering, orthographic and pictorial dimensioning, sections, conventions, working drawings, and blueprint reading; for students who have not had mechanical drawing in high school.

Lecture 1 hour, Laboratory 4 hours.

5

TECHNICAL DRAWING**3 UNITS****Prerequisite: Civil Technology 2.**

Elementary course for students who have limited drawing experience. Use of templates, fundamentals of drawing and drafting room practice; symbols and standards; emphasis placed on construction and interpretation of typical industrial drawings.

Lecture 1 hour, Laboratory 4 hours.

6

MECHANICS OF MATERIALS**3 UNITS****Prerequisite: None.**

Relationships between external forces acting on elastic bodies and the stresses and deformations produced; axial, compression, tension, flexural, and combination loadings on members.

Lecture 2 hours, Laboratory 2 hours.

7

PLANE SURVEYING**4 UNITS****Prerequisite: Civil Technology 1.**

The use, care, and adjustment of surveying instruments; measuring distances; direct, differential, and profile leveling; plotting profiles, cross-sectioning, laying grade lines; computation; mapping; measuring angles and directions; traversing vertical and simple curves.

Lecture 2 hours, Laboratory 4 hours.

8

SUBDIVISION OF PUBLIC LANDS**2 UNITS****Prerequisite: Civil Technology 7.**

A study of the United States System of land surveying and the developments that have taken place recently.

Lecture 2 hours.

9

TOPOGRAPHICAL SURVEYING**3 UNITS****Prerequisite: Civil Technology 7.**

Use of transit stadia, plane table; astronomical observations; highway curves; mineral, private, and public land surveys; triangulation and application.

Lecture 1 hour, Laboratory 4 hours.

10

ARIZONA COORDINATE SYSTEM**2 UNITS****Prerequisite: Civil Technology 7.**

A study of coordinated system presently used in the State of Arizona for locating geographical positions.

Lecture 2 hours.

12	SHOP PROCESSES	2 UNITS
	Prerequisite: Permission of the instructor.	
	Information in the use of hand tools, machine tools, equipment, and various types of material which will be encountered.	
	Lecture and laboratory 4 hours.	
50	ELEMENTS OF CONSTRUCTION	2 UNITS
	Prerequisite: Civil Technology 62.	
	Basic elements of construction such as construction scheduling, equipment, and methods. Students will perform calculations in analysis of construction operation to determine such factors as cost, production, and economics of equipment use.	
	Lecture 3 hours.	
51	GENERAL LAND SURVEYING	3 UNITS
	Prerequisites: Math 24 or 44 and Civil Technology 62.	
	Theory of measurements and errors; vertical and horizontal control methods; topographic, public land, and construction surveys; use of surveying instruments.	
	Lecture 2 hours, Laboratory 3 hours.	
52	MATERIALS OF CONSTRUCTION	2 UNITS
	Prerequisite: Civil Technology 1.	
	Principal materials used in the construction of highways, buildings, utilities, and other structures.	
	Lecture 2 hours, Laboratory 3 hours.	
54	CONCRETE MATERIALS	4 UNITS
	Prerequisite: Civil Technology 52.	
	The study of aggregates, Portland cement, and Portland cement concrete, with laboratory exercises in standard testing procedures.	
	Lecture 3 hours, Laboratory 3 hours.	
55	APPLIED DESCRIPTIVE GEOMETRY	3 UNITS
	Prerequisite: Civil Technology 5.	
	A study of graphic analysis and the solution of typical three-dimensional space problems through the application of the principles of multiview projection. Fundamental problems are related to points, lines, planes, intersections, and development of plane and curved surfaces, revolution, and vector geometry.	
	Lecture 1 hour, Laboratory 4 hours.	

56	CONTRACT AND SPECIFICATIONS	2 UNITS
	Prerequisite: None.	
	A study of various classes of contracts and attending specifications. The inspection procedures required for contract enforcement.	
	Lecture 2 hours.	
58	INSPECTION PROCEDURES	3 UNITS
	Prerequisite: Civil Technology 52.	
	A study of various classes of contracts and attending specifications. The inspection procedures required for contract enforcement.	
	Lecture 3 hours.	
59	LAND MAPPING	3 UNITS
	Prerequisite: Civil Technology 5.	
	Topographic maps drawing; road maps as used by civilian and military agencies; contour and relief models, map projections. Descriptions of land, drawings of parcels and tracts of land; subdivision layout; boundary records and legal terms.	
	Lecture 1 hour, Laboratory 4 hours.	
60	STRUCTURAL DRAFTING	3 UNITS
	Prerequisite: Civil Technology 5.	
	Covers layout and detail drawing showing the design and construction of buildings, bridges, and other structures using such materials as steel, concrete, and timber.	
	Lecture 1 hour, Laboratory 4 hours.	
61	MACHINE DRAWING	3 UNITS
	Prerequisite: Civil Technology 5.	
	Advanced study and applications of detail and assembly drawings of machines, including technical sketching, precision dimensioning and tolerancing; representations and symbols.	
	Lecture 1 hour, Laboratory 4 hours.	
62	ROUTE SURVEYING	3 UNITS
	Prerequisite: Civil Technology 7.	
	A review of instrument adjustment, stadia and celestial observations. Advanced problems in horizontal, vertical, and easement curves will also be discussed.	
	Lecture 1 hour, Laboratory 4 hours.	
63	ARCHITECTURAL DRAFTING AND DESIGN	3 UNITS
	Prerequisite: Civil Technology 61.	
	Architectural design, methods and types of construction of important details of modern structures.	
	Lecture 1 hour, Laboratory 4 hours.	

64	CONSTRUCTION PROCEDURES	4 UNITS
	Prerequisites: Civil Technology 52 and Civil Technology 60.	
	Techniques of construction, including leveling and layout form building, scaffolding, structural bracing, uses of concrete. Application of building codes and specifications.	
	Lecture 3 hours, Laboratory 3 hours.	
65	INTRODUCTION TO HYDRAULICS AND HYDROLOGY	2 UNITS
	Prerequisite: Civil Technology 62.	
	Includes fundamental principles of liquid flow in pressurized conduits and open channels, hydraulic cycle, runoff collection, systems, and steam flow.	
	Lecture 2 hours.	
66	CONSTRUCTION LAW	2 UNITS
	Prerequisite: None.	
	Legal aspects of building codes, contractor's licenses, workmen's compensation, social security, state safety regulations, lien laws. Interpretations and applications of the laws pertaining to the construction industry.	
	Lecture 2 hours.	
67	WELDING PROCESSES	2 UNITS
	Prerequisite: Permission of the instructor.	
	Introduction to welding equipment and processes, with training in basic knowledges and the understanding of safety, equipment, and set-up, iron ore smelting, and refining of metals.	
	Laboratory 3 hours.	
68	HIGHWAY SURVEYING	3 UNITS
	Prerequisite: 10 hours of surveying including Civil Technology 59.	
	The fundamental principles of surveying and their application to problems involving highway construction.	
	Lecture 1 hour, Laboratory 4 hours.	

Drama

1a-1b	ACTING	3 UNITS
	Prerequisite: None.	
	Theories of dramatic art and practice in acting.	
	Lecture 3 hours.	

2a-2b	PRINCIPLES AND TECHNIQUES OF PLAY PRODUCTION	3 UNITS
Prerequisite: 2a is a prerequisite for 2b.		
Theories and practices of dramatic art: viz; acting, directing, scene designing, costuming, stage lighting, makeup, organization, and a brief history of the theatre.		
Lecture 3 hours.		

Economics

2a-2b	PRINCIPLES OF ECONOMICS	3.3 UNITS
Prerequisite: None.		
The American economic system, fundamental principles, basic areas of economic analysis, economic theories, and practical applications to current economic problems.		
Lecture 3 hours.		

Engineering

17	MECHANICS OF MATERIALS	4 UNITS
Prerequisites: Physics 3a and 3b.		
Material behavior; relationship between external forces acting on elastic and inelastic bodies and the resulting stress and strain; combined stresses.		
Lecture 3 hours.		

80	FIELDS OF STATIC AND MOVING CHARGES	3 UNITS
Prerequisites: Math 51, 52, 53.		
Introduction to static and time varying electric and magnetic fields; Coulomb's law, Gauss' law, Laplace's equation; Biot-Savart law, Ampere's law, and introduction to the interaction of electric and magnetic fields with materials.		
Lecture 3 hours, Seminar 1 hour.		

English

X	ENGLISH FUNDAMENTALS	3 UNITS
Prerequisite: None.		
Emphasis on reading and writing; intensive review of grammar, spelling, and other fundamentals. Cannot be transferred to a four-year institution.		
Lecture 3 hours.		
1		
1	COMPOSITION	3 UNITS
Prerequisite: English placement test or a grade of 3 in English X.		
Expository reading and writing, review of paragraph development, study of the larger units of composition, basic study of style, and preparation of reference papers.		
Lecture 3 hours.		

2	COMPOSITION Prerequisite: English 1. Advanced work in composition. Special emphasis on argumentative and persuasive writing and preparing research papers. Lecture 3 hours.	3 UNITS
4	INTRODUCTION TO LITERATURE Prerequisites: English 1 and 2 or permission of the instructor. Analysis of literary expression, the poem, drama, essay, biography, autobiography, novel, and short story. Lecture 3 hours.	3 UNITS
5	ENGLISH FOR BILINGUAL AND FOREIGN STUDENTS Prerequisite: None. For students whose native speech is not English. Will not meet English requirements in four-year institution. Lecture 3 hours.	3 UNITS
7	NARRATIVE WRITING Prerequisites: English 1 and 2 or permission of the instructor. A three-hour lecture and workshop in writing with emphasis on the creative aspects: short stories, novel, narrative sketch, etc. Lecture 3 hours.	3 UNITS
8	WRITTEN COMMUNICATIONS AND REPORTS Prerequisite: English placement test or a grade of 3 in English X. Development of skills for effective written communication. Stresses organization of factual and statistical materials, basic report style and format, and the functions and purpose of formal business communications. Lecture 3 hours.	3 UNITS
20a-20b	SURVEY OF ENGLISH LITERATURE Prerequisites: English 1 and 2 or permission of the instructor. A chronological study of some of the leading writers of English literature from the Old English period to the present day. Lecture 3 hours.	3-3 UNITS

24a-24b	AMERICAN LITERATURE	3.3 UNITS
	Prerequisites: English 1 and 2 or permission of the instructor.	
	A critical study of selected works of American prose and poetry.	

Lecture 3 hours.

26a-26b	WORLD LITERATURE	3.3 UNITS
	Prerequisites: English 1 and 2 or permission of the instructor.	
	Selections from the great literature of the world in translation. The first semester concludes with the period of the Renaissance; the second semester presents the leading works of literature since that time. 26a need not be taken before 26b.	

Lecture 3 hours.

French

1a-1b	ELEMENTARY FRENCH	4.4 UNITS
	Prerequisite: French 1a is a prerequisite for 1b.	
	Conversation, comprehension of the tongue, pronunciation, grammar, reading and writing skills.	

Lecture 4 hours.

50a-50b	INTERMEDIATE FRENCH	4.4 UNITS
	Prerequisite: French 1b or 2 years of high school French.	
	Continuation of essentials of French grammar and syntax. Readings from simple French prose. Intensive oral and written drills, conversation, and practice in composition.	

Lecture 4 hours.

Geography

5	ECONOMIC GEOGRAPHY	3 UNITS
	Prerequisite: None.	
	The world's resources and industries; agriculture, mineral resources, manufacturing, trade routes, and trade centers.	

Lecture 3 hours.

Geology

12	FOUNDATIONS OF SCIENCE: Geology	3 UNITS
	Prerequisites: Chemistry 12 and Physics 12.	
	Current theories on earth processes, the applications of these processes to understanding man's physical environment, and the problems that remain to be solved.	

Lecture 2 hours, Laboratory 3 hours.

Government

2	AMERICAN NATIONAL GOVERNMENT	3 UNITS
Prerequisite: None		
The national government of the United States, including constitutional principles, structure, and functions. This course is not open to those with credit in Govt 57. It fulfills the federal constitution requirement for an Arizona teaching certificate.		

Lecture 3 hours.

57	CONSTITUTIONAL GOVERNMENT — NATIONAL AND ARIZONA GOVERNMENT	3 UNITS
Prerequisite: Sophomore standing.		

The Constitution of the United States and the Constitution of Arizona. One-half of the time is given to the study of the Constitution of Arizona. The national and Arizona section of this course are both approved for teacher certifications. Students majoring in political science and planning to transfer to a four-year institution should take Govt 2 and not Govt 57.

Lecture 3 hours.

Health

54	HYGIENE	3 UNITS
Prerequisite: None.		
A survey of body functions in health and disease. Common diseases and their early symptoms. Consideration of personal, physical, and mental health; effect of exercise and fatigue and selection of proper foods.		

Lecture 3 hours.

70	FIRST AID AND SAFETY	2 UNITS
Prerequisite: None.		
This class includes both the standard and advanced Red Cross courses in first aid. Theory and practice in immediate and temporary care given in case of accident or sudden illness.		

Lecture 2 hours.

History

1a	HISTORY OF THE UNITED STATES	3 UNITS
Prerequisite: None.		
The development of the United States, stressing the forces which culminated in the Civil War. A development of the cultural, social, economic, diplomatic and political factors involved in the evolution of the American society.		

Lecture 3 hours.

1b

HISTORY OF THE UNITED STATES

3 UNITS

Prerequisite: None.

United States after the Civil War. An understanding of reconstruction, the growth of big business, and domestic and foreign problems developed as a basis for a comprehensive and intelligent evaluation of current problems. 1a is not a prerequisite for 1b.

Lecture 3 hours.

4a

HISTORY OF WESTERN CIVILIZATION

3 UNITS

Prerequisite: None.

Ancient civilizations, fusion of Mediterranean and Germanic cultures in the medieval period, the Renaissance, the Reformation and the spread of western civilization to the Americas and Asia.

Lecture 3 hours.

4b

HISTORY OF WESTERN CIVILIZATION

3 UNITS

Prerequisite: None.

Rise of modern liberalism and democracy, the French Revolution, tensions of the 19th century, and latest world developments.

4a is not a prerequisite for 4b.

Lecture 3 hours.

Humanities

50a-50b

HUMANITIES

4-4 UNITS

Prerequisites: Sophomore standing and English 1 and 2, or six units of freshman English.

Western man's cultural and philosophical development from ancient times to the present. Emphasis on the development of music, art, philosophy, and literature in a historical context.

Lecture 4 hours.

Journalism

1

NEWS WRITING AND REPORTING

3 UNITS

Prerequisite: Eligibility for English 1a or completion of 1a with a grade of 3 or better, or permission of the instructor.

Introductory lecture course in journalism, with emphasis on the development of skills needed for the gathering and reporting of news, with additional consideration of such topics as the newsworthiness of events, public relations, the newspaper as a mass medium, news coverage of specific types of events, news and feature writings, and newspaper ethics. News Writing Laboratory 2a or 2b may be taken concurrently.

Lecture 3 hours.

2a-2b

NEWS WRITING LABORATORY

3 UNITS

Prerequisite: Eligibility for English 1a or completion of English 1a with grade of 3 or better, or permission of the instructor.

Practical experience in news writing, feature writing, editing, make-up, headline writing, and advertising layout and copy. Students in the News Writing Laboratory may comprise the staff of the student newspaper. May be taken concurrently with Journalism 1.

Lecture and Laboratory 3 hours.

Law Enforcement

12

JUVENILE DELINQUENCY

3 UNITS

Prerequisite: Appropriate standing in Law Enforcement program or permission of the instructor.

History of the juvenile court system in the U. S. Analysis of delinquency in the family structure.

Lecture 3 hours.

60

INTRODUCTION TO LAW ENFORCEMENT

3 UNITS

Prerequisite: None.

Criminal and delinquent behavior in the U. S., including its variations, ramifications, explanations, and measures of prevention, control, and treatment.

Lecture 3 hours.

62

POLICE ORGANIZATION & ADMINISTRATION

3 UNITS

Prerequisite: Law 60.

Principles of organization and administration of Law Enforcement including recruitment, selection, training, discipline, and promotion.

Lecture 3 hours.

64

POLICE PATROL FUNCTIONS

3 UNITS

Prerequisite: Law 62.

Police patrol duties and responsibilities, including the distribution and supervision of forces; patrol procedures, police communications and records; traffic law enforcement and investigation; police functions in disaster and civil, racial, and labor disturbances.

Lecture 3 hours.

66

CRIMINAL LAW

4 UNITS

Prerequisite: Law 62, or permission of the instructor.

Substantive crimes and their punishment; parties to crime; rules and evidence; and criminal procedure.

Lecture 4 hours.

Prerequisite: Law 66.

Theory of investigating process including conduct at the crime scene, preservation and collection of physical evidence, the use of the police science laboratory, the investigation of specific crimes, including juvenile offenses, and interrogation techniques.

Lecture 3 hours, Laboratory 3 hours.

Prerequisite: Law 64.

Handling, care, and use of firearms to enable the policemen to cope with any situation where firearms are needed. Lectures supplemented by an intensive range program in deliberate, point, and defense shooting.

Lecture and laboratory 3 hours.

Prerequisite: Law 66.

Laws and arrest, search and seizure, confessions, trial and courtroom procedure.

Lecture 3 hours.

Mathematics

Prerequisite: None.

Emphasizes basic arithmetic concepts and drill in skills and techniques of computation. Designed for students with low scores on mathematics placement tests or who otherwise have indications of deficiency in mathematics. Includes number systems, number bases, fundamental operations with whole numbers, fractions, and decimals, measurement, percentage, approximate numbers, areas, volume. Credit toward AA degree only.

Lecture 3 hours.

Prerequisite: Acceptable score in placement examination or grade of 3 or better in Math 01X.

Covers the content of a complete first-year high school algebra course for students who have not earned credit in elementary algebra. Includes fundamental operations on integers, powers and exponents, special products and factoring of polynomials, algebraic fractions, functions, graphs, equations, quadratic formula. Credit toward AA degree only.

Lecture 3 hours.

03X

PLANE GEOMETRY

3 UNITS

Prerequisite: One year high school algebra or Math 02X. Covers the content of a complete high school plane geometry course for students who have not earned credit in plane geometry. Includes elementary logic, congruence, parallelograms, circles, inequalities, similar polygons, loci, constructions, area. Credit toward AA degree only. Lecture 3 hours.

11

INTERMEDIATE ALGEBRA

3 UNITS

Prerequisites: One year of high school algebra and one year high school geometry or Math 03X.

Covers the content of advanced high school algebra, hence not open for credit to students who have earned credit in such a course. Includes real number system, polynomials, fractions, first and second degree equations, radicals, functions, and graphs, simultaneous systems, sequence and series, exponential and logarithmic functions. Lecture 3 hours.

12

BASIC CONCEPTS OF NUMBER

3 UNITS

Prerequisite: Two years of high school mathematics, not including general mathematics, or one year of college mathematics not including Math 01X.

The nature of number and of systems of enumeration, the logical structure of arithmetic; informal and formal geometry. Emphasis is on developing a basis for understanding the common processes of arithmetic and the metric and non-metric relations in geometry.

Lecture 3 hours.

20

COLLEGE ALGEBRA

3 UNITS

Prerequisites: Math 03X and one and one-half years of algebra in high school or Math 11.

Includes sets, logic of algebra, inequalities, absolute values, functions and graphs, linear and quadratic functions, determinants, polynomial functions, inverse functions, permutations and combinations, binomial theorem, mathematical induction, exponential and logarithmic functions, and complex numbers.

Lecture 3 hours.

24

PLANE TRIGONOMETRY

3 UNITS

Prerequisite: Math 20 or approval of instructor.

Includes trigonometric functions, identities, related angles, radian measure, graphs, functions of two angles, equations, logarithms, right and oblique triangles, inverse functions, complex numbers.

Lecture 3 hours.

Prerequisite: Permission of the instructor.

Multiplication and division, ratio and proportion, areas and circumference of circles, square root, cube root, logarithms, trigonometric functions, theory and practice of placing decimal point in all operations.

Lecture 1 hour.

44

COLLEGE ALGEBRA AND TRIGONOMETRY 5 UNITS

Prerequisites: Math 03X and two years of high school algebra or Math 11.

Includes sets, logic of algebra, inequalities, absolute values, functions and graphs, circular functions, linear and quadratic functions, determinants, polynomial functions, inverse functions, permutations and combinations, binomial theorem, mathematical induction, exponential and logarithmic functions, applications of circular functions, complex numbers.

Lecture 5 hours.

51

ANALYTICAL GEOMETRY WITH CALCULUS 4 UNITS

Prerequisite: Four years of high school mathematics with permission of the instructor or Math 20 and Math 24 or Math 44.

A brief review of absolute value and inequality, relations, functions and graphs. Geometry using algebraic methods (the straight line, circle, and selected special functions). Limits, continuity, definition of the derivative and anti-derivative. Definition of the definite integral. Differentiation of algebraic functions with applications to geometric and physical problems.

Lecture 4 hours.

52

ANALYTICAL GEOMETRY WITH CALCULUS 4 UNITS

Prerequisite: Math 51 with grade of 3 or better.

The conic sections, differentiation of trigonometric and exponential functions and their inverses, parametric equations, arc length, polar coordinates, vectors in a plane, formulas and methods of integration and some applications of integration.

Lecture 4 hours.

53

ANALYTICAL GEOMETRY WITH CALCULUS 4 UNITS

Prerequisite: Math 52 with grade of 3 or better.

Solid analytic geometry, functions of several variables, partial differentiation, multiple integrals, infinite series.

Lecture 4 hours.

CALCULUS AND DIFFERENTIAL EQUATIONS 4 UNITS
Prerequisite: Math 53 with grade of 3 or better.
 Ordinary, differential equations including series solutions. Topics from vector analysis, orthogonal functions and complex variables.
 Lecture 4 hours.

Music

1a-1b INTRODUCTION TO MUSIC 2-2 UNITS
Prerequisite: 1a is a prerequisite to 1b.
 An introduction to music listening illustrated with recordings of important musical literature of the eighteenth through twentieth centuries.
 Lecture 2 hours.

10(B)a-d COLLEGE BAND 1-1-1-1 UNITS
Prerequisite: Audition.
 The College Band studies and performs outstanding musical literature transcribed from orchestral repertory or composed for band. The band performs in concerts and at selected athletic events. Open to all students with playing experience who can demonstrate sufficient proficiency on their instrument.
 Daily rehearsal.

10(C)a-d COLLEGE CHOIR 1-1-1-1 UNITS
Prerequisite: Interview with director.
 The College Choir performs outstanding literature from various periods of musical composition. Open to all students. Previous choral experience is not required.
 Daily Rehearsal.

20(I) a-d ENSEMBLE 1-1-1-1 UNITS
Prerequisite: Two or three years playing experience in high school, or its equivalent.
 Duets, trios, quartets or larger ensembles of mixed or like instruments will study and perform music appropriate to the groups.
 Rehearsal 3 hours.

20(V)a-d ENSEMBLE 1-1-1-1 UNITS
Prerequisite: One or two years singing experience in high school, or its equivalent.
 Solos, duets, trios, or larger ensembles will study and perform appropriate vocal literature. Principally for the student specializing in voice.
 Rehearsal 3 hours.

13(V)a,b **VOICE - Individual Instruction** **1-1-1-1 UNITS**
Prerequisite: Permission of instructor.
Student prepares recital literature for jury performance.
Weekly lesson.

13(I) a,b **INSTRUMENT - Individual Instruction** **1-1-1-1 UNITS**
Prerequisite: Permission of instructor.
Student prepares recital literature for jury examination.
Weekly lesson.

32a-32b **THEORY** **3-3 UNITS**
Prerequisite: 32a is a prerequisite for 32b.
A systematic study of the rules of music. Ear training and
sight singing are emphasized.
Lecture 4 hours.

Philosophy

11a **INTRODUCTION TO PHILOSOPHY** **3 UNITS**
Prerequisite: None.
A study of man's interpretation of the nature and mean-
ing of reality, conduct, and of his own thinking.
Lecture 3 hours.

12a **LOGIC AND SCIENTIFIC METHOD** **3 UNITS**
Prerequisite: None.
A study of the principles of validity, clarity, inference,
and evidence.
Lecture 3 hours.

20b **PHILOSOPHIES OF THE EAST** **3 UNITS**
Prerequisite: None.
A study of Hinduism, Confucianism, Taoism, and Buddh-
ism.
Lecture 3 hours.

Physical Education

1 & 2 **PHYSICAL EDUCATION** **1 UNIT**
Prerequisite: None.
Skill development and student orientation to a number of
individual and team sports. These include Individual
Conditioning, Badminton, Table Tennis, Softball, Soccer,
Volley-ball, Handball, Tennis, selected Gymnastics and
Tumbling.
Activity 2 hours per week.

3 & 4

PHYSICAL EDUCATION

1 UNIT

Prerequisite: None.

Advanced knowledge and skill development of individual and team sports. Students may elect one activity each semester from the following:

- A. Gymnastics - including tumbling, trampolining, and apparatus.
- B. Handball and wrestling (men only).
- C. Modern dance (women only).
- D. Badminton and volley-ball.
- E. Bowling.
- F. Tennis.
- G. Golf.
- H. Swimming.

Activity 2 hours.

72

DEFENSE TACTICS

1 UNIT

Prerequisite: None.

Development of necessary physical, coordination, and self-defense skills for combating attackers.

Laboratory 3 hours.

Physics

2a-2b

GENERAL PHYSICS

4-4 UNITS

Prerequisite: Math 5 or permission of instructor.

2a is a prerequisite for 2b.

Lectures, demonstrations, and problems in mechanics, properties of matter, heat, sound, light, electricity and magnetism, and atomic and nuclear physics.

Lecture 3 hours, Laboratory 3 hours.

3a-3b

INTRODUCTORY PHYSICS WITH CALCULUS

4-4 UNITS

Prerequisite: Math 5.

Lecture the same as 2a-2b. Laboratory sections use calculus.

Lecture 3 hours, Laboratory 3 hours.

12

FOUNDATIONS OF SCIENCE: Physics

3 UNITS

Prerequisite: No previous physics background is assumed, and any mathematics needed will be developed in the course.

Presentation of basic concepts of physics with particular emphasis on modern physics.

Lecture 2 hours, Laboratory 3 hours.

Practical Nursing

10	PROFESSIONAL-VOCATIONAL RELATIONSHIPS	1 UNIT
	Prerequisite: Admission into the nursing program.	
	Introduction to practical nursing; history of nursing and medicine; vocational interest in nursing; qualifications; practical nursing as a profession; basic ethical and legal considerations; organizations in nursing.	
	Lecture 2 hours.	
12a	FUNDAMENTALS OF NURSING I	6 UNITS
	Prerequisite: Admission into the nursing program.	
	Principles involved in planning and giving basic nursing care to patients. Basic nutrition, fundamentals of pharmacology, micro-biology, and community and personal health. Guided experience in nursing care of selected patients in the hospital; discussion of and observation in clinics and community agencies. Introduction to social and economic implications of illness. Clinical work in local hospitals and agencies.	
	Lecture 7 hours, Laboratory 10 hours.	
12b	FUNDAMENTALS OF NURSING II	4 UNITS
	Prerequisite: Successful completion of first semester nursing courses.	
	Advanced principles and procedures involved in planning and giving nursing care to patients. Guided experience in giving nursing care to patients in the hospital situation; continuation of social and economic implications of illness; instruction, observation and experience in central supply, out-patient clinic and diet kitchen.	
	Lecture 2 hours, Laboratory 5 hours.	
14a	MEDICAL-SURGICAL NURSING I	3 UNITS
	Prerequisite: Admission into the nursing program.	
	Nursing problems of adults ill with medical and surgical conditions. Clinical pharmacology, clinical nutrition, rehabilitation, introduction to medical and surgical asepsis; emotional aspects of illness. Stress of interpersonal relationships; careful planning for total nursing care of a few patients.	
	Lecture 3 hours, Laboratory 9 hours.	

14b	MEDICAL-SURGICAL NURSING II	7 UNITS
Prerequisite: Successful completion of first semester nursing courses.		
Continuation of basic medical-surgical nursing of adults. Drug therapy, diet modification; emotional aspects of illness, stress on the patient as a person, careful planning of total patient care of a few patients. Clinical experience in local hospitals.		
Lecture 4 hours, Laboratory 9 hours.		
14c	MATERNAL-CHILD NURSING	8 UNITS
Prerequisite: Successful completion of the first two semesters of nursing.		
Physical and emotional changes in mother during normal maternity cycle; normal growth and development of child from birth through adolescence. Medical management, principles and techniques of nursing pertaining to normal maternity cycle and the newborn. Care of the child during common illnesses in relation to growth and development factors. Observation in clinics, nursery school and other child care agencies.		
Lecture 13 hours, Laboratory 25 hours.		
16	MENTAL HEALTH	3 UNITS
Prerequisite: Successful completion of first semester nursing.		
Nurse's role in care, treatment, and rehabilitation of the mentally ill; social and economic implications of mental illness; interpersonal skills and principles applicable to all areas of nursing. Discussion of community agencies concerned with mental health. Guided experience caring for patients in a general hospital.		
Lecture 3 hours.		
18	ADVANCED-PROFESSIONAL-VOCATIONAL RELATIONSHIPS	1 UNIT
Prerequisite: Successful completion of the first two semesters of nursing.		
Advanced concepts of interpersonal relationships, the nursing team, professional ethics, position applications. Will involve seminars, conferences, socio-dramas.		
Lecture 2 hours.		

Psychology

1	ORIENTATION TO COLLEGE	1 UNIT
	Prerequisite: None.	
	An orientation for the full-time freshman student to his new college environment. Students are introduced to the philosophy and objectives of the college as they relate to available curricula, staff, and facilities.	
	May in some cases be accepted for transfer credit.	
	Lecture 1 hour.	
2a-2b	ELEMENTARY PSYCHOLOGY	3-3 UNITS
	Prerequisite: None.	
	The behavior of man and animals through an analysis of the factors relating to total organic function. Includes description of basic research techniques.	
	Lecture 3 hours.	
13	CHILD PSYCHOLOGY	3 UNITS
	Prerequisite: None.	
	The principal changes in human beings from birth to adolescence.	
	Lecture 3 hours.	
14	ADOLESCENT PSYCHOLOGY	3 UNITS
	Prerequisite: None.	
	The principal changes in human behavior from the beginnings of adolescence to maturity; problems of social, vocational, and family adjustment.	
	Lecture 3 hours.	
23	PERSONNEL PSYCHOLOGY	3 UNITS
	Prerequisite: None.	
	Introduction to human behavior as it occurs in business and industry. Psychological views will be combined with business experience in such areas as selection, training, evaluation, promotion and supervision of employees. Course will also consider consumer behavior and the impact of consumer research, advertising, and selling.	
	Lecture 3 hours.	

Spanish

1x-2x	CONVERSATIONAL SPANISH	2-2 UNITS
	Prerequisite: A want or need for the conversational aspects of the course.	
	Students converse in groups using topics provided by the texts, recordings, pictures, study guides and real life situations. Credit cannot be transferred to four-year institution. 1x is not a prerequisite for 2x.	
	Lecture and Laboratory 2 hours.	

1a-1b	ELEMENTARY SPANISH	4-4 UNITS
Prerequisite: 1a is a prerequisite of 1b.		
For students with less than two years of high school Spanish; those who took Spanish but have been away from it for two or more years, and students with no experience. Comprehension of the spoken language, proper pronunciation, grammar, reading skills, composition and conservation.		
Lecture 4 hours, Laboratory 2 hours arranged.		
3a-3b	INTERMEDIATE SPANISH	4-4 UNITS
Prerequisites: Spanish 1b or two years of high school Spanish taken not earlier than one year prior to registration at Cochise and completed with average grade or better, or competency as demonstrated to the satisfaction of the instructor.		
Review of grammar, reading, writing, and speaking; introduction to simple literature (short stories, novels, plays).		
Lecture 4 hours (Spanish).		
75a-75b	INTERMEDIATE COMPOSITION AND CONVERSATION	2-2 UNITS
Prerequisite: Spanish 3b or completion of course similar to Spanish 3b (Mexican schooling above 6th grade, four years of high school Spanish).		
Topic-centered composition and discussion. Student will apply grammar and increase vocabulary from a variety of readings.		
Conversation 2 hours, Composition 1 hour (Spanish).		
104a-104b	INTRODUCTION TO SPANISH LITERATURE	3-3 UNITS
Prerequisites: Spanish 3b and permission of the instructor or completion of course similar to Spanish 3b (Mexican schooling above 6th grade, four years of high school Spanish) and permission of the instructor.		
An introduction to the works of many Spanish authors. An historical look at the literature of Spain. Spain as a background for its authors and as the origin of ideas that later permeate the Hispanic World.		
Lecture 3 hours (Spanish).		

Speech

3	FUNDAMENTALS OF SPEECH	3 UNITS
Prerequisite: None.		
Provides experience in assembling, organizing, and delivering speeches in an effective manner.		
Lecture 3 hours.		

4	PUBLIC SPEAKING	3 UNITS
	Prerequisite: Speech 3 or permission of the instructor	
	Beginning course in public speaking, with emphasis upon organization of effective thinking and effective delivery; required of all speech majors.	
	Lecture 3 hours.	

Sociology

1	INTRODUCTION TO SOCIOLOGY	3 UNITS
	Prerequisite: None.	
	Basic concepts and principles of sociology and an analysis of group behavior. Social institutions, processes, and change.	
	Lecture 3 hours.	
2	SOCIAL PROBLEMS	3 UNITS
	Prerequisite: None.	
	Nature and origins of the principal social problems of our time. Consequences of industrialization, rapid technological change, and resultant tensions of changing roles and status in groups and individuals. Types of remedial social action applicable in each situation.	
	Lecture 3 hours.	
10	EDUCATION FOR MARRIAGE	3 UNITS
	Prerequisite: None.	
	Courtship, choosing a mate, marriage, marital adjustment, handling personality conflicts, family budgeting, parenthood, and other aspects of family life.	
	Lecture 3 hours.	
12	JUVENILE DELINQUENCY	3 UNITS
	Prerequisite: None.	
	Delinquency viewed as a product of the society; the social factors of apprehension, treatment, and prevention.	
	Lecture 3 hours.	

Zoology

1a-1b	GENERAL ZOOLOGY	4-4 UNITS
	Prerequisite: Chemistry 2a or Chemistry 12 or high school chemistry.	
	An introduction to animal biology; structure and classification of vertebrates and a survey of invertebrate groups. Principles of genetics, ecology, and embryology. Dissection of typical vertebrate.	
	Lecture 2 hours, Laboratory 6 hours.	

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MAMMALIAN ANATOMY

4 UNITS

Prerequisite: None.

Consideration of the structure and dynamics of the mammalian mechanism.

Lecture 3 hours, Laboratory 3 hours.



GOVERNING BOARD (Left to right) Dr. William Harwood, Thomas Fleetham, Dr. Casper Weiss, Martin Gentry, Dr. George Spikes, Dr. Charles Di Peso.

GOVERNING BOARD

Thomas Fleetham, President

Dr. Charles Di Peso, Secretary

Dr. Casper Weiss

Dr. George Spikes

Martin Gentry

Dr. William B. Harwood, ex-officio member

Administration

ADMINISTRATIVE OFFICERS

WILLIAM B. HARWOOD	President
JOHN M. EATON	Dean of Instruction
JOHN T. CONDON	Dean of Institutional Research
JOHN J. CORKERY	Dean of Student Personnel
HOMER B. KOLIBA	Dean of Business Services
ALLAN L. PETERSON	Associate Dean of Instruction - Technical Education

BEATY, ROBERT L.

Physical Education, Health

B.S.E., M.Ed., University of Arkansas; Principal, Instructor, Coach, Farmington High School; Instructor and Coach, Douglas High School; Cochise College 1964.

CAMPBELL, DONALD R.

Mathematics

A.B., San Jose State College; M.A., Graduate Study, Stanford University; Commissioned Ensign, USNR Midship. Training, Columbia University; Instructor, Fremont Union High School, Campbell Union High School, San Mateo College; Head of Engineering Dept., San Jose City College, Assist. Professor, San Jose State College; Evening Instructor, Foothill College; Cochise College 1964.

CONDON, JOHN T.

**Dean of Institutional Research &
Professor of Humanities**

A.B., Whittier College; M.S.Ed., University of Southern California; Graduate Study, Stanford University; Teacher and Principal, Santa Maria School District; Principal, Jefferson School District; Adm. Asst. to Supt., Hayward Union High School; Research Asst. & Kellogg Fellow, School of Education, Stanford University; Cochise College 1964.

CORBETT, JAMES A.

Librarian, Philosophy

B.A., Colgate University; M.A., Harvard University; M.L.S., University of Southern California; Graduate Study, University of Oregon, University of Washington; Humanities Librarian, University of Oregon; Cochise College 1964.

CORKERY, JOHN J.

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