

Designed for students who intend to take calculus. Emphasizes study of the behavior and characteristics of functions from graphic, numerical, analytic, and applied perspectives. Includes trigonometric functions, general polynomial functions, rational functions, exponential functions, logarithmic functions, absolute value functions, functions with rational exponents, and sequences. Selected topics from analytic geometry and linear systems are also presented.

**MATH 140 Calculus With Analytic Geometry, First Course (5)**  
5 hours lecture

**Prerequisite:** A minimum grade of 'C' in MATH 135, or MATH 110 and MATH 115, or eligibility determined through the math placement process

**Transfer acceptability:** CSU; UC – MATH 130 and 140 combined: maximum credit, one course; CAN MATH 18; MATH 140+141=CAN MATH SEQ B; MATH 140+141+205=CAN MATH SEQ C

An introduction to analytic geometry, differentiation and integration of algebraic and transcendental functions of a single variable, and applications of differentiation.

**MATH 141 Calculus With Analytic Geometry, Second Course (4)**  
4 hours lecture

**Prerequisite:** A minimum grade of 'C' in MATH 140

**Transfer acceptability:** CSU; UC; CAN MATH 20; MATH 140+141= CAN MATH SEQ B; MATH 140+141+205=CAN MATH SEQ C

Continuation of MATH 140. Topics include definite integrals and their applications; methods of integration (including the use of modern computational technology as appropriate); indeterminate forms; improper integrals; sequences; infinite series; Taylor series; conic sections; polar coordinate; and parametric equations from analytic, graphic, and numeric perspectives.

**MATH 146 Fortran-90 for Mathematics and Science (3)**  
2 hours lecture-3 hours laboratory

**Prerequisite:** A minimum grade of 'C' in MATH 135 or MATH 110 and MATH 115, or a passing grade on the appropriate placement test

**Note:** Cross listed as CSCI 146

**Transfer acceptability:** CSU; UC

Programming in FORTRAN 90 to solve typical problems in mathematics, computer science, physical sciences, and engineering. Programming is done on a PC.

**MATH 197 Mathematics Topics (.5-4)**

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

**Prerequisite:** A minimum grade of 'C' in either MATH 56 or MATH 60, or eligibility determined through the math placement process

**Note:** May be taken 4 times

**Transfer acceptability:** CSU; UC – Credit determined by UC upon review of course syllabus

Topics in Mathematics. See Class Schedule for specific topic offered. Course title will designate subject covered.

**MATH 200 Introduction to Linear Algebra (3)**  
3 hours lecture

**Prerequisite:** A minimum grade of 'C' in MATH 141

**Transfer acceptability:** CSU; UC; CAN MATH 26

Matrices, determinants, vectors, linear dependence and independence, basis and change of basis, linear transformations, and eigen values.

**MATH 205 Calculus With Analytic Geometry, Third Course (4)**  
4 hours lecture

**Prerequisite:** A minimum grade of 'C' in MATH 141

**Transfer acceptability:** CSU; UC; CAN MATH 22; MATH 140+141+ 205=CAN MATH SEQ C

Vectors in the plane and space, three-dimensional coordinate system and graphing, vector-valued functions and differential geometry, partial differentiation, multiple integration, and vector calculus.

**MATH 206 Calculus With Differential Equations (4)**  
4 hours lecture

**Prerequisite:** A minimum grade of 'C' in MATH 205

**Transfer acceptability:** CSU; UC; CAN MATH 24

A first course in ordinary differential equations from analytic, geometric, numeric and applied perspectives (including the use of modern computational technology as appropriate). Topics include exact, separable, and linear equations; initial value and boundary-value problems; systems of first-order equations; reduction of order; undetermined coefficients; variation of parameters; series solutions; and Laplace transforms.

**MATH 245 Discrete Mathematics (3)**  
3 hours lecture

**Prerequisite:** A minimum grade of 'C' in MATH 130 or MATH 140, or a passing score on the appropriate placement test

**Transfer acceptability:** CSU; UC

The study of prepositional and predicate logic, number theory and methods of proof, elements of set theory, relations and functions, the Pigeonhole Principle, sequences, infinite sets, basic counting techniques, permutations, combinations, and applications directed to the field of computer science.

**Medical Assisting (MA)**

Contact the Life Sciences Department for further information.

(760) 744-1150. ext. 2275

Office: NS-207A

**Associate in Arts Degrees -**

AA Degree requirements are listed in Section 6 (green pages).

- Administrative Medical Assisting
- Clinical Medical Assisting

**Certificates of Achievement -**

Certificate of Achievement requirements are listed in Section 6 (green pages).

- Administrative Medical Assisting
- Clinical Medical Assisting

**PROGRAMS OF STUDY**

**Administrative Medical Assisting**

Provides specific skills for entry level positions as an administrative assistant in a physician's office or a medical clinic.

**A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT**

Program Requirements		Units
MA 50	Introduction to Medical Assisting	3
MA 55	Medical Terminology and Anatomy	3
MA 56	Medical Terminology and Anatomy	3
MA 60	Medical Insurance	3
BUS 105	Bookkeeping Fundamentals	3
BUS 125	Business English	3
OIS 101*	Beginning Keyboarding	0,3
OIS 102*	Intermediate Keyboarding	0,3
OIS 115	Filing and Records Management	1
OIS 205	Office Procedures	3
OIS 231.1	Medical Machine Transcription I	1
OIS 231.2	Medical Machine Transcription II	1
CE 100**	Cooperative Education	2
<b>TOTAL UNITS</b>		<b>26 - 32</b>

\* May be exempt by typing proficiency exam.

\*\* Cooperative Education must be related to this major.

**Clinical Medical Assisting**

Provides specific skills for entry level positions as a clinical assistant in a physician's office or a medical clinic.

**A.A. DEGREE MAJOR OR  
CERTIFICATE OF ACHIEVEMENT**

Program Requirements		Units
MA 50	Introduction to Medical Assisting	3
MA 55	Medical Terminology and Anatomy	3
MA 56	Medical Terminology and Anatomy	3
MA 65	Clinical Assisting: Patient Care	5
MA 66	Clinical Assisting: Diagnostic Procedures	5
MA 70	Supervised Clinical Experience	3.5
ZOO 145	Introduction to Anatomy and Physiology	3
BUS 125	Business English	3
OIS 101*	Beginning Keyboarding	0,3

**TOTAL UNITS 28.5 - 31.5**

\* May be exempt by typing proficiency exam.

**COURSE OFFERINGS**

Courses numbered under 100 are not intended for transfer credit.

**MA 50 Introduction to Medical Assisting (3)**

3 hours lecture

History and development of the medical profession and its specialties. Roles and functions of the medical assistant and medical assisting organizations. Principles of interpersonal relationships, professional attitudes, medical ethics, and law. Reception and scheduling of patients.

**MA 55 Medical Terminology and Anatomy (3)**

3 hours lecture

Basic medical terms with emphasis on word analysis and construction. Overview of anatomy and the pathological, diagnostic, therapeutic, and surgical terms related to the body as a whole and the integumentary, digestive, urinary, musculoskeletal, and male reproductive systems.

**MA 56 Medical Terminology and Anatomy (3)**

3 hours lecture

Basic medical terms with emphasis on word analysis and construction. Overview of anatomy and the pathological, diagnostic, therapeutic and surgical terms related to the cardiovascular, respiratory, hematologic, endocrine, and female reproductive systems, and to oncology.

**MA 60 Medical Insurance (3)**

3 hours lecture

Recommended preparation: MA 55 or 56

Provides entry-level skills training in medical insurance billing. Surveys private and government health and accident insurance plans and methods for preparing claim forms. Emphasis on compiling and extracting data for completion of forms.

**MA 61 Medical Insurance Coding (3)**

2 hours lecture-3 hours laboratory

**Prerequisite:** Completion of, or concurrent enrollment in, MA 55 or 56

Diagnosis and medical procedure coding utilizing International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology 4 (CPT-4) coding guidelines. Includes abstracting information from the medical record, utilizing computer coding techniques, and knowledge of strategies to promote accurate reimbursement of medical claims.

**MA 65 Clinical Assisting: Patient Care (5)**

3 hours lecture-6 hours laboratory

Preparation of patients and assisting physician with examinations, minor surgical procedures, and treatments. Recording medical histories and observations. Principles and methods of aseptic procedures, handling and care of instruments and supplies. Pharmacology with emphasis on preparation and administration of medication.

**MA 66 Clinical Assisting: Diagnostic Procedures (5)**

3 hours lecture-6 hours laboratory

Laboratory orientation and preparation of patients for diagnostic procedures. Specimen collection and handling. Basic urine and hematological tests. Emergency procedures.

**MA 70 Supervised Clinical Experience (3.5)**

10½ hours laboratory

**Prerequisite:** A minimum grade of 'C' in MA 50, 55, 56, 65 and 66. Current CPR Basic 'C' Certificate. A Physical Examination and Physician's Report (free of infectious disease and physically and emotionally able to perform the duties of the MA 70 class). Proof of the following: Tuberculin Test (PPD), Tetanus/Diphtheria immunization, Rubella/Measles Vaccine, and Hepatitis B Vaccine (first in the series of 3 must be received a minimum of 10 days prior to day 1 of MA 70 class). Must be 18 years of age prior to day 1 of clinical experience.

Supervised clinical (back office) experience in the physician's office, clinic, laboratory, or other appropriate health care facility. Students will assist the physician and medical staff to provide patient care, diagnostic procedures, and perform other duties delegated to the entry-level medical assistant with consideration of the ethical and legal implications. Clinical skills not prohibited by California regulations or the Clinical Laboratory Improvement Act of 1988 will be performed.

**MA 97 Medical Assisting Topics (.5-4)**

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

**Note:** May be taken 4 times

Topics in Medical Assisting. See Class Schedule for specific topic offered. Course title will designate subject covered.

**Microbiology (MICR)**

Contact the Life Sciences Department for further information.

(760) 744-1150. ext. 2275

Office: NS-207A

**COURSE OFFERINGS**

**MICR 110 Microbiology and Foods (3)**

2 hours lecture-2 hours lecture/laboratory

**Note:** Cross listed as FCS 110

**Transfer acceptability:** CSU

Introduction to the principles of microbiology with an emphasis on foodborne pathogens. Students will explore biological factors and controls relating to reproduction of microorganisms and the effects on public health. This course does not meet microbiology requirement for pre-health students.

**MICR 197 Microbiology Topics (.5-4)**

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

**Note:** May be taken 4 times

**Transfer acceptability:** CSU

Topics in Microbiology. See Class Schedule for specific topic offered. Course title will designate subject covered.

**MICR 200 Fundamentals of Microbiology (5)**

3 hours lecture-6 hours laboratory

**Prerequisite:** BIOL 102; or BIOL 200 and CHEM 104 or CHEM 100; or BIOL 100 and CHEM 104 or CHEM 100; or BIOL 105 and CHEM 104 or CHEM 100; or BIOL 101, BIOL 101L and CHEM 104 or CHEM 100

**Transfer acceptability:** CSU; UC; CAN BIOL 14

Fundamentals of microbiology including medical aspects of microbiology.

**Multicultural Studies (MCS)**

See also **Africana Studies, American Indian Studies, American Studies, Chicano Studies, Judaic Studies**

Contact the Multicultural Studies Department for further information.

(760) 744-1150. ext. 2206

Office: ST-28

**Certificates of Achievement -**

Certificate of Achievement requirements are listed in Section 6 (green pages).

• World Cultures