

ART 190 Occupational Work Experience/Commercial Art

Units: 1.0 TO 4.0 **Hours:** 5.0 TO 20.0 Laboratory
Transferable: CSU; GAV-GE:C1

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. May be taken for a maximum total of 16 units. Minimum 2.00 GPA. **REQUIRED:** Declared vocational major.

ASTRONOMY**ASTR 1 Introduction to General Astronomy**

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU, UC; CSU-GE:B1, IGETC:5A; GAV-GE:B1

An introduction to the realm of astronomy and space science. Topics to be covered include the historical development of astronomy, the physics of gravitation and radiation, the solar system, stellar astronomy, galactic and extragalactic astronomy, and cosmology. **ADVISORY:** Mathematics 205 and eligible for English 250 and English 260.

Athletics: see Kinesiology (KIN) or Noncredit PE

AVIATION FLIGHT TECHNOLOGY**AFT 134 Aviation Flight Technology**

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU

This course includes all aerodynamics, navigation, regulations, airport and airspace requirements, meteorology, and emergency procedures necessary to qualify for a private pilot certificate. **ADVISORY:** Completion of English 250 and English 260.

AVIATION MAINTENANCE TECHNOLOGY**AMT 100 General Aircraft Technology**

Units: 7.5 **Hours:** 5.0 Lecture and 7.5 Laboratory
Transferable: CSU

This course will provide the student with a thorough understanding of the use of basic hand tools and measuring devices, aircraft hardware, materials, and processes, mathematics and physical science for aircraft, aircraft weight and balance, aircraft drawing and blueprint reading. Both theory and practical application to aircraft systems is taught. **ADVISORY:** Mathematics 205

AMT 101 General Aircraft Technology

Units: 7.5 **Hours:** 5.0 Lecture and 7.5 Laboratory
Transferable: CSU

This course will provide the student with a thorough understanding of the use of maintenance publications, maintenance forms and records with emphasis on A & P Mechanic Privileges and Limitations. Basic electricity for aircraft from Ohm's Law through transistor theory will be taught as well as ground operation and servicing of aircraft. **ADVISORY:** Mathematics 205 Basic hand tools required. Details at the first class meeting.

AMT 110 Airframe Maintenance Technology

Units: 13.5 **Hours:** 9.0 Lecture and 13.5 Laboratory
Transferable: CSU

Study of aircraft aerodynamics, rigging and assembly, aircraft sheet metal structures and welding technology. Also the study of cabin atmosphere systems, fuel systems, and line maintenance, level information on aircraft instruments. Each of these areas will be accompanied with appropriate laboratory time. Basic hand tools required. Details at the first class meeting.

AMT 111 Airframe Structures

Units: 13.5 **Hours:** 9.0 Lecture and 13.5 Laboratory
Transferable: CSU

This course will cover aircraft wood, fabric covering, test and repair, aircraft inspection, painting techniques and procedures. Also the study of basic hydraulic systems of anti-skid systems, pneumatic, fixed landing and retractable landing gear systems. Basic aircraft systems familiarization along with advanced laboratory projects from topics covered in AMT 110 are a part of this course. Basic hand tools required. Details at the first meeting.

AMT 120 Aviation Powerplant Technology

Units: 14.0 **Hours:** 9.0 Lecture and 15.0 Laboratory
Transferable: CSU

This course is part of the curriculum required by the Federal Aviation Administration to obtain certification as an aircraft powerplant maintenance technician. This certificate allows the rated technician to perform maintenance, preventive maintenance repairs and alterations to USA FAA certificated aircraft powerplants. This Section covers the theory and practical application of operation, overhaul practices, inspection, installation, testing and troubleshooting techniques covering the subject areas of reciprocating and turbine engines, ignition, induction, supercharging, cooling and exhaust systems. **ADVISORY:** Successful completion of AMT 101 and AMT 111. Basic hand tools required. Details at the first class meeting.

AMT 121 Aviation Powerplant Systems Technology

Units: 14.0 **Hours:** 9.0 Lecture and 15.0 Laboratory
Transferable: CSU

The theory of operation, maintenance, repair, and trouble-shooting procedures of powerplant systems and their relationship to the total powerplant package. To include lubrication, electrical, instrument, fuel metering, fire protection, starting, control systems, and the aerodynamics, theory and maintenance of propellers and their control systems. **ADVISORY:** Successful completion of AMT 120. Basic hand tools required. Details at the first class meeting.

AMT 190 Occupational Work Experience/Aviation

Units: 1.0 TO 4.0 **Hours:** 5.0 TO 20.0 Laboratory
Transferable: CSU

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. May be taken for a maximum total of 16 units. Minimum 2.00 GPA. **REQUIRED:** Declared vocational major.

Beauty School: see Cosmetology

BIOLOGICAL SCIENCE**BIO 1 General Biology**

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3; CAN:BIOL2, BIOL SEQ A

A general biology course with an emphasis on the structure and function of cells, cell respiration, photosynthesis, cell cycle, Mendelian and non-classical genetics, evolution and diversity of life. The course is required for students majoring in biology and/or its subcategories (e.g., plant or animal sciences). **PREREQUISITE:** Biological Science 10 with a grade of 'C' or better and Mathematics 233 with a grade of 'C' or better. **ADVISORY:** Chemistry 30A; eligible for English 250 and English 260.

BIO 4 General Zoology

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3; CAN:BIOL4, BIOL SEQ A

The classification, ecology, evolution and systems analysis of biological functions in major taxonomic groups of animals from Protists through to Chordata. **PREREQUISITE:** Mathematics 233 with a grade of 'C' or better. **ADVISORY:** Eligible for English 250 and English 260.

BIO 5 General Botany**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3; CAN:BIOL6, BIOL SEQ A

This course is designed for students majoring in botany and/or its related disciplines. The course includes the study of the ecology, evolution, anatomy, physiology and systematics of plants as well as the use of plants in biotechnology and agriculture. **PREREQUISITE:** Mathematics 233 with a grade of 'C' or better. **ADVISORY:** Biological Science 10, eligible for English 250 and English 260.

BIO 7 Human Anatomy**Units:** 4.0 **Hours:** 2.0 Lecture and 6.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3; CAN:BIOL10, BIOL SEQ B

A functional approach to the gross and microscopic structure of the major systems of the human body. Includes dissection in lab. A cadaver is observed in this course. **PREREQUISITE:** Biological Science 10 or 15 with a grade of credit or C or better. **ADVISORY:** Eligible for English 250, English 260 and Mathematics 205.

BIO 8 General Microbiology**Units:** 5.0 **Hours:** 4.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3; CAN:BIOL14

An introduction to microbiology with an emphasis on bacteriology. Includes the study of morphology, physiology and classification of microorganisms, a survey of infectious disease, immunology and techniques for culture and control of microorganisms. This course is also listed as Allied Health 8. **PREREQUISITE:** Biological Science 10 or 15 with a grade of credit or C or better. **ADVISORY:** Chemistry 30A and Chemistry 30B; Eligible for English 250, English 260 and Mathematics 205.

BIO 9 Human Physiology**Units:** 5.0 **Hours:** 4.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3; CAN:BIOL12, BIOL SEQ B

A study of the functions of the major organs and organ systems of the human body, emphasizing control at the cellular level, integration of systems and homeostasis of the human body. This course is also listed as Allied Health 9. **PREREQUISITE:** Biological Science 7 or 15 with a grade of credit or C or better. **ADVISORY:** Chemistry 30A and Chemistry 30B; eligible for English 250, English 260 and Mathematics 205.

BIO 10 Principles of Biology**Units:** 4.0 **Hours:** 3.0 Lecture and 2.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3

An introductory biology course covering functions at the cellular and organismal levels. Includes study of the basic principles of metabolism, heredity, evolution and ecology. Primarily for non-biological science majors. **ADVISORY:** Eligible for English 250, English 260 and Mathematics 205.

BIO 11 Nutrition**Units:** 3.0 **Hours:** 3.0 Lecture**Transferable:** CSU, UC; CSU-GE:E2; GAV-GE:E2, F; CAN:FCS2

This course is designed to meet the needs of the Allied Health student and the general education student alike. The major aim of this course is to help the student acquire relevant information about nutrition which they can use professionally and/or personally. The course will cover the practical aspects of normal nutrition, ways to promote sound eating habits throughout the life cycle, and physiological contribution nutrients make to body structure and function. This course is also listed as Allied Health 11. **PREREQUISITE:** Eligible for English 250 and English 260 **ADVISORY:** Chemistry 30A and Mathematics 205

BIO 12 Introduction to Human Biology**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B

This course will provide an introduction to human biology for non-science majors to meet general education laboratory science requirements. It will cover the biologic principles of basic body structure and function including all systems of the body, genetic diseases, and biotechnology. This course satisfies the same general education life science requirements as Biology 10 and Ecology 1.

BIO 13 Marine Biology**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3

The course provides a comprehensive overview of marine ecosystems, emphasizing the diversity of life inhabiting them. The physical, chemical and ecological features of the marine environment are reviewed and the evolutionary adaptations that allowed marine organisms to survive are emphasized. Although the overall focus will include ecosystems found in both tropical, subtropical, temperate and arctic regions, many of the practical examples will be drawn from the rich ecosystems of the central California coast and labs will provide hands-on experience of the diversity of life forms found in this area. Practical exercises will include viewing of specimen in the laboratory, short documentaries followed by discussion and field trips to coastal locations within the Monterey Bay and vicinity to view and explore specific ecosystems such as kelp forests, the intertidal, and estuarine areas, as well as learn about local marine species such as birds and mammals.

BIO 15 Survey of Human Anatomy and Physiology**Units:** 5.0 **Hours:** 4.0 Lecture and 3.0 Laboratory**Transferable:** CSU, UC; CSU-GE:B2, B3, IGETC:5B; GAV-GE:B2, B3

An introductory study of the structure and function of the human body. Includes study at the cellular and organ system levels, emphasizing integration of systems. Note that a cadaver will be observed in this course. This course is also listed as Allied Health 15. **ADVISORY:** Biological Science 10, Eligible for English 250, English 260 and Mathematics 205. Course will include the viewing of a cadaver.

BIO 21 Field Ecology**Units:** 1.0 TO 4.0 **Hours:** 1.0 TO 4.0 Lecture**Transferable:** CSU

Introduces concepts in ecology, plant and animal identification, natural history, and habitat assessment in a field setting. The class will have a two hour preliminary meeting to prepare for two successive meetings to local habitats. Camping is not required. Outings will be rescheduled in the case of inclement weather. This course has the option of a letter grade or pass/no pass. May be repeated twice for credit. **ADVISORY:** Eligible for English 250 and Math 205.

BIOTECHNOLOGY**BIOT 103 Biotechnology Lab Skills and Instrumentation****Units:** 4.0 **Hours:** 2.0 Lecture and 6.0 Laboratory**Transferable:** CSU

Introduction to biotechnology laboratory skills. Techniques will include measuring, aseptic technique and transfer skills, preparation of buffers and other solutions, basic media preparation and dilutions, electrophoresis. Includes use and care of instruments such as microscope, spectrophotometer, centrifuge, pH meter, mechanical and micropipettes, autoclave, and electronic balance. Will also include keeping of a notebook, report writing and calculations. **ADVISORY:** Completion of any high school science course with a grade of 'C' or better; eligible for English 250; eligible for Math 205.

BIOT 104 Seminar in Biotechnology**Units:** 1.0 **Hours:** 1.0 Lecture**Transferable:** CSU

This course will survey careers in biotechnology and ethical issues in biotechnology.

BIOT 105 Advanced Biotechnology Laboratory**Units:** 4.0 **Hours:** 2.0 Lecture and 6.0 Laboratory**Transferable:** CSU

This course is part of the Biotechnology program, and builds on skills learned in Biotechnology 103. Students will learn and apply techniques used in biotechnology research, investigation and production. This course provides hands-on experience with current techniques including DNA isolation and electrophoresis, immunological assays, PCR, cell culture, cloning and gene mapping, DNA extraction and purification, chromatography, and analysis of proteins. **PREREQUISITE:** BIOT 103, or BIO 1, or equivalent course.