

AMT 101 General Aircraft Technology**Units:** 9.0 **Hours:** 7.5 Lecture and 5.0 Laboratory

This course is an FAA Part 147 course designed to prepare the student for their FAA Airframe and Powerplant (A and P) certificate. This course will provide the student with a thorough understanding of the use of maintenance publications, maintenance forms and records with emphasis on A and 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. Both theory and practical application to aircraft are taught. Approval from a Gavilan College counselor must be obtained before registering for this class. **COREQUISITE:** AMT 111, Airframe Structures. **ADVISORY:** Mathematics 430.

AMT 110 Airframe Maintenance Technology**Units:** 13.5 **Hours:** 9.0 Lecture and 13.5 Laboratory

This course is an FAA Part 147 course designed to prepare the student for their FAA Airframe certificate. The course will provide the student with a thorough understanding of airframe structures; metal structural repair; aircraft welding; aircraft instruments; communications and navigation systems; fuel systems; and cabin environmental systems. Both theory and practical application to aircraft systems is taught. **COREQUISITE:** AMT 100, General Aircraft Technology. **ADVISORY:** Mathematics 430

AMT 111 Airframe Structures**Units:** 13.5 **Hours:** 9.0 Lecture and 13.5 Laboratory

This course is an FAA Part 147 course designed to prepare the student for their FAA Airframe certificate. The course will provide the student with a thorough understanding of nonmetallic aircraft structures including wood, fabric, composite structures. Also the study of hydraulic and pneumatic power systems; landing gear systems; electrical systems; and assembly and rigging. Both theory and practical application to aircraft systems is taught. **COREQUISITE:** AMT 101, General Aircraft Technology. **ADVISORY:** Mathematics 430.

AMT 120 Aviation Powerplant Technology**Units:** 13.5 **Hours:** 9.0 Lecture and 13.5 Laboratory

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. **PREREQUISITE:** Successful completion of AMT 100 and AMT 111. Basic hand tools required. Details at the first class meeting.

AMT 121 Aviation Powerplant Systems Technology**Units:** 13.5 **Hours:** 9.0 Lecture and 13.5 Laboratory

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 certified aircraft powerplants. This section covers theory of operation, maintenance, repair, and troubleshooting procedures of powerplant systems and their relationship to the total powerplant installation package. To include lubrication, electrical systems, instrument systems, fuel metering, fire protection, starting systems, powerplant control systems, and the aerodynamics, theory and maintenance of propellers and their control systems. **PREREQUISITE:** Successful completion of AMT 100 and 101. Basic hand tools required. Details at the first class meeting.

All courses listed here are part of Gavilan College's approved curriculum.
All courses are not offered every semester. Check the Class Schedule for current offerings.

AMT 123 Independent Study**Units:** 1.0 TO 2.0 **Hours:**

Designed to afford selected students specialized opportunities for exploring areas at the independent study level. The courses may involve extensive library work, research in the community, or special projects. May be repeated until six units of credit are accrued. This course has the option of a letter grade or pass/no pass. **REQUIRED:** The study outline prepared by the student and the instructor must be filed with the department and the dean.

AMT 190 Occupational Work Experience, Aviation**Units:** 1.0 TO 4.0 **Hours:** 3.3 TO 16.7 Laboratory

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. Student repetition is allowed per Title 5 Section 55253. Minimum 2.00 GPA. **REQUIRED:** Declared vocational major.

AMT 225 Introduction to Unmanned Aircraft Systems**Units:** 3.0 **Hours:** 3.0 Lecture

This course introduces students to the foundations of unmanned aerial systems including the history, UAS systems, maintenance, payloads, data links, ground support equipment, classes of UAS systems, categories, applications, mission planning and control and recovery systems.

AMT 226 UAS Flight Operations and Pilot Certification**Units:** 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory

This course will instruct students in the basic flight operations for both fixed wing and rotor wing aircraft, as well as prepare them to take the FAA pilot certification exam.

AMT 227 UAS Aerial Photography and Videography**Units:** 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory

This course is designed to provide the student with the skills which will allow them to capture and analyze photos and videos from drones. Emphasis is placed on cameras and image software available, applications, and techniques for analyzing imagery.

AMT 228 UAS Maintenance Technician**Units:** 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory

This course is designed to provide students with the skills to maintain and repair small unmanned aerial systems (UAS). Emphasis is on the various systems, including the fuel, electrical, flight control and power plant systems as well as digital central processor assembly and system support equipment. Also covers system performance criteria, operational safety, inspection techniques and diagnosis of the UAS.

BIOLOGY**BIO 1 Cell and Molecular Biology****Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE:B3

A general biology course with an emphasis on the structure and function of cells, biological molecules, homeostasis, cell respiration, photosynthesis, cell life cycle and its controls, cellular communication, Mendelian and non- classical genetics, evolution and diversity of life. The philosophy of science, methods of scientific inquiry and experimental design are foundational to the course. The course is required for students majoring in biology and/or its subcategories (e.g., plant or animal sciences). (C-ID: BIO 190) **PREREQUISITE:** Biological 10 or Biology 12 or Environmental Science 1 with a grade of 'C' or better, and Chemistry 1A and Mathematics 240 with a grade of 'C' or better. **ADVISORY:** Eligible for English 250 and English 260.

BIO 4 General Zoology**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE:B3

General Zoology is designed for students exploring a career and majoring in Biology. This course uses the animal model to introduce the principles of evolutionary biology. Zoology explores animal diversity and considers the selection pressures of nature that direct animal form and function. Topics include mechanisms of evolution, animal life cycles, embryological development, comparative morphology and physiology, taxonomy and systematics, molecular and morphological phylogeny, ecological principles, organismal behavior and its place in the natural world. **PREREQUISITE:** Mathematics 240 with a grade of 'C' or better. **ADVISORY:** Chemistry 1A, Biology 1 and eligible for English 250 and English 260.

BIO 5 General Botany**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE:B3

General Botany is designed for students majoring in biology and/or its related disciplines. This course introduces the evolution and diversity of botanical organisms and begins with a brief review of plant like organisms (protista and fungi) and continues with an emphasis in the plant kingdom for the remainder of the course. The course will include topics such as life cycles, embryonic development, morphology, physiology, taxonomy and plant systematics. Principles of population ecology, community ecology, ecosystems interactions, biotechnology and agriculture are highlighted in this course. (C-ID: BIOL 155) **PREREQUISITE:** Mathematics 235 or Mathematics 240 with a grade of 'C' or better. **ADVISORY:** Chemistry 1A, Biological Science 1, and eligible for English 250 and English 260.

BIO 7 Human Anatomy**Units:** 4.0 **Hours:** 2.0 Lecture and 6.0 Laboratory**Transferable:** CSU-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE:B3

Structural organization of the human body: gross and microscopic structure of the integumentary, skeletal, muscular, nervous, sensory, endocrine, cardiovascular, lymphatic, respiratory, digestive, excretory, and reproductive systems, from cellular to organ system levels of organization. Includes dissection in lab. A cadaver is observed in this course. **PREREQUISITE:** Biological Science 10 or Biology 15 or Biology 12 with a grade of credit or C or better. (C-ID: BIOL 110B) **ADVISORY:** Eligible for English 250, English 260 and Mathematics 430.

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

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-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE:B3

Study of the physiological principles, function, integration and homeostasis of the human body at the cellular, tissue, organ, organ system and organism level: integumentary system, bone, skeletal, smooth and cardiac muscles, nervous system, sensory organs, cardiovascular system, lymphatic and immune systems, respiratory system, urinary system, endocrine system, and reproduction system. This course is also listed as Allied Health 9. (C-ID: BIOL 120B) **PREREQUISITE:** Chemistry 30A, Biological Science 7 or 15 with a grade of credit or C or Better. **ADVISORY:** Chemistry 30B; eligible for English 250, English 260 and Mathematics 205.

BIO 10 Principles of Biology**Units:** 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory**Transferable:** CSU-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE: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 430.

BIO 11 Nutrition**Units:** 3.0 **Hours:** 3.0 Lecture**Transferable:** CSU-GE:E, GAV-GE:E2, GAV-GE:F

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 AH 11. **PREREQUISITE:** Eligible for English 1A. **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-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE:B3

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 current biotechnological advances as well as encompass the relationship between humans and their environment and ecosystems. 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-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE: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. **ADVISORY:** Eligible for English 250, English 260 and Mathematics 430.

BIO 15 Survey of Human Anatomy and Physiology**Units:** 5.0 **Hours:** 4.0 Lecture and 3.0 Laboratory**Transferable:** CSU-GE:B2, CSU-GE:B3, IGETC:5B, IGETC:5C, GAV-GE:B2, GAV-GE: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:** Biology 10 or Biology 12 with a grade of 'C' or better. 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

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. **ADVISORY:** Eligible for English 250 and Math 205.