

and maintenance of software application programs, and requires a supporting minor in an application area.

BSE: Engineering

The Bachelor of Science in Engineering degree has emphases in Electrical and Computer Engineering and in Mechanical Engineering. These two emphases build on a strong traditional mathematics, science, and engineering core. The Electrical and Computer Engineering emphasis focuses on the area of digital systems, communication systems, and computer-controlled instrumentation and computer simulation. The Mechanical Engineering emphasis focuses on the elements of mechanical design and the electromechanical elements of smart machines.

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Faculty

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GENERAL COURSES (Credits)

See inside front cover for symbol code.

GTEC110 (3–4)

College success and life enrichment skills. Included are an introduction to the resources of the university, principles of critical thinking, and Christian values clarification.

GTEC115 (3–4)

See description under GTEC110. Repeatable.

GTEC298 (1–32)

Prior Learning Assessment (PLA) is a process which validates learning experiences occurring outside traditional college/university academic programs. A portfolio of evidence for demonPrior Learning Assessment

See description under GTEC298. Total Prior Learning Assessment credits (GTEC298 and 498) may not exceed 32 credits.

INDIVIDUALIZED PROGRAMS OF STUDY

For students who have career goals or special interests in areas other than those provided in one of the established majors or minors, a special individualized program is available in the following degrees: Bachelor of Science, Bachelor of Technology, and Associate of Technology. An individualized concentration may be planned to meet the career goals of a student. Before the beginning of the junior year for baccalaureate-degree students or the beginning of the sophomore year for associate-degree students, the student, with the assistance of his or her advisor, prepares a proposed program of study. The program must be approved by a department faculty and the College of Technology Academic Policies and Curricula Committee.

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airplane Private Pilot Certificate including 10 hours of cross-country flight.

AFLT215 (4)

Ground training to prepare the student for the FAA instrument rating airplane knowledge test. Topics include Federal Aviation Regulations, meteorology, instrument flight charts, flight planning, instrument approaches, use of navigation equipment, and FAA publications relating to instrument flight.

AFLT218 (6)

Sixty-five (65) hours of aircraft and simulator time leading to the airplane instrument pilot rating including 25 hours of cross-country flight needed to meet the 50-hour cross-country requirement.

AFLT220 (3)

Meteorology provides students with a comprehensive study of the principles of meteorology while simultaneously providing classroom and laboratory applications focused on current weather situations. It provides real experiences demonstrating the value of computers and electronic access to time sensitive data and information.

AFLT230 (3)

The study of aerodynamic principles used in aircraft. Designed for a better understanding of basic design and devices used to improve aircraft performance.

AFLT305 (4)

Ground training to prepare the student for the FAA commercial-pilot airplane knowledge test. Topics include advanced navigation, FAR Parts 61, 91, and 135 for air taxi, complex aircraft systems,

AFLT486**(3)**

Flight and ground training to prepare the student for the FAA airline transport pilot airplane practical test. Topics include instrument procedures, in-flight maneuvers, take-offs, landings, advanced airplane systems, and emergency procedures.

AVIATION MAINTENANCE**AVMT108****(4)**

Applies the sciences of mathematics and physics to the aerodynamics of flight, maintenance, weight and balance and various maintenance problems that the aircraft maintenance technician could encounter. Includes the study and use of drawings and basic ground operations.

AVMT114**(2)**

A study of the fundamental basics of electricity and electronics; including electrical diagrams, calculations, sources of electrical power, direct and alternating current, aircraft storage batteries, capacitance and inductance, binary code and the basics of solid state logic.

AVMT116**(2)**

Study of the federal regulations and manufacturer publications as they apply to aircraft design, maintenance, inspections, forms and records, and the certification and privileges/limitations of the aviation maintenance technicians.

AVMT120**(4)**

Includes hand and power tool usage, aircraft hardware and materials, precision measurements, corrosion control, non-destructive testing, and fluid lines and fittings.

AVMT204**Alt (2)**

Practical study of aircraft electrical systems, including installation practices, repair, troubleshooting, service, and inspections.

AVMT206**Alt (4)**

A study of engine ignition and engine electrical systems (starter, generators, alternators, auxiliary electrical power units and their control circuits, engine instruments, and engine fire protection-suppression systems).

AVMT210**Alt (4)**

An in-depth study into the inspection, repair, checking, servicing and troubleshooting of the following aircraft systems; ice-and-rain detection, cabin atmosphere (pressurization, heating, cooling, and oxygen), position warning systems, navigation and communication systems, and aircraft instruments and their use in troubleshooting of aircraft systems.

AVMT220**Alt (2)**

A study of the various types and handling of fuels used in aircraft. Includes a study of aircraft fuel systems, fuel metering methods and the inspection, checking, servicing, troubleshooting, repair and overhaul of fuel systems and their components, and fire detection and protection.

AVMT226**Alt (2)**

A study of the engine side of the fuel systems (firewall forward).

Includes fq-25a-11.681 -2.4 TJETB1.681 -2.b1ob TJETB10(l)10(u)1rical .4 TJETB

TECHNOLOGY

TECH140

\$ (2)

Oxyacetylene and electric welding processes including oxyacetylene welding, cutting, and brazing; basic shielded metal arc welding and basic gas metal arc welding. A limited amount of out-of-position welding will be stressed.

TECH250

\$ (3-4)

Basic set-up and operation of lathes, milling machines, grinders, drilling machines, and shapers;; safety, machine maintenance, off-hand