

Students may choose program emphases (or a combination of them) in such areas as flight, maintenance, automotive and business.

Programs

If any of the degree programs do not meet the needs of the student, an individualized major is available as described on the previous page.

AERONAUTICAL

Two programs are available. A four-year Bachelor in Aviation Technology, and a two-year Associate in Aviation Technology. Both programs give the student beginning level skills in flight or maintenance. The airpark is located about 1.2 miles from the central campus. Students are expected to provide their own transportation to and from the airpark.

BT: Aviation Technology

Students taking the Bachelor of Technology degree may:

- (1) combine areas to meet specific career goals (see options that follow) or
- (2) limit their specialization to a single area—flight or maintenance.

Major*	60-90
Degree core	8
General Education requirements	39-42
General electives	<u>17-0</u>
Total credits for degree	124-140

*Major Options

Flight

- Flight—35–38 credits
- Flight electives—10–7 credits
- Aviation electives—15 credits

Flight and Business

- Flight—35–38 credits
- Aviation electives—4–1 credits
- Business—21 credits minimum

Flight and Maintenance

- Flight—35–38 credits
- Maintenance—52 credits

Maintenance

- Maintenance—52 credits
- Flight/Aviation electives—8 credits

Maintenance and Business

- Maintenance—52 credits
- Business—21 credits minimum

AT: Aviation Technology

Students may earn an Associate of Technology degree by taking courses beyond those required for the certificate in either the flight or maintenance area. The additional courses give students a broader General Education base, prepare them better to perform the activities acquired by the certificate program, and facilitate study for an advanced degree.

Major*	40-52
General Education requirements	16-22
General electives	<u>6-0</u>
Total credits for degree	62-74

*Majors

Flight

- Flight—27-29 credits
- Aviation electives—13-11 credits

Maintenance

- Maintenance—52 credits

Minor in Aviation Technology

Requirements: A minimum of 32 credits in flight or maintenance, respectively.

Students earn a minor in Aviation Technology by completing one of the following:

Flight (32 credits): AFLT115, 116, 117, 215, 216, 217, 305, 306. A Commercial Pilot certificate and instrument rating are required.

Maintenance (32 credits): Complete either the Airframe or Powerplant License.

FAA CERTIFICATION

FAA-Approved Instruction. The Department of Aeronautical Technology operates a Flight School as well as an Airframe and Powerplant Maintenance Technician School approved by the FAA under Title 14 CFR, Part 141* and Part 147, respectively.

* Private curriculum only

FAA Flight Certification Programs. Students may take flight instruction to qualify for several levels of certification. Students wishing only to take the content courses necessary for the specific flying expertise can take just the flight area courses as outlined under the respective certification requirements.

FLIGHT AREA COURSES

Private Pilot Certificate, Commercial Pilot Certificate, Instrument Rating, and either Flight Instructor's Certificate or Multi-Engine Rating are required for any degree.

Required Courses—60

AFLT115, 116, 117, 215, 216, 217, 305, 306, and 307 or 455 and 456

A student may take any of the above courses under FAA Part 61 with the permission of the Chief Flight Instructor.

Aeronautical Technology electives are to be chosen in consultation with an advisor.

No more than 50% of the flight credits to be counted toward a major or minor in Aeronautical Technology may be taken as credit by examination.

MAINTENANCE AREA COURSES

FAA Maintenance Certificates. Students may earn the following FAA-approved certificates from the department's Aviation Maintenance Technician School:

- Airframe
- Powerplant
- Airframe and Powerplant
- Maintenance students must obtain both the FAA Airframe and Powerplant license for any Bachelor degree.

Required Courses—52

AVMT 108, 114, 116, 120, 204, 206, 210, 220, 226, 237, 304, 306, 308, 310, 314, and 316.

AUTOMOTIVE

Two programs are available: A four-year Bachelor in Automotive Management, and a two-year Associate in Automotive Technology. Both programs give the student beginning-level skills in automotive repair. The automotive management provides a solid background in business. The Automotive Technology Center is located about 1.2 miles from the central campus. Students are expected to provide their own transportation.

BT: Automotive Management

Major requirements—68

AUTO135, 140, 150, 325, 330, 340, 350, 380; TECH140, 250, 390, 456, ACCT121, 122; FNCE317; BSAD355 plus 6 credits of electives chosen from BSAD210, 341, 384, 410; MKTG310 plus 3 credits of electives chosen from MKTG320, 368, 450

Cognate requirements—3

ECON225

AT: Automotive Technology

Major requirements—40

AUTO135, 140, 150, 325, 330, 340; INDT315; TECH456, plus 12 credits of electives chosen from AUTO350, 380 and other related courses.

All students in these two program options must have written two ASE exams by the end of their first year. By the end of the second year, they must have passed a minimum of five ASE tests in their respective option.

Minor in Automotive Technology

Automotive Technology—20

AUTO135, 140, 150; TECH140 plus 6 credits of electives chosen from auto technology.

Courses

(Credits)

See inside front cover for symbol code.

AERONAUTICAL FLIGHT

AFLT104 (1–4)

Introduction to Aviation

Acquaints students with the history and opportunities in aviation, such as mission flying, flight instruction, aircraft maintenance, avionics, sales, safety, and aerodynamics of flight. Non-majors receive one free hour dual instruction per credit hour enrolled.
Fall, Spring

AFLT115 (4)

Private Pilot Ground School

Ground training to prepare students for the FAA private pilot airplane knowledge test. Topics include aerodynamics, weight and balance, Federal Aviation Regulations, navigation, meteorology, aircraft systems and performance. *Fall, Spring, Summer*

AFLT116 (4)

Private Pilot Flight Training I

Flight and ground training to prepare a student through post solo flight. *Fall, Spring, Summer*

AFLT117 (4)

Private Pilot Flight Training II

Flight and ground training to prepare a student for cross-country flying and for the FAA private pilot airplane practical test. *Fall, Spring, Summer*

AFLT215 (4)

Instrument Pilot Ground School

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. *Fall, Spring, Summer*

AFLT216 (4)

Instrument Pilot Flight Training I

Instrument flight training from basic attitude flight through holding patterns. *Fall, Spring, Summer*

AFLT217 (4)

Instrument Pilot Flight Training II

Instrument flight training from instrument approaches, instrument cross-country flight and preparation for the FAA instrument rating airplane practical test. *Fall, Spring, Summer*

AFLT220 (3)

Meteorology

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. *Spring*

AFLT305 (4)

Commercial Pilot Ground School

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, weight and balance, and performance charts. *Fall, Spring, Summer*

AFLT306 (4)

Commercial Pilot Flight Training

Flight training and solo-flight practice to prepare the student for the FAA commercial-pilot airplane practical test. *Fall, Spring, Summer*

AFLT307 (3)

Multi-Engine Flight Training

Flight and ground training to prepare the student for the multi-engine airplane practical test. *Fall, Spring, Summer*

AFLT315 Alt (3)

Aircraft Systems for Pilots

The study of aircraft systems and engines, propellers and governors; the fuel, electrical, hydraulic, pneumatic, and de-icing systems, flight controls, weight and balance, and aircraft-instrument systems. *Fall*

AFLT330 (3)

Crew Resource Management

Study of the effective use of resources available to the crew to achieve safe and efficient flight operations. Areas include human factors, communication, conflict resolution, leadership, teamwork, and situational awareness as applied to flight operations. *Spring*

and overhaul of fuel systems and their components, and fire detection and protection. *Spring*

AVMT226 **Alt (2)**

Engine Fuel Metering Systems

A study of the engine side of the fuel systems (firewall forward). Includes an in-depth study of fuel-metering devices used on aircraft engines (carburetors, pressure carburetors, direct and continuous fuel-injection systems). Service, maintenance, repair and troubleshooting of each different system type is covered in detail. *Spring*

AVMT228 **(1-3)**

Maintenance: General, Airframe, or Power Plant Review

A review of all subjects from a selected curriculum. A minimum of five examinations per curriculum area is required. Prerequisites: All applicable curriculum subjects must have been completed. *Fall, Spring*

AVMT237 **Alt (4)**

Aircraft Hydraulic, Pneumatic, and Landing Gear Systems

Operation and maintenance of aircraft hydraulic systems, pneumatic systems, landing-gear systems, and the inspection, checking, servicing, trouble-shooting, and repair of these systems and system components. *Spring*

AVMT304 **Alt (4)**

Aircraft Metal Structures

A study and application of the processes used in the fabrication and repair of aircraft metal structures. Welding theory and practice with emphasis on weld-quality identification. Riveted, aircraft, aluminum, sheet-metal structures including the fabrication and repair of such structures. *Fall*

AVMT306 **Alt (2)**

Aircraft Non-metal Structures

A study of wood and fabric as used in the construction of aircraft and a study of the methods, tooling, inspection, processes, and repair of composite aircraft structures. Includes the application, identification, and functions of aircraft protective finishes. *Spring*

AVMT308 **Alt (2)**

Aircraft Assembly, Rigging and Inspections

Study of the nomenclature and design features of both fixed-wing and rotor-wing aircraft and the assembly, alignment of aircraft structures, and rigging and balancing of control system. A detailed inspection of the entire aircraft or rotorcraft is covered as it applies to the airframe 100-hour and other required inspection. *Spring*

AVMT310 **Alt (4)**

Gas Turbine Engines

Principles and theory of jet-engine propulsion, design, types of, and associated systems. Maintenance, overhaul, installation-removal, repair, trimming, and troubleshooting of turbine engines. *Fall*

AVMT314 **Alt (3)**

Aircraft Propellers and Engine Inspections

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AUTO350 \$ (4)

Automotive Electrical Systems II

In-depth study of the starting, charging, lighting systems along with accessories and gauges. Emphasis in computer application and control of the automobile operation. Prerequisite: AUTO150. *Spring*

AUTO380 \$ (2)

Heating and Air Conditioning

A study of refrigeration theory and repair. Refrigerant recovery and recycling methods, heating and cooling principles are stressed. *Spring*

AUTO425 (1-4)

Automotive Services

Designed to provide experience in automotive diagnosis, estimating, and repair. Students will work on assigned projects. Prerequisites: 20 credits of auto courses with a 3.00 GPA and listed in at least one specialty area by ASE. Repeatable to 8 credits. *Fall, Spring*

TECHNOLOGY

TECH140 \$ (2)

Welding Technology

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. *Fall*

TECH250 \$ (3-4)

Machine Shop

Basic set-up and operation of lathes, milling machines, grinders, drilling machines, and shapers; safety, machine maintenance, off-hand grinding, drill sharpening, layout, and inspection emphasized. *Spring*

TECH254 (3)

Technical Space Utilization

Acquaints students with the planning and organization of technical facilities. Consideration given to space requirements, building structure, material flow, equipment needs, site location, and environment control of such facilities. *Spring*

TECH285/485 (1-4)

Project Course

TEC9254

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