Overview
If you enjoy creating new things or finding ways to make things better, mechanical engineering technology may be the right program for you. Mechanical engineering technology prepares graduates to creatively apply engineering design principles to meet the world’s problems. Emphasis is on product and machine design, manufacturing, and automation solutions.

Professional options
Careers
Applied mechanical engineers are needed everywhere, in almost any field you can think of, such as: aerospace, automation, agricultural equipment, automotive systems, biomedical, consumer products, energy systems, food processing, petrochemical production and many others.

Bachelor’s degree graduates typically work as applied engineers in areas such as product design and development, project management, manufacturing, plant operation or product testing. Graduates can apply specific program principles to the analysis, design, development, testing, machine design and automation control provide a broad range of technical and analysis skills suitable for career mobility in a variety of fields. Courses in communications, management, humanities, social sciences, and business complement the technical curriculum.

Course work emphasizes problems-based learning, challenging students to apply principles to industry-relevant problems throughout the program. Sophomore and senior year projects require a design-build-test team project either in partnership with a real industry customer or as undergraduate research. Students are encouraged to pursue an internship as an elective option.

Academics
Degree options
The mechanical engineering technology program options are built upon a strong foundation of applied technical courses, science, mathematics, and communication skills designed to meet current industry needs. Courses in technical graphics and CAD, traditional and advanced manufacturing processes, materials, materials strength and testing, machine design and automation control provide a broad range of technical and analysis skills suitable for career mobility in a variety of fields. Courses in communications, management, humanities, social sciences, and business complement the technical curriculum.

Course work emphasizes problems-based learning, challenging students to apply principles to industry-relevant problems throughout the program. Sophomore and senior year projects require a design-build-test team project either in partnership with a real industry customer or as undergraduate research. Students are encouraged to pursue an internship as an elective option.

Accreditation
The bachelor’s degree option in mechanical engineering technology option is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

Preparation
The program of study at Kansas State Polytechnic is designed for the student especially interested in the practical application of mechanical design, manufacturing, and automation. Students should concentrate on mathematics, oral and written communications, and the physical sciences with related laboratory experiences.

Facilities
Mechanical engineering technology laboratories at K-State Polytechnic provide hands-on experience with industry-relevant equipment and software in nearly every mechanical course. Open access to the manufacturing laboratory provides student teams and individuals access to build and test their designs—for course projects, for student clubs such as SAE Baja car, Cat Cannon, Robot Club, UAS, or Rocketry, or even to pursue a personal design idea.

Points of pride
Our industry-relevant, hands-on problem-solving curriculum means graduates are job-ready, with near 100% placement.

Some K-State Polytechnic graduates have built on their mechanical engineering technology bachelor’s degree foundation to attain positions such as Plant Manager, Vice President, or Offshore Rig Superintendent.

Required coursework
Mechanical Engineering Technology, bachelor’s degree option (127 credit hours)

Freshman
Fall semester (17 credit hours)
3 CMST 110 Introduction to Visual Basic
3 ENGL 100 Expository Writing I
0 ETA 020 Engineering Technology Seminar
3 MATH 100 College Algebra
2 MATH 151 Applied Plane Trigonometry
3 MET 111 Technical Graphics
3 MET 121 Manufacturing Methods

Spring semester (18 credit hours)
3 CHM 111 General Chemistry Laboratory
2 COMM 105 Public Speaking IA
3 MET 117 Mechanical Modeling and Detailing
2 MET 125 Computer-Numerical-Controlled Machine Processes
4 PHYS 113 General Physics I
3 Humanities/social science elective

Sophomore
Fall semester (17 credit hours)
4 ECET 100 Basic Electronics
4 MATH 220 Analytic Geometry and Calculus I
3 MET 211 Statics
3 MET 231 Physical Materials and Metallurgy
3 MET 252 Fluid Power Technology

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### Spring semester (16 credit hours)
- 3 ENGL 302 Technical Writing
- 3 MET 230 Automated Manufacturing Systems I
- 3 MET 245 Material Strength and Testing
- 3 MET 246 Dynamics of Machines
- 4 MET 264 Machine Design Technology I

### Junior
#### Fall semester (16 credit hours)
- 3 ECET 304 Electric Power and Devices
- 4 MATH 221 Analytic Geometry and Calculus II
- 3 MET 314 Finite Element Analysis and Design Modeling
- 3 MET 365 Machine Design Technology II
- Computer elective*

#### Spring semester (15 credit hours)
- 3 ENGL 200 Expository Writing II
- 3 MET 346 Elements of Mechanisms
- 3 MET 353 Fluid Mechanics
- 3 MET 382 Industrial Instrumentation and Controls
- Technical elective**

### Senior
#### Fall semester (14 credit hours)
- 1 MET 462 Senior Design Project I
- 3 MET 481 Automated Manufacturing Systems II
- 3 PHY 114 General Physics II
- Humanities/social science elective
- Humanities/social science elective**

#### Spring semester (14 credit hours)
- 3 CHM 110 General Chemistry
- 3 CHM 111 General Chemistry Laboratory
- 2 COMM 105 Public Speaking IA
- 3 MET 117 Mechanical Modeling and Detailing
- Business elective
- Humanities/social science elective**
- Technical elective**

*Suggested computer electives
- 3 CMST 302 Applications in C Programming for Engineering Technology
- 3 CMST 310 Visual Basic Programming
- 3 CMST 341 C++ Programming

**Marked electives must be upper-level courses, 300 and above.