“At K-State, I’ve always felt I had an amazing support system, from my professors to my classmates. I chose this university because I knew the people here truly cared about my success.”

— Nicole Doughramaji, mechanical engineering student
Mechanical engineering is a broad-based profession that works with devices, systems and processes through analysis and design. Mechanical engineers’ knowledge of design helps advance the world through innovative solutions to complex challenges.

**AREAS OF EMPHASIS**

**AEROSPACE**
Technical electives such as aircraft propulsion, aircraft stability and aerodynamics are offered in the aerospace area.

**AUTOMOTIVE**
Coursework covers combustion engines, composites and machine vibrations.

**AUTOMATIC CONTROLS**
Microcontrollers, digital systems, control systems analysis and design courses are offered to those interested in automatic controls.

**ENERGY/SUSTAINABILITY**
Thermal and fluid sciences concerning the use and production of energy and design of modern power systems are topics covered.

**MACHINE DESIGN**
Experimental stress analysis, manufacturing processes and finite elements are courses offered in machine design.

Additional areas of emphasis are available.

**NUCLEAR OPTION**
Mechanical engineering students can choose to pursue a formal option in nuclear engineering, which encompasses nuclear power plant design and construction, nuclear medicine and research of global issues at national laboratories.

**PROGRAM OVERVIEW**

**KEY ACADEMIC AREAS**

**MATH AND SCIENCE COURSES**
- Math/Physics
- Biology/Chemistry

**ENGINEERING DESIGN/TECHNICAL COURSES**
- Chemical Processes
- Mechanics/Design
- Electronics/Electricity
- Computer Programming
- Business Processes
- Technical Electives

*General education electives not included
INNOVATE TO ADVANCE THE WORLD

As designers and innovators, mechanical engineers combine science and mathematics to benefit humankind. Mechanical engineers impact the world through —

- developing new uses for technological discoveries.
- creating components, systems or processes to meet needs.
- devising new or improved production processes.
- using expertise as specialists to help others with technical problems.
- designing the next generation of transportation.
- finding energy-efficient solutions for current challenges.
UNDERGRADUATE RESEARCH
Students have the opportunity to do research with faculty in areas such as nanoscience and nanomaterials, nuclear engineering, multiphase microfluidics, semiconductor materials and air quality.

STUDENT ORGANIZATIONS
Mechanical engineering students can join organizations such as the American Society of Mechanical Engineers, the Society of Automotive Engineers, and Women of Mechanical and Nuclear Engineering.

CREATIVE INQUIRY DESIGN TEAMS
SAE AERO TEAM
Students design and build a remote-controlled model aircraft in a team environment.

SAE FORMULA TEAM — POWERCAT MOTORSPORTS
Powercat Motorsports is a design-build team that develops a small-scale Formula One race car.

SAE BAJA TEAM
This team creates a rugged, single-seat, off-road recreational vehicle for competition.

AUVSI UNMANNED AERIAL SYSTEM TEAM
The team designs, builds and tests an unmanned aerial system to compete in an annual competition.

WILDCAT WIND POWER
The K-State Wildcat Wind Power Team designs, builds and tests a small-scale wind turbine.
CAREERS

Mechanical engineering graduates are employed in a variety of industries including aerospace, vehicle design, power generation and plant design, petroleum production, materials processing, machinery, robotics, environmental control and nuclear medicine.

Mechanical engineering graduates pursue careers as —

- manufacturing engineers
- project managers
- consultants
- environmental engineers
- logistics directors
- production supervisors
- nuclear reactor designers
- aerospace engineers
- automotive engineers

INTERNSHIPS

Internships allow mechanical engineering students to gain industry experience in the summers during their collegiate career. Internships provide a competitive edge when graduates look for permanent positions.

OPPORTUNITIES

IS THE AVERAGE STARTING SALARY FOR A K-STATE MECHANICAL ENGINEERING GRADUATE.

95% OF K-STATE COLLEGE OF ENGINEERING GRADUATES ARE EMPLOYED, OR ENROLLED IN GRADUATE OR PROFESSIONAL SCHOOLS WITHIN SIX MONTHS OF GRADUATION.
“One aspect of earning my degree from K-State that continues to stand out and bring benefits is the department’s ‘hands-on’ approach to learning.”

— David McPherson ‘98, mechanical engineering
TAKE THE NEXT STEP.

Apply online at k-state.edu/admit to start your future at the Kansas State University Department of Mechanical and Nuclear Engineering.

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