Mechanical engineers apply their expertise to the design, development and production of everything from rocket propulsion systems to appliances. Some examples of products and processes developed by mechanical engineers include engines and control systems for automobiles and aircraft, electric power generation plants, lifesaving medical devices, robots and consumer products such as air conditioners, refrigerators and washing machines. Professionals in the industry use mathematics, computers, sophisticated modeling and analysis to solve problems associated with energy usage, propulsion, power generation, sound and vibration, machinery design and manufacturing. In short, mechanical engineers play a part in designing and building the mechanical devices and systems that are essential to our everyday lives.

Pursuing Mechanical Engineering at UK
The Department of Mechanical Engineering offers ABET-accredited undergraduate programs on two campuses, the Lexington main campus and the Paducah extended campus. The Department of Mechanical Engineering prepares students for financially lucrative, high-demand professions or for furthering their education through acceptance to prominent graduate schools. Through a challenging curriculum of undergraduate study, collaboration with renowned businesses and technology centers and research options within the college's centers and consortia, UK delivers an education designed to produce proficient, marketable graduates adept at meeting today's engineering needs.

Students may directly enroll as pre-engineering students; however, there are minimum admission requirements. Minimum freshman entry requirements are an ACT math score of 23 or higher or a SAT math score of 540 or higher. Additionally, students must also meet the minimum Kentucky statewide academic readiness requirements for reading and writing. If you do not meet the initial admission requirements, please refer to the University of Kentucky Bulletin for alternative routes to admission to the College of Engineering.

Program Educational Objectives
The undergraduate program in mechanical engineering will prepare our graduates for successful practice or academic pursuits in mechanical engineering. We expect our graduates to attain the following program educational objectives within a few years of graduation:

• Our graduates will practice mechanical engineering in a variety of fields as professionals and/or be recruited to graduate and professional schools in their chosen career paths.

• Our graduates will communicate effectively, work in diverse teams, address the challenges of a global society and exhibit leadership, ethics and creativity in their work places.

• Our graduates will value continuing education and professional growth by supporting or participating in professional societies, licensure programs, short courses or other professional development activities.

Experiential Education
Growth and learning also happen outside the classroom. It happens in research labs working alongside professors and graduate students. It happens on student design teams in capstone design courses. It happens on cooperative education rotations and internships with companies all over the country. There are also numerous education abroad programs.

A substantial number of our students undertake co-op placements or summer internships to gain valuable experience in industries that employ mechanical engineers. The Engineering Career Development Office is a valuable resource for assisting you with developing job, co-op and internship search skills, participation in education abroad programs, participation in research endeavors and building career networks so you can secure a rewarding career in your chosen field of study.

Student Involvement
Student organizations are an outgrowth of student interest and serve the needs of a variety of students. Many provide programs that supplement the classroom experience and extend into areas of service for the community. All provide learning and leadership training for participating students.

Student organizations that are typically of interest to mechanical engineering students include: American Society of Mechanical
Mechanical Engineering Curriculum Sample

This is a sample list of classes a student will take to pursue a degree in Mechanical Engineering. In addition to the Mechanical Engineering curriculum, students must complete the pre-engineering requirements and general education coursework, called UK Core.

Note: This sample represents one of several paths to a College of Engineering degree. Consult the departmental websites for details on specific paths.

**Freshman Year**
- Intro to Mechanical Engineering 3  
- Calculus I and II 8  
- Composition & Communication I and II 6  
- Chemistry I and II 7  
- Manufacturing Engineering 3  
- UK Core courses 6  
- **Total hours** 33

**Sophomore Year**
- Calculus III and IV 7  
- Physics I and II and labs 10  
- Computer Science for Engineers 2  
- Computer Aided Engineering Graphics 3  
- Statics 3  
- Thermodynamics I 3  
- Dynamics 3  
- UK Core course 3  
- **Total hours** 34

**Junior Year**
- Mechanics of Deformable Solids 3  
- Electrical Circuits and Electronics 3  
- Fluid Mechanics 3  
- Intro to Mechanical Systems 3  
- Engineering Experimentation I 3  
- Thermodynamics II 3  
- Elements of Heat Transfer 3  
- Mechanical Design 3  
- Math elective 3  
- UK Core course 3  
- **Total hours** 30

**Senior Year**
- Capstone Design I and II 6  
- Engineering Experimentation II 3  
- Design of Control Systems 3  
- Design with Finite Element Methods 3  
- Technical electives 9  
- Supportive elective 3  
- UK Core courses 6  
- **Total hours** 33

Engineers, Society of Automotive Engineers, Society of Manufacturing Engineers, Pi Tau Sigma, Tau Beta Pi, Society of Women Engineers, Engineers Without Borders and many others.

**Honors & Scholarship Opportunities**

Mechanical engineering students may also choose to participate in the UK Honors program. The College of Engineering, along with the Gatton College of Business and Economics, offers the Scholars in Engineering and Management (SEAM) program and the joint BS/MBA program.

The College of Engineering awards scholarships to freshman, continuing and transfer students. Most engineering scholarships are partial awards ranging from $500 to $5,000 per year and the average first-year scholarship ranges from $1,500 to $3,000. Engineering students are also eligible to apply for a range of prestigious university scholarships.

**Career Prospects in Mechanical Engineering**

Mechanical engineers work in virtually every industry you can think of: aerospace, automobile, manufacturing, industrial equipment design, consulting firms and government agencies. Examples of job placement for our graduates include: GE Appliances, GE Aviation, Cummins, Toyota, Lexmark, Trane, Link-Belt, Belcan, NASA and more.

The University of Kentucky’s Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

Revised August 2015. Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.