Mechanical engineers design and analyze physical systems and are employed in a variety of industries in different capacities. Mechanical engineers play important roles in many types of companies, including automotive, petroleum, energy generation and conversion, aerospace, tire, consulting, chemical, electronic, and manufacturing.

The Mechanical Engineering curriculum at The University of Akron is designed to give the student knowledge of fundamental principles of the (1) thermal/fluids stem, (2) structures and motion stem, and (3) controls stem of mechanical engineering, as well as the application of these principles to pertinent problems. A significant measure of the mechanical engineering education is the degree to which it has prepared the graduate to pursue a productive engineering career that is characterized by continued professional growth.

The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The Mechanical Engineering program identifies program educational objectives that describe what their graduates are expected to attain within a few years of graduation. They are as follows:

1. Practice the mechanical engineering discipline successfully within community accepted standards
2. Acquire teamwork and communications skills to develop a successful career in mechanical engineering
3. Fulfill professional and ethical responsibilities in the practice of mechanical engineering, including social, environmental and economic considerations
4. Engage in professional service, such as participation in professional society and community service
5. Engage in life-long learning activities, such as graduate studies or professional workshops
6. Develop a professional career in the prevailing market that meets personal goals, objectives and desires

To meet those program educational objectives as well as the curricular requirements specified by the American Society of Mechanical Engineers (ASME) for accreditation, the Mechanical Engineering program identifies student outcomes, which are what students are expected to know and be able to do by the time of graduation. They are as follows:

1. Apply knowledge of mathematics, science and engineering in a logical and discerning manner
2. Design and perform laboratory experiments for thermal, fluid, materials and mechanical systems; know how to analyze and interpret results
3. Design thermal, fluid, mechanical, materials, and control systems to meet specifications within environmental, social, political, ethical, health and safety, manufacturability and sustainability constraints
4. Participate effectively in teams involving several disciplines
5. Identify, formulate, and solve thermal, fluid, materials, and mechanical problems by applying first principles, including open-ended problems
6. Develop practical solutions for mechanical engineering problems under professional and ethical constraints
7. Communicate effectively with written, oral, and visual means in a technical setting
8. Understand the impact of engineering in a global, economic, environmental, and societal context
9. Be prepared for a lifetime of continuing education
10. Know about contemporary issues in engineering
11. Have an ability to use modern modeling and simulation techniques, and computing tools