MECHANICAL ENGINEERING

Mechanical Engineering

Mechanical engineering (ME) is one of the broadest of the engineering disciplines, therefore, mechanical engineers are the generalists of the engineering profession. Mechanical engineers design, construct, test and operate many types of mechanical, thermal and biological devices. They are involved in almost every industry, including aerospace, automotive, bioengineering, communications, electronics, energy, food processing, HVAC, manufacturing, power generation and refrigeration, as well as business, government and academia. The ME program aims to prepare students with a breadth and depth in technical knowledge so that they can work immediately in most areas of the profession.

Program Description

The program offers the bachelor's degree and the master's degree in mechanical engineering and participates in the UMKC Interdisciplinary Ph.D. program. The Bachelor of Science in Mechanical Engineering is accredited by the Engineering Accreditation Commission of (http://www.abet.org/) ABET (http://www.abet.org/).

The Master of Science in Mechanical Engineering has both thesis and non-thesis options. Students interested in pursuing a doctoral degree in mechanical engineering may select engineering as a discipline when applying for admission into the Interdisciplinary Ph.D. program.

The mechanical engineering program has a rich history in Kansas City. The University of Kansas City offered a General Engineering degree in the 1950's. The master's program in mechanical engineering was started in 1964 and later the undergraduate program was added in the early 1970s. Since 1977 the undergraduate program in mechanical engineering has been independently accredited by the Engineering Accreditation Commission of (http://www.abet.org/) ABET (http://www.abet.org/). The program became a part of the School of Computing and Engineering in January 2001 and joined the school of Science and Engineering in July 2022.

Mechanical Engineering participates in the Interdisciplinary Ph.D. program of the University of Missouri-Kansas City as part of the engineering (https://catalog.umkc.edu/colleges-schools/graduate-studies/engineering/) discipline. Students interested in pursuing a doctoral degree in mechanical engineering may select engineering as the coordinating discipline when applying for admission into the Interdisciplinary Ph.D. Program (https://catalog.umkc.edu/colleges-schools/graduate-studies/interdisciplinary-phd-program/). See the School of Graduate Studies (https://catalog.umkc.edu/colleges-schools/graduate-studies/) section of this catalog for general and discipline-specific admission requirements and regulations for Interdisciplinary Ph.D. study with engineering as one of the desired disciplines.

Undergraduate Programs:

- Bachelor of Science in Mechanical Engineering

Graduate Programs

- Master of Science in Mechanical Engineering
- Doctor of Philosophy in Mechanical Engineering

Academic Regulations for Mechanical Engineering

Minimum Grade Requirement

A grade of "C-" or better must be earned in all major courses required in the mechanical engineering degree programs.

Audits

A student cannot take a course for audit and later expect to take the same course for credit in the degree program. For that reason, students must not audit any courses required in their program, unless credit has already been established. To audit an elective course, written consent from both the student's advisor and the instructor of the course is required. After the first week of classes, a student cannot change from credit to audit or audit to credit.

Petitions

To receive an exception from stated program guidelines or curriculum, the student must file a petition with the academic advisor. For transfer credit taken at another institution that is not articulated, a student may need to submit a petition to receive transfer credit. If the petition is denied by the Mechanical Engineering Degree Program Committee, the student may appeal the decision to the Dean of the School of Science & Engineering.

Academic Standing

The University tries to assure that students progress satisfactorily toward their goals and receive clear warning when they do not. The Mechanical Engineering program follows the university policy related to Academic Standing.

Satisfactory Academic Progress

Students will be expected to maintain continuous satisfactory academic progress and can be removed from the mechanical engineering program after evaluation by the Mechanical Engineering Degree Program Committee if it finds that satisfactory academic progress is not being made.

Academic Appeals

If a student has become academically ineligible, the student may be allowed to continue academic studies, provided that the student successfully appeals to the Academic Appeals Committee. The primary concern of the Appeals Committee is the likelihood of the student's future success. Accordingly, any appeal should include causes for the student's past poor performance and reasons for expecting better performance in the future. When the Appeals Committee allows a student to re-enroll, it may set conditions such as courses to be taken, minimum grades, total hours, etc. to which the student must adhere. A grade-point average deficiency may be removed by repeating a course or by taking additional courses that qualify as eligible electives in the curriculum.

Career Opportunities

Kansas City is one of the premier engineering centers in the country. Numerous engineering and manufacturing firms with national and international reputation are headquartered in Kansas City. This offers a unique opportunity to our students, many of whom participate actively as interns or as employees with these firms during the course of their study, thereby getting a balanced blend of course work and practical experience.

Job opportunities abound for engineering majors. In terms of starting salaries and the number of job offers, engineering graduates compare favorably with all other graduates. In addition, the mechanical engineering curriculum at UMKC equips the graduate with the analytic decision-making skills necessary to pursue diverse technical, managerial and entrepreneurial career opportunities.

Faculty

Mechanical Engineering Faculty

Mujahid Abdulrahim[2,3]; assistant professor; B.S., M.S., Ph.D. (University of Florida).

Walter A. Accurso; instructor; B.S. (University of Kansas); M.B.A. (Keller Graduate School of Management).

C. Mauli Agrawal[2]; chancellor, UMKC; professor; B.Tech. (Indian Institute of Technology Kanpur, India); M.S. (Clemson University); Ph.D. (Duke University).

Bryan R. Becker; professor emeritus; B.S. (University of Missouri-Rolla); M.S. (University of Missouri-Columbia); Ph.D. (University of Tennessee-Knoxville); P.E.

Katherine H. Bloemker[2]; teaching professor; B.S., M.S. (Stanford University); Ph.D. (University of Missouri-Kansas City).

Darran Cairns[2]; associate teaching professor; B.SC., Ph.D. (University of Birmingham).

Travis Fields[2,3]; professor; B.S., M.S., Ph.D. (University of Nevada, Reno).

Gregory King[2,3]; associate professor; B.S., M.S., Ph.D. (University of Kansas).

James F. Mahoney, Jr.; instructor; B.S., M.S. (University of Missouri-Columbia/Kansas City).

Mark F. McClernon; associate professor emeritus; B.S. (Rockhurst University); M.S., Ph.D. (University of Notre Dame); P.E.

Amirfarhang Mehdizadeh[2, 3]; assistant professor; B.S. (University of Tehran, Iran); M.S., Dr.Ing. (Darmstadt University of Technology, Germany).

Zahra Niroobakhsh[2,3], assistant professor; B.S. (University of Tehran, Iran); M.S. (Technical University of Darmstadt, Germany); Ph.D. (The Pennsylvania State University).

Hee Sup Shin[2,3]; assistant professor of mechanical engineering; B.S. (Korea University); M.S. (Carnegie Mellon University); Ph.D. (Carnegie Mellon University).

William E. Stewart, Jr.; professor emeritus; B.S., M.S., Ph.D. (University of Missouri-Rolla); P.E.

Antonis Stylianou[2,3]; associate professor; B.S., M.S., Ph.D. (University of Kansas).

[2] Members of UMKC Graduate Faculty

[3] Members of UMKC Doctoral Faculty