MS IN ENGINEERING: COMPUTER ENGINEERING

Home Department: Electrical and Computer Engineering

Available: On Campus Only

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Program Overview

The Master of Science in Engineering is a professional master's program that builds on an undergraduate engineering program by offering additional depth and greater mastery in a number of technical areas.

Program Objectives

All graduates of the Master of Science in Engineering program will:

- Deepen their knowledge and increase their mastery of technical areas that match their personal career goals.
- Be better prepared to advance in positions of technical and/or managerial leadership.
- Develop their ability to sustain a life-long career in engineering through continuing self-directed learning and professional development activities.

The MSE in Computer Engineering program is an on-campus program designed to deepen students' understanding of computer engineering principles and applications and to develop their skills in independent research. Courses within the MSE Computer Engineering program include digital systems design, real-time embedded systems, artificial intelligence and computer vision for autonomous vehicles, mobile robotics, IoT, and virtual reality systems. The program requires a minimum of 40 credit hours of graduate work. There are two options available: 1) Thesis option (consists of coursework, research, and a thesis), and 2) Non-thesis option (consists of only coursework).

Graduate Assistantship

Financial support, in the form of a tuition waiver or stipend, is available on a competitive basis. Students who receive a stipend are required to serve as a Research Assistant (RA), Teaching Assistant (TA), or a Staff Assistant (SA) for up to 20 hours per week (depending on the level of financial support offered). For more information on graduate funding, please contact the Graduate School at gsr@kettering.edu.

Program Curriculum Requirements

Completion of 40 credits as follows:

Code	Title	Credit Hours
Thesis option: Select four of the following:		
Non-thesis option: Select six of the following:		
CE-612	Digital Systems Design	
CE-620	Microcomputer Systems	
CE-622	Computer Architecture and Organization	
CE-624	VLSI Design	
CE-626	Real-Time Embedded Systems	
CE-642	Mobile Robotics	
CE-651	Introduction to Autonomous Driving	
CE-652	Artificial Intelligence for Autonomous Driving	
CE-654	Computer Vision for Autonomous Driving	
CE-672	Virtual Reality Systems: M&C	
CE-680	Computer Networks	
CE-684	Internet of Things (IoT)	
CE-691	Computer Engineering Special Topics	
CE-699	Computer Engineering Independent Study	
ECE-610	Modeling of Dynamic Systems	
Thesis option: Two graduate-level elective courses		8
CE-695	Graduate Research in Computer Engineering	8
CE-695	Graduate Research in Computer Engineering	8
Completion and successful defense of a master's thesis		
Non-thesis option: Four graduate-level elective courses		16

Undergraduate-level coursework might also be required for some students as a prerequisite for either graduate-level coursework or research, depending on the student's background and the nature of the coursework or research. If required, undergraduate-level credit cannot be used to satisfy the graduate-level credit requirements given above.

The program operates on a calendar similar to a conventional quarter system: Fall, Winter, and Spring terms are 'regular' academic terms during which students normally enroll full-time, and the Summer term is optional. The nominal plan of study calls for a total of six terms of study over 21 months.

First Year	Fall	8 credits coursework
First Year	Winter	8 credits coursework
First Year	Spring	8 credits coursework
	Summer	
Second Year	Fall	8 credits coursework
Second Year	Winter	8 credits coursework
Second Year	Spring	Thesis defense and submission

Many variations of this plan are possible. In particular, students may begin the program in any term, not just Fall, and may elect to register for coursework or research during Summer. Students may not, however, register for more than eight credits in a term.