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Minnesota State University
Mankato

COMPUTER ENGINEERING *College of Science, Engineering & Technology*

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

Computer Engineering encompasses research, development, design and operation of computers, computerized systems, and their components. The primary objective of the Computer Engineering program is to educate engineering professionals who possess a sound design and analytical background coupled with a strong laboratory experience.

CAREER OPPORTUNITIES AVAILABLE FOR STUDENTS COMPLETING THIS DEGREE

Graduates of this program are prepared for entry into the engineering work environment with well-developed laboratory skills and a broad foundation in the application of engineering design applied to circuits, electronics, digital systems, microprocessors, computer architectures and other computer systems areas. Graduates are also prepared for further study at the masters and/or PhD level in engineering and related disciplines. Graduates will also be ready for advancement into managerial/entrepreneurial endeavors

ABOUT THE DEGREE

Similar to all accredited engineering programs, the Computer Engineering curriculum requires students to complete courses in mathematics, physical sciences and engineering. Students will experience multiple hands-on laboratories throughout the program. The curriculum starts with introductory engineering courses with laboratory content focusing on the fundamentals of digital systems and programming in preparation for more advanced microprocessor and computer systems courses. The curriculum proceeds to integrate theory associated with digital circuits and software integration with systems engineering design and finishes with a creative capstone design project during the senior year.

PROGRAM QUALITY INDICATORS

Faculty credentials

The faculty members have extensive educational and industrial experience. Some are licensed professional engineers. All tenured and tenure-track faculty have a terminal (PhD) degree. Many of our faculty members have active theoretical and /or applied research at the undergraduate and graduate levels.

Accreditation

The Computer Engineering program at Minnesota State University, Mankato is accredited by ABET, www.abet.org.

Laboratories

The Computer Engineering program is housed in Trafton Science Center, a facility with more than $9 million of modern laboratory equipment used in the support of departmental programs. The Department of Electrical and Computer Engineering and Technology maintains laboratories to support communications, integrated circuit design and fabrication, electronics, networking, digital system design, microprocessor design and interfacing, and antenna design.

Alumni Successes

Many successful engineers have received their degrees from Minnesota State University, Mankato. Some have continued on to pursue advanced degrees or perform research at national labs, others have joined the ranks of engineering professionals in industry.

FOR MORE INFORMATION, CONTACT:

Department of Electrical and Computer Engineering and Technology
Minnesota State University, Mankato
242 Trafton Science Center N
Mankato, MN 56001

Phone
507-389-5747
800-627-3529 or 711 (MRS/TTY)

Fax
507-389-6280

Website
http://cset.mnsu.edu/ecet

To apply for admission, contact:
Office of Admissions
Minnesota State University, Mankato
122 Taylor Center
Mankato, MN 56001

Phone: 507-389-1822 Toll-Free: 800-722-0544
Fax: 507-389-5114

TYPICAL COMPUTER ENGINEERING PROGRAM OF STUDY

First Year (FALL)	First Year (SPRING)
MATH 121 Calculus I (4)	MATH 122 Calculus II (4)
ENG 101 Composition (4)	PHYS 221 General Physics I (4)
EE 105 Intro to ECET (1)	ENG 271W Tech. Comm. (4)
EE 106 Intro to EE & CE I (3)	EE 107 Intro to EE & CE II (3)
H/SS Elective (3)	
Second Year (FALL)	**Second Year (SPRING)**
PHYS 222 General Physics II (3)	Math 223 Calculus III (4)
PHYS 232 Gen Phys II Lab (1)	EE 245 Robotics Programming (4)
MATH 321 Ord Diff Eq (4)	EE 231 Circuit Analysis II (3)
EE 230 Circuit Analysis I (3)	EE 234 Micro. Engineering I (3)
EE 240 Evaluation of Circuits (1)	EE 235 Micro Eng. I Lab (1)
EE 281 Digital Systems & Test(3	ME 291 (3) OR MATH 354 (4)
EE 282 Digital Syst/Test Lab (1)	
Third Year (FALL)	**Third Year (SPRING)**
EE 332 Electronics I (3)	*EE 390 Smart Sensor System (4)
EE 342 Electronics Lab (1)	EE 358 Control Systems (3)
EE 334 Micro. Eng. II (3)	EE 337 Prin of Engr Design II (1)
EE 336 Prin of Engr Design I (1)	EE 368 Control Systems Lab (1)
EE 341 Signals and Systems (3)	Math 280 Discrete Math for CS I (4)
EE 344 Micro. II Lab (1)	ME 213 Statics & Dynamics for EE (3)
EE 395 Comp HW and Org (3)	
Fourth Year (FALL)	**Fourth Year (SPRING)**
EE 467W Prin Engr Design III (1)	EE 477W Prin Engr Design IV (1)
EE 450 Engr Economics (3)	*EE 489 Real-time Embedded Sys. (4)
CIS 350 Information Security (4)	ME 299 Thermal Analysis (2)
EE 486 Signal Integrity (3)	PHYS 223 General Physics III (3)
*EE 470 Wireless Network (3)	H/SS Elective (3)
ECON 201 OR ECON 202 (3)	H/SS Elective (3)

- 12 credits H/SS required. List Humanities courses (6 cr.) and Social Science courses (6 cr.) below.
  At least 3 credits of H/SS courses must be at the 300 level or above and must follow a lower course in the same subject area. ECON 201/202 is counted towards this requirement.
- Students must have a core and a related area cultural diversity course, i.e. (1-purple and 1-gold) or (2-purple) courses.
- All courses in the Major must be completed with a C- or better to be counted toward graduation. All others completed with C or better. Must complete minimum of 20 semester hours of upper division EE courses and senior design at MSU. Must have GPA of 2.25 or better on upper level EE coursework. Must have a GPA of 2.5 for all science, math and engineering courses. Must complete the Fundamentals of Engineering (FE) exam and achieved the desired competency level.

For additional information about course requirements, please visit http://www.mnsu.edu/supersite/academics/bulletins/

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Minnesota State University Mankato