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**MINNESOTA STATE
UNIVERSITY**
MANKATO

ELECTRICAL ENGINEERING *College of Science, Engineering & Technology*

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Electrical Engineering encompasses research, development, design and operation of Electrical and Electronic systems and their components. The primary objective of the Electrical 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, communication systems and other electrical and electronic systems areas. Graduates are also prepared for further study at the masters and/or PhD level in engineering, business or related disciplines. Graduates will also be ready for advancement into managerial/entrepreneurial endeavors.

ABOUT THE DEGREE?

Similar to all accredited engineering programs, the Electrical 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 electrical systems courses. The curriculum proceeds to integrate theory associated with analog and digital circuits and electronics 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 Electrical Engineering program at Minnesota State University, Mankato is accredited by ABET, www.abet.org.

Laboratories

The Electrical 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 circuits, communications, controls, integrated circuit design/fabrication, electronics, networking, digital system design, microprocessor design/interfaces, 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, PLEASE 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

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 ELECTRICAL ENGINEERING PROGRAM OF STUDY

First Year (FALL)	First Year (SPRING)
MATH 121 Calculus I (4) CHEM 191 Chemistry App. (3) ENG 101 English Comp (4) EE 106 Intro to EE & CE I (3) EE 105 Intro to ECET (1)	MATH 122 Calculus II (4) PHYS 221 General Physics I (4) ENG 271W Tech. Comm. (4) EE 107 Intro to EE & CE II (3) H/SS Elective_____
Second Year (FALL)	Second Year (SPRING)
MATH 321 Ord Diff Eq (4) PHYS 222 General Physics II (3) PHYS 232 Gen Phys II Lab (1) EE 240 Evaluation of Circuits (1) EE 230 Circuit Analysis I (3) EE 281 Digital System Design with Testability (3) EE 282 Digital System Design with Testability Lab (1)	MATH 223 Calculus III (4) EE 231 Circuit Analysis II (3) EE 241 Electric Circuits Lab (1) PHYS 223 Gen. Physics III (3) PHYS 233 Gen. Phys III Lab (1) EE 234 Microprocessor Engineering I (3) EE 235 Microprocessor Engineering Laboratory I (1)
Third Year (FALL)	Third Year (SPRING)
EE 332 Electronics I (3) EE 342 Electronics Lab (1) EE 341 Signals & Systems (3) EE 303 Intro Solid State Devices (3) EE 304 Solid State Devices Lab (1) EE 336 Prin Engr Design I (1) EE Elective	EE 333 Electronics II (3) EE 353 Comm. Systems Engr (3) EE 358 Control Systems (3) EE 363 Comm. Systems Lab (1) EE 350 Engr Electromagnetics (3) EE 337 Prin of Engr Design II (1) EE 368 Control Systems Lab (1) EE 234 234 Microprocessor Engineering I (3)
Fourth Year (FALL)	Fourth Year (SPRING)
EE 467W Prin Engr Design III (1) EE 482 Electromechanics (3) EE 450 Engr Economics (3) *EE Elective _____ EE Elective General Education Course	EE 477W Prin Engr Design IV (1) * EE Elective _____ H/SS Elective_____ General Education Course General Education Course * EE Elective _____

* Acceptable courses for EE elective sequences include: a: EE 453, EE 476, EE 487; b: EE 334, EE 471, EE 472; or c: EE 475, EE 479, EE 484. Laboratories available to support course offerings include EE 344, EE 480 and EE 481. Other courses eligible include EE 473, EE 474, EE 489 and EE 498. Must complete 7 credit hours of approved EE elective courses. It is recommended that at least two courses are taken from one sequence.

** Business Electives: BLAW 200, FINA 362, MGMT 330, MGMT 340, MRKT 310

- 13 credits H/SS required. List Humanities courses (6-7 cr.) and Social Science courses (6-7 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.
- 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 Minnesota State Mankato. 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 <https://www.mnsu.edu/academics/academic-catalog/>

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