MINOT STATE UNIVERSITY

BACHELOR OF SCIENCE

Innovation Engineering

Hands-on learning
Build core engineering competencies—structures, machines, circuits, and materials—while engaging in collaborative learning through E-Studio courses.

Micro-credentialing
Specialize through advanced micro-credentials developed in partnership with regional industries and complete a robust capstone experience.

No lengthy prerequisites
Learn essential supporting material in an engineering context, allowing you to immediately grasp the relevance of the coursework.

Field-ready skills
Opportunities for internships, research, and real-world projects prepare graduates to lead innovation in today's fast-changing technological landscape.

Flexible pathways
Choose your path— enter the workforce directly, transfer to a conventional engineering program, or pursue advanced specialization at MSU.

Strong value
Gain a top-tier engineering education without the burden of heavy debt. MSU delivers exceptional affordability, awarding nearly $5 million in scholarships and financial aid each year.

Innovation Engineering at MSU is a new program launching in Fall 2026* that focuses on producing field-ready engineers equipped with the practical skills and knowledge demanded by today's industries.

**Pending HLC approval.*

PROGRAM CONTACT:

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MinotStateU.edu/engineering

Be seen. Be heard. Be you.

SAMPLE CURRICULUM – Bachelor of Science with a Major in Innovation Engineering (121–124 SH)

Our program is divided into two halves, with the initial two years focusing on foundational engineering principles through four distinct "fundamental" micro-credentials. The latter two years are dedicated to advanced specialization, where students complete a 15-credit capstone sequence and pursue 2-3 additional industry-focused engineering micro-credentials.

Year 1

Summer: ENGR 107 Essential Engineering *(if not ready for Calculus in the fall)*

Fall — Fundamentals of **Structures**

MATH 165 Calculus 1 *or* MATH 166: Calculus 2
ENGR 201 Statics + Workshop/Lab
CSCI 160 Computer Science 1
CE 204 Surveying *(if completed MATH 165 or CSCI 160)*
ENG 110 Composition 1
ENGR 150 E-Studio 1: Engineering for Industry & Research

Spring — Fundamentals of **Machines**

MATH 446 Probability and Statistics 2
ENGR 202 Dynamics + Workshop/Lab
ENGR 190 Computer Aided Design – *8 wks*
ENGR 195 Intro to Workplace Safety & Compliance Management – *8 wks*
COMM 110 Fundamentals of Public Speaking
ENGR 160 E-Studio 2: Professional Practice in Engineering

Year 2

Fall — Fundamentals of **Materials**

MATH 265 Calculus 3
ENGR 203 Materials + Workshop/Lab
ENGR 250 Fabrication
ENGR 251 Fluids & Thermodynamics
CHEM 121 General Chemistry 1
ENGR 260 E-Studio 3: Design and Innovation

Spring — Fundamentals of **Circuits**

MATH 266 Differential Equations
ENGR 206 Fundamentals of Electrical Engineering + Workshop/Lab
PHYS 252 Physics 2
ENGR 195 Intro to Workplace Safety & Compliance Management
ENG 120 Composition 2
ENGR 310 E-Studio 4: Project Management
Summer job/internship

Year 3

Fall

ECON 201 Microeconomics
Micro-credential 1: Course 1
Micro-credential 2: Course 1
Micro-credential 2: Course 2
ENGR 240 E-studio 5: Research Methods for Engineering and Science

Spring

PHIL 210 Ethics
Micro-credential 1: Course 2
Micro-credential 1: Course 3
Micro-credential 2: Course 3
ENGR 320: E-Studio VI: Engineering Futures

ENGR 494 Research *or* ENGR 397 Internship *or* ENGR 497 Co-operative (Fall/Spring/Summer)

Year 4

Fall

ART 1XX: Technical Drawing
Micro-credential 1: Course 4
Micro-credential 1: Course 5
Micro-credential 2: Course 4

Spring

Gen Ed course if needed
Micro-credential 1: Course 6
Micro-credential 2: Course 5
Micro-credential 2: Course 6
ENGR 480: Capstone

ENGR 494 Research *or* ENGR 397 Internship *or* ENGR 497 Co-operative (Fall/Spring/Summer)