



Office of
Transfer Relations

Catalog: 2026-2027 University of Wyoming Catalog Program:
Mechanical Engineering, B.S.

Wyoming Transfer Alignment Guide (WyoTAG)

Mechanical Engineering, B.S.

Mechanical Engineers design, develop, build, and test mechanical and thermal systems and devices in a wide range of fields including energy, manufacturing, materials, machines, and more.

Accreditation

This B.S. program is accredited by the EAC Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Mechanical and Similarly Named Engineering Programs.

Degree Requirements

The degree requires **126** credits, **48** of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

Course Name	Credits	UW Course in Major	AA/AS/AB/ADN satisfies this USP
C 1-Communication 1 (COM1)	3		X
C 2-Communication 2 (COM2)	3		X
C 3-Communication 3 (COM3)	3	(Must be completed at UW)	
Q-Quantitative Reasoning (U5Q)	3		X
PN-Physical and Natural World (1) (PN)	3		X
PN-Physical and Natural World (2) (PN)	3		X
H-Human Culture (1) (H)	3		X
H-Human Culture (2) (H)	3		X
V-US & WY Constitution (V)	3		X
FYS or USP Elective-Any 3-credit hour of FYS or 3-credit hours of USP electives	3		X

Note: FYS courses have been paused. 3 hours from any additional USP designated courses is still required.

Mechanical Engineering Success Curriculum

All undergraduate students in the B.S. Mechanical Engineering and B.S. Energy Systems Engineering programs must successfully complete the Mechanical Engineering Success Curriculum prior to enrolling in any upper-division (3000-level or above) courses taught by the Mechanical Engineering Department. The Mechanical Engineering Success Curriculum promotes successful completion of upper-division coursework by assuring a student that their foundational knowledge and skills are strong in mathematics and engineering fundamentals. AP/iB courses are excluded from the GPA calculation, but grades transferred from other institutions will be used in evaluating the ME Success Curriculum GPA.

1. Before enrolling in any upper division ME course, students must complete the ME Success Curriculum (minimum 3.000 GPA in MATH 2200, MATH 2250, MATH 2210, and the seven ES courses).
2. ES 2800 is NOT a part of the MESC
3. Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME courses taken at UW. A minimum of 48 hours of upper division coursework are required, so ME, business, and technical electives should be chosen appropriately.
4. A minimum of 126 total credit hours is required.
5. All undergraduate engineering students are required to take the Fundamentals of Engineering Exam with a good faith effort within one year prior to their expected graduation for program assessment purposes.

Successful Completion

To successfully complete the Mechanical Engineering Success Curriculum, a student must earn a minimum 3.000 GPA in the following 10 courses:

Mechanical Engineering Success Curriculum

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
MATH 2200 - Calculus I Q	4	X	X	X	X	X	X	X
MATH 2205 - Calculus II Q	4	X	X	X	X	X	X	X
MATH 2210 - Calculus III	4	X	X	X	X	X	X	X
ES 1060 - Introduction to Engineering Problem Solving	3	X	X		X	X	X	X
ES 2110 - Statics	3	X	X		X	X	X	X
ES 2120 - Dynamics	3	X	X		X	X	X	X
ES 2210 - Electric Circuit Analysis	3	X	X		X	X	X	X
ES 2310 - Thermodynamics I	3	X			X	X	X	X
ES 2330 - Fluid Dynamics	3	X				X	X	X
ES 2410 - Mechanics of Material I	3	X	X		X	X	X	X

Policy for Transfer Credit Towards Mechanical Engineering (ME) Core Coursework

In general, transfer of coursework towards a Mechanical Engineering degree will follow University of Wyoming policy. A course must be shown to be equivalent to its University of Wyoming course (latitude may be given for Mechanical Engineering electives without a direct University of Wyoming equivalent). However, six courses are considered to be the core of the Mechanical Engineering program, and therefore credit cannot be transferred from another institution. These courses are ME 3010, ME 3020, ME 3040, ME 3170, ME 3360, and ME 3450. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance. Any transfer of ME courses requires explicit written approval from the Department.

**Mechanical Engineering Curriculum
Chemistry**

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
CHEM 1020 - General Chemistry I PN	4	X	X	X	X	X	X	X

Engineering Science

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
ES 1060 - Introduction to Engineering Problem Solving	3	X	X		X	X	X	X
ES 2110 - Statics	3	X	X		X	X	X	X
ES 2120 - Dynamics	3	X	X		X	X	X	X
ES 2210 - Electric Circuit Analysis ES 2310 - Thermodynamics I	3	X	X		X	X	X	X
ES 2330 - Fluid Dynamics	3	X				X	X	X
ES 2410 - Mechanics of Material I	3	X	X		X	X	X	X
ES 2280 - Physical Computing	3							

Computer Science

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
COSC 1010 - Computational Thinking and Programming	3	X	X	X	X	X	X	X

Math

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
MATH 2200 - Calculus I Q	4	X	X	X	X	X	X	X
MATH 2205 - Calculus II Q	4	X	X	X	X	X	X	X
MATH 2210 - Calculus III	4	X	X	X	X	X	X	X
MATH 2310 - Applied Differential Equations I	3	X	X		X	X	X	X
MATH 2250 - Elementary Linear Algebra	3	X	X	X	X	X	X	X

Mechanical Engineering

Course Name	Credits	
ME 3005 - Engineering Experimentation and Solid Modeling	3	UW Course
ME 3010 - Intermediate Mechanics of Materials	3	UW Course
ME 3020 - System Dynamics	3	UW Course
ME 3040 - Thermodynamics II	3	UW Course
ME 3160 - Thermal/Fluid Science Lab	3	UW Course
ME 3170 - Machine Design	3	UW Course
ME 3360 - Fundamentals of Transport Phenomena	3	UW Course
ME 3450 - Properties of Materials	3	UW Course
ME 4060 - Systems Design I	3	UW Course
ME 4070 - Systems Design II	3	UW Course
ME 4150 - Mechanical Behavior of Materials	3	UW Course

Physics

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
PHYS 1220 - Engineering Physics II (PN)	4							
CHEM 1030 - General Chemistry II (min 3 CH) PN OR PHYS 1210 - Engineering Physics I PN	4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Electives

Four ME Electives (min 12 CH total, any upper division ME course or EE 4620, excluding ME 3975)

One Math/Science Electives (min 3 CH total, select from department-approved list)

One Business Elective (min 3 CH, select from department-approved list)

Course Name	Credits	
ME 3060 - Numerical Methods for Engineers	3	UW Course
ME 3400 - Heating, Ventilating and Air Conditioning of Buildings	3	UW Course
EE 4620 - Automatic Control Systems	3	UW Course
ME 4010 - Mechanical Vibrations	3	UW Course
ME 4040 - Introduction to Finite Elements	3	UW Course
ME 4100 - Manufacturing Processes	3	UW Course
ME 4110 - Additive Manufacturing	3	UW Course
ME 4203 - Nuclear Materials	3	UW Course
ME 4204 - Nuclear Energy Physics	3	UW Course
ME 4205 - Nuclear Power Systems	3	UW Course
ME 4210 - Introduction to Composite Materials	3	UW Course
ME 4215 - Composite Materials Design and Manufacturing	3	UW Course
ME 4240 - Gas Dynamics I	3	UW Course
ME 4340 - Gas Turbine Engines	3	UW Course
ME 4350 - Airplane Aerodynamics and Flight	3	UW Course
ME 4430 - HVAC Systems Analysis and Design	3	UW Course
ME 4455 - Combustion Engineering	3	UW Course
ME 4460 - Solar and Geothermal Engineering	3	UW Course
ME 4461 - Computational Fluid Dynamics I	3	UW Course
ME 4470 - Wind and Ocean Energy Engineering	3	UW Course

Mechanical Engineering Program Educational Objectives

- Successfully practice the profession of engineering
- Demonstrate career growth (e.g. increasing complexity of job assignment, career promotions, professional registration, patents, publications, and completion of advanced degrees).
- Apply Mechanical Engineering knowledge to find creative solutions to evolving challenges with global, economic, environmental, and societal impacts.
- Successfully serve in a range of leadership and collaborative roles in the profession in the community. Exhibit high professional standards and commitment to ethical action.

Mechanical Engineering Program Student Outcomes

The Department's Student Outcomes are:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Additional Requirements/Program Information

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Notes

Note 1: All Wyoming community colleges offer CHEM 1030.

COURSE SUBSTITUTIONS: WyoTAGs reflect published equivalencies. UW academic departments occasionally arrange for course substitutions when indirect equivalencies exist. Please contact your UW Academic Advisor for details.

EFFECTIVE DATE: This document is in effect as of the 2026-2027 catalog year; it reflects the published UW curriculum as of that date. Any changes to the UW curriculum or the WYCC course equivalents will require this document to be updated. To request an updated document, faculty should contact transfer@uwyo.edu via email.