UNIVERSITY of WYOMING | Office of Transfer Relations

Catalog: 2026-2027 University of Wyoming Catalog
Program: Electrical Engineering, F. M. Long Bioengineering, B. S.

Wyoming Transfer Alignment Guide (WyoTAG)

Electrical Engineering, F.M. Long Bioengineering, B.S.

An Elec. Eng. degree where electives are chosen so that students can design and develop instruments, devices, and software for medical equipment. With a few more courses, it can serve as a pre-med or pre-dental program.

Accreditation

The Electrical Engineering, F.M. Long Bioengineering Program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical and Similarly Named Engineering Program Criteria.

Degree Requirements

The degree requires 128 credits, 42 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 (U5C1) (COM1)	3		X
C 2-Communication 2 (U5C2) (COM2)	3		X
C 3-Communication 3 (U5C3) (COM3)	3	(Must be completed at UW)	
Q-Quantitative Reasoning (U5Q)	3		X
PN-Physical and Natural World (1) (U5PN)	3		X
PN-Physical and Natural World (2) (U5PN)	3		X
H-Human Culture (1) (U5H)	3		X
H-Human Culture (2) (U5H)	3		X
V-US & WY Constitution (U5V)	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.

Math & Science Courses

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 2250 - Elementary Linear Algebra	3	X	X	X	X	X	X	X
MATH 2310 - Applied Differential Equations I	3	X	X		X	X	X	X
PHYS 1210 - Engineering Physics I	4							
PHYS 1220 - Engineering Physics II	4							
CHEM 1020 - General Chemistry I	4	X	X	X	X	X	X	X
CHEM 2300 - Introductory Organic Chemistry	4	X	X	X		X	X	
LIFE 1010 - General Biology	4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
MOLB 2021 - General Microbiology	4	Note 2	Note 2	Note 2		Note 2	Note 2	Note 2
MOLB 3610 - Principles of Biochemistry	4							

Engineering Science

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
ES 2210 - Electric Circuit Analysis	3	X	X		X	X	X	X
Approved ES/EE/BE ≥ 2000 electives	6							

Electrical Engineering

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
EE 1010 - Introduction to Electrical and Computer Engineering	1							
EE 2220 - Circuits and Signals	4							
EE 2390 - Digital Systems Design	4							
EE 3150 - Electromagnetics	3							
EE 3220 - Signals And Systems	3							
EE 3311 - Electronics I	3							
EE 3312 - Electronics I Laboratory	1							
EE 3331 - Electronics II	3							
EE 3332 - Electronics II Laboratory	1							
EE 3510 - Electric Machines and Power Systems	4							
EE 4075 - C++ with Numerical Methods for Engineers	4							
EE 4220 - Probabilistic Signals and Systems	3							
EE 4390 - Microprocessors	3							
EE 4820 - Senior Design I	2							
EE 4830 - Senior Design II	2							

Bio-Engineering and Electives

Course Name	Credits	Casper	CWC	EWC	LCCC	NWCCD	Northwest	Western
COSC 1010 - Computational Thinking and Programming	3	X	X	X	X	X	X	X
BE 4810 - Bioinstrumentation	3							
BE 4820 - Biomedical Signal Processing OR EE 4620 - Automatic Control Systems	3							

Advisor Approved Electives

3 credits of EE or BE Electives (4000-Level or Above)
3 credits Approved Technical Electives.5
2 credits of general electives (1000 level or higher; any Math elective must be 2000 or higher)

Additional Requirements/Program Information

1 PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. While PHYS 1220 is not a prerequisite for ES 2210 , it is recommended that PHYS 1220 be taken before or concurrently with ES 2210 .

2 See approved ES/EE/BE ≥ 2000 elective list. ES 2280 is recommended as one of the electives

3 To meet the COM3 requirement with EE 4820 and EE 4830 the COM2 course must be taken before EE 4820. Also, EE 4820 and EE 4830 must be taken in sequence. COM 2 grade of C or better is required.

4 Any course from the approved ECE technical elective list. Credit can be earned for professional internships or CO-OPs. Internships for Credit must go through EE 4800.

Online courses taken outside of the Wyoming system will not be considered for preapproved Transfer.

Students must have a minimum cumulative GPA 2.000 in all Engineering courses for graduation.

A grade of C or better is required for all prerequisite courses.

A grade of D is allowed for corequisite courses (prerequisite courses that can be taken concurrently).

Students must also achieve a grade of C or better in all mathematics courses.

Students must complete a minimum of 42 hours of upper division coursework, 30 of which must be from the University of Wyoming.

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.

Electrical Engineering FM Long Bioengineering Program Educational Objectives

Graduates of the University of Wyoming Electrical Engineering Program will:

- Be able to successfully practice the profession of Electrical Engineering.
- Be prepared and motivated to accept challenging assignments and responsibilities and be productive members of society.
- Demonstrate successful career growth (e.g., professional registration, graduate school, promotion and advancement, patents, publications).

Electrical Engineering, F.M. Long Bioengineering Student Learning Outcomes

All Electrical Engineering graduates shall demonstrate:

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 judgments, 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 judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Notes

Note 1 LIFE 1010 at UW = BIOL 1010 at the WYCCs
Note 2 MOLB 2021 at UW = MOLB 2210 at the WYCCs

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.