

# Electrical Engineering, BS



## University of Wyoming, 2017-18

Freshman Fall Semester				Hrs	Min Grade	Notes
USP First-Year Seminar				3	C	FY; recommend EE 1101 (Bits & Bytes: A Taste of Electronics).
CHEM	1020	General Chemistry I *		4		PN
ENGL	1010	College Composition and Rhetoric		3	C	C1
ES	1060	Intro to Engineering Problem Solving **		3	C	
MATH	2200	Calculus I ***		4	C	Q
Credit hours subtotal:				<b>17</b>		

Freshman Spring Semester				Hrs	Min Grade	Notes
ES	2110	Statics		3	^	May substitute any ES, EE, or BE course (>2000-level), COSC 3011 (Intro to Software Design), or COSC 3750 (Linux Programming for System Apps).
MATH	2205	Calculus II		4	C	
MATH	2250	Elementary Linear Algebra		3	C	
PHYS	1210	Engineering Physics I		4	C	PN; no credit can be earned in PHYS 1210 if taken after ES 2120.
Credit hours subtotal:				<b>14</b>		

Sophomore Fall Semester				Hrs	Min Grade	Notes
USP Human Culture				3		H
ES	2120	Dynamics		3	^	May substitute any ES, EE, or BE course (>2000-level), COSC 3011 (Intro to Software Design), or COSC 3750 (Linux Programming for System Apps).
ES	2210	Electric Circuit Analysis		3	C	
MATH	2210	Calculus III		4	C	
PHYS	1220	Engineering Physics II		4	C	Should be taken before or concurrently with ES 2210.
Credit hours subtotal:				<b>17</b>		

Sophomore Spring Semester				Hrs	Min Grade	Notes
USP US & Wyoming Constitutions				3		V
EE	2220	Circuits and Signals		4	C	Offered spring only.
EE	2390	Digital Systems Design		4	C	
MATH	2310	Applied Differential Equations I		3	C	
Math/Science Elective ****				3	C	
Credit hours subtotal:				<b>17</b>		

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation, and consult with an academic advisor. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

### University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

### College of Engineering and Applied Science requirements:

Students must have a minimum cumulative GPA of 2.0 in all Engineering courses for graduation. • A grade of C or higher is required for all prerequisite courses. Students must also achieve a grade of C or better in all required mathematics courses.

### Electrical Engineering Program Notes:

^ Students must have a minimum cumulative GPA of 2.0 in all Engineering courses for graduation.

\* Requires MATH ACT  $\geq 23$ , MATH SAT  $\geq 600$ , Math Placement Exam  $\geq 3$ , or concurrent enrollment in MATH 1400, 1405, or 1450. (University standard)

\*\* Requires MATH 2200 or concurrent enrollment.

\*\*\* Requires MATH ACT  $\geq 27$ , MATH SAT  $\geq 600$ , Math Placement Exam  $\geq 5$ , or  $\geq C$  in MATH 1405 or 1450. (University standard)

\*\*\*\* **Math/Science Elective:** One course should be selected from the ECE Math/Science Elective List available at

[www.uwyo.edu/electrical/undergraduate/](http://www.uwyo.edu/electrical/undergraduate/) The Accreditation Board for Engineering and Technology (ABET) requires a minimum of 32 hours of a combination of college level mathematics and basic sciences (some with experimental experience) appropriate to the discipline. Basic sciences are defined as biological, chemical, and physical sciences. Please consult with an academic advisor.

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Junior Fall Semester			Hrs	Min Grade	Notes
		USP Communication 2	3	C	C2; must be taken before EE 4820.
EE	3150	Electromagnetics	3	^	Offered fall only.
EE	3220	Signals and Systems	3	C	Offered fall only.
EE	3310	Electronics I	4	C	Offered fall only.
EE	3510	Electromechanics	4	C	Offered fall only.
Credit hours subtotal:			<b>17</b>		

Junior Spring Semester			Hrs	Min Grade	Notes
EE	3330	Electronics II	4	^	Offered spring only.
EE	4075	C++ with Numerical Methods for Engineers	4	^	Offered spring only.
EE	4220	Probabilistic Signals and Systems	3	C	Offered spring only.
EE	4390	Microprocessors	3	^	Offered spring only.
EE	4620	Automatic Control Systems	3	^	Offered spring only.
Credit hours subtotal:			<b>17</b>		

Senior Fall Semester			Hrs	Min Grade	Notes
		USP Human Culture	3		H
EE	4440	Communication Theory	3	^	Offered fall only.
EE	4820	Senior Design I	2	C	Offered fall only; must be taken before EE 4830.
		Electrical Engineering Elective *****	3		
		Technical Elective *****	3	^	
Credit hours subtotal:			<b>14</b>		

Senior Spring Semester			Hrs	Min Grade	Notes
EE	4830	Senior Design II	2	C	C3; ideally taken in the final semester and must be taken after EE 4820.
		Electrical Engineering Electives *****	9	^	
		Technical Elective *****	3	^	
Credit hours subtotal:			<b>14</b>		

**TOTAL CREDIT HOURS: 127**

### Electrical Engineering Program Notes con't:

\*\*\*\*\* **Electrical Engineering Electives:** A minimum of 19 hours of Electrical Engineering electives is required; a minimum of 16 hours of non-required courses. Recommended courses include:

*Electronics:* BE 4810 (Bioinstrumentation), BE 4820 (Biodata Systems), EE 4250 (Network Synthesis), EE 4300 (Introduction to Microwave and RF Circuits), EE 4330 (Electronic Systems Design), EE 4340 (Semiconductor Materials and Devices), EE 4360 (VLSI Design), and EE 4560 (Power Electronics).

*Communication / Signal Processing:* EE 4245 (Digital Signal Processing), EE 4300 (Introduction to Microwave and RF Circuits), EE 4345 (Hardware Digital Signal Processing), EE 4530 (Digital Image Processing), and EE 4870 (Computer Network Hardware).

*Systems & Controls:* EE 5210 (Systems Theory) and EE 5400 (Introduction to Robotics).

*Power Engineering:* EE 4510 (Power Systems), EE 4540 (Energy Policies and Impacts), EE 4550 (Electrodynamics), and EE 4560 (Power Electronics).

*Digital / Computer:* EE 4360 (VLSI Design), EE 4490 (Hardware Descriptive Language [HDL] Digital Design), EE 4590 (Real Time Embedded Systems), EE 4870 (Computer Network Hardware), EE 4970 (Graphical Interface), and EE 4990 (Advanced Microprocessors).

\*\*\*\*\* **Technical Elective:** Any course in Engineering, Computer Science, or those marked as technical electives in the ECE Math/Science Elective List. Please consult with an academic advisor.