

# Electrical Engineering, BS (2018-2019)



## University of Wyoming

### Freshman Fall Semester

	Hrs	Min	Grade	Notes
CHEM 1020 General Chemistry I	4		D	PN#1; Prerequisite-ACT Math score of 23 or above, or concurrent enrollment in Math 1400, 1405 or 1450.
EE 1101 Bits & Bytes A Taste of Electronics	3		C	FYS
ENGL 1010 College Composition & Rhetoric	3		C	COM1
ES 1060 Introduction to Engineering Problem Solving	4		C	Prerequisite: MATH 2200 or concurrent enrollment
MATH 2200 Calculus I	4		C	Q; Prerequisite: grade of C or better in MATH 1405 or 1450 or Level 5 on the MPE or Math ACT of 27 or Math SAT of 600.
Credit hours subtotal:				<b>18</b>

### Freshman Spring Semester

	Hrs	Min	Grade	Notes
ES 2110 Statics or any ES, EE, BE course ( $\geq 2000$ level), or COSC 3011 or COSC 3750	3		*	Prerequisites: MATH 2205 or concurrent enrollment.
MATH 2205 Calculus II	4		C	Prerequisite: grade of C or better in MATH 2200 or Advanced Placement credit in MATH 2200.
MATH 2250 Elementary Linear Algebra	3		C	Grade of C or better in MATH 2200 or 2350.
PHYS 1210 Engineering Physics I	4		C	PN#2; Prerequisite: grade of C or better in MATH 2200 or AP credit in MATH 2200.
Credit hours subtotal:				<b>14</b>

### Sophomore Fall Semester

	Hrs	Min	Grade	Notes
ES 2120 Dynamics or any ES, EE, BE course ( $\geq 2000$ level), or COSC 3011 or COSC 3750	3		*	Prerequisites: ES 2110 and MATH 2205; PHYS 1210 or concurrent enrollment.
ES 2210 Electric Circuit Analysis	3		C	Prerequisite: MATH 2205 or concurrent enrollment.
MATH 2210 Calculus III	4		C	Prerequisite: grade of C or better in MATH 2205 or Advanced Placement credit in MATH 2205.
PHYS 1220 Engineering Physics II	4		C	Prerequisites: grades of C or higher in MATH 2200 and 2205, and concurrent enrollment in MATH 2210.
Human Culture course	3		D	H#1
Credit hours subtotal:				<b>17</b>

### Sophomore Spring Semester

	Hrs	Min	Grade	Notes
EE 2220 Circuits and Signals	4		C	(S.O.) Prerequisite: ES 2210
EE 2390 Digital Systems Design	4		C	Prerequisites: COSC 1010 or COSC1030 or ES 1060, and MATH 2205.
MATH 2310 Applied Differential Equations I	3		C	Prerequisite: grade of C or better in MATH 2205.
US/Wyoming Constitution Course	3		D	V
Math/Science Elective	3		*	One course from the ECE Math/Science Elective List
Credit hours subtotal:				<b>17</b>

Notes: (S.O.) offered Spring semester ONLY (F.O.) offered Fall semester ONLY

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

Grade of C (2.0) or higher is required for all prerequisite courses.

PHYS 1210: no credit can be earned in PHYS 1210 if taken after ES 2120. PHYS 1220 should be taken before or concurrently with ES 2210.

Math/Science Elective: One course from the ECE Math/Science Elective List. 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.

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### Junior Fall Semester

	Hrs	Min	Grade	Notes
EE 3150 Electromagnetics	3	*		(F.O.); Prerequisites: ES2210, MATH 2210, and PHYS 1220 or concurrent enrollment.
EE 3220 Signals And Systems	3	C		(F.O.); Prerequisite: EE 2220.
EE 3310 Electronics I	4	C		(F.O.) Prerequisites: PHYS 1220 or PHYS 1320 or EE 3150, and EE 2220 or concurrent enrollment.
EE 3510 Electric Machines and Power Systems	4	C		(F.O.); Prerequisite: ES 2210.
Communication 2 course	3	C		COM 2
Credit hours subtotal:				<b>17</b>

### Junior Spring Semester

	Hrs	Min	Grade	Notes
EE 3330 Electronics II	4	*		(S.O.); Prerequisite: EE 2220 and EE 3310
EE 4075 C++ with Numerical Methods for Engineers	4	*		(S.O.); Prerequisites: MATH 2205 and (COSC 1010 or ES 1060) and (MATH 2250 or 2310) or consent of instructor.
EE 4220 Probabilistic Signals and Systems	3	C		(S.O.); Prerequisite: EE 3220 and MATH 2210
EE 4390 Microprocessors	3	*		(S.O.) Prerequisite: PHYS 1220 or ES 2210, and EE 2390.
EE 4620 Automatic Control Systems	3	*		(S.O.); Prerequisite: EE 2220.
Credit hours subtotal:				<b>17</b>

### Senior Fall Semester

	Hrs	Min	Grade	Notes
EE 4440 Communication Theory	3	*		(F.O.); Prerequisite: EE 3220 and EE 4220.
EE 4820 Senior Design I	2	C		(F.O.); EE 2220, EE 2390, & EE 3310 or concurrent enrollment, plus 6 hours of 4000 level EE/BE courses or concurrent enrollment. COM2 grade C or better.
Technical Elective	4	*		
BE or EE Elective	3	*		
Human Culture course	3	D	H#2	
Credit hours subtotal:				<b>15</b>

### Senior Spring Semester

	Hrs	Min	Grade	Notes
EE 4830 Senior Design II	2	C		(S.O.); Prerequisites: EE 4820.
BE or EE Elective	3	*		
BE or EE Elective	3	*		
BE or EE Elective	3	*		
BE or EE Elective	3	*		
Credit hours subtotal:				<b>14</b>

**TOTAL CREDIT HOURS: 128**

Students must complete a minimum of 42 hours of upper division coursework, 30 hours of which must be from the University of Wyoming. EE Electives: A minimum of 19 hours of EE and technical electives is required. A minimum of 15 credit hours of non-required EE courses offered

by the ECE Department. Suggestions are as follows:

Electronics: EE 4250, 4300, 4330, 4340, 4360, 4380, 4560, BE 4810, BE 4820

Comm/Signal Processing: EE 4245, 4300, 4345, 4530, 4870

Systems & Controls: EE 5210, 5400

Power Engineering: EE 4510, 4540, 4550, 4560

Digital/Computer: EE 4360, 4490, 4590, 4870, 4970, 4990

Technical Elective: Any course marked as technical electives in the ECE Math/Science Elective List.

COM3 to satisfy this requirement with EE 4820/4830 the COM2 course must be taken before EE 4820.

Also EE 4820 and EE 4830 must be taken in sequence.

EE 4830 is ideally taken in the final semester.