

# Computer Engineering, BS



## University of Wyoming, 2017-18

Freshman Fall Semester			Hrs	Min	Grade	Notes
		USP First-Year Seminar	3		C	FYS; recommend EE 1101 (Bits & Bytes: A Taste of Electronics).
CHEM	1020	General Chemistry I *	4			PN
COSC	1010	Introduction to Computer Science I **	4		C	
ENGL	1010	College Composition and Rhetoric	3		C	C1
MATH	2200	Calculus I ***	4		C	Q
Credit hours subtotal:			<b>18</b>			

Freshman Spring Semester			Hrs	Min	Grade	Notes
COSC	1030	Computer Science I	4		C	
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	
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>15</b>			

Sophomore Fall Semester			Hrs	Min	Grade	Notes
COSC	2030	Computer Science II	4		C	
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>18</b>			

Sophomore Spring Semester			Hrs	Min	Grade	Notes
COSC	2150	Computer Organization	3		C	
EE	2220	Circuits and Signals	4		C	Offered spring only.
EE	2390	Digital Systems Design	4		C	
MATH	2300	Discrete Structures	3			
MATH	2310	Applied Differential Equations I	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.

### Computer 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)

# Computer Engineering, BS



## University of Wyoming, 2017-18

### Junior Fall Semester

	Hrs	Min Grade	Notes
USP Communication 2	3	C	C2; must be taken before EE 4820.
USP Human Culture	3		H
EE 3220 Signal and Systems	3	C	Offered fall only.
EE 3310 Electronics I	4	C	Offered fall only.
EE 4490 HDL Digital Design	3	^	Offered fall only.
Credit hours subtotal:	<b>16</b>		

### Junior Spring Semester

	Hrs	Min Grade	Notes
USP Human Culture	3		H
EE 3330 Electronics II	4	C	Offered spring only.
EE 4220 Probabilistic Signals and Systems	3	^	Offered spring only.
EE 4390 Microprocessors	3	^	Offered spring only.
Math/Science Elective ****	3	C	
Credit hours subtotal:	<b>16</b>		

### Senior Fall Semester

	Hrs	Min Grade	Notes
USP US & Wyoming Constitutions	3		V
COSC 4760 Computer Networks	3	C	Can substitute EE 4870 (Computer Network Hardware).
EE 3150 Electromagnetics	3	C	Offered fall only.
EE 4820 Senior Design I	2	C	Offered fall only; must be taken before EE 4830.
Technical Elective*****	3	^	
Credit hours subtotal:	<b>14</b>		

### Senior Spring Semester

	Hrs	Min Grade	Notes
EE 4830 Senior Design II	2	C	C3; offered spring only; must be taken after EE 4820.
CPEN Option Course #1 *****	3	^	
CPEN Option Course #2 *****	3	^	
CPEN Option Course #3 *****	3	^	
CPEN Option Course #4 *****	3	^	
Credit hours subtotal:	<b>14</b>		

**TOTAL CREDIT HOURS: 128**

### Computer Engineering Program Notes con't:

\*\* Requires MATH ACT  $\geq 25$ , MATH SAT  $\geq 600$ , Math Placement Exam  $\geq 4$ , or  $\geq C$  in MATH 1400 within one year prior to the start of the course. (University standard)

\*\*\* 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 (1) 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.

\*\*\*\*\***Technical Elective:** Any course marked as technical elective in the ECE Math/Science Elective list.

\*\*\*\*\* **CPEN Option Courses:** Choose four (4) classes from this list, at most two of which can be from the Computer Science department. Listing of currently available courses includes: COSC 3020 (Algorithms & Data Structure), COSC 4450 (Computer Graphics), COSC 4550 (Intro to Artificial Intelligence), COSC 4555 (Machine Learning), COSC 4560 (Modern Robots & Softbots), COSC 4730 (Mobil Application Programming), COSC 4740 (Operating Systems Design), COSC 4760 (Computer Networks), EE 4245 (Digital Signal Processing), EE 4340 (Semiconductor Materials & Devices), EE 4345 (Hardware Digital Signal Processing), EE 4440 (Communication Theory), EE 4530 (Digital Image Processing), EE 4590 (Real Time Embedded Systems), EE 4870 (Computer Network Hardware), EE 4990 (Advanced Microprocessors), EE 5390 (Computer Architecture), EE 5430 (3-D Computer Vision), EE 5630 (Advanced Image Processing), and EE 5650 (Object & Pattern Recognition).

**NOTE:** EE 4075 (C++ Numerical Methods for Engineers) is not an allowed CPEN option course. Other EE and COSC graduate-level classes may be considered upon petition. Prerequisites for upper division electives vary. Consult an academic advisor and the course descriptions in the University Catalog for each course.