

B.S. Computer Engineering (4 Years) Curriculum — Class of 2011

<i>Fall</i>	1st Year		<i>Spring</i>		
MAT 126	Calculus I	4	MAT 127	Calculus II	4
PHY 121	Physics for Engineers I	4	PHY 122	Physics for Engineers II	4
ECE 101	Intro to ELE & CEN Eng	4	ECE 177	Intro to Prog for Engineers	4
CHY 121	Intro to Chemistry	3	ENG 101	College Composition	3
CHY 123	Intro to Chemistry Lab	1	CMJ 103	Fund of Public Communication	3
		16			18

		2nd Year			
MAT 228	Calculus III	4	MAT 258	Diff Eq & Linear Algebra	4
ECE 210	Electrical Networks I	3	ECE 211	Electrical Networks II	3
ECE 275	Sequential Logic Systems	3	ECE 214	Elec Networks Lab	3
COS 221	Intro to Computer Science II	3	ECP 214	Engineering Writing I	1
Elective	Basic Science	4	ECE 271	Micro Arch & Applications	3
			Elective	Basic Engineering	3
		17			17

		3rd Year			
ECE 300	Seminar	1	ECE 401	Design Project I	1
ECE 314	Linear Circuits and Systems	3	ECP 401	Engineering Writing III	1
ECE 342	Electronics I	4	ECE 343	Electronics II	4
ECP 342	Engineering Writing II	1	^a CHB 350	Statistical Proc & Analysis	3
^b ECE 471/ Elective	Microproc Appl Engineering <i>or</i> Technical Elective (1)	3	^b ECE 477/ Elective	Hardware Applications in C <i>or</i> Technical Elective (1)	3
Elective	HV & SC (1)	3	Elective	Technical Elective (2)	3
		15			15

		4th Year			
ECE 402	Design Project II	4	ECE 403	Design Project III	2
ECE 473	Computer Architecture & Org	3	MAT 481	Discrete Mathematics	3
COS 431	Operating Systems	3	Elective	Technical Elective (4)	3
Elective	Technical Elective (3)	3	Elective	HV & SC (3)	3
Elective	HV & SC (2)	3	Elective	HV & SC (4)	3
		16			14

MINIMUM CREDIT HOURS TO GRADUATE: 128^c

- a CHB 350 can be replaced by ECE 383 or MAT 332. However, students will be allowed to take either MAT 332 or CHB 350 with ECE 383 as tech elective.
- b Either ECE 471 (fall) or ECE 477 (spring) is required.
- c This is a sample curriculum. **BIO 222/223 or ERS 102** can count in both areas of Basic Science and HV&SC under Population and Environment category. The total number of HV&SC must at least be 18 credit hours. The total 128 credit hours for graduation assumes election of one of these courses. If an alternative Basic Science course is taken, the minimum credit hours for graduation would be 131.
- d Of the four Technical Electives, two must be computer focus excluding ECE 394.

Information about Elective Courses

Technical Electives: The Curriculum requires four courses used to broaden a student's knowledge base or to specialize in areas like Supercomputing, Neural Network, Robotics, Microelectronics, Sensors, Power and Industrial Control, Computer Hardware, or Communications and Signal Processing. Two technical electives must be computer focus. Neither ECE 394 nor ECE 198 may be used as one of these electives to meet this requirement. Two technical electives may be selected from various engineering, math, computer science, or other technical offerings including ECE 394 and ECE 198 with the approval of the student's advisor.

HV&SC and Ethics Electives: In addition to CMJ 103, the curriculum requires five courses to complete the General Education Requirements in Ethics and Human Values and Social Context (HV&SC). In addition to the Ethics requirement, the five areas under HV&SC are: Western Cultural Tradition, Social Contexts and Institutions, Cultural Diversity and International Perspective, Population and the Environment, and Artistic and Creative Expression. Note that CMJ 103 satisfies the Social Contexts and Institutions requirement. A list of HV&SC courses with the categories that they satisfy are available on the [Office of Student Records](#) web page. The structure of the ECE curriculum guarantees that all other General Education Requirements are met. You may elect to take ERS 102 or BIO 222/223 to satisfy your Basic Science requirement and part of the 18 credit hour HV&SC requirement. If neither ERS 102 nor BIO 222/223 is taken, three additional credit hours of HV&SC are required for graduation (i.e., a minimum of 131 credit hours for graduation).

Basic Engineering Elective: The Curriculum requires at least one engineering course, outside of the department, to broaden a student's knowledge base in engineering. Courses satisfying the Basic Engineering Elective include:

CHB 200 Fundamentals of Process Engineering	MEE 230 Thermodynamics I
CIE 231 Fundamentals of Environmental Engineering	MEE 252 Statics and Strength of Materials
MEE 150 Applied Mechanics: Statics	

Basic Science Elective: In addition to CHY 121/123, PHY 121 and PHY 121, the Curriculum requires at least one additional physical or biological science course, with a lab, to broaden a student's knowledge base in science. Courses satisfying the Basic Science Elective include:

AST 215/110 General Astronomy I	BIO 222/223 Biology
AST 216/110 General Astronomy II	ERS 101 Introduction to Geology
CHY 122/124 Molecular Basis of Chemical Change	ERS 102 Environmental Geology of Maine
PHY 236/223 Modern Physics and Special Relativity	

Program Specific Requirements

1. Repeating any ECE course for which a grade of F, L, or WF has been recorded requires a grade of C- or better in prerequisites for the course.
2. Any required course in the curriculum cannot be taken more than twice. This includes courses where a grade of AU, L, W, or WF is received.
3. Dismissal from the program will be recommended if any required course in the program is taken twice without achieving a passing grade. This includes courses where a grade of AU, L, W, or WF is received.
4. To obtain a BS in Computer Engineering, a student must:
 - a. meet all University academic requirements;
 - b. meet all Computer Engineering curriculum requirements;
 - c. have a GPA of 2.0 or better in all ECE courses; and
 - d. have a GPA of 2.0 or better in all COS courses.
5. Any exceptions to the program specifics listed above require approval of the ECE faculty.

Check with your academic advisor for assistance. Additional information can be found on the [check-off sheet](#). Please also refer to [ECE Registration FAQ](#) website to find more information.