

## B.S. Computer Engineering + MBA 5-Year Program

Computer Engineering: 4 Years, 128 credit hours

MBA: 5<sup>th</sup> Year, 42 credit hours

<sup>a</sup> Curriculum — Class of 2011

### 1<sup>st</sup> Year

#### FALL

MAT 126	Calculus I	4
PHY 121	Physics for Engineers I	4
ECE 101	Intro to ELE & CEN Eng	4
CHY 121	Intro to Chemistry	3
CHY 123	Intro to Chemistry Lab	1
		<b>16</b>

#### Spring

MAT 127	Calculus II	4
PHY 122	Physics for Engineers II	4
ECE 177	Intro to Prog for Engineers	4
ENG 101	College Composition	3
CMJ 103	Fund of Public Communication	3
		<b>18</b>

### 2<sup>nd</sup> Year

#### Fall

MAT 228	Calculus III	4
ECE 210	Electrical Networks I	3
ECE 275	Sequential Logic Systems	3
COS 221	Intro to Computer Science II	3
<sup>b,c</sup> ECO 120	.Microeconomics HV & SC (1)	3
		<b>16</b>

#### Spring

MAT 258	Diff Eq & Linear Algebra	4
ECE 211	Electrical Networks II	3
ECE 214	Elec Networks Lab	3
ECP 214	Engineering Writing I	1
ECE 271	Micro Arch & Applications	3
<sup>b,c</sup> ECO 121	Macroeconomics HV&SC (2)	3
		<b>17</b>

#### Summer

<sup>b</sup> BUA 201	Principles of Financial Account	3
		<b>3</b>

Apply to MBA, take GMAT

### 3<sup>rd</sup> Year

#### Fall

ECE 300	Seminar	1
ECE 314	Linear Circuits and Systems	3
ECE 342	Electronics I	4
ECP 342	Engineering Writing II	1
<sup>e</sup> ECE 471/ Elective	Microproc Appl Engineering <i>or</i> Technical Elective (1)	3
Elective	Basic Engineering	3
		<b>15</b>

#### Spring

ECE 401	Design Project I	1
ECP 401	Engineering Writing III	1
ECE 343	Electronics II	4
<sup>q</sup> CHB 350	Statistical Proc & Analysis	3
<sup>e</sup> ECE 477/ Elective	Hardware Applications in C <i>or</i> Technical Elective (1)	3
Elective	Basic Science	4
		<b>16</b>

#### Summer

<sup>b</sup> BUA 202	Principles of Managerial Account	3
		<b>3</b>

### 4<sup>th</sup> Year

Fall		
ECE 402	Design Project II	4
ECE 473	Computer Architecture & Org	3
COS 431	Operating Systems	3
BUA 350 <sup>d</sup>	Finance (Tech Elective 2)	3
Elective	HV & SC ( 3)	3
		<b>16</b>

Spring		
ECE 403	Design Project III	2
Elective	Technical Elective (3)	3
Elective	Technical Elective (4)	3
MAT 481	Discrete Mathematics	3
Elective	HV&SC (4)	3
BUA 620 or 626	Law, Business and Society or Behavioral Analysis of Administrative Decisions	3
		<b>17</b>

Summer		
	BUA Tutorials	
BUA 695	Internship	3
BUA 604	Residency	3
		<b>6</b>

**Receive BSCEN in May (128 credit hrs for CEN + 15 hrs towards MBA)**

### 5<sup>th</sup> Year

Fall	
15 hours of MBA courses	
	<b>15</b>

Spring	
15 Hours of MBA courses	
	<b>15</b>

Summer	
May Term international trip	
	<b>3</b>

**Receive MBA in August (42 credits)**

- a This is a sample curriculum and courses can be taken any semester depending on satisfactory completion of pre-requisites and course offerings. **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**. Check with your academic advisor for assistance. Additional information can be found on the check-off sheet.
- b The ECO120 & 121 and BUA201 & 202 are pre-requisites of MBA courses.
- c The ECO120&121 are used to satisfy "Social" category of the HV&SC requirement.
- d 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.
- e Either ECE 471 (fall) or ECE 477 (spring) is required.

## 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	MEE 150 Applied Mechanics: Statics
CIE 231 Fundamentals of Environmental Engineering	MEE 252 Statics and Strength of Materials	

**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	CHY 122/124 Molecular Basis of Chemical Change
AST 216/110 General Astronomy II	ERS 101 Introduction to Geology	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.