

**UNIVERSITY OF MIAMI**  
**DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING**  
**BACHELOR OF SCIENCE IN COMPUTER ENGINEERING**  
**SOFTWARE ENGINEERING OPTION**

*127 Credits*  
*2016 - 2017*

<b>Freshman Year:</b>					
ECE 111	Introduction to Engineering I	3	ECE 112	Introduction to Engineering II	2
ECE 118	Introduction To Programming	3	ECE 218	Data Structures	3
ENG 105	English Composition I	3	ENG 107	English Composition II: Science and Technology	3
MTH 151	Calculus I for Engineers	5	MTH 162	Calculus II	4
			PHY 205	University Physics I	3
<b>Total</b>			<b>Total</b>		
<b>14</b>			<b>15</b>		

<b>Sophomore Year:</b>					
ECE 211	Logic Design	3	ECE 201	Electrical Circuit Theory	3
ECE 318	Algorithms	3	ECE 212	Processors: Hardware, Software and Interfacing	3
MTH 210	Introduction to Linear Algebra	3	ECE 310 or IEN310	Engineering Probability	3
PHY 206 or PHY 207	University Physics II or University Physics III	3	ECE 315	Digital Design Laboratory	1
PHY 208 or PHY 209	University Physics Lab II or University Physics Lab III	1	MTH 309	Discrete Mathematics	3
	People and Society Cognate <sup>1</sup>	3		Humanities and Arts Cognate <sup>1</sup>	3
<b>Total</b>			<b>Total</b>		
<b>16</b>			<b>16</b>		

<b>Junior Year:</b>					
ECE 202	Electronics I	3	ECE 316	Structured Digital Design	1
ECE 203	Electrical Circuits Lab	1	ECE 413	Software Design and Testing	3
ECE 322	Systems Programming	3	ECE 421 or CSC 421	Computer Operating Systems or Principles of Operating Systems	3
ECE 412	Software Architecture	3	ECE 467 or CSC 423	Database Design & Management or Database Systems <sup>2</sup>	3
	Basic Science Elective <sup>1</sup>	3		Basic Science Elective <sup>1</sup>	3
	Basic Science Elective Lab <sup>1</sup>	1		Humanities and Arts Cognate <sup>1</sup>	3
	People and Society Cognate <sup>1</sup>	3			
<b>Total</b>			<b>Total</b>		
<b>17</b>			<b>16</b>		

<b>Senior Year:</b>					
ECE 414	Computer Organization & Design	3	ECE 470	Network Client - Server Programming	3
ECE 417	Embedded Systems	3	ECE 482	Senior Project II	2
ECE 481	Senior Project I <sup>3</sup>	1	CSC 419	Programming Languages	3
CSC 317	Algorithms & Data Structures	3		Software Engineering Tech. Elective <sup>1</sup>	3
	Software Engineering Tech. Elective <sup>1</sup>	3		Software Engineering Tech. Elective <sup>1</sup>	3
	People and Society Cognate <sup>1</sup>	3		Humanities and Arts Cognate <sup>1</sup>	3
<b>Total</b>			<b>Total</b>		
<b>16</b>			<b>17</b>		

<sup>1</sup> Students must complete a minimum of 1 PS cognate and 1 HA cognate, to be selected from the list of available cognates.

Each cognate should be a minimum of 3 courses (minimum of 9 credits). See description of electives under the ECE Section in the UM Bulletin

<sup>2</sup> With Faculty advisor approval

<sup>3</sup> Offered only in Fall Semester

Students must earn at least 15 credits in Computer Science, and at least 32 credits in Mathematics & Sciences

All ECE courses which are prerequisites for subsequent ECE courses require a grade of C- or better.

All ECE courses at the 300 level or above must be taken at UM.