

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

128 Credits
2015 - 2016

Freshman Year:					
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	Writing About Science	3
MTH 151	Calculus I for Engineers	5	MTH 162	Calculus II	4
			PHY 205	University Physics I	3
Total			Total		
14			15		

Sophomore Year:					
ECE 304	Logic Design	3	ECE 201	Electrical Circuit Theory	3
ECE 318	Algorithms	3	IEN/ECE 310	Engineering Probability	3
MTH 210	Introduction to Linear Algebra	3	ECE 312	Processors: Hardware, Software and Interfacing	4
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*	3		Humanities and Arts Cognate*	3
Total			Total		
16			17		

Junior Year:					
ECE 204	Electrical Circuits Lab	1	ECE 316	Structured Digital Design	1
ECE 305	Electronics I	3	ECE 513	Software Design and Testing	3
ECE 322	Systems Programming	3	ECE 521/ CSC 421 [§]	Computer Operating Systems or Principles of Operating Systems	3
ECE 512	Software Architecture	3	ECE 567 or CSC 423 [§]	Database Design & Management or Database Systems	3
	Basic Science Elective*	3		Basic Science Elective*	3
	Basic Science Elective Lab*	1		Humanities and Arts Cognate*	
	People and Society Cognate *	3			3
Total			Total		
17			16		

Senior Year:					
ECE 414	Computer Organization & Design	3	ECE 419	Software Engineering Senior Project	2
ECE 417	Embedded Systems	3	ECE 570	Network Client-Server Programming	3
ECE 418	Senior Project Planning**	1	CSC 419	Programming Languages	3
CSC 317	Algorithms & Data Structures	3		Software Engineering Tech. Elective ⁺	3
	Software Engineering Tech. Elective ⁺	3		Software Engineering Tech. Elective ⁺	3
	People and Society Cognate*	3		Humanities and Arts Cognate*	3
Total			Total		
16			17		

* 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 Electrical and Computer Engineering Section in the UM Bulletin

** Offered only in the Fall Semester

[§] With advisor approval

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