

Bachelor of Science in SOFTWARE ENGINEERING

Name: _____

Choose One Option Sophomore Year

- Business Applications
 Electronic Control Systems Option
 Engineering Applications

with

- Statistical Applications
 Technical Communications
 Health Care Informatics
 Game Development

2018- 2019 Catalog

Fall Semester

FRESHMAN YEAR

	Credits	Sem	Grade
ESOF 194 CS&SE Freshman Seminar	1	_____	_____
CSCI 135 Fund. of Computer Science I	3	_____	_____
M 171 Calculus I	3	_____	_____
WRIT 121 Intro to Technical Writing**	3	_____	_____
CHMY 141 College Chemistry I*	3	_____	_____
CHMY 142 College Chemistry I Lab *	1	_____	_____
-- -- Humanities Elective**	--	--	--
	3	_____	_____
Total Credits	17		

Spring Semester

	Credits	Sem	Grade
CSCI 136 Fund. of Computer Science II	3	_____	_____
COMX 230 Presenting Technical Information*	3	_____	_____
M 172 Calculus II	3	_____	_____
PHSX 234 General Physics - Mechanics	3	_____	_____
-- -- Humanities Elective**	--	--	--
	3	_____	_____
-- -- Social Science Elective**	--	--	--
	3	_____	_____
Total Credits	18		

SOPHOMORE YEAR

CSCI 232 Data Struct & Algorithms	3	_____	_____
CSCI 246 Discrete Structures	3	_____	_____
CSCI 255 Intro. To Embedded Systems	3	_____	_____
M 273 Multivariable Calculus	4	_____	_____
PHSX 235 General Physics - H, S, & O	3	_____	_____
PHSX 236 General Physics-H, S, & O Lab	1	_____	_____
Total Credits	17		

CSCI 332 Design and Analysis of Algor.	3	_____	_____
CSCI 340 Database Design	3	_____	_____
ECNS 203 Principles of Micro and Macro	3	_____	_____
M 274 Intro to Differential Equations	3	_____	_____
PHSX 237 General Phys - Elect, Mag, & Wave	3	_____	_____
PHSX 238 General Phys-Elect, Mag, & Wave Lab	1	_____	_____
Total Credits	16		

JUNIOR YEAR

CSCI 305 Concepts of Programming Lang	3	_____	_____
COMX 338 Usability Testing	3	_____	_____
ESOF 322 Software Engineering	3	_____	_____
★STAT 332 Statistics for Scientists & Engin	3	_____	_____
-- -- Professional Elective***	--	--	--
	3	_____	_____
Total Credits	15		

CSCI 361 Computer Architecture	3	_____	_____
ESOF 326 Software Maintenance	2	_____	_____
ESOF 328 Requirements & Specifications	3	_____	_____
WRIT 321W Adv. Technical Writing****	3	_____	_____
-- -- Professional Elective***	--	--	--
	3	_____	_____
Total Credits	14		

SENIOR YEAR

CSCI 466 Networks	3	_____	_____
EGEN 325 Engr. Economic Analysis	3	_____	_____
ESOF 427 Software Design & Architecture	3	_____	_____
ESOF 486 Software Eng. Design Project I	3	_____	_____
-- -- Professional Elective***	--	--	--
	3	_____	_____
Total Credits	15		

CSCI 460 Operating Systems	3	_____	_____
CSCI 470 Web Science	3	_____	_____
ESOF 411 Software Verification & Validation	3	_____	_____
ESOF 487 Software Eng. Design Project II	3	_____	_____
ESOF 494 Senior Seminar	1	_____	_____
-- -- Professional Elective***	--	--	--
	3	_____	_____
Total Credits	16		

Minimum credits for B.S. degree in Software Engineering = 128

* BIOB 101 (Discover Biology) and BIOB 102 (Discover Biology Lab) or GEO 101 (Intro to Physical Geology) may be substituted for CHMY 141/142.

COMX 111 Intr to Public Speaking or COMX 211 Adv Public Speaking can replace COMX 230.

**Electives must be chosen to meet GER (3 credits in Social Sciences & 6 credits in Humanities).

*** Professional electives are the classes that meet the Software Engineering degree options. (Professional electives on other side.)

****WRIT 101 College Writing I can replace WRIT 121 Intro to Technical Writing. WRIT 325W Writing in the Sciences, WRIT 322W Advanced Business Writing can replace WRIT 321W.

★ Students in the Statistics Option need to take STAT 332 before beginning the courses in the option.

SOFTWARE ENGINEERING DEGREE OPTIONS

Professional Electives --- Junior and Senior Years
12 Credits for Each Option

Business Applications					
	<i>Junior Year</i>		<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	ACTG 201	Principles of Financial Accounting	3		
	ACTG 202	Principles of Managerial Accounting		3	
	<i>Senior Year</i>				
*	BMKT 325W	Principles of Marketing		3	
*	BGEN 235	Business Law	3		
*	BMGT 335W	Management and Organization		3	
*	BFIN 322	Business Finance	3		
<i>* select 2 courses out of 4</i>					
Electronic Control Systems					
	<i>Junior Year</i>		<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	EELE 201	Circuits I for Engineering (coreq M 172)	3		
*	EELE 202	Circuits I for Engineering Lab (coreq EELE 201)	1		
*	EELE 261	Intro. To Logic Circuits (prereq EELE 201, 202)		3	
*	EELE 465	Microcontroller Applications (prereq CSCI 255) (even years only)		3	
	<i>Senior Year</i>				
*	PHSX 322	Electronics for Scientists (prereq PHSX 237, 238)		3	
*	EELE 203	Circuits II for Engineering (prereq EELE 201, 202 & M 274)	4		
*	EELE 320	Process Instrumentation and Control (prereq EELE 201 & 202)	4		
*	EELE 317	Electronics (prereq EELE 203)		3	
*	Geop 446	Applied Linear Systems (prereq M274)		3	
<i>* select 3 or more courses to reach a minimum of 12 elective credits within the option</i>					
Engineering Applications					
	<i>Junior Year</i>		<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
*	EGEN 105	Introduction to General Engineering	1		
	EGEN 201	Statics (prereq Phys. 1046) (prereq PHSX 234)	3		
	EGEN 215	Introduction to Computer Aided Design & Problem Solving (prereq M172, EGEN 101, 201)		2	
*	EGEN 202	Dynamics (prereq EGEN 201 & M 172)		3	
	<i>Senior Year</i>				
	EGEN 305	Mechanics of Materials	3		
*	EGEN 306	Mechanics of Materials Lab (co-req EGEN 305)	1		
*	EGEN 318	Computer Applications for Engineering Design		2	
*	ENGR 4150	Engineering Computer Applications (even years only, prereq EGEN 215, 305, M274)		3	
<i>* select 2 or more courses to reach a minimum of 12 elective credits within the option.</i>					

Statistical Applications					
Junior Year			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
*	STAT	441	Experimental Design (every other year, prereq STAT 332)	3	
*	STAT	432	Regression and Model Building (every other year, prereq STAT 332)		3
Senior Year					
	STAT	421	Probability Theory (every other year, prereq STAT 332)	3	
*	STAT	422	Mathematical Statistics (every other year, prereq STAT 421)		3
*	STAT	435	Statistical Computing & EDA (prereq STAT 332)		3
* select 3 courses out of 4					
Technical Communication					
Junior Year			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
*	PTC	3156	Digital Video Productions	3	
	PTC	3406W	New Media I	3	
+*	WRIT	321W	Advanced Technical Writing		3
+*	WRIT	322W	Advanced Business Writing		3
Senior Year					
*	CSCI	311	Data Driven Web Applications (prereq CSCI 135, or 110, or 114, or 112, or 117)		3
*	COMX	442	History, Technology, & Communication		3
+*	WRIT	325W	Writing in the Sciences	3	
*	WRIT	350W	Technical Editing (prereq WRIT 321W, or 322W, or 325W)		3
*	WRIT	412W	Advanced Writing (prereq WRIT 321W, or 322W, or 325W)		3
*	PTC	4406	New Media II		3
+ in addition to GenEd 300-level writing requirement.					
* select 3 courses out of 9					
Health Care Informatics					
Junior Year			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	HIT	101	Intro to Health Care Informatics	3	
*	HIT	230	Overview of HCI Systems (prereq HIT 101)		4
*	HIT	260	Workflow Process and Redesign (coreq HIT 101, CAPP 158)	2	
*	HCI	310	Health Care Delivery in the US I (coreq HIT 101)	3	
*	HCI	316	Health Care Ethics and Regulations		3
Senior Year					
*	HCI	312	Health Care Delivery in the US II (prereq HCI 310)		3
*	HCI	320	Information Systems Security		3
*	HCI	410	Projects and Systems Management	4	
*	HCI	420	Public Health Inf. (prereq HCI 310)	3	
* select 3 courses of 8; student must have the approval of the student's advisor & HCI department					
Game Development					
Junior Year			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	PTC	330	Introduction to Game Design	3	
	PTC	3406W	New Media I	3	
	CSCI	441	Computer Graphics (prereq CSCI 332, M333)		3
Senior					
	PTC	4406W	New Media II		3
	CSCI	446	Artificial Intelligence (prereq CSCI 332)	3	
	CSCI	491	Special Topics - Computer Game Development		3
	CSCI	492	Independent Study - Computer Game Development Project *	3	
Select 12 credits from listed courses; *Project must be approved by CS faculty					