

**Bachelor of Science in SOFTWARE ENGINEERING**

with

Name: \_\_\_\_\_

Choose One Option Sophomore Year

- Business Applications Option
- Electronic Control Systems Option
- Engineering Applications Option

- Statistical Applications Option
- Technical Communications Option
- Health Care Informatics Option
- Game Development Option

**2011 - 2012 Catalog**

**Fall Semester**

**Spring Semester**

**FRESHMAN YEAR**

			Cr.	Sem.	Grade
ESOF	194	CS&SE Freshman Seminar	1	_____	_____
CSCI	135	Fund. of Computer Science I	3	_____	_____
M	171	Calculus I	3	_____	_____
WRIT	101	College Writing I	3	_____	_____
CHMY	141	College Chemistry I*	3	_____	_____
CHMY	142	College Chemistry I Lab *	1	_____	_____
**		Humanities Elective	3	_____	_____
<b>Total Credits</b>			<b>17</b>		

			Cr.	Sem.	Grade
CSCI	136	Fund. of Computer Science II	3	_____	_____
COMM	2016	Presenting Technical Information*	3	_____	_____
M	172	Calculus II	3	_____	_____
PHSX	234	General Physics - Mechanics	3	_____	_____
**		Humanities Elective	3	_____	_____
**		Social Science Elective	3	_____	_____
<b>Total Credits</b>			<b>18</b>		

**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	_____	_____
<b>Total Credits</b>			<b>17</b>		

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	_____	_____
<b>Total Credits</b>			<b>16</b>		

**JUNIOR YEAR**

CSCI	305	Concepts of Programming Lang	3	_____	_____
CSCI	443	User Interface Design	3	_____	_____
ESOF	322	Software Engineering	3	_____	_____
★STAT	332	Statistics for Scientists & Engin	3	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>15</b>		

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

**SENIOR YEAR**

CSCI	466	Networks	3	_____	_____
EGEN	325	Engr. Economic Analysis	3	_____	_____
ESOF	427	Software Design & Architecture	3	_____	_____
ESOF	486	Senior Design Project	3	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>15</b>		

Bus	3666	Operations & Prod Mgmt	3	_____	_____
CSCI	460	Operating Systems	3	_____	_____
CSCI	470	Web Science	3	_____	_____
ESOF	487	Senior Design Project	3	_____	_____
ESOF	494	Senior Seminar	1	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>16</b>		

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.

COMM 1216 Principles of Speaking or COMM 1226 Public Speaking can replace COMM 2016.

\*\*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 325 Writing in the Sciences, WRIT 322 Advanced Business Writing can replace WRIT 321.

★ 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

<b>Business Applications</b>					
<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
ACTG 201	Principles of Fin Acct		3		_____
ACTG 202	Principles of Mang Acct			3	_____
<b>Senior Year</b>					
* BUS 3316W	Marketing			3	_____
* BUS 3416	Business Law I		3		_____
* BUS 3616W	Management			3	_____
* BFIN 322	Business Finance		3		_____
* <i>select 2 courses out of 4</i>					
<b>Electronic Control Systems</b>					
<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
PHSX 322	Electronics for Scientists (prereq PHSX 237)		3		_____
EELE 201	Circuits I for Engineering (coreq PHSX 237)			3	_____
EELE 202	Circuits I for Engineering Lab (coreq EELE 201)			1	_____
<b>Electric Circuits Sequence</b>					
EELE 203	Circuits II for Engineering (prereq EELE 201, 202 & M 274)		4		_____
* EELE 261	Intro. To Logic Circuits (prereq EELE 104, PHSX 322)			3	_____
* EELE 317	Electronic (prereq EELE 203 and PHSY 322)			3	_____
* Geop 446	Applied Linear Systems (prereq EELE 203 or M 405 or PHSX 453)			3	_____
<b>Electric Control Sequence</b>					
EELE 423	Process Instrumentation and Control (prereq EELE 201; PHSX 238)		3		_____
EELE 424	Process Instrumentation and Control Lab(coreq EELE 423)		1		_____
EELE 261	Intro. to Logic Circuits (prereq EELE 104, PHSX 322)			3	_____
<b>Microprocessor Sequence</b>					
+ EELE 261	Intro. to Logic Circuits (prereq EELE 104, PHSX 322)			3	_____
EELE 465	Microcontroller Applications (prereq EELE 261) (even years only)		3		_____
*select 1 course of 3; + take EELE 261 in Junior year and EELE 201 in Senior year.					
<b>Engineering Applications</b>					
<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
* EGEN 105	Introduction to General Engineering		1		_____
EGEN 2050	Statics (prereq Phys. 1046) (prereq PHSX 234)		3		_____
EGEN 215	Introduction to Computer Aided Design & Problem Solving			2	_____
* EGEN 202	Dynamics (prereq EGEN 201 & M 172)			3	_____
<b>Senior Year</b>					
EGEN 305	Mechanics of Materials		3		_____
* EGEN 306	Mechanics of Materials Lab		1		_____
* EGEN 318	Computer Applications for Engineering Design			2	_____
* ENGR 4150	Engineering Computer Applications (even years only)			3	_____
* <i>select 2 or more courses to reach a minimum of 12 elective credits within the option.</i>					

### Statistical Applications

<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
*	STAT 441	Experimental Design (prereq STAT 332)	3		_____
*	STAT 432	Regression and Model Building (prereq STAT 332)		3	_____
<i>Senior Year</i>					
	STAT 421	Probability Theory (prereq STAT 332)	3		_____
*	STAT 422	Mathematical Statistics (prereq STAT 421)		3	_____
*	STAT 435	Statistical Computing & EDA		3	_____

\*select 3 courses out of 4

### Technical Communication

<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
*	PTC 3156	Digital Video Productions	3		_____
	PTC 3406W	New Media Design I	3		_____
+*	WRIT 321	Advanced Technical Writing		3	_____
+*	WRIT 322	Advanced Business Writing		3	_____
<i>Senior Year</i>					
*	CSCI 311	Advanced Web Development		3	_____
+*	WRIT 325	Writing in the Sciences	3		_____
*	WRIT 350	Technical Editing		3	_____
*	PTC 4406	New Media Design II		3	_____
*	PTC 4126W	Advanced Writing		3	_____
*	PTC 4426W	History, Technology, & Communication		3	_____

+only one may be used to satisfy GEN Ed 300-level writing requirement.

\*select 3 courses out of 9

### Health Care Informatics

<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	HCI 1016	Intro to Health Care Informatics	3		_____
*	HCI 2106	Health Care Ethics and Regulations (prereq HCI 1016)		3	_____
*	HCI 2256	Date, Information & Knowledge (prereq IT 2426, HCI 1016)	2		_____
*	HCI 2306	Overview of HCI Systems (prereq HCI 1016)		4	_____
*	HCI 3106	Health Care Delivery in the US I (prereq HCI 1016)	3		_____
<i>Senior Year</i>					
*	HCI 3126	Health Care Delivery in the US II (prereq HCI 3106)		3	_____
*	HCI 3206	Inf. Systems Security		3	_____
*	HCI 4106	Projects and Systems Management	4		_____
*	HCI 4206	Public Health Inf. (prereq HCI 3106)	3		_____

\* Select 3 courses of 8; student must have the approval of the student's advisor & the HCI department

### Game Development

<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	PTC 3306	Introduction to Game Design	3		_____
	PTC 3406W	New Media Design I	3		_____
<i>Senior</i>					
	PTC 4406	New Media Design II		3	_____
	CSCI 441	Computer Graphics	3		_____
	CSCI 446	Artificial Intelligence		3	_____