

## Bachelor of Science in **COMPUTER SCIENCE**

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
CSCI	135	Fund. of Computer Science I	3	_____	_____
CSCI	194	Seminar	1	_____	_____
M	171	Calculus I	3	_____	_____
WRIT	101	College Writing I	3	_____	_____
		Humanities Elective	3	_____	_____
		Social Science Elective	3	_____	_____
<b>Total Credits</b>			<b>16</b>		

			Cr.	Sem.	Grade
CSCI	136	Fund. of Computer Science II	3	_____	_____
COMM	2016	Presenting Technical Inf.**	3	_____	_____
M	172	Calculus II	3	_____	_____
		Social Science Elective	3	_____	_____
		Science Elective	3	_____	_____
<b>Total Credits</b>			<b>15</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	_____	_____
*		Science Elective	4	_____	_____
<b>Total Credits</b>			<b>17</b>		

CSCI	332	Design and Analysis of Algor	3	_____	_____
CSCI	340	Database Design	3	_____	_____
M	274	Intro. to Differential Equations	3	_____	_____
M	333	Linear Alegbra	3	_____	_____
*		Science Elective	4	_____	_____
<b>Total Credits</b>			<b>16</b>		

#### JUNIOR YEAR

CSCI	305	Concepts of Prog. Languages	3	_____	_____
ESOF	322	Software Engineering	3	_____	_____
★STAT	332	Stats for Scientists & Engin	3	_____	_____
		Free Elective	1	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>13</b>		

CSCI	361	Computer Architecture	3	_____	_____
ESOF	326	Software Maintenance	2	_____	_____
M	410	Numerical Computing	3	_____	_____
		Humanities Elective	3	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>14</b>		

#### SENIOR YEAR

CSCI	438	Theory of Computation	3	_____	_____
CSCI	466	Networks	3	_____	_____
CSCI	498	Internship**	2	_____	_____
WRIT	321	Advanced Technical Writing**	3	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>14</b>		

CSCI	446	Artificial Intelligence	3	_____	_____
CSCI	460	Operating Systems	3	_____	_____
CSCI	470	Web Science	3	_____	_____
CSCI	494	Seminar	1	_____	_____
CSCI	498	Internship **	2	_____	_____
***		Professional Elective	3	_____	_____
<b>Total Credits</b>			<b>15</b>		

*Minimum credits for B.S. degree in Computer Science = 120*

\* Science electives must include a two-semester sequence of laboratory science (min. of 11 credits total): Either (1) BIOE 172, BIOB 117, BIOB 101 and BIOB 102 plus 3 more science credits; (2) CHMY 141 w/lab 142, CHMY 143 w/lab 144 plus 3 more science credits; (3) GEO 101, GEO 257, GEO 259 plus 4 more science credits (4) PHSX 234, 235 w/lab 236, and PHSX 237 w/lab 238 (take the physics sequence for the Electronic Control Systems Option.)

\*\*COMM 1226 Public Speaking or COMM 1216 Prin. of Speaking can replace COMM 2016. CSCI 486 Senior Project can replace internship. WRIT 325 Writing in the Sciences or WRIT 322 Advanced Business Writing can replace WRIT 321

\*\*\*Professional electives are the classes that meet the Computer Science degree options. (Professional electives on other side.)

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

*Last updated 11/11 - not official in catalog 2011-2012*

# COMPUTER SCIENCE 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	
<i>Senior Year</i>					
*	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	
<i>Electric Circuits Sequence</i>					
	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
<i>Electric Control Sequence</i>					
	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
<i>Microprocessor Sequence</i>					
+	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
<i>Senior Year</i>					
	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
*select 2 or more courses to reach a minimum of 12 elective credits within the option.					

<b>Statistical Applications</b>					
	<b>Junior Year</b>		<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	_____
	<b>Senior Year</b>				
	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					
<b>Technical Communication</b>					
	<b>Junior Year</b>		<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	_____
	<b>Senior Year</b>				
*	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					
<b>Health Care Informatics</b>					
	<b>Junior Year</b>		<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 3106	Health Care Delivery in the US I (prereq HCI 1016)	3		_____
	<b>Senior Year</b>				
*	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					
<b>Game Development</b>					
	<b>Junior Year</b>		<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	PTC 3306	Introduction to Game Design	3		_____
	PTC 3406W	New Media Design I	3		_____
	<b>Senior</b>				
	PTC 4406	New Media Design II		3	_____
	CSCI 441	Computer Graphics	3		_____