

Bachelor of Science in COMPUTER SCIENCE

with

Name: _____

Choose One Option Sophomore Year

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

- Statistical Applications Option
- Technical Communications Option
- Health Care Informatics Option
- No Option

2012-2013 Catalog

Fall Semester

Spring Semester

FRESHMAN YEAR

			Credits	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	_____	_____
		Total Credits	16		

			Credits	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	_____	_____
		Total Credits	15		

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	_____	_____
		Total Credits	17		

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	_____	_____
		Total Credits	16		

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	_____	_____
		Total Credits	13		

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

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	_____	_____
		Total Credits	14		

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	_____	_____
		Total Credits	15		

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) BIOB 101/102, BIOB 117 & BIOE 172 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.

COMPUTER SCIENCE 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 Fin Acct		3		
ACTG 202	Principles of Mang Acct			3	
<i>Senior Year</i>					
* BMKT 325W	Principles of Marketing			3	
* BGEN 235	Business Law I		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>
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	Electronics (prereq EELE 203 and PHSX 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; EELE 202)		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; **Labs are optional; + take EELE 261 in Junior year and EELE 201 in Senior year.					
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 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 (prereq EGEN 201 & M 172)		3		
* EGEN 306	Mechanics of Materials Lab		1		
* EGEN 318	Computer Applications for Engineering Design (prereq EGEN 215/305)			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.					

Statistical Applications

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
Junior Year					
*	STAT	441	Experimental Design (prereq STAT 332)	3	_____
*	STAT	432	Regression and Model Building (prereq STAT 332)	3	_____
Senior Year					
	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

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
Junior Year					
*	PTC	3156	Digital Video Productions	3	_____
	PTC	3406W	New Media Design I	3	_____
+	WRIT	321W	Advanced Technical Writing	3	_____
+	WRIT	322W	Advanced Business Writing	3	_____
*	CSCI	311	Advanced Web Development	3	_____
Senior Year					
+	WRIT	325W	Writing in the Sciences	3	_____
*	WRIT	350W	Technical Editing	3	_____
*	WRIT	412W	Advanced Writing: Documentation	3	_____
*	PTC	4406	New Media Design II	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

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
Junior Year					
	HCI	1016	Intro to Health Care Informatics	3	_____
*	HCI	2106	Health Care Ethics and Regulations (prereq HCI 1016)	3	_____
*	HCI	2256	Data, Information & Knowledge (prereq IT 2426, HCI 1016)	2	_____
*	HCI	3106	Health Care Delivery in the US I (prereq HCI 1016)	3	_____
Senior Year					
*	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

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