

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

2013-2014 Catalog

Fall 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	_____	_____
--	--	<i>Humanities Elective</i>	--	--	--
			3	_____	_____
--	--	<i>Social Science Elective</i>	--	--	--
			3	_____	_____
Total Credits			16		

Spring Semester

			Credits	Sem	Grade
CSCI	136	Fund. of Computer Science II	3	_____	_____
COMX	230	Presenting Technical Inf.**	3	_____	_____
M	172	Calculus II	3	_____	_____
--	--	<i>Social Science Elective</i>	--	--	--
			3	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			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	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			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	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			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	_____	_____
--	--	<i>Free Elective</i>	--	--	--
			1	_____	_____
--	--	<i>Professional Elective***</i>	--	--	--
			3	_____	_____
Total Credits			13		

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

SENIOR YEAR

CSCI	446	Artificial Intelligence	3	_____	_____
CSCI	466	Networks	3	_____	_____
CSCI	498	Internship**	2	_____	_____
WRIT	321W	Advanced Technical Writing**	3	_____	_____
--	--	<i>Professional Elective***</i>	--	--	--
			3	_____	_____
Total Credits			14		

CSCI	438	Theory of Computation	3	_____	_____
CSCI	460	Operating Systems	3	_____	_____
CSCI	470	Web Science	3	_____	_____
CSCI	494	Seminar	1	_____	_____
CSCI	498	Internship **	2	_____	_____
--	--	<i>Professional Elective***</i>	--	--	--
			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.)

**WRIT 121 Intro to Technical Writing can replace WRIT 101. College Writing I. COMX 211 Adv. Public Speaking or COMX 111 Intro. to Public Speaking can replace COMX 230.

CSCI 486 Senior Project can replace internship. WRIT 325W Writing in the Sciences or WRIT 322W Advanced Business Writing can replace WRIT 321W

***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.

Official in catalog 2013- 2014

COMPUTER SCIENCE DEGREE OPTIONS

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

Business Applications					
Junior Year			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
ACTG 201		Principles of Fin Acct	3		_____
ACTG 202		Principles of Mang Acct		3	_____
Senior Year					
* BMKT 325W		Principles of Marketing		3	_____
* BGEN 235		Business Law I	3		_____
* BMGT 335W		Management and Organization		3	_____
* BFIN 322		Business Finance	3		_____
* select 2 courses out of 4					
Electronic Control Systems					
Junior Year			<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	_____
Senior Year					
* PHSX 322		Electronics for Scientists (prereq PHSX 237)		3	_____
* EELE 203		Circuits II for Engineering (prereq EELE 201, 202 & M 274)	4		_____
* EELE 423		Process Instrumentation and Control (prereq EELE 201 & 202)	4		_____
* EELE 317		Electronics (prereq EELE 203)		3	_____
* GEOP 446		Applied Linear Systems (prereq EELE 203 or M 405 or PHSX 453)		3	_____
* select 2 or more courses to reach a minimum of 12 elective credits within the option					
Engineering Applications					
Junior Year			<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	_____
Senior Year					
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					
<i>Junior Year</i>			<i>Fall</i>	<i>Spring</i>	<i>Sem/Gr</i>
*	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>			<i>Fall</i>	<i>Spring</i>	<i>Sem/Gr</i>
*	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
<i>Senior Year</i>					
*	COMX	442	History, Technology, & Communication		3
+*	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

+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>			<i>Fall</i>	<i>Spring</i>	<i>Sem/Gr</i>
*	HIT	101	Intro to Health Care Informatics		3
*	HIT	230	Overview of HCI Systems (prereq HCI 101)		4
*	HIT	260	Workflow Process and Redesign (prereq HIT 101, CAPP 158)		2
*	HCI	310	Health Care Delivery in US I (prereq HIT 101)		3
*	HCI	316	Health Care Ethics and Regulation (prereq HIT 101)		3
<i>Senior Year</i>					
*	HCI	312	Health Care Delivery in the US II (prereq HCI 3106)		3
*	HCI	320	Inf. 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					
<i>Junior Year</i>			<i>Fall</i>	<i>Spring</i>	<i>Sem/Gr</i>
	PTC	3306	Introduction to Game Design		3
	PTC	3406W	New Media Design I		3
<i>Senior</i>					
	PTC	4406W	New Media Design II		3
	CSCI	441	Computer Graphics		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