

Bachelor of Science in COMPUTER SCIENCE

with

Name: _____

Choose One Focus Area Sophomore Year

- | | |
|---|---|
| <input type="checkbox"/> Business Applications | <input type="checkbox"/> Statistical Applications |
| <input type="checkbox"/> Electronic Control Systems | <input type="checkbox"/> Technical Communications |
| <input type="checkbox"/> Engineering Applications | <input type="checkbox"/> None |
| <input type="checkbox"/> Game Development | |

2020-2021

Fall Semester

Spring Semester

FRESHMAN YEAR

			Credits	Sem	Grade
CSCI	135	Fund. of Computer Science I	3	_____	_____
CSCI	194	Freshman Seminar	1	_____	_____
M	171	Calculus I	3	_____	_____
WRIT	121	Intro to Technical Writing**	3	_____	_____
--	--	<i>Humanities Elective</i>	--	--	--
			3	_____	_____
--	--	<i>Social Science Elective</i>	--	--	--
			3	_____	_____
Total Credits			16		

			Credits	Sem	Grade
CSCI	136	Fund. of Computer Science II	3	_____	_____
COMX	230	Presenting Technical Inf.**	3	_____	_____
M	172	Calculus II	3	_____	_____
CSCI	255	Intro. To Embedded Systems	3	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			3	_____	_____
Total Credits			15		

SOPHOMORE YEAR

CSCI	232	Data Struct & Algorithms	3	_____	_____
CSCI	246	Discrete Structures	3	_____	_____
M	273	Multivariable Calculus	4	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			4	_____	_____
Total Credits			14		

CSCI	332	Design and Analysis of Algor	3	_____	_____
M	274	Intro. to Differential Equations	3	_____	_____
M	333	Linear Alegbra	3	_____	_____
--	--	<i>Social Science Elective</i>	--	--	--
			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	_____	_____
BMIS	375	Data Analytics	3	_____	_____
--	--	<i>Professional or Free Elective***</i>	--	--	--
			3	_____	_____
Total Credits			15		

CSCI	361	Computer Architecture	3	_____	_____
ESOF	326	Software Maintenance	3	_____	_____
M	410	Numerical Computing**	3	_____	_____
CSCI	440	Advanced Database	3	_____	_____
--	--	<i>Humanities Elective</i>	--	--	--
			3	_____	_____
Total Credits			15		

SENIOR YEAR

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

CSCI	438	Theory of Computation	3	_____	_____
CSCI	460	Operating Systems	3	_____	_____
CSCI	470	Web Science	3	_____	_____
CSCI	494	Senior Seminar	1	_____	_____
CSCI	498	Internship **	2	_____	_____
--	--	<i>Professional or Free 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) two of the three following sets (BIOB 101/102) or (BIOB 170) or (BIOE 305/306) 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 101 College Writing I can replace WRIT 121 Intro to Technical Writing. 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,

M 426 Mathematical Modeling can replace M 410

***Students may elect to pursue a 12-credit Computer Science degree focus area (reverse side) with free electives.

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

COMPUTER SCIENCE DEGREE FOCUS AREAS

Professional Electives --- Junior and Senior Years
9 Credits for Each Focus Area

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 1 course 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 2 or more courses to reach a minimum of 9 elective credits within the focus area</i>					
Engineering Applications					
	<i>Junior Year</i>		<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
	EGEN 101	Introduction Engineering Calculations & Problem Solving	3		
	EGEN 201	Statics (prereq PHSX 234)		3	
*	EMEC 215	Intro to Modeling for Mechanical Engineers (prereq M172, EGEN 101)		1	
	<i>Senior Year</i>				
*	EGEN 202	Dynamics (prereq EGEN 201 & M 172)	3		
*	EGEN 305	Mechanics of Materials (prereq EGEN 201 & M 172)	3		
*	EGEN 306	Mechanics of Materials Lab (co-req EGEN 305)	1		
*	EGEN 318	Computer Applications for Engineering (prereq EMEC 215, coreq EGEN 305)		2	
<i>* select 1 or more courses to reach a minimum of 9 elective credits within the focus area</i>					

Statistical Applications

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
Junior Year					
	STAT 421	Probability Theory (every other year, prereq STAT 332)	3		_____
*	STAT 422	Mathematical Statistics (every other year, prereq STAT 421)		3	_____
*	STAT 441	Experimental Design (prereq STAT 332)	3		_____
*	STAT 432	Regression and Model Building (prereq STAT 332)		3	_____
Senior Year					
*	STAT 435	Statistical Computing & EDA (prereq STAT 332)		3	_____
*	STAT 453	Statistical Learning and Data Science I (every other year, prereq STAT 432)	3		_____
*	STAT 454	Statistical Learning and Data Science II (every other year, prereq STAT 453)		3	_____

* select 2 courses out of 6

Technical Communication

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
Junior Year					
*	PTC 3156	Digital Video Productions	3		_____
	MART 310W	New Media I	3		_____
+*	WRIT 321W	Advanced Technical Writing		3	_____
+*	WRIT 322W	Advanced Business Writing		3	_____
*	CSCI 311	Data Driven Web Applications (prereq CSCI 135, or 110, or 114, or 112, or 117)		3	_____
Senior Year					
*	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	_____
*	PTC 4406	New Media II		3	_____

+in addition to GenEd 300 level writing requirement.

*select 2 courses out of 8

Game Development

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
Junior Year					
	PTC 330	Introduction to Game Design	3		_____
	MART 310W	New Media I	3		_____
	CSCI 441	Computer Graphics (prereq CSCI 332, M 333)		3	_____
Senior					
	PTC 4406W	New Media II		3	_____
	COMX 338	Usability Testing	3		_____
	CSCI 491	Special Topics - Computer Game Development		3	_____
	CSCI 492	Independent Study - Computer Game Development Project*	3		_____

Select 9 credits from listed courses; *Project must be approved by CS faculty