

## 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

2017 - 2018

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	121	Intro to Technical Writing**	3	_____	_____
--	--	<i>Humanities Elective</i>	--	--	--
			3	_____	_____
--	--	<i>Social Science Elective</i>	--	--	--
			3	_____	_____
<b>Total Credits</b>			<b>16</b>		

			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	_____	_____
<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	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			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	_____	_____
--	--	<i>Science Elective*</i>	--	--	--
			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	_____	_____
--	--	<i>Free Elective</i>	--	--	--
			1	_____	_____
--	--	<i>Free Elective***</i>	--	--	--
			3	_____	_____
<b>Total Credits</b>			<b>13</b>		

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

### SENIOR YEAR

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

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>Free Elective***</i>	--	--	--
			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) 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 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

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

★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

<b>Business Applications</b>					
	<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		_____
* select 2 courses out of 4					
<b>Electronic Control Systems</b>					
	<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	_____
* select 3 or more courses to reach a minimum of 12 elective credits within the option					
<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 201	Statics (prereq PHSX 234)	3		_____
	EGEN 215	Introduction to Computer Aided Design & Problem Solving (pereq M172, EGEN 101, 201)		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 (coreq EGEN 305)	1		_____
*	EGEN 318	Computer Applications for Engineering Design (prereq EGEN 215/305)		2	_____
*	ENGR 4150	Engineering Computer Applications (even years only, prereq EGEN 215, 305, M274)		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>
<b>Junior Year</b>					
*	STAT 441	Experimental Design (every other year, prereq STAT 332)	3		_____
*	STAT 432	Regression and Model Building (every other year, prereq STAT 332)		3	_____
<b>Senior Year</b>					
	STAT 421	Probability Theory (every other year, prereq STAT 332)	3		_____
*	STAT 422	Mathematical Statistics (every other year, prereq STAT 421)		3	_____
*	STAT 435	Statistical Computing & EDA (prereq STAT 332)		3	_____

\* select 3 courses out of 4

### Technical Communication

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
<b>Junior Year</b>					
*	PTC 3156	Digital Video Productions	3		_____
	PTC 3406W	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	_____
<b>Senior Year</b>					
*	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	_____
*	WRIT 412W	Advanced Writing: Documentation (prereq WRIT 321W, or 322W, or 325W)		3	_____
*	PTC 4406	New Media II		3	_____

+in addition to GenEd 300 level writing requirement.

\*select 3 courses out of 9

### Health Care Informatics

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
<b>Junior Year</b>					
	HIT 101	Intro to Health Care Informatics	3		_____
*	HIT 230	Overview of HCI Systems (prereq HCI 101)		4	_____
*	HIT 260	Workflow Process and Redesign (coreq HIT 101, CAPP 158)	2		_____
*	HCI 310	Health Care Delivery in US I (coreq HIT 101)	3		_____
*	HCI 316	Health Care Ethics and Regulation		3	_____
<b>Senior Year</b>					
*	HCI 312	Health Care Delivery in the US II (prereq HCI 310)		3	_____
*	HCI 320	Information 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

			<u>Fall</u>	<u>Spring</u>	<u>Sem/Gr</u>
<b>Junior Year</b>					
	PTC 330	Introduction to Game Design	3		_____
	PTC 3406W	New Media I	3		_____
	CSCI 441	Computer Graphics (prereq CSCI 332, M 333)		3	_____
<b>Senior</b>					
	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 12 credits from listed courses; \*Project must be approved by CS faculty