

Bachelor of Science in COMPUTER SCIENCE

with

Business Applications Emphasis
 Electronic Control Systems Emphasis
 Engineering Applications Emphasis
 Statistics Emphasis
 Technical Communication Emphasis

2009-2010 Catalog

Fall Semester

Spring Semester

FRESHMAN YEAR

			Credits
C.S.	1006	C.S./S.E. Freshman Seminar	1 _____
C.S.	2106	Intro to Computer Sci. I	3 _____
M	171	Calculus I	3 _____
WRIT	101	College Writing I	3 _____
		Humanities Elective	3 _____
		Social Science Elective	3 _____
		Total Credits	16

			Credits
C.S.	2116	Intro to Computer Sci. II	3 _____
M	172	Calculus II	3 _____
COMM	2016	Presenting Technical Inf.**	3 _____
		Social Science Elective	3 _____
		Science Elective	3 _____
		Total Credits	15

SOPHOMORE YEAR

C.S.	2156	Embedded Systems Develop.	3 _____
C.S.	3166	Discrete Structures	3 _____
C.S.	3316	Data Struct & Algor. I	3 _____
M	273	Multivariable Calculus	4 _____
*		Science Elective	3 _____
		Total Credits	16

C.S.	2656	Database Management	3 _____
C.S.	3326	Data Struct & Algor. II	3 _____
M	333	Linear Algebra	3 _____
M	274	Intro To Differential Equations	3 _____
*		Science Elective	3 _____
		Total Credits	15

JUNIOR YEAR

S.E.	3250W	Software Engineering	3 _____
STAT	332	Stats for Scientists & Engin	3 _____
Engr	3210W	Scientific & Tech Writing**	3 _____
*		Science Elective	3 _____
***		Professional Elective	3 _____
		Total Credits	15

C.S.	3356	Programming Lang.	3 _____
C.S.	4406	Computer Architecture	3 _____
S.E.	3260	Software Engineering Maint	2 _____
		Humanities Elective	3 _____
***		Professional Elective	3 _____
		Total Credits	14

SENIOR YEAR

C.S.	3406	Operating Systems	3 _____
C.S.	4386	Theory of Computation	3 _____
C.S.	4526	Networking Principles	3 _____
C.S.	4916	Internship**	2 _____
***		Professional Elective	3 _____
		Total Credits	14

C.S.	4356	Web Science	3 _____
C.S.	4556	Artificial Intelligence	3 _____
C.S.	4916	Internship**	2 _____
C.S.	4946	Senior Seminar	1 _____
M	410	Numerical Computing	3 _____
***		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 12 credits total): Either (1) BIOL 1086,1096, and 1116 plus 4 more science credits; (2) CHMY 141 w/lab 142, CHMY 143 w/lab 144 plus 4 more science credits; (3) GEO 101 plus 5 more science credits; (4) PHYS 1046, 2076 w/lab 2096, and PHYS 2086 w/lab 2106 plus 1 more science credit.(take the physics sequence for the Electronic Control Systems Emphasis.)

**COMM 1226 Public Speaking or COMM 1216 Prin. of Speaking can replace COMM 2016. C.S. 4606 Senior Design Project can replace internship. WRIT 321 Advanced Technical Writing, WRIT 325 Writing in the Sciences or WRIT 322 Advanced Business Writing can replace ENGR 3210W. ENGR 3210W.

***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>
	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	3516	Business Finance	3
*	BUS	3616W	Management	3
<hr/>				
*	<i>select 2 courses out of 4</i>			
Electronic Control Systems				
<i>Junior Year</i>			<u>Fall</u>	<u>Spring</u>
	Phys.	3036	Electronics (prereq Phys. 2086 and 2106)	3
<i>Electric Circuits Sequence</i>				
	EE	2530	Intro to Electric Circuits (coreq Phys 2086)	3
	EE	2550	Electric Circuits Lab (coreq Engr 2530 & Phys 2106)	1
	EE	3550	Electric Circuits II (prereq Engr 2530)	4
*	EE	3270	Digital Circuit Design (prereq Phys 3036)	3
*	EE	3570	Electronic Design (prereq Phys 3036 & Engr 3550)	3
*	Geop	446	Applied Linear Systems (prereq Engr 3550)	3
<i>Electric Control Sequence</i>				
	EE	2530	Intro to Electric Circuits (coreq Phys 2086)	3
+	EE	2550	Electric Circuits Lab (coreq Engr 2530 & Phys 2106)	1
	EE	4450	Process Instrumentation and Control (prereq Engr 2530)	3
+	EE	4460	Process Instrumentation and Control Lab(coreq Engr 4450)	1
	EE	3270	Digital Circuit Design (prereq Phys 3036)	3
<i>Microprocessor Sequence</i>				
	EE	3270	Digital Circuit Design (prereq Phys 3036)	3
	EE	4280	Intro to Microprocessors (prereq Engr 3270)	3
	EE	2530	Intro to Electric Circuits (coreq Phys 2086)	3
	EE	2550	Electric Circuits Lab (coreq Engr 2530 & Phys 2106)	1
<hr/>				
<i>*select 1 course of 3; + take at least one to reach 13 credits of professional electives if short 1 credit of science</i>				

Engineering Applications

			<u>Fall</u>	<u>Spring</u>
Junior Year				
*	Engr. 1050	Introduction to General Engineering	1	
	Engr. 2050	Statics (prereq Phys. 1046)	3	
	Engr. 2150	Introduction to Computer Aided Design & Problem Solving		2
*	Engr. 2060	Dynamics (prereq Phys. 1046)		3
Senior Year				
	Engr. 3350	Mechanics of Materials	3	
*	Engr. 3360	Mechanics of Materials Lab	1	
*	Engr. 3150	Introductory Engineering Computer Applications		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>
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>
Junior Year				
	PTC 3406W	New Media Design I	3	
+*	WRIT 321	Advanced Technical Writing		3
+*	WRIT 322	Advanced Business Writing		3
Senior Year				
+*	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 of these courses may be used to satisfy the required GER 300-level writing course

*select 3 courses out of 7