

Bachelor of Science in COMPUTER SCIENCE

with

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

2005 - 2006 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				
Math	1520	Calculus I**	3				
Engl.	1046	English Comp.	3				
		Humanities Elective	3				
		Social Science Elective	3				
Total Credits			16				

							Credits
C.S.	2116	Intro to Computer Sci. II	3				
Math	1530	Calculus II	3				
HSS	1216	Prin. of Speaking **	2				
		Social Science Elective	3				
		* Science Elective	3				
Total Credits			14				

SOPHOMORE YEAR

C.S.	2156	Assembly Language	3				
C.S.	2546	Object-Oriented Programming	3				
Math	2510	Calculus III	4				
Math	3256	Matrices & Lin. Algebra	3				
*		Science Elective	3				
Total Credits			16				

C.S.	2656	Database Management	3				
C.S.	3166	Discrete Structures	3				
C.S.	3316	Date Struct & Algor. I	3				
Math	2236	Differential Equations	3				
*		Science Elective	3				
Total Credits			15				

JUNIOR YEAR

S.E.	3250	Software Engineering I	3				
C.S.	3326	Data Struct. & Algor. II	3				
Math	3316	Intro. Statistical Methods	3				
*		Science Elective	3				
***		Professional Elective	3				
Total Credits			15				

S.E.	3260W	Software Engineering II	3				
C.S.	3356	Programming Lang.	3				
C.S.	3406	Operating Systems	3				
Engr	3210W	Scientific & Tech Writing**	3				
***		Professional Elective	3				
Total Credits			15				

SENIOR YEAR

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

C.S.	4406	Computer Architecture	3				
C.S.	4556	Artificial Intelligence	3				
C.S.	4916	Internship**	2				
C.S.	4946	Senior Seminar	1				
Math	4106	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) CHEM 1056 w/lab 1136, CHEM 1066 w/lab 1166 plus 4 more science credits; (3) GEOE 1010, GEOL 2020 plus 6 more science credits; (4) PHYS 1046, 2076 w/lab 2096, and PHYS 2086 w/lab 2106 plus 1 more science credit.(take physics sequence for the Control System Emphasis.)

**Math 1516 Calculus I with Algebra Enhancement can replace Math 1520. HSS 1226 Pubic Speaking can replace HSS 1216. C.S. 4606 Senior Design Project can replace Internship. PTC 3216W Scientific & Technical Writing, PTC 3256W Scientific Report Writing, or PTC 3896W Business & Professional Writing can replace ENGR 3210W.

***Professional electives are the classes that meet the Computer Science degree options. (Professional electives on other side.)

COMPUTER SCIENCE DEGREE OPTIONS

Professional Electives --- Junior and Senior Years

12 Credits for Each Option

Business Applications				
<i>Junior Year</i>			<u><i>Fall</i></u>	<u><i>Spring</i></u>
BUS	2146	Accounting I	3	
BUS	2156	Accounting II		3
<i>Senior Year</i>				
*	BUS	3416 Business Law I	3	
*	BUS	3616W Management	3	
*	BUS	3316W Marketing		3
*	BUS	3516 Business Finance		3
* <i>select 2 courses out of 4</i>				
Electronic Control Systems				
<i>Junior Year</i>			<u><i>Fall</i></u>	<u><i>Spring</i></u>
Phys.	3036	Electronics	3	
Engr.	2530	Intro to Electric Circuits (coreq Phys 2086)		3
*	Engr.	2550 Electric Circuits Lab (coreq Engr 2530 & Phys 2106)		1
<i>Senior Year</i>				
*	Engr.	3270 Digital Circuit Design (prereq Phys. 3036)		3
*	Engr.	3500 Introduction to Signals, & Systems (prereq Engr 2530)	3	
*	Engr.	3560 Electric Circuits II (prereq Engr 3500)		3
*	Engr.	3570 Electronic Design (prereq Phys 3036 & Engr 3500)		3
*	Engr.	4410 Control System Theory and Design (prereq Engr 3500)	3	
*	Engr.	4450 Process Instrumentation and Control (prereq Engr 2530)	3	
*	Engr.	4460 Process Instrumentation and Control Lab (prereq Engr 2530)	1	
	Phys.	4806 Intro to Microprocessors (prereq Phys. 3036)		3
* <i>select 2 or more courses to reach a minimum of 12 elective credits within the option.</i>				
Engineering Applications				
<i>Junior Year</i>			<u><i>Fall</i></u>	<u><i>Spring</i></u>
Engr.	2050	Statics (prereq Phys. 1046)	3	
Engr.	2150	Engineering Computer Graphics		3
<i>Senior Year</i>				
Engr.	3350	Mechanics of Materials	3	
Engr.	3150	Introductory Engineering Computer Applications		3

Statistics

Students in this Statics option need to take Math 3316 before beginning the courses in option

Junior Year			
*	MATH 4316	Experimental Design (prerequisite Math 3316)	3
*	MATH 4326	Regression and Model Building (prerequisite Math 3316)	3
Senior (:(select 2 courses)			
	MATH 4336	Probability Theory (prerequisite Math 3316)	3
*	MATH 4346	Statistical Theory (prerequisite Math 4336)	3
*	MATH 4356	Statistical Computing & Exploratory Data Analysis	3

**select 3 courses out of 4*

Technical Communication

			<u>Fall</u>	<u>Spring</u>
Junior Year				
PTC	3406	New Media Design I	3	
PTC	3896W	Business & Professional Writing		3
Senior Year				
PTC	4406	New Media Design II	3	
PTC	4056	Technical Editing		3
PTC	4126	Advanced Writing		3
PTC	4426	History, Technology, & Communication		3