

Montana Tech of the University of Montana
Bachelor of Science in SOFTWARE ENGINEERING
with
Business Applications Emphasis
Electronic Control Systems Emphasis
Engineering Applications Emphasis
Statistics Emphasis
Technical Communication Emphasis

2008 - 2009 Catalog

Fall Semester

Spring Semester

FRESHMAN YEAR

		Credits	
S.E.	1000	CS/SE Freshman Seminar	1 _____
C.S.	2106	Intro to Computer Sci. I	3 _____
Math	1520	Calculus I	3 _____
Engl.	1046	English Comp.	3 _____
Chem	1056	General Chemistry I*	3 _____
Chem	1136	General Chemistry I Lab *	1 _____
**		Humanities Elective	_____
			3
Total Credits			17

		Credits	
C.S.	2116	Intro to Computer Sci. II	3 _____
COMM	2016	Presenting Technical Information*	2 _____
Math	1530	Calculus II	3 _____
Phys	1046	General Physics - Mechanics	3 _____
**		Humanities Elective	_____
			3
**		Social Science Elective	_____
			3
Total Credits			17

SOPHOMORE YEAR

C.S.	2156	Embedded Systems Develop.	3 _____
C.S.	2546	Object-Oriented Programming	3 _____
Econ	2606	Principles of Economics	3 _____
Math	2510	Calculus III	4 _____
Phys	2076	General Physics - H, S, & O	3 _____
Phys	2096	General Physics-H, S, & O Lab	1 _____
			3
Total Credits			17

C.S.	2656	Database Management	3 _____
C.S.	3166	Discrete Structures	3 _____
C.S.	3316	Data Struct & Algo. I	3 _____
Math	2236	Elementary Differential Equations	3 _____
Phys	2086	General Phys - Elect, Mag, & Wave	3 _____
Phys	2106	General Phys-Elect, Mag, & Wave Lab	1 _____
			3
Total Credits			16

JUNIOR YEAR

C.S.	3326	Data Struct. & Algo. II	3 _____
★ Math	3316	Intro. Statistical Methods	3 _____
S.E.	3250W	Software Engineering I	3 _____
S.E.	3300	User-Interface Design	3 _____
***		Professional Elective	_____
			3
Total Credits			15

C.S.	3406	Operating Systems	3 _____
Engr	3210W	Sci. & Tech. Writing ****	3 _____
S.E.	3260	Software Engineering II	3 _____
S.E.	3280	Software Require. & Specification	3 _____
***		Professional Elective	_____
			3
Total Credits			15

SENIOR YEAR

C.S.	4526	Networking Principles	3 _____
M.EC	3630	Engineering Economy	3 _____
S.E.	4270	Princ. Software Archit.&Design	3 _____
S.E.	4920W	Senior Design I	3 _____
***		Professional Elective	_____
			3
Total Credits			15

Bus	3666	Operations & Prod Mgmt	3 _____
C.S.	3356	Programming Lang.	3 _____
C.S.	4406	Computer Architecture	3 _____
S.E.	4920W	Senior Design II	3 _____
S.E.	4940	Senior Seminar	1 _____
***		Professional Elective	_____
			3
Total Credits			16

Minimum credits for B.S. degree in Software Engineering = 128

* Biol 1026 (Biology and Man with Lab) or Geoe 1010 (Physical Geology) may be substituted for Chem 1056/1136. COMM 1216 Principles of Speaking or COMM 1226 Public Speaking can replace COMM 2016.

**Electives must be chosen to meet GER (3 credits in Social Sciences & 6 credits in Humanities).

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

****PTC 3216W Scientific & Technical Writing, PTC 3256W Scientific Report Writing, or PTC 3896W Business & Professional Writing can replace Engr. 3210W.

★ Students in the Statistics Option need to take Math 3316 before beginning the courses in the option.

Last updated 11/08 Official in catalog

SOFTWARE ENGINEERING 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>
BUS	2146	Accounting I	3	
BUS	2156	Accounting II		3
<i>Senior Year</i>				
*	BUS	3316W Marketing		3
*	BUS	3416 Business Law I	3	
*	BUS	3516 Business Finance	3	
*	BUS	3616W Management		3
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*	<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 (c (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	4460 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
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*select 1 course of 3; + take at least one to reach 13 credits of professional electives if short 1 credit of science				

Engineering Applications						
	Junior Year				<u>Fall</u>	<u>Spring</u>
*	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						
	Junior Year				<u>Fall</u>	<u>Spring</u>
*	MATH	4316	Experimental Design (prereq Math 3316)		3	
*	MATH	4326	Regression and Model Building (prereq Math 3316)			3
	Senior Year					
	MATH	4336	Probability Theory (prereq Math 3316)		3	
*	MATH	4346	Statistical Theory (prereq Math 4336)			3
*	MATH	4356	Statistical Computing & Exploratory Data Analysis			3
* select 3 courses out of 4						
Technical Communication						
	Junior Year				<u>Fall</u>	<u>Spring</u>
	PTC	3406W	New Media Design I		3	
+*	PTC	3216W	Scientific & Technical Writing			3
+*	PTC	3896W	Business & Professional Writing			3
	Senior Year					
+*	PTC	3256W	Scientific Report Writing		3	
*	PTC	4406	New Media Design II			3
*	PTC	4056W	Technical Editing			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						