

BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING

FRESHMAN YEAR											
FIRST SEMESTER						SECOND SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab					Lecture	Lab	
ALIS 1211	Introduction to Islamic culture	2	2			ALIS 1212	The Social System in Islam	2	2		
COMM 1311	Written Communication	3	3			COMM 1312	Writing and Research	3	3		COMM 1311
UNIV 1211	Prof. Development and Competencies	2	2			UNIV 1212	Critical Thinking and Problem Solving	2	2		
MATH 1422	Calculus I	4	4	1	PRPM 0022	MATH 1423	Calculus II	4	4	1	MATH 1422
GEIT 1411	Computer Science I	4	3	2		GEIT 1412	Computer Science II	4	3	2	GEIT 1411
PHED 1111	Active Living Lifestyle	1	1			PHYS 1421	Physics for Engineers I	4	3	3	MATH 1422
Total Credit Hours		16				Total Credit Hours		19			

SOPHOMORE YEAR											
FIRST SEMESTER						SECOND SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab					Lecture	Lab	
ALIS 2211	Linguistic Communication Skills	2	2			ALIS 2212	The Biography of Prophet Mohammad	2	2		
UNIV 1213	Leadership and Teamwork	2	2			COMM 2312	Technical and Professional Communications	3	3		COMM 2311
PHYS 1422	Physics for Engineers II	4	3	3	PHYS 1421 MATH 1423	ASSE 2111	Learning Outcome Assessment I	1	1	1	Sophomore Level
MATH 1324	Calculus III	3	3	1	MATH 1423	GEIT 2331	Mathematical Reasoning and Algorithmic Thinking	3	3	0	GEIT 1412
GEIT 2421	Data Structures	4	3	2	GEIT 1412	SOEN 2312	Web Programming	3	2	2	GEIT 1411
COMM 2311	Oral Communication	3	3		COMM 1312	GEIT 2291	Professional Ethics	2	2	0	
PHED 1112	Healthy Behaviors and Management	1	1				Social Science Elective I *	3			
Total Credit Hours		19				Total Credit Hours		17			

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JUNIOR YEAR											
FIRST SEMESTER					SECOND SEMESTER						
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab					Lecture	Lab	
GEIT 3341	Database I	3	2	2	GEIT 1412	SOEN 3311	Requirements Engineering	3	3	0	GEIT 3351
GEIT 3331	Computer Organization	3	3	0	GEIT 2421	SOEN 4361	Operating Systems	3	3	0	GEIT 3331
SOEN 2332	Discrete Structure and Combinatorial Analysis	3	3	0	GEIT 2331	ASSE 3211	Learning Outcome Assessment II	2	2		ASSE 2111
GEIT 3351	Principles of Software Engineering	3	3	0	GEIT 1412	SOEN 4371	E-Commerce	3	3	0	GEIT 3341 SOEN2312
SOEN 3351	Algorithms I	3	3	0	GEIT 2421	MATH 2313	Probability and Statistics	3	3	0	MATH 1422
Total Credit Hours		15				Total Credit Hours		14			

SUMMER OF JUNIOR YEAR		
Course Number	Course Title	Pre-requisite
GEIT 4361	Internship	End of Junior Year (summer before graduation) and department approval
		8 weeks (320 hours) full time
		3

SENIOR YEAR											
FIRST SEMESTER					SECOND SEMESTER						
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab					Lecture	Lab	
SOEN 4311	Software Architecture and Design	3	3	0	SOEN 3311		CS, CE, or IT Elective (300 or 400 Level) ***	3	3	0	
ASSE 4311 - SE	Learning Outcome Assessment III - SE	3	3	0	ASSE 3211 (Senior Level)		Social Science Elective II *	3			
	Natural Science Elective**	4				SOEN 4313	Software Project Management	3	3	0	GEIT 3351
SOEN 4312	Software Testing and Quality Assurance	3	3	0	GEIT 3351		SE Elective II ****	3	3	0	
	SE Elective I ****	4	3	2 to 3							
Total Credit Hours		17				Total Credit Hours		12			

TOTAL DEGREE CREDIT HOURS = 132

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Electives:

*Social Science Electives		**Natural Science Electives	
ECON1311	Intro. to Macroeconomics	BIOL1411	Introductory Biology
ECON1312	Intro. to Microeconomics	CHEM1411	Introductory Chemistry
GEGR1311	World Regional Geography	CHEM1421	Chemistry for Engineers I
HIST1311	World Civilizations	CHEM1422	Chemistry for Engineers II
PSYC1311	Intro. to Psychology	PHYS1411	Introductory Physics
FREN1311	Introduction to French Language		
SPAN1311	Intro. to Spanish Language		
SUST 1311	Introduction to Sustainability		

***** CS/CE/IT electives (3 Hours)**

Any CS, CE, and IT courses at 3000 or 4000 level

****** SE electives (7 Hours)**

Course Number	Course Title	Credit Hour	Lecture	Lab	Pre-requisite
SOEN 4321	Software Maintenance and Evolution	3	3	0	GEIT 3351 SOEN 4312
SOEN 4322	Software Security	3	3	0	GEIT 1412
SOEN 3314	Formal Methods in Software Engineering	3	3	0	GEIT 2331
SOEN 3321	Programming in UNIX Environments	3	3	0	SOEN 4361 SOEN 3351
SOEN 4316	Concurrent Programming	3	3	0	GEIT 2421 SOEN 3351
SOEN 4463	Data Mining	4	3	2	MATH 2313 GEIT 3341
SOEN 4315	Cloud Computing	3	3	0	GEIT 1412
SOEN 3361	Computer Networks	3	3	0	MATH 2313
SOEN 3463	Distributed System	4	3	2	GEIT 1412 SOEN 3361
SOEN 4461	Programming Languages	4	3	3	EIT 2421

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