

## 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	PRPM 0022
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 1311 COMM 1312 COMM 2311
PHYS 1422	Physics for Engineers II	4	3	3	PHYS 1421 MATH 1422	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			

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 1412	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 1423
Total Credit Hours		15				Total Credit Hours		14			

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

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	Assessment III - SE (Capstone)	3	3	0	ASSE 3211 (90 hours)		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

\* Social Science Elective

ECON1311 Intro. to Macroeconomics

ECON1312 Intro. to Microeconomics

GEGR1311 World Regional Geography  
 HIST1311 World Civilization  
 PSYC1311 Intro. to Psychology  
 FREN1311 Introduction to French language  
 SUST 1311 Introduction to Sustainability

**\*\* Natural Science Elective**

BIOL1411 Introductory Biology  
 CHEM1411 Introductory Chemistry  
 CHEM1421 Chemistry for Engineers I

**\*\*\* CS/CE/IT Electives (3 Hours)**

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

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

SOEN 4321: Software Maintenance and Evolution  
 SOEN 4322: Software Security  
 SOEN 3314: Formal Methods in Software Engineering.  
 SOEN 3321: Programming in UNIX Environments  
 SOEN 4316: Concurrent Programming  
 SOEN 4463: Data Mining  
 SOEN 4315: Cloud Computing  
 SOEN 3361: Computer Networks  
 SOEN 3463: Distributed System  
 SOEN 4461: Programming Languages

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	GEIT 2421