



Bachelor of Computer and Information Sciences in Applied Information Systems (ISY)

Study Plan and Curriculum Components

Curriculum Components

The following table describes the distribution of credit hours in the *Applied Information Systems (ISY)* program:

Curriculum Components	Hours
Preparatory Year (Engineering and Scientific Track)	31
University Requirements	8
Math and Statistics	6
Basic Science	4
Computer Science Foundation Courses	16
Program Core Courses	35
Program Elective Courses	6
Track Courses	15
Non-Computing courses	12
Internship	11
Total	144

a. Study Plan

Year	CourseCode	Course Name	Credit Hours	Prerequisite	Co-requisite
1	Level One				
	ENGL 14x	English Language Skills (1)	8		
	MATH 140	Introduction to Mathematics	2		
	CT 140	Computer Skills	3		
	MC 140	Communication Skills	2		
		Total	15		
	Level Two				
	ENGL15x	English Language Skills (2)	8	ENGL 14x	
	MATH 150	Mathematics (2) Calculus	3	MATH 140	
	CI 140	Learning, Thinking & Research	3		
	ENT 101	Entrepreneurship	1		
	CHS 140	Health and Fitness	1		
		Total	16		

2	Level Three				
	ISY 101	Computing Foundations and Ethics	3(2+2+1)	CT140	
	COS 101	Computer programming	4(3+2+1)	CT140	
	MATH 151	Discrete math	3(3+0+2)	MATH 150	
		One science course from <i>list4</i> : science courses	4		
	NGA 160	English proficiency	3(3+0+0)		
		Total	17		
	LevelFour				
	COS 105	Data structures	3(3+0+1)	COS 101	
	COS 110	Introduction to Computer organization and Architecture	3(2+2+1)	ISY 101	
	COS 170	Introductionto Computer networks	3(2+2+1)		COS 110
	MGAT 101	Introduction to Business Administration	3		
	STAT 324	Engineering Probability & Statistics	3(3+0+2)		
		One KSU requirement from <i>list2</i>	2		
	Total	17			

Year	CourseCode	Course Name	Credit Hours	Prerequisite	Co-requisite
3	LevelFive				
	ISY 201	Foundation of Information Systems	2(2+0+1)	COS 101	
	COS 217	Applied Operating Systems	3(2+2+0)	COS 105	
	ISY 202	Database Fundamentals	3(2+2+1)	COS 105	
	ISY 208	Modern Programming Language	3(2+2+0)	COS 105	
	ISY 210	Information Security	3(3+0+1)	COS 170	
		One KSU requirement from <i>list2</i>	2		
		Total	16		
	LevelSix				
	ISY 212	System Analysis and Design	3(2+2+1)	ISY 202	
	ISY 215	Applied Database Systems	3(2+2+0)	ISY 202	
	ISY 218	E-Business	3(3+0+1)	ISY 201	
	ISY 219	Project Management	3(3+0+1)	ISY 202	
	ISY 272	Enterprise Resource Planning Systems	3(2+2+0)	ISY 202	ISY219
	Program Elective from <i>List6b</i>	3			
	Total	18			
4	LevelSeven				
		Program Elective from <i>List6b</i>	3		
		Track core from <i>List7a</i> or <i>List8a</i>	3		
		Track core from <i>List7a</i> or <i>List8a</i>	3		
		Track core from <i>List7a</i> or <i>List8a</i>	3		
	MGAT 412	Management Skills	3	MGAT 101	
		One KSU requirement from <i>list2</i>	2		
	Total	17			
4	LevelEight				
	ISY 495	Capstone 1	2(2+0+0)	ISY 212, ISY 219, (ISY 351 or ISY 371)	
	ISY 489	Internship	10	(ISY 356 or ISY 376) + MGAT 412 + completion of 110cr	
		Total	12		

Year	CourseCode	Course Name	Credit Hours	Prerequisite	Co-requisite
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Summer Session					
4	ISY 490	Internship	1	(ISY 356 or ISY 376) + MGAT 412 + completion of 110cr	
	Total		1		

LevelNine					
5	ISY 497	Capstone 2	4(4+0+0)	ISY 495	
		Track Elective from <i>List7b</i> or <i>List8b</i>	3		
		Track Elective from <i>List7b</i> or <i>List8b</i>	3		
	MAGT 103	Advanced Studies in Entrepreneurship	3		
		One KSU requirement from <i>list2</i>	2		
	Total		15		
LevelTen					

Program Total Credit Hours			144		
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b. Preparatory Year

List1: Preparatory Year				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ENGL 14x	English Language Skills (1)	8		
MATH 140	Introduction to Mathematics	2		
MATH 150	Mathematics (2) Calculus	3(3+0+2)	MATH 140	
CT 140	Computer Skills	3		
MC 140	Communication Skills	2		
ENGL15x	English Language Skills (2)	8	ENGL 14x	
CI 140	Learning, Thinking & Research	3		
ENT 101	Entrepreneurship	1		
CHS 140	Health and Fitness	1		
Total		31		

c. University Requirements

The student should select **8** credit hours from the following courses.

List2: University Requirements				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
IC100	Life of Prophet	2		
IC101	Introduction to Islamic Culture	2		
IC 107	Ethics	2		
IC 108	Current Issues	2		

d. Math and Statistics Courses

List3: Math Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
MATH 151	Discrete Mathematics	3(3+0+2)	MATH 150	
STAT 324	Engineering Probability & Statistics	3(3+0+2)		
Total		6		

e. Basic Sciences

The student should select **4** credit hours from the following science courses.

List4: Science Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
PHYS 104	General Physics	4(3,2,0)		
CHEM 101	General Chemistry	4(3,2,0)		
BCH101	General Biochemistry	4(3,2,0)		

f. Computer Science Foundation Courses

List5: Computer Science Foundation Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY 101	Computing Foundations and Ethics	3(2+2+1)	CT 140	
COS 101	Computer Programming	4(3+2+1)	CT 140	
COS 105	Data structures	3(3+0+1)	COS 101	
COS 110	Introduction to Computer organization and Architecture	3(2+2+1)	ISY 101	
COS 170	Introduction to Computer Networks	3(2+2+1)		COS 110
Total		16		

g. Program Core and Elective Courses

List6a: Program Core Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY201	Foundation of IS	2(2+0+1)	COS 101	
COS217	Applied Operating Systems	3(2+2+0)	COS 105	
ISY202	Database Fundamentals	3(2+2+1)	COS 105	
ISY208	Modern Programming Language	3(2+2+0)	COS 105	
ISY210	Information Security	3(3+0+1)	COS 170	
ISY212	System Analysis and Design	3(2+2+1)	ISY 202	
ISY215	Applied Database Systems	3(2+2+0)	ISY 202	
ISY218	E-Business	3(3+0+1)	ISY 201	
ISY219	Project Management	3(3+0+1)	ISY 202	
ISY 272	Enterprise Resource Planning Systems	3(2+2+0)	ISY 202	ISY219
ISY495	Capstone 1	2(2+0+0)	ISY 212, ISY 219, (ISY 351 or ISY 371)	
ISY497	Capstone 2	4(4+0+0)	ISY 495	
Total		35		

In addition, the student should select 6 hours form the following list

List6b: Program Elective Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY 321	Mobile and Wireless Networks	3(2+2+0)	COS 170, ISY 212	
ISY 324	Decision Support Systems	3(3+0+1)	ISY 215	
ISY 354	Introduction to Data Mining	3(2+2+0)	ISY 215	
ISY 381	Human Computer Interaction	3(3, 0, 1)	ISY 212	
ISY 383	Bioinformatics	3(3, 0, 1)	ISY 202	
ISY 481	Health Information Systems	3(3, 0, 0)	ISY 215	
ISY 483	ERP Web Development Applications	3(2, 2, 0)	ISY 208	
COS 251	Web programming	3(2+2+1)	COS 170, ISY 202	
ACCO 201	Accounting Essentials	3		
MGAT 121	Organizational Behavior	3	MGAT 101	
FINA 200	Financial Management	3	ACCO 201	
MGAT 102	Human Resources Management	3	MGAT 101	
ECNO 101	Microeconomics	3		
MKTG 201	Principles of Marketing	3	MGAT 101, ECNO 101	

List6c: Internship				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY 489	Internship	10	(ISY 356 or ISY 376) + MGAT 412 + completion of 110cr	
ISY 490	Internship	1	(ISY 356 or ISY 376) + MGAT 412 + completion of 110cr	
Total		11		

h. Track Courses

The student should select of the following two tracks:

1. Data Science Track Courses

List7a: Data Science Track Core Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY 351	Data Science Fundamentals	3(3+0+1)	ISY 215	
ISY 356	Big Data Analytics	3(2+2+0)	ISY 215	
ISY 358	Data Visualization	3(2+2+0)	ISY 215, STAT 324	
Total		9		

In addition, the student should select 6 hours form the following list

List7b: Data Science Track Elective Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY 355	Machine Learning for Data Science	3(2+2+0)	ISY 215	
ISY 357	Social Network Analysis	3(3+0+1)	COS 170, STAT 324, ISY 215	
ISY 452	Modern Data Mining	3(3+0+1)	ISY 354	
ISY 454	Parallel and Distributed Computing	3(3+0+1)	COS 217	
ISY 313	Introduction to Business Intelligence	3(3+0+1)	ISY 215	
ISY 371	Service Oriented Architecture for Enterprise System	3(3+0+1)	ISY 208	
ISY 459	Selected Topics in Data Science	3(3+0+0)	ISY 212, ISY 351	
ISY 491	Selected Topics in IS	3(2+2+0)	ISY 212, (ISY 351 or ISY 371)	

2. Enterprise Computing Systems Track Courses

List8a: Enterprise Computing Systems Track Core Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY371	Service Oriented Architecture for Enterprise System	3(2+2+0)	ISY 208, ISY 272	
ISY374	Introduction to Data Warehousing	3(2+2+0)	ISY215	
ISY378	Advanced Solutions in ERP	3(2+2+0)	ISY 272	
	Total	9		

In addition, the student should select 6 hours form the following list

List8b: Enterprise Computing Systems Track Elective Courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
ISY 313	Introduction to Business Intelligence	3(3+0+1)	ISY 215	
ISY 358	Data Visualization	3(2+2+0)	ISY 215, STAT324	
ISY 354	Introduction to Data Mining	3(2+2+0)	ISY 215	
ISY 376	Enterprise System Adoption and Business Models	3(2+2+0)	ISY 272	
ISY 471	ERP Development Tool	3(2+2+0)	ISY 272, ISY 208	
ISY 473	Enterprise Architecture and Cloud Computing	3(3+0+1)	ISY 208, ISY272	
ISY 479	Selected Topics in Enterprise Systems	3(3+0+0)	ISY 212, ISY 272	
ISY 491	Selected Topics in IS	3(2+2+0)	ISY 212, (ISY 351 or ISY 371)	

i. Non-Computing courses

List9: Non-Computing courses				
Code	Course Name	Credit Hours	Prerequisite	Co-requisite
NGA 160	English proficiency	3(3+0+0)		
MGAT101	Introduction to Business Administration	3		
MGAT 412	Management Skills	3	MGAT 101	
MAGT 103	Advanced Studies in Entrepreneurship	3		
	Total	12		