



Colleges of Applied Sciences

Information Technology Program

Study Plans:

Information Technology (IT)

Bachelor of Science

2014/2015

Majors:

- 1. Computer Networks (NW)*
- 2. Information Technology Security (SY)*
- 3. Software Applications Development (SW)*
- 4. Data Management (DM)*



Computer Networks Major

Semester 1

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1001	English for Academic Purposes (1)	4	0	10	0	
ITDR 1101	Introduction to IT	3	2	2	0	COMP 5001
MCCR 1101	Introduction to Communications	3	3	0	0	
ALCR 1101	Arabic Language Skills	3	3	0	0	
MTDR 1102	Mathematics for Information Technology	2	1	2	0	MATH 5002
Total		15	9	14	0	

Semester 2

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1002	English for Academic Purposes (2)	4	0	10	0	ENAP 1001
ITDR 1102	Introduction to Web Development	3	2	2	0	COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3	2	2	0	MTDR 1102
ITDR 1104	Programming Fundamentals	3	2	2	0	ITDR 1101
OECR 1101	Omani Economy	2	2	0	0	
Total		15	8	16	0	

Semester 3

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 1105	Web Development	3	2	2	0	ITDR 1102
ITDR 2101	Principles of Information Systems	3	2	2	2	ITDR 1101
ITDR 2103	Discrete Mathematics	3	2	2	0	ITDR 1103
ITDR 2104	Programming	3	2	2	2	ITDR 1104
ENAP 2001	English for Academic Purposes (3)	3	0	8	0	ENAP 1002
Total		15	8	16	0	



Computer Networks Major

Semester 4

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2102	Computer Organisation	3	2	2	0	ITDR 1101 ITDR 1103
ITDR 2105	Data Structures (1)	3	2	2	0	ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3	2	2	0	ITDR 2101
ITDR 2107	Data Communications and Computer networks.	3	2	2	0	ITDR 1101
ENIT 2002	English for Specific Purposes (IT)	3	0	8	0	ENAP 2001
Total		15	8	16	0	

Semester 5

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2108	Introduction to Security	3	2	2	0	ITDR 1101
ITDR 3101	Systems Analysis and Design	3	2	2	0	ITDR 2106
ITDR 3102	Operating Systems	3	2	2	0	ITDR 2102 ITDR 2104
ITDR 3103	Data Structures (2)	3	2	2	0	ITDR 2105
ITNW3101	Introduction to Routing and Switching	3	2	2	0	ITDR 2107
BSCR 3001	Entrepreneurship	3	3	0	0	ITDR 2106
Total		18	13	10	0	

Semester 6

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITNW 3104	Network Technology	3	2	2	0	ITNW3101
ITNW 3105	Network Management	3	2	2	0	ITNW3101
ITDR 4100	Project Management	3	2	2		ITDR 3101
RMCR 3101	Introduction to Research Methods	3	3	0	0	ITDR 2106
Major Elective (1) Network / Security Programming		3	2	2	0	ITNW 3101
Total		15	11	8	0	



SUMMER

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITIN 3101	Internship	0	0	0		ITDR 3103

Semester 7

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
TNW 4103	Internetworking	3	2	2	0	ITNW 3105
ITNW 4109	Innovations in Networks and Security	3	2	2	0	ITDR 2108 ITNW3101
ITGP 4101	Graduation Project 1	3	2	2		ITDR 4100/ ITDR 2107
MCCR 4101	Interpersonal Skills	2	2	0	0	ITDR 3101
Major Elective(2)		3	2	2	0	
Non -IT Elective(1)		3				
Total		17	10	8	0	

Semester 8

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITNW 4104	Wireless Networking	3	2	2	0	ITNW3101
ICCR 1101	Islamic Culture	3	3	0	0	
ITGP 4102	Graduation Project 2	3	2	2	0	ITGP 4101
Major Elective(3)		3	2	2	0	
Major Elective(4)		3	2	2	0	
Non -IT Elective(2)		3				
Total		18	11	8	0	

Major Elective - Computer Networks (Elective 1 + 3 others)

Course Code	Course Title	Cr/hr	Contact Hours		Prerequisite
			Practice	Theory	
ITNW 4115	(1) Network & Security programing	3	2	2	ITNW 3101
ITNW 4111	Fibre Optics	3	2	2	ITNW 3104
ITNW4112	Adv. Routing and Switching	3	2	2	ITNW 3104
ITNW 4113	Network Optimisation	3	2	2	ITNW 4103
ITNW 4114	Adv. operating Systems	3	2	2	ITDR 3102
ITSY 3105	Network Security A	3	2	2	ITDR 2108



Information Technology Security

Semester 1

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1001	English for Academic Purposes (1)	4	0	10	0	
ITDR 1101	Introduction to IT	3	2	2	0	COMP 5001
MCCR 1101	Introduction to Communications	3	3	0	0	
ALCR 1101	Arabic Language Skills	3	3	0	0	
MTDR 1102	Mathematics for Information Technology	2	1	2	0	MATH 5002
Total		15	9	14	0	

Semester 2

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1002	English for Academic Purposes (2)	4	0	10	0	ENAP 1001
ITDR 1102	Introduction to Web Development	3	2	2	0	COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3	2	2	0	MTDR 1102
ITDR 1104	Programming Fundamentals	3	2	2	0	ITDR 1101
OECR 1101	Omani Economy	2	2	0	0	
Total		15	8	16	0	

Semester 3

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 1105	Web Development	3	2	2	0	ITDR 1102
ITDR 2101	Principles of Information Systems	3	2	2	2	ITDR 1101
ITDR 2103	Discrete Mathematics	3	2	2	0	ITDR 1103
ITDR 2104	Programming	3	2	2	2	ITDR 1104
ENAP 2001	English for Academic Purposes (3)	3	0	8	0	ENAP 1002
Total		15	8	16	0	



Information Technology Security

Semester 4

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2102	Computer Organisation	3	2	2	0	ITDR 1101 ITDR 1103
ITDR 2105	Data Structures (1)	3	2	2	0	ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3	2	2	0	ITDR 2101
ITDR 2107	Data Communications and Computer networks.	3	2	2	0	ITDR 1101
ENIT 2002	English for Specific Purposes (IT)	3	0	8	0	ENAP 2001
Total		15	8	16	0	

Semester 5

Course Code	Course Title	Cr/hr	Hours Contact		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2108	Introduction to Security	3	2	2	0	ITDR 1101
ITDR 3101	Systems Analysis and Design	3	2	2	0	ITDR 2106
ITDR 3102	Operating Systems	3	2	2	0	ITDR 2102 ITDR 2104
ITDR 3103	Data Structures (2)	3	2	2	0	ITDR 2105
ITNW3101	Introduction to Routing and Switching	3	2	2	0	ITDR 2107
BSCR 3001	Entrepreneurship	3	3	0	0	ITDR 2106
Total		18	13	10	0	

Semester 6

Course Code	Course Title	Cr/hr	Hours Contact		Extra Practice	Prerequisites
			Theory	Practice		
ITSY 3104	Computer Security A	3	2	2	0	ITDR 2108
ITSY 3105	Network Security A	3	2	2	0	ITDR 2108
ITDR 4100	Project Management	3	2	2	0	ITDR 3101
RMCR 3101	Introduction to Research Methods	3	3	0	0	ITDR 2106
Major Elective (1) Network / Security Programming		3	2	2	0	ITNW 3101
Total		15	11	8	0	



Information Technology Security

SUMMER

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITIN 3101	Internship	0	0	0		ITDR 3103

Semester 7

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITSY 4104	Computer Security B	3	2	2	0	ITSY 3104
ITNW 4109	Innovations in Networks and Security	3	2	2	0	ITDR 2108 ITNW 3101
ITGP 4101	Graduation Project 1	3	2	2	0	ITDR 4100/ ITDR 2108
MCCR 4101	Interpersonal Skills	2	2	0	0	
Major Elective (2)		3	2	2	0	
Non-IT Elective (1)		3				
Total		17	10	8	0	

Semester 8

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITSY 4105	Network Security B	3	2	2	0	ITSY 3105
ICCR 1101	Islamic Culture	3	3	0	0	
ITGP 4102	Graduation Project 2	3	2	2	0	ITGP 4101
Major Elective (3)		3	2	2	0	
Major Elective (4)		3	2	2		
Non-IT Elective (2)		3				
Total		18	11	8	0	

Major Electives Information Technology Security (Elective 1 + 3 others)

Course Code	Course Title	Cr/hr	Contact Hours		Prerequisite
			Practice	Theory	
ITNW4115	(1) Network & Security Programing	3	2	2	ITNW 3101
ITSY4111	Cyber Security	3	2	2	ITSY 3105
ITSY4112	IT Forensics	3	2	2	ITSY 4104
ITSY4113	Cryptography	3	2	2	ITSY 3104
ITSY4114	Ethical Hacking and Network Defense	3	2	2	ITSY 3105



ITNW3104	Network Technology	3	2	2	ITNW 3101
----------	--------------------	---	---	---	-----------

Software Applications Development Major

Semester 1

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1001	English for Academic Purposes (1)	4	0	10	0	
ITDR 1101	Introduction to IT	3	2	2	0	COMP 5001
MCCR 1101	Introduction to Communications	3	3	0	0	
ALCR 1101	Arabic Language Skills	3	3	0	0	
MTDR 1102	Mathematics for Information Technology	2	1	2	0	MATH 5002
Total		15	9	14	0	

Semester 2

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1002	English for Academic Purposes (2)	4	0	10	0	ENAP 1001
ITDR 1102	Introduction to Web Development	3	2	2	0	COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3	2	2	0	MTDR 1102
ITDR 1104	Programming Fundamentals	3	2	2	0	ITDR 1101
OECR 1101	Omani Economy	2	2	0	0	
Total		15	8	16	0	

Semester 3

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 1105	Web Development	3	2	2	0	ITDR 1102
ITDR 2101	Principles of Information Systems	3	2	2	2	ITDR 1101
ITDR 2103	Discrete Mathematics	3	2	2	0	ITDR 1104
ITDR 2104	Programming	3	2	2	2	ENAP 1002
ENAP 2001	English for Academic Purposes (3)	3	0	8	0	ITDR 1103
Total		15	8	16	0	



Software Applications Development Major

Semester 4

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2102	Computer Organisation	3	2	2	0	ITDR 1101 ITDR 1103
ITDR 2105	Data Structures (1)	3	2	2	0	ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3	2	2	0	ITDR 2101
ITDR 2107	Data Communications and Computer networks.	3	2	2	0	ITDR 1101
ENIT 2002	English for Specific Purposes (IT)	3	0	8	0	ENAP 2001
Total		15	8	16	0	

Semester 5

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2108	Introduction to Security	3	2	2	0	ITDR 1101
ITDR 3101	Systems Analysis and Design	3	2	2	0	ITDR 2106
ITDR 3102	Operating Systems	3	2	2	0	ITDR 2104 ITDR 2102
ITDR 3103	Data Structures (2)	3	2	2	0	ITDR 2105
ITSW 3101	Applications Software Development	3	2	2	0	ITDR 2104
BSCR 3001	Entrepreneurship	3	3	0	0	ITDR 2106
Total		18	13	10	0	

Semester 6

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITSW 3104	Concurrent Programming	3	2	2	0	ITDR 2105
ITDM 3105	Advanced Web Development	3	2	2	0	ITDR 1105
ITDR 4100	Project Management	3	2	2	0	ITDR 3101
RMCR 3101	Introduction to Research Methods	3	3	0	0	ITDR 2106
Major Elective (1) Human Computer Interaction		3	2	2	0	ITSW 3101
Total		15	11	8	0	

SUMMER

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITIN 3101	Internship	0	0	0		ITDR 3103



Semester 7

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITGP 4101	Graduation Project 1	3	2	2	0	ITDR 4100 ITDR 2105
ITSW 4103	Object Oriented Programming and User-interfaces	3	2	2	0	ITDR 3103
ITSW 4109	Innovations in Software Development	3	2	2	0	ITSW 3101 ITDR 2106
MCCR 4101	Interpersonal Skills	2	2	0	0	ITDR3101
Major Elective (2)		3	2	2	0	
Non-IT Elective(1)		3				
Total		17	10	8	0	

Semester 8

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITGP 4102	Graduation Project 2	3	2	2	0	ITGP 4101
ITSW 4104	Mobile Applications Development	3	2	2	0	ITSW 4103
ICCR 1101	Islamic Culture	3	3	0	0	
Major Elective (3)		3	2	2	0	
Major Elective (4)		3	2	2	0	
Non-IT Elective (2)		3				
Total		18	11	8	0	

Major Elective – Software Applications Development (Elective 1 + 3 others)

Course Code	Course Title	Cr/hr	Contact Hours		Prerequisite
			Practice	Theory	
ITSW 4112	(1) Human computer interaction	3	2	2	ITSW 3101
ITSW 4111	Computer Graphics	3	2	2	ITSW 3101
ITSW 4113	Games Architecture & Design	3	2	2	ITDR 3103 ITSW 3101
ITSW 4114	Software Design patterns	3	2	2	ITSW 3101
ITDM 4116	Software Trouble Shooting	3	2	2	ITSW 3101
ITDM 4115	Web Services	3	2	2	ITDR 3101 ITSW 3101



Data Management Major

Semester 1

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1001	English for Academic Purposes (1)	4	0	10	0	
ITDR 1101	Introduction to IT	3	2	2	0	COMP 5001
MCCR 1101	Introduction to Communications	3	3	0	0	
ALCR 1101	Arabic Language Skills	3	3	0	0	
MTDR 1102	Mathematics for Information Technology	2	1	2	0	MATH 5002
Total		15	9	14	0	

Semester 2

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ENAP 1002	English for Academic Purposes (2)	4	0	10	0	ENAP 1001
ITDR 1102	Introduction to Web Development	3	2	2	0	COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3	2	2	0	MTDR 1102
ITDR 1104	Programming Fundamentals	3	2	2	0	ITDR 1101
OECR 1101	Omani Economy	2	2	0	0	
Total		15	8	16	0	

Semester 3

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 1105	Web Development	3	2	2	0	ITDR 1102
ITDR 2101	Principles of Information Systems	3	2	2	2	ITDR 1101
ITDR 2103	Discrete Mathematics	3	2	2	0	ITDR 1103
ITDR 2104	Programming	3	2	2	2	ITDR 1104
ENAP 2001	English for Academic Purposes (3)	3	0	8	0	ENAP 1002
Total		15	8	16	0	





Data Management Major

Semester 4

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2102	Computer Organisation	3	2	2	0	ITDR 1101 ITDR 1103
ITDR 2105	Data Structures (1)	3	2	2	0	ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3	2	2	0	ITDR 2101
ITDR 2107	Data Communications and Computer networks.	3	2	2	0	ITDR 1101
ENIT 2002	English for Specific Purposes (IT)	3	0	8	0	ENAP 2001
Total		15	8	16	0	

Semester 5

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDR 2108	Introduction to Security	3	2	2	0	ITDR 1101
ITDR 3101	Systems Analysis and Design	3	2	2	0	ITDR 2106
ITDR 3102	Operating Systems	3	2	2	0	ITDR 2104 ITDR 2102
ITDR 3103	Data Structures (2)	3	2	2	0	ITDR 2105
ITSW 3101	Applications Software Development	3	2	2	0	ITDR 2104
BSCR 3001	Entrepreneurship	3	3	0	0	ITDR 2106
Total		18	13	10	0	

Semester 6

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITDM 3104	Advanced Database Design	3	2	2	0	ITDR 2106
ITDM 3105	Advanced Web Development	3	2	2	0	ITDR 1105
ITDR 4100	Project Management	3	2	2	0	ITDR 3101
RMCR 3101	Introduction to Research Methods	3	3	0	0	ITDR 2106
Major Elective (1) Human Computer Interaction		3	2	2	0	ITSW 3101
Total		15	11	8	0	

SUMMER

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITIN 3101	Internship	0	0	0		ITDR 3103



Semester 7

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITGP 4101	Graduation Project 1	3	2	2	0	ITDR 4100 ITDR 2106
ITDM 4102	Distributed Data Management	3	2	2	0	ITDR 3101
ITSW 4109	Innovations in Software Development	3	2	2	0	ITSW 3101 ITDR 2106
MCCR 4101	Interpersonal Skills	2	2	0	0	ITDR 3101
Major Elective (2)		3	2	2	0	
Non-IT Elective (1)		3				
Total		17	10	8	0	

Semester 8

Course Code	Course Title	Cr/hr	Contact Hours		Extra Practice	Prerequisites
			Theory	Practice		
ITGP 4102	Graduation Project 2	3	2	2	0	ITGP 4101
ITDM 4103	Data Mining	3	2	2	0	ITDR 3103
ICCR 1101	Islamic Culture	3	3	0	0	
Major Elective (3)		3	2	2	0	
Major Elective (4)		3	2	2	0	
Non-IT Elective (2)		3				
Total		18	11	8	0	

Major Elective- Data Management (Elective 1 + 3 others)

Course Code	Course Title	Cr/hr	Hours Contact		Prerequisite
			Practice	Theory	
ITSW 4112	(1) Human Computer Interaction	3	2	2	ITSW 3101
ITDM 4111	Advanced Data Modelling	3	2	2	ITDR 3101
ITDM 4112	Information Retrieval	3	2	2	ITDM 4103
ITDM 4113	Database Optimisation	3	2	2	ITDM 3104
ITSW 4114	Software Design Patterns	3	2	2	ITDR 3103
ITDM 4115	Web Services	3	2	2	ITDR 3101 ITSW 3101



Elective Courses

*Elective Courses for Non-IBA Students

Course Code	Course Title	cr/hr	Pre-req.
BUSN 3403	Business Communication & Public Relations	3	
MRKT4401	International Marketing	3	MRKT2401
MANG4401	Strategic Management	3	MANG2401
MANG3401	International Human Resource Management	3	MANG2401
MANG2401	Introduction to Management	3	
MAKT2401	Marketing	3	

* Elective Courses for Non-IT Students

Course Code	Course Title	cr/hr	Pre-req.
ITDR 1101	Introduction to Information Technology	3	COMP 5001
ITDR 1102	Introduction to Web Development	3	COMP 5001
ITDR 2101	Principles of Information Systems	3	ITDR 1101
ITDR 1105	Web Development	3	ITDR 1102

* Elective Courses for Non-Des. Students

Course Code	Course Title	cr/hr	Pre-req.
DNDR 1104	Design Fundamentals	3	
DNDR 1102	Computers for Design (1)	3	
DNDR 1103	Western Art History	3	
DNDR 2108	Drawing Skills	3	DNDR 1104
DNDR 2112	Photography	3	
DNGR 4108	Photographic Studies	3	DNDR 2112

*Elective Courses for Non- Mass Communication Students

Course Code	Course Title	cr/hr	Pre-req.
MCDR 1103	Introduction to Public Relations	3	
MCDR 2104	Introduction to Advertising	3	
MCDR 1105	Introduction to Media Studies	3	
MCDR 1104	Introduction to Journalism	3	
MCDR 2102	Image and Sound	3	
MCDR 2103	Visual Communication	3	