



Colleges of Applied Sciences

Information Technology Program

Degree Plans:

Information Technology (IT)

Bachelor of Science

2019/2020

Majors:

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



Bachelor of Science (IT) Degree Plan Major: Computer Networks (NW)

Course Code	Course Title	cr/hr	CR	DR	MR	Pre-req.
ENAP 1001	English for Academic Purposes (1)	4	*			
ENAP 1002	English for Academic Purposes (2)	4	*			ENAP 1001
ENAP 2001	English for Academic Purposes (3)	3	*			ENAP 1002
ICCR 1101	Islamic Culture	3	*			
ALCR 1101	Arabic Language Skills	3	*			
OECR 1101	Omani Economy	2	*			
RMCR 3101	Introduction to Research Methods	3	*			
MCCR 1101	Introduction to Communications	3	*			
MCCR 4101	Interpersonal Skills	2	*			
BSCR 3001	Entrepreneurship	3	*			
<i>10 college Requirement Courses = 30 cr/hr</i>						
ENIT 2002	English for Specific Purposes (IT)	3		*		ENAP 2001
MTDR 1102	Mathematics for Information Technology	2		*		MATH 5002
ITDR 1101	Introduction to IT	3		*		COMP 5001
ITDR 1102	Introduction to Web Development	3		*		COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3		*		MTDR1102
ITDR 1104	Programming Fundamentals	3		*		ITDR 1101
ITDR 1105	Web Development	3		*		ITDR 1102
ITDR 2101	Principles of Information Systems	3		*		ITDR 1101
ITDR 2102	Computer Organisation	3		*		ITDR 1101 ITDR 1103
ITDR 2103	Discrete Mathematics	3		*		ITDR 1103
ITDR 2104	Programming	3		*		ITDR 1104
ITDR 2105	Data Structures (1)	3		*		ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3		*		ITDR 2101
ITDR 2107	Data Communications and Computer Networks	3		*		ITDR 1101
ITDR 2108	Introduction to Security	3		*		ITDR 1101
ITDR 3101	Systems Analysis and Design	3		*		ITDR 2106
ITDR 3102	Operating Systems	3		*		ITDR 2102 ITDR 2104
ITDR 3103	Data Structures (2)	3		*		ITDR 2105
ITDR 4100	Project Management	3		*		ITDR 3101
ITIN 3101	<i>Internship</i>	0		*		Completing 60 DR & MR credit hours.
Non-IT Electives (2 Courses)		6		*		
<i>22 Department Requirement Courses = 62 cr/hr</i>						
ITGP 4101	Graduation Project I	3			*	ITDR 4100
ITGP 4102	Graduation Project II	3			*	ITGP 4101
ITNW 3101	Introduction to Routing and Switching	3			*	ITDR 2107
ITNW 3104	Network Technology	3			*	ITNW 3101
ITNW 3105	Network Management	3			*	ITNW 3101
ITNW 4103	Internetworking	3			*	ITNW 3105
ITNW 4104	Wireless Networking	3			*	ITNW 3101
ITNW 4109	Innovations in Networks and Security	3			*	ITDR 2108 ITNW 3101
IT Electives (Elective 1 and choice of 3 other courses)						
ITNW 4115	(Elective 1) Network <u>and</u> Security programming	3			*	ITDR 2107
ITNW 4111	Fibre Optics	3			*	ITNW 3104
ITNW 4112	Advanced Routing and Switching	3			*	ITNW 3104
ITNW 4113	Network Optimisation	3			*	ITNW 4103
ITNW 4114	Advanced Operating Systems	3			*	ITDR 3102
ITSY 3105	Network Security A	3			*	ITDR 2108
<i>12 Major Requirement Courses = 36 cr/hr</i>						
Total		128	30	62	36	



Bachelor of Science (IT) Degree Major: Information Technology Security (SY)

Course Code	Course Title	cr/hr	CR	DR	MR	Pre-req.
ENAP 1001	English for Academic Purposes (1)	4	*			
ENAP 1002	English for Academic Purposes (2)	4	*			ENAP 1001
ENAP 2001	English for Academic Purposes (3)	3	*			ENAP 1002
ICCR 1101	Islamic Culture	3	*			
ALCR 1101	Arabic Language Skills	3	*			
OOCR 1101	Omani Economy	2	*			
RMCR 3101	Introduction to Research Methods	3	*			
MCCR 1101	Introduction to Communications	3	*			
MCCR 4101	Interpersonal Skills	2	*			
BSCR 3001	Entrepreneurship	3	*			
10 college Requirement Courses = 30 cr/hr						
ENIT 2002	English for Specific Purposes (IT)	3		*		ENAP2001
MTDR 1102	Mathematics for Information Technology	2		*		MATH5002
ITDR 1101	Introduction to IT	3		*		COMP5001
ITDR 1102	Introduction to Web Development	3		*		COMP5001
ITDR 1103	Introduction to Discrete Mathematics	3		*		MTDR1102
ITDR 1104	Programming Fundamentals	3		*		ITDR1101
ITDR 1105	Web Development	3		*		ITDR1102
ITDR 2101	Principles of Information Systems	3		*		ITDR1101
ITDR 2102	Computer Organisation	3		*		ITDR1101 ITDR1103
ITDR 2103	Discrete Mathematics	3		*		ITDR1103
ITDR 2104	Programming	3		*		ITDR1104
ITDR 2105	Data Structures (1)	3		*		ITDR2103 ITDR2104
ITDR 2106	Introduction to Databases	3		*		ITDR2101
ITDR 2107	Data Communications and Computer Networks	3		*		ITDR1101
ITDR 2108	Introduction to Security	3		*		ITDR1101
ITDR 3101	Systems Analysis and Design	3		*		ITDR2106
ITDR 3102	Operating Systems	3		*		ITDR2102 ITDR2104
ITDR 3103	Data Structures (2)	3		*		ITDR2105
ITDR 4100	Project Management	3		*		ITDR3101
ITIN 3101	Internship	0		*		Completing 60 DR & MR credit hours.
Non-IT Electives (2 Courses)		6		*		
22 Department Requirement Courses = 62 cr/hr						
ITGP 4101	Graduation Project I	3			*	ITDR4100
ITGP 4102	Graduation Project II	3			*	ITGP4101
ITNW 3101	Introduction to Routing and Switching	3			*	ITDR2107
ITSY 3104	Computer Security A	3			*	ITDR2108
ITSY 3105	Network Security A	3			*	ITDR2108
ITSY 4104	Computer Security B	3			*	ITSY3104
ITSY 4105	Network Security B	3			*	ITSY3105
ITNW 4109	Innovations in Networks and Security	3			*	ITDR2108 ITNW3101
IT Electives (Elective 1 and choice of 3 other courses)						
ITNW4115	(Elective 1) Network and Security Programming	3			*	ITDR2107
ITSY 4111	Cyber Security	3			*	ITSY3105
ITSY4112	IT Forensics	3			*	ITSY4104
ITSY 4113	Cryptography	3			*	ITSY3104
ITSY4114	Ethical Hacking and Network Defence	3			*	ITSY3105
ITNW3104	Network Technology	3			*	ITNW3101
12 Major Requirement Courses = 36 cr/hr						
Total		128	30	62	36	



Bachelor of Science (IT) Degree Plan Major: Software Applications Development (SW)

Course Code	Course Title	cr/hr	CR	DR	MR	Pre-req.
ENAP 1001	English for Academic Purposes (1)	4	*			
ENAP 1002	English for Academic Purposes (2)	4	*			ENAP 1001
ENAP 2001	English for Academic Purposes (3)	3	*			ENAP 1002
ICCR 1101	Islamic Culture	3	*			
ALCR 1101	Arabic Language Skills	3	*			
OECR 1101	Omani Economy	2	*			
RMCR 3101	Introduction to Research Methods	3	*			
MCCR 1101	Introduction to Communications	3	*			
MCCR 4101	Interpersonal Skills	2	*			
BSCR 3001	Entrepreneurship	3	*			
<i>10 college Requirement Courses = 30 cr/hr</i>						
ENIT 2002	English for Specific Purposes (IT)	3		*		ENAP 2001
MTDR 1102	Mathematics for Information Technology	2		*		MATH 5002
ITDR 1101	Introduction to IT	3		*		COMP 5001
ITDR 1102	Introduction to Web Development	3		*		COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3		*		MTDR1102
ITDR 1104	Programming Fundamentals	3		*		ITDR 1101
ITDR 1105	Web Development	3		*		ITDR 1102
ITDR 2101	Principles of Information Systems	3		*		ITDR 1101
ITDR 2102	Computer Organisation	3		*		ITDR 1101 ITDR 1103
ITDR 2103	Discrete Mathematics	3		*		ITDR 1103
ITDR 2104	Programming	3		*		ITDR 1104
ITDR 2105	Data Structures (1)	3		*		ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3		*		ITDR 2101
ITDR 2107	Data Communications and Computer Networks	3		*		ITDR 1101
ITDR 2108	Introduction to Security	3		*		ITDR 1101
ITDR 3101	Systems Analysis and Design	3		*		ITDR 2106
ITDR 3102	Operating Systems	3		*		ITDR 2102 ITDR 2104
ITDR 3103	Data Structures (2)	3		*		ITDR 2105
ITDR 4100	Project Management	3		*		ITDR 3101
ITIN 3101	<i>Internship</i>	0		*		Completing 60 DR & MR credit hours.
<u>Non-IT Electives (2 Courses)</u>		6		*		
<i>22 Department Requirement Courses = 62 cr/hr</i>						
ITGP 4101	Graduation Project I	3			*	ITDR 4100
ITGP 4102	Graduation Project II	3			*	ITGP 4101
ITSW 3101	Applications Software Development	3			*	ITDR 2104
ITSW 3104	Concurrent Programming	3			*	ITDR 2105
ITSW 4103	Object Oriented Programming and User-interfaces	3			*	ITDR 3103
ITSW 4104	Mobile Applications Development	3			*	ITSW 4103
ITSW 4109	Innovations in Software Development	3			*	ITSW 3101 ITDR 2106
ITDM 3105	Advanced Web Development	3			*	ITDR 1105
<u>IT Electives (Elective 1 and choice of 3 other courses)</u>						
ITSW 4112	(Elective 1) Human Computer Interaction	3			*	ITSW 3101
ITSW 4111	Computer Graphics	3			*	ITSW 3101
ITSW 4113	Games Architecture and Design	3			*	ITSW 3101 ITDR 3103
ITSW 4114	Software Design Patterns	3			*	ITSW 3101
ITSW 4116	Software Trouble Shooting	3			*	ITSW 3101
ITDM 4115	Web Services	3			*	ITDR 3101 ITSW 3101
<i>12 Major Requirement Courses = 36 cr/hr</i>						
Total		128	30	62	36	



Bachelor of Science (IT) Degree Plan Major: Data Management (DM)

Course Code	Course Title	cr/hr	CR	DR	MR	Pre-req.
ENAP 1001	English for Academic Purposes (1)	4	*			
ENAP 1002	English for Academic Purposes (2)	4	*			ENAP 1001
ENAP 2001	English for Academic Purposes (3)	3	*			ENAP 1002
ICCR 1101	Islamic Culture	3	*			
ALCR 1101	Arabic Language Skills	3	*			
OECR 1101	Omani Economy	2	*			
RMCR 3101	Introduction to Research Methods	3	*			
MCCR 1101	Introduction to Communications	3	*			
MCCR 4101	Interpersonal Skills	2	*			
BSCR 3001	Entrepreneurship	3	*			
10 college Requirement Courses = 30 cr/hr						
ENIT 2002	English for Specific Purposes (IT)	3		*		ENAP 2001
MTDR 1102	Mathematics for Information Technology	2		*		MATH 5002
ITDR 1101	Introduction to IT	3		*		COMP 5001
ITDR 1102	Introduction to Web Development	3		*		COMP 5001
ITDR 1103	Introduction to Discrete Mathematics	3		*		MTDR1102
ITDR 1104	Programming Fundamentals	3		*		ITDR 1101
ITDR 1105	Web Development	3		*		ITDR 1102
ITDR 2101	Principles of Information Systems	3		*		ITDR 1101
ITDR 2102	Computer Organisation	3		*		ITDR 1101 ITDR 1103
ITDR 2103	Discrete Mathematics	3		*		ITDR 1103
ITDR 2104	Programming	3		*		ITDR 1104
ITDR 2105	Data Structures (1)	3		*		ITDR 2103 ITDR 2104
ITDR 2106	Introduction to Databases	3		*		ITDR 2101
ITDR 2107	Data Communications and Computer Networks	3		*		ITDR 1101
ITDR 2108	Introduction to Security	3		*		ITDR 1101
ITDR 3101	Systems Analysis and Design	3		*		ITDR 2106
ITDR 3102	Operating Systems	3		*		ITDR 2102 ITDR 2104
ITDR 3103	Data Structures (2)	3		*		ITDR 2105
ITDR 4100	Project Management	3		*		ITDR 3101
ITIN 3101	<i>Internship</i>	0		*		Completing 60 DR & MR credit hours.
Non-IT Electives (2 Courses)		6		*		
22 Department Requirement Courses = 62 cr/hr						
ITGP 4101	Graduation Project I	3			*	ITDR 4100
ITGP 4102	Graduation Project II	3			*	ITGP 4101
ITSW 3101	Applications Software Development	3			*	ITDR 2104
ITDM 3104	Advanced Database Design	3			*	ITDR 2106
ITDM 3105	Advanced Web Development	3			*	ITDR 1105
ITDM 4102	Distributed Data Management	3			*	ITDR 3101
ITSW 4109	Innovations in Software Development	3			*	ITSW 3101 ITDR 2106
ITDM 4103	Data Mining	3			*	ITDR 3103
IT Electives (Elective 1 and choice of 3 other courses)						
ITSW 4112	(Elective 1) Human Computer Interaction	3			*	ITSW 3101
ITDM 4111	Advanced Data Modelling	3			*	ITDR 3101
ITDM 4112	Information Retrieval	3			*	ITDM 4102
ITDM 4113	Database Optimisation	3			*	ITDM 3104
ITDM 4114	Spatial Information Systems	3			*	ITDR 3103
ITDM 4115	Web Services	3			*	ITDR 3101 ITSW 3101
12 Major Requirement Courses = 36 cr/hr						
Total		128	30	62	36	



Bachelor of Science (Information Technology)

Elective Courses for Non-IT students

Course Code	Course Title	cr/hr	Pre-req.
ITDR 1101	Introduction to Information Technology	3	COMP5001
ITDR 1102	Introduction to Web Development	3	COMP5001
ITDR 2101	Principles of Information Systems	3	ITDR1101
ITDR 1105	Web Development	3	ITDR1102