

<p>ENGL 2100- Technical Communication</p>	<p>Enables students to Write effectively and manipulate audiences for various purposes and understand how workplace readers process and use documents, Plan and manage short and long-term writing projects in terms of drafting, designing, revising, and editing documents. Work with various writing technologies and electronic genres, Identify and explore problems in organizations; design and implement appropriate research strategies; and evaluate sources, Write collaboratively (e.g. co-authorship) and provide colleagues with useful feedback on their work, Using Effective style and tone to follow and adjust business and technical writing conventions, Designing visually effective documents (e.g., layout, formatting, incorporating graphics and visuals into documents). Learning to Write ethically and responsibly within the business organization and as a member of society.</p>
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Course name: Web Application Development I	Course Code: ITDB201
Pre-requisite: ITIS103-Web Technologies	Credit Hours: 3
Passing Grade: C	Level: Diploma
No. of Theory Hrs: 1	No. of Practical Hrs: 4
Goal: To provide the student with skills needed to develop functional and dynamic database-driven web sites.	
Objectives: Upon completion of this course, the students should be able to: <ol style="list-style-type: none"> 1. Create a database-driven web application using the latest technologies. 2. Value the use of new emerging web application tools that are available in the market. 	
Outcomes Upon completion of this course, the students should be able to:	Methodologies
1. Explain the concepts of dynamic web application development.	Theory
2. Demonstrate the knowledge and skill in acquiring and configuring the required software tools.	Practical
3. Construct server-side scripts that apply constants, variables, arrays and functions.	Practical
4. Apply conditional statements and control structures in server-side scripts.	Practical
5. Develop user interfaces through forms and relevant programming statements.	Practical
6. Apply form validations.	Practical
7. Build web pages that manipulate the data in a database.	Practical
8. Apply security to web pages using session management techniques such as cookies and user sessions.	Practical
Software & Hardware Tools: PHP, MySQL, Apache/ any emerging tool	



Course name: Structured Query Language	Course Code: ITDB202
Pre-requisite: ITDB101-Introduction to Database	Credit Hours: 3
Passing Grade: C	Level: Diploma
No. of Theory Hrs: 1	No. of Practical Hrs: 4
Goal: To prepare the students to gain skills in using Structured Query Language and its features using relational databases.	
Objectives: Upon completion of this course, the students should be able to: <ol style="list-style-type: none"> 1. Compose SQL statements to build, query and manipulate database objects. 2. Construct statements to control the flow of database transaction handling. 3. Create statements to assign privileges to database objects and restrict the access of data. 	
Outcomes	Methodologies
Upon completion of this course, the students should be able to:	
1. Create, alter and delete database objects using data definition language (DDL) statement.	Practical
2. Construct data manipulation language (DML) statements.	Practical
3. Apply constants, expressions and built in functions in DML statements.	Practical
4. Build DML statements using various operators and compound statements.	Practical
5. Apply joins to extract the data from multiple tables.	Practical
6. Develop standard sub-queries and correlated sub-queries	Practical
7. Utilize database transaction processing commands (SAVEPOINT, ROLLBACK and COMMIT)	Practical
8. Apply DCL commands (GRANT, REVOKE)	Practical
Software & Hardware Tools: Oracle/ any emerging tool	



Course Name: Programming II (Updated)	Course Code: ITSE201
Pre-Requisite: ITSE101-Programming I	Credit Hours: 3
Passing Grade: Depending on the Type of the course belonging to the Audit Degree	Level: Diploma Year 2
No. Of Theory & Practical Hours : 1:4	
Goal: This course provides advanced programming concepts and techniques using high level programming language.	
Objectives: The course should enable the student to : 1. Understand the advanced concepts of Programming 2. Implement advanced functions 3. Use various data structures to handle data 4. Manage files and exceptions. 5. Apply string processing techniques.	
Outcomes At the end of this course, students should be able to:	Method
1. Create programs using advanced function concepts like Nested function, Anonymous Function, Recursive function and Decorators.	Theory and Practical
2. Create programs using Tuples, Sets and Dictionaries	Theory and Practical
3. Apply string processing and regular expressions	Theory and Practical
4. Perform file handling operations.	Theory and Practical
5. Implement Exception Handling for programs	Theory and Practical
6. Create simple programs using GUI	Practical
7. Implement Modules and Packages	Practical



Course Name: Introduction to Software Engineering	Course Code: ITSE202
Pre-Requisite: None	Credit Hours: 3
Passing Grade: Depending on the Type of the course belongs to the Audit Degree	Level: Diploma Year 2
No. Of Theory & Practical Hours : 1:4	
Goal: This course covers the fundamental concepts of software engineering.	
Objectives: The course should enable the students to <ul style="list-style-type: none"> 1. Explain the basic concepts of Software Engineering methodologies and process models. 2. Discuss phases of the Software Development Life Cycle. 3. Discuss the basic principles of Software Project Management 4. Develop skills to construct high quality software. 	
Outcomes At the end of this course, students should be able to:	Method
1. Explain the Software Engineering and the role of a software engineer.	Theory
2. Explain phases of the Software Development Life Cycle (requirements, design, implementation, testing, deployment, maintenance).	Theory
3. Compare software process standards and processes (like waterfall, incremental, spiral, prototyping, agile methods ...etc).	Theory
4. Examine the requirements activities such as elicitation, analysis, and specification.	Theory
5. Differentiate functional and non-functional requirements.	Theory
6. Analyze the decision-making logic and Process Specification	Theory and Practical
7. Analyze the requirements using structured approaches such as data flow diagrams.	Theory and Practical
8. Construct Software Requirements Specifications (SRS) Document.	Theory and Practical
9. Discuss how to build high-quality products.	Theory
10. Examine cost estimation techniques, software project scheduling, software configuration management and risk management for software projects.	Theory and Practical
11. Discuss Software design principles, coupling and cohesion.	Theory
12. Work as a team in the software development lifecycle.	Theory and Practical
13. Use Case Tools and Project Management Tools.	Practical



Course Name: Object Oriented Programming	Course Code: ITSE203
Pre-Requisite: ITSE101- Programming I	Credit Hours: 3
Passing Grade: Depending on the Type of the course belongs to the Audit Degree	Level: Diploma Year 2
No. Of Theory & Practical Hours : 1:4	
Goal: This course provides the theory and practical knowledge of object oriented programming using Java.	
Objectives: The course should enable the student to: <ol style="list-style-type: none"> 1. Understand the concepts of object-oriented programming. 2. Use Java primitives. 3. Implement abstraction and encapsulation. 4. Implement inheritance and polymorphism. 5. Work with libraries, packages, interfaces and exceptions. 6. Construct Java programs. 	
Outcomes	Method
At the end of this course, students should be able to:	
1. Discuss Object Oriented Programming Concepts.	Theory
2. Use Java Tokens, Data Types, Operators, Control Structures and Array.	Practical
3. Use the class, object and main method to construct java program	Theory & Practical
4. Perform the I/O operations on the console.	Practical
5. Use members of class like member variables, member method and constructors.	Practical
6. Use nested classes, interfaces and abstract classes.	Practical
7. Implement inheritance of java classes	Theory & Practical
8. Use different access specifiers and static keyword.	Theory & Practical
9. Create user-define packages.	Theory & Practical
10. Use wrapper classes and utility classes like Math and String.	Practical
11. Apply the concept of overloading and overriding using polymorphism	Theory & Practical
12. Handle exceptions	Theory & Practical



BAMG2111 - Entrepreneurship

BAMG2111	Entrepreneurship	3 Credit Hours
Prerequisites	None	
Goal	To introduce the student to entrepreneurship phenomenon	
Objectives	Outcomes	
<p>The student will be exposed to the theory as well the experience associated with entrepreneurship. The course will cover such area as financial management and planning, legal regulation, concepts and tools in developing new venture, communication tools in small business.</p>	<p>The students should be able to:</p> <ol style="list-style-type: none"> 1. Explain the vital role played by entrepreneurs and small business in the global economy. 2. Define entrepreneurship and describe how entrepreneurs are different from other business-people 3. Define small business and identify the industries in which most small firms are established 4. Compare the advantages and disadvantages of small business. 5. Analyze the small business opportunities for women and the special challenges faced by this entrepreneurs 6. Describe how the small business administration functions. 	



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| | <ol style="list-style-type: none">7. Recognize the important contemporary topic such as family business, small business risks, and government regulations.8. Recognize management process and operation management for the small firm.9. Develop a working model of entrepreneurship by creating a small business plan. |
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Course Name : Introduction to Cryptography	Course Code : ITSY301
Pre Requisite : MATH201	Credit Hours : 3
Passing Grade : C	Level : Advanced Diploma
No. of Theory Hrs : 2	No. of Practical Hrs : 2
Goal: This course aims to familiarize students with the fundamental concepts and applications of cryptography.	
Objectives: Upon completion of this course, the students should be able to:	
<ol style="list-style-type: none"> 1. Understand basic principles and concepts of modern cryptography. 2. Understand the functionality of various classical and modern cryptographic ciphers. 3. Appreciate the core techniques of cryptography and how they can be applied to meet various security goals. 4. Use various cryptographic tools/utilities. 	
Outcomes	Methodologies
Upon completion of this course, the students should be able to:	
1. Describe the terminology and fundamental concepts pertaining to the domains of cryptography and steganography.	Theory
2. Demonstrate the understanding of various classical substitution and transposition ciphers, and various types of classical substitution ciphers i.e. Simple, Homophonic, Polygram and Poly-alphabetic.	Theory
3. Compare and contrast symmetric, asymmetric and hybrid cryptosystems in terms of their functionality, types, strengths and weaknesses.	Theory
4. Describe the goals of data integrity, authentication and non-repudiation and how one-way hash functions, message authentication codes and digital signatures can be used to achieve these goals.	Theory
5. Discuss the operation and unique strengths of one-time pad, and how pseudo-random key streams limit the implementation of one-time pad in computers.	Practical
6. Describe the concepts of certification authority (CA) and digital certificates.	Theory
7. Demonstrate understanding of various modern symmetric-key and public-key ciphers, along with the modes of operation of symmetric-key ciphers.	Practical
8. Use cryptographic tools and utilities to comprehend the real-world application of symmetric, asymmetric and hybrid cryptosystems.	Practical
9. Discuss various legal issues related to information security.	Theory
Software & Hardware Tools: Any tool	



Prerequisites Calculus I (MATH1200)

Goal To relate the concepts and theories that underlie in the area of Numerical Analysis and some of their applications in the field of Information Technology and to provide a foundation of computer arithmetic.

Objectives

Outcomes

The course will enable the students to:

1. To understand some of the theories and applications of numerical approximation techniques
2. Familiarize with some concepts in number theory and apply them in encoding and decoding messages in Cryptography
3. Practice different operations on Matrices and determinants, use of matrices to solve linear system of equations.

The students should be able to:

1. Familiarize round-off errors and computer arithmetic.
2. Calculate the polynomial values and identify errors of polynomial equations
3. Solve nonlinear equations using numerical methods. (Bisection method & Newton's method)
4. Apply the iterated interpolation techniques using polynomial approximation.
5. Construct Taylor, Lagrange and divided difference polynomials for interpolation.
6. Understand some concepts such as Division Algorithm and some applications in Number Theory.
7. To use the applications of congruence to cryptology and solve Chinese Remainder Theorem.
8. Use some concepts of matrices: addition, scalar multiplication, product and inversion.
9. Calculate the determinant of matrices of dimension 2 and 3.
10. Solve linear system of equations using matrices and to write the inverse of a matrix.



Course Name: Course Project (Updated)	Course Code: ITSE204
Pre-Requisite: ITSE202- Software Engineering I AND (ITDB201-Web Application Development I OR ITSE201-Programming II OR ITSE203 – Object Ordinated Programming)	Credit Hours: 3
Passing Grade: Depending on the Type of the course belongs to the Audit Degree	Level: Diploma Year 2
No. Of Theory & Practical Hours : 0:2	
Goal: This course enable students to develop a software system using the knowledge and skills acquired in Diploma level.	
Objectives: The course should enable the student to : <ol style="list-style-type: none"> 1. Create a proposal for the course project based on a real scenario. 2. Apply the phases of Systems Development Life Cycle. 3. Apply the soft skills. 	
Outcomes At the end of this course, students should be able to:	Method
1. Create a proposal for the course project based on a real scenario.	Practical
2. Apply the different phases of Systems Development Life Cycle throughout the development of the course project.	Practical
3. Practice work ethics and communication skills.	Practical
4. Prepare well-formatted standard documents	Practical
5. Demonstrate the course project.	Practical



PHIL 3108 - Business Ethics

PHIL3108	Business Ethics	3 Credit Hours
Prerequisites	None	
Goal	To equip the student with the highest ethical standards that will guide him/her through real life dilemmas.	
Objectives	Outcomes	
<p>To enable the student to:</p> <ol style="list-style-type: none"> 1. Understand the concept of value 2. Understand Islamic and Omani values 3. Understand, appreciate and respect ethnic and cultural diversity 4. Gain the highest work ethics 	<p>The students should be able to:</p> <ol style="list-style-type: none"> 1. Define the concept of values 2. Define how values develop 3. Understand the effects of religion and society on values 4. Understand the effects of Islamic and Omani values on work ethics 5. Define the concept of ethnic and cultural diversity 6. Understand the importance of ethnic and cultural diversity for society and the world 7. Work with people from different ethnicities/cultures 8. Function in a moral and ethical manner in his/her life 	



Course Name: Data Structure and Algorithms (Updated)	Course Code: ITSE205
Pre-Requisite: ITSE203- Object Oriented Programming	Credit Hours: 3
Passing Grade: Depending on the Type of the course belongs to the Audit Degree	Level: Diploma Year 2
No. Of Theory & Practical Hours : 1:4	
Goal: This course provides proficiency in implementation of Data Structures	
Objectives: The course should enable the student to: <ol style="list-style-type: none"> 1. Analyze the complexity of algorithms. 2. Implement list, stack, queue, tree and graph data structures. 3. Implement searching, sorting and hashing techniques. 4. Implement data structures. 	
Outcomes	Method
At the end of this course, students should be able to:	
1. Use arrays, Pointers, Structures and Abstract data types	Theory and Practical
2. Discuss Big Oh, Theta and Omega notations	Theory
3. Apply Big Oh to calculate complexities of algorithms	Practical
4. Implement Linear list and single, circular and doubly linked lists	Theory and Practical
5. Implement stacks, queues and tables using linear and linked representation	Theory and Practical
6. Use Linear and Binary Search	Theory and Practical
7. Apply operations on trees such as traversal (Pre-order, In-order and Post-Order), searching, insertion, updating and deletion.	Theory and Practical
8. Construct Binary Tree and Binary Search Tree (BST)	Theory and Practical
9. Use Insertion, Selection, Bubble, Quick, Merge, Radix sorting	Theory and Practical
10. Construct Graphs	Theory and Practical
11. Implement hashing techniques	Theory and Practical
12. Use algorithms to perform operations such as insertion, searching, updating and deletion on various data structures	Theory and Practical
13. Implement data structures.	Practical

