Course Descriptions of Diploma in Computer Programming and Databases

CSC 1101 Computer Programming (1) **3(2+2)**

Students are introduced to: Problem solving techniques using computers; Introduction to C programming languages; General structure of C programming language; Inputs and outputs instructions; Variables; Loops; Functions; Arrays; Files and Structures; and Sorting and searching techniques.

CSC 1102 Introduction to Computer Structure **3(3+0)**

Students are introduced to: Computers components, functions, and development; Computers hardware and peripherals; Software components and applications; Programming languages and their abstract default levels; Processor architecture and primary operations; Memory architecture and memory management; Input and output operations and structures; Computers internetworking; and Computers features and their evaluation criteria.

CSC 1103 Introduction to Operating Systems and Basic Applications **4(3+2)**

Students are introduced to: Introduction to operating systems; Fundamentals of operating systems with illustrative examples; Word processors; Spread sheets; Electronic presentation; and Databases.

ENG 1101 Intensive English **9(9+0)**

Students are introduced to: Grammar; Lingual phrases; Intensive reading, writing, listening, and speaking practices; and English and Arabic Translation training.

MATH 1101 Mathematics **3(3+0)**

Students are introduced to: Binary systems; Computer symbols; Logic; Arithmetic systems; Groups, relations, and Boolean Algebra; Logical gates, logical circuits an their simplification; Arrays and matrices; Linear equations.

CSC 1201 Computer Programming (2) **3(2+2)**

Students are introduced to: An introduction to C++ Language; Classes of C++ objects and be exposed to other data structures of C++; C++ Input and output methodologies; C++ file management; and Applications of object-oriented programming.

CSC 1202 Introduction to Communications and Information Networks **3(3+0)**

Students are introduced to: Networks development, functions, elements and types; Communication systems; Communication transmission media; Switching techniques: Circuit switching, Packet switching; Networks connectivity and information routing; Networks protocols; International standards; Internet and Intranets components and their operational methodologies; Internet services; and High speed networks.

CSC 1203 Introduction to Databases **3(2+2)**

Students are introduced to: Introduction to database; Types of databases; Database structure; Relational databases and their uses; Database design; and Practical applications.

ENG 1102 Intensive English **9(9+0)**

Students are introduced to: Grammar; Lingual phrases; Intensive reading, writing, listening, and speaking practices; and English and Arabic Translation training.

STAT 1201 Statistics and Probability **3(3+0)**

Students are introduced to: Introduction to statistics; Frequency Tables; Average, mode, and median; Variance and standard deviation; Random variables; Introduction to probabilities: Sample space; Events; Conditional probabilities theories; and Independence.

General summer training:

- After completing second level at an accredited private/public institution (Duration: 6 weeks).
- Students are required to accomplish the following tasks:
  - Installation, operations, and maintenance of computer systems.
  - Programs development using programming languages.
  - Development and maintenance of databases; and
  - Utilization and maintenance of various computer operating systems.

CT 1311 Visual Basic Programming **4(3+2)**

Students are introduced to: Fundamentals of visual and event driven programming; Essential components of programs' interface: Forms, Command Buttons, Dialog Boxes, Edit Boxes, etc.; Building complete applications using Visual Basic.

CT 1312 System Analysis and Design (1) **3(3+1)**

Students are introduced to: System analysis and design methodologies; Analysis and design forms; System analysis and design phases; Details of the analysis and design phases; Testing phase; Quality assurance; Case studies.

CT 1313 Databases Design **3(3+1)**

Students are introduced to: File Systems and their types; Relational Algebra; Date representation; Update operations, Insertion and deletion; Database design concepts, Normal forms; Indexing techniques.

CT 1314 Windows NT Systems **4(3+2)**

Students are introduced to: General structure of Windows NT; Windows NT installation on PCs; File management; Disk management (floppy, hard disk); Printer and Peripherals (Input output units) management; User management; Network management and network control; Email and website management; Distributed applications tuning

CT 1315 Project (1) **2(1+2)**

Students' preparation and qualification to perform scientific and technical tasks that are related to third level subjects.

CT 1411 Visual Programming **4(3+2)**

Students are introduced to: Advanced visual programming .Use of ready visual components; Design of special visual components and it's use in programs; Build up of database systems using visual programming systems.

CT 1412 SQL Client/Server Systems **4(3+2)**

Students are introduced to: Application of SQL using simple examples; Client/Server architecture; Development of Client/Server systems using SQL; Applied project.

CT 1413 Program Project Management **4(3+2)**

Students are introduced to: Program project management phases, Planning, Scheduling, Costing, Risk analysis, Human resources management, Quality assurance.

CT 1414 System Analysis and Design (2) **4(3+2)**

Students are introduced to: General aspects of systems development methodologies; Object-oriented analysis and design OOAD; Software testing and quality assurance.

CT 1415 Project (2) **2(1+2)**

Students' preparation and qualification to perform scientific and technical tasks that are related to forth level subjects.

Summer General Training:

- After completing the fourth level at an accredited private/public institution (Duration: 6 weeks).
- Students are required to accomplish the following tasks:
  - Applying the knowledge learned in the systems analysis and design courses in development of application systems using visual programming languages.
  - Building application systems using database management system such as Oracle or Microsoft SQL.
  - Design and implement a web database application on a web server.
  - Building internet application by using web tools

CT 1501 Development of Internet Applications **4(3+2)**

Students are introduced to: Websites' construction and architecture; Websites' establishment and design using HTML; Websites' design using MS Front Page; CGI programming; Using Java in Web Sites; Linking websites to databases; and Internet applications and examples.

CT 1512 Oracle Database Management System **4(3+2)**

Students are introduced to: Introduction to Oracle system; Oracle system architecture; Development of distributed database systems using Oracle; User management; Database security in Oracle.

CT 1513 Introduction to JAVA Language **4(3+2)**

Students are introduced to: Java fundamentals; Objects; Classes; Methods; Development of various applications using Java.

CT 1514 Computer Graphics **4(3+2)**

Students are introduced to: Importance of computer graphics; Use of some computer graphics packages; Applications in the area of computer animation; Design of paints and postage stamps; Engineering drawings.

CT 1515 Project (3) **3(2+2)**

Students' preparation and qualification to perform scientific and technical tasks that are related to fifth level subjects.