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| **ISHIK UNIVERSITY FACULTY OF SCIENCE Department of INFORMATION TECHNOLOGY,2017-2018 Spring Course Information for IT 203 PROGRAMMING I** |

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| --- | --- |
| **Course Name:** | PROGRAMMING I |
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|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Course type** | **Regular Semester** | **Theoretical** | **Practical** | **Credits** | **ECTS** |
| IT 203 | 2 | 3 | 3 | 2 | 4 |  |

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| **Name of Lecturer(s)-Academic Title:** | Bilal Ahmed - |
| **Teaching Assistant:** | Mohammed kamal - Samiha Alhabal |
| **Course Language:** | English |
| **Course Type:** | Non-area Elective |
| **Office Hours** | Sunday- 14:00-16:00 |
| **Contact:** | Email:bilal.ahmed@ishik.edu.iq Tel:+9647714442612  |
| **Teacher's academic profile:** | BSc/Msc in Computer Engineering  |
| **Course Objectives:** | This course will teach students problem solving skills through the use of the C++ Programming language. Students will learn the basics about C++ programming language such as variables, data types, arrays, pointers, functions and classes etc. At the end of the class, we expect people to be able to write and read basic C++ code. Isolate and fix common errors in C++ programs. |
| **Course Description (Course overview):** | Intermadiate knowledge about programming as pointers, strings and user developed methods in C++ and intro to Object Oriented Programming concepts. Developing game type, and file in/out software. |
| **COURSE CONTENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topic** |
| **1** | 3 | 8-12/10/2017 | Introduction to programming concepts |
| **2** | 3 | 15-19/10/2017 | Data Types, Variables |
|  |  |  |  |
| **3** | 3 | 22-26/10/2017 | Control statements-1- |
| **4** | 3 | 29/10-2/11/2017 | Control statements-2- |
|  |  |  |  |
| **5** | 3 | 5-9/11/2017 | Quiz |
| **6** | 3 | 12-16/11/2017 | Functions |
|  |  |  |  |
| **7** | 3 | 19-23/11/2017 | Midterm Exam |
| **8** | 3 | 26-30/11/2017 | Function definition with multiple parameters |
|  |  |  |  |
| **9** | 3 | 3-7/12/2017 | Functions with empty parameters |
| **10** | 3 | 10-14/12/2017 | Arrays and pointers |
|  |  |  |  |
| **11** | 3 | 17-21/12/2017 | Relationship between pointers & arrays |
| **12** | 3 | 24-28/12/2017 | ? |
|  |  |  |  |
| **13** | 3 | 31/12/2017-4/1/2018 | Accessing structure definitions. |
| **14** | 3 | 7-11/1/2018 | Revision |
|  |  |  |  |
| **15** | 3 | 14-18/1/2018 | Final Exam |
| **16** | 3 | 21-25/1/2018 | Final Exam |
|  |  |  |  |

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| **COURSE/STUDENT LEARNING OUTCOMES**

|  |  |
| --- | --- |
|  |  |
| **1** | Design, compile and execute C++ programs to solve basic problems. |
| **2** | Describe the concept of a variable. |
| **3** | Describe and use C++ control structures. |
| **4** | Describe and use functions, parameters, and return values. |
| **5** | Perform file input and output. |

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| **COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES**(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced )

|  |  |  |
| --- | --- | --- |
|  | **Program Learning Outcomes** | **Cont.** |
| **1** | An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution |  |
| **2** | An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs |  |
| **3** | An ability to function effectively on teams to accomplish a common goal | P |
| **4** | An understanding of professional, ethical, legal, security, social, and economic issues and responsibilities | P |
| **5** | An ability to analyze the local and global impact of computing on individuals, organizations, and society | I |
| **6** | An ability to use current techniques, skills, and tools necessary for computing practice | P |
| **7** | An ability to use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies | I |
| **8** | An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems |  |
| **9** | An ability to effectively integrate IT-based solutions into the user environment | P |
| **10** | An ability apply problem solving skills, core IT concepts, best practices and standards to information technologies |  |
| **11** | An ability to identify and evaluate organizational requirements and current and emerging technologies |  |
| **12** | An ability to select, design, integrate and administer IT-based solutions into the organizational environment |  |

 |
| **Prerequisites (Course Reading List and References):** | Programming Fundamentals |
| **Student's obligation (Special Requirements):** | Students are required to have access to a C++ program environment. Instructions about MS Visual Std. given on how to install C++ development environment. Students are allowed to use whatever C++ environment is most convenient for them and it is their responsibility to ensure they can write, save and execute programs. Students are encouraged to discuss the material and assignments, especially on Edmodo. However, it is the responsibility of the student to complete each assignment individually or in pairs (only when specified). In other words, share ideas, resources and thoughts but do not share code or written answers to questions. Lively discussion on Edmodo is encouraged. |
| **Weekly Laboratory/Practice Plan:** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topics** |
| 1 | 2 | 8-12/10/2017 | Introduction to programming concepts |
| 2 | 2 | 15-19/10/2017 | Data Types, Variables |
|  |  |  |  |
| 3 | 2 | 22-26/10/2017 | Control statements-1 |
| 4 | 2 | 29/10-2/11/2017 | Control statements-2 |
|  |  |  |  |
| 5 | 2 | 5-9/11/2017 | Quiz |
| 6 | 2 | 12-16/11/2017 | Functions |
|  |  |  |  |
| 7 | 2 | 19-23/11/2017 | Midterm Exam |
| 8 | 2 | 26-30/11/2017 | Function definition with multiple parameters |
|  |  |  |  |
| 9 | 2 | 3-7/12/2017 | Functions with empty parameters |
| 10 | 2 | 10-14/12/2017 | Pointers and arrays |
|  |  |  |  |
| 11 | 2 | 17-21/12/2017 | Relationship between pointers & arrays |
| 12 | 2 | 24-28/12/2017 | class scope and accessing class members |
|  |  |  |  |
| 13 | 2 | 31/12/2017-4/1/2018 | Structure definitions. Accessing structure definitions. Using Destructors. |
| 14 | 2 | 7-11/1/2018 | Revision |
|  |  |  |  |
| 15 | 2 | 14-18/1/2018 | Final Exam |
| 16 | 2 | 21-25/1/2018 | Final Exam |
|  |  |  |  |

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| **Course Book/Textbook:** | C++ How to Program 9th Edition Deitel & Deitel .C++ Programming. 5th edition, D.S.Malik, 2011. |
| **Other Course Materials/References:** | Cplusplus.com: http://www.cplusplus.com – for extensive information about the C++ language Stack Overflow: http://stackoverflow.com – for general programming questions |
| **Teaching Methods (Forms of Teaching):** | Lectures, Practical Sessions, Excersises, Presentation, Project, Assignments |
| **COURSE EVALUATION CRITERIA**

|  |  |  |
| --- | --- | --- |
| **Method** | **Quantity** | **Percentage (%)** |
| Participation | 1 | 10 |
| Quiz | 2 | 5 |
| Project | 1 | 10 |
| Midterm Exam(s) | 1 | 30 |
| Final Exam | 1 | 40 |
| **Total** | **100** |
| **Examinations:**Essay Questions, Fill in the Blanks, Multiple Choices, Short Answers, Matching |  |  |

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| **Extra Notes:** |
| **ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activities** | **Quantity** | **Duration (Hour)** | **Total Work Load** |
| Course Duration (Including the exam week: 16x Total course hours) | 3 | 48 | 144 |
| Hours for off-the-classroom study (Pre-study, practice) | 3 | 5 | 15 |
| Assignments Mid-terms | 2 | 15 | 30 |
| Final examination | 1 | 8 | 8 |
| Other |  |  | 0 |
| **Total Workload** | **197** |
| **ECTS Credit (Total workload/25)** | **7.88** |

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**Peer review**

|  |  |  |
| --- | --- | --- |
| Signature: | Signature: | Signature: |
| Name: | Name: | Name: |
| Lecturer                                                                       | Head of Department                                                         | Dean |

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