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| **ISHIK UNIVERSITY FACULTY OF SCIENCE Department of INFORMATION TECHNOLOGY,2017-2018 Spring Course Information for** **IT 312 OBJECT ORIENTED PROGRAMMING II** |

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| --- | --- |
| **Course Name:** | OBJECT ORIENTED PROGRAMMING II |
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| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Course type** | **Regular Semester** | **Theoretical** | **Practical** | **Credits** | **ECTS** |
| IT 312 | 2 | 6 | 2 | 2 | 3 |  |

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| **Name of Lecturer(s)-Academic Title:** | Moayad Yousif Potrus - |
| **Teaching Assistant:** | - |
| **Course Language:** | English |
| **Course Type:** | Non-area Elective |
| **Office Hours** | 4 |
| **Contact:** | Email:moayad.potrus@ishik.edu.iq Tel:07504628179  |
| **Teacher's academic profile:** | n/a  |
| **Course Objectives:** | OOP with java tends to make student learn about the basic concepts of OOP such as Inheritance, Polymorphism, data hiding, abstract classes and more. The main objectives are: 1. learn about OOP class and objects 2. Learn about Data hiding 3. Learn about polymorphism 4. learn about abstract classes and methods 5. learn about Interfaces 6. Learn about advance topics in OOP |
| **Course Description (Course overview):** | This course is an introduction to object-oriented programming using the Java programming language. We use the object-first approach where objects are used from the first sample program. Object-oriented thinking is emphasized and promoted from the beginning. Students learn how to use objects first and then learn how to define their own objects. On the other hand, when the concepts of object-oriented programming are given, at the same time, they learn how to follow program development tasks during the lab sessions. They practice these concepts and development, they prepare their own projects. Student also will learn how to develop a graphic user interface interaction and also the events and listener classes. |
| **COURSE CONTENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topic** |
| **1** | 2 | 4-8/2/2018 | Introduction to OOP |
| **2** | 2 | 11-15/2/2018 | Data Hidding |
|  |  |  |  |
| **3** | 2 | 18-22/2/2018 | Inheritance I |
| **4** | 2 | 25/2-1/3/2018 | Inheritance II |
|  |  |  |  |
| **5** | 2 | 4-8/3/2018 | Polymorphism I |
| **6** | 2 | 25-29/3/2018 | Polymorphism II |
|  |  |  |  |
| **7** | 2 | 1-5/4/2018 | Midterm Exam |
| **8** | 2 | 8-12/4/2018 | Abstract Classes |
|  |  |  |  |
| **9** | 2 | 15-19/4/2018 | Inner and Outer Classes |
| **10** | 2 | 22-26/4/2018 | Interfaces |
|  |  |  |  |
| **11** | 2 | 29/4-3/5/2018 | Design with UML |
| **12** | 2 | 6-10/5/2018 | Exception Handlling I |
|  |  |  |  |
| **13** | 2 | 13-17/5/2018 | Exception Handlling II |
| **14** | 2 | 20-24/5/2018 | Review |
|  |  |  |  |
| **15** | 2 | 27-31/5/2015 | Final Exam |
| **16** | 2 | 3-7/6/2018 | Final Exam |
|  |  |  |  |
| **17** | 2 | 10-14/6/2018 |  |

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| **COURSE/STUDENT LEARNING OUTCOMES**

|  |  |
| --- | --- |
|  |  |
| **1** | learn about OOP class and objects |
| **2** | Learn about Data hiding |
| **3** | Learn about polymorphism |
| **4** | learn about abstract classes and methods |
| **5** | Learn about advance topics in OOP |

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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 | I |
| **2** | An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs | I |
| **3** | An ability to function effectively on teams to accomplish a common goal |  |
| **4** | An understanding of professional, ethical, legal, security, social, and economic issues and responsibilities |  |
| **5** | An ability to analyze the local and global impact of computing on individuals, organizations, and society |  |
| **6** | An ability to use current techniques, skills, and tools necessary for computing practice | I |
| **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 |  |
| **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 |  |

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| **Prerequisites (Course Reading List and References):** | Basic Programming language understanding |
| **Student's obligation (Special Requirements):** | Attend all lab sessions and Lectures |
| **Weekly Laboratory/Practice Plan:** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Hour** |               **Date**               | **Topics** |
| 1 | 2 | 4-8/2/2018 | review of basic programming and classes |
| 2 | 2 | 11-15/2/2018 | Data Hiding with set and get |
|  |  |  |  |
| 3 | 2 | 18-22/2/2018 | Inheritance |
| 4 | 2 | 25/2-1/3/2018 | Inheritance with constructors |
|  |  |  |  |
| 5 | 2 | 4-8/3/2018 | method overloading types |
| 6 | 2 | 25-29/3/2018 | method overriding |
|  |  |  |  |
| 7 | 2 | 1-5/4/2018 | mid term |
| 8 | 2 | 8-12/4/2018 | Abstract classes and methods |
|  |  |  |  |
| 9 | 2 | 15-19/4/2018 | inner classes |
| 10 | 2 | 22-26/4/2018 | Interface |
|  |  |  |  |
| 11 | 2 | 29/4-3/5/2018 | Class interaction |
| 12 | 2 | 6-10/5/2018 | Exception handling with try and catch |
|  |  |  |  |
| 13 | 2 | 13-17/5/2018 | Exception handlling with throw |
| 14 | 2 | 20-24/5/2018 | review week |
|  |  |  |  |
| 15 | 2 | 27-31/5/2015 | Final Exam |
| 16 | 2 | 3-7/6/2018 | Final Exam |
|  |  |  |  |
| 17 | 2 | 10-14/6/2018 |  |

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| **Course Book/Textbook:** | Java how to program, Dietel and Dietel, any edition. |
| **Other Course Materials/References:** | Thinking in Java, 4th edition, Bruce Eckel. |
| **Teaching Methods (Forms of Teaching):** | Lectures, Practical Sessions, Excersises, Assignments |
| **COURSE EVALUATION CRITERIA**

|  |  |  |
| --- | --- | --- |
| **Method** | **Quantity** | **Percentage (%)** |
| Quiz | 1 | 10 |
| Homework | 2 | 10 |
| Midterm Exam(s) |  |  |
| Lab/Practical Exam(s) | 1 | 10 |
| Final Exam | 1 | 40 |
| **Total** | **80** |
| **Examinations:**True-False, Fill in the Blanks, Multiple Choices, Short Answers |  |  |

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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) | 16 | 4 | 64 |
| Hours for off-the-classroom study (Pre-study, practice) | 2 | 4 | 8 |
| Assignments Mid-terms |  |  | 0 |
| Final examination | 1 | 2 | 2 |
| Other |  |  | 0 |
| **Total Workload** | **74** |
| **ECTS Credit (Total workload/25)** | **2.96** |

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**Peer review**

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

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