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**Advanced Programming (COMP231)**

Course Outline – Second Semester 2017/2018

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In this course, the student will learn some of the concepts, fundamental syntax, and thought processes behind true object-oriented programming (OOP).  Upon completion of this course, the student will be able to:

* Demonstrate understanding of classes, constructors, objects, and instantiation.
* Access variables and modifier keywords.
* Develop methods using parameters and return values.
* Build control structures in an object-oriented environment.
* Convert data types using API methods and objects.
* Design object-oriented programs using scope, inheritance, and other design techniques.
* Create an object-oriented application using Java packages, APIs, and interfaces, in conjunction with classes and objects.

**In this course, concepts are reinforced using practical exercises in weekly lab sessions as well as challenging and engaging programming assignments.**

**Faculty:**

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| --- | --- | --- |
| **Section # (Lecture)** | **Instructor Name** | **Office** |
| **1** | Dr. Nariman Ammar | Masri314 |
| **2** | Dr. Samer Zain | Masri417 |

**\* Course Cordinator**

**Text Book:**

* **Introduction To JAVA Programming**, **10th edition**, Author Y.Daniel Liang, Publisher: Prentice Hall.
* **Laboratory Work Book** (COMP231) **(updated version 2017)**

#### Grading Criteria:

* Midterm exam 30%
* 4 Assignments 10%
* 4 Quizzes 15%
* Final Practical Exam 10%
* Final exam 35%

**Topics Covered in this Course:**

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| **Topics** | **Chapter** | **# of lectures** |
| Introduction to Java | 1-8 | 6 |
| Objects and Classes | 9 | 3 |
| Strings | 4.4, 10.10, 10.11 | 2 |
| Thinking in Objects | 10 | 2 |
| Inheritance and Polymorphism | 11 | 3 |
| **Midterm Exam (30%)** | | |
| Abstract Classes and Interfaces | 13 | 3 |
| Exception Handling and Text I/O | 12 | 3 |
| JavaFX Basics | 14 | 3 |
| JavaFX UI Controls | 16 | 2 |
| Event-Driven Programming | 15 | 3 |
| **Final Exam (35%)** | | |

**Lab Outline:**

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| **Lab #** | **Title** | **Quizzes** |
| 1 | Program structure in Java |  |
| 2 | Structured Programming - Revision |  |
| 3 | Methods |  |
| 4 | Arrays and Object Use | **Q1** |
| 5 | Object-Oriented Programming |  |
| 6 | String I |  |
| 7 | String II | **Q2** |
| 8 | Inheritance and Polymorphism |  |
| 9 | Abstract classes and Interfaces |  |
| 10 | Exception Handling + Text I/O | **Q3** |
| 11 | Java FX Basics + UI Control |  |
| 12 | Event-Driven Programming | **Q4** |
| **Practical Final Exam (10%)** | | |

# **Special Regulations:**

* ***Late/wrong assignments will NOT be accepted for any reason.***
* There will be **NO** makeup quizzes.
* Missing any exam without an **acceptable** excuse will result in a zero grade for that exam.
* ***Attendance is mandatory***. University regulations will be strictly enforced.
* Academic **honesty**:
  + Individual HW assignments ***MUST*** be done by each student on his/her own.
  + Cheating will result in an official university disciplinary review.