**King Saud University**

**College of Applied Studies & Community Services**

**Department of Natural and Engineering Sciences**

**CT1513– Introduction to JAVA Language - 4(3, 2,0)**

**Semester I, Academic Year 1438-1439**

**Course Syllabus**

**1. Course Identification and General Information:**

|  |  |
| --- | --- |
| **Course Code:CT1513** | **Course Title: Introduction to JAVA Language** |
| **Course Prerequisite: CSC1201** | **Course Level: Fifth** |
| **Credit Hours: 4(3+2+0)** | **Lecture Time:** [**Monday**](http://www.howjsay.com/index.php?word=Saturday&submit=Submit) **11:00 –1:00 pm(lab)** |
|  | **Wednesday 11-1 Thursday 10-11** |

**2. Faculty Member Responsible for the Course:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email Address** | **Office Hours** | **Office Number and Location** | **Name** |
| **halqaoud@KSU.EDU.SA** | **Tues 9-11** | *Office #: 3*  *Grand Floor*  *– Bldg 26* | **Haya Alqaoud** |

**3. Course Description:**

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

**4. Course Objectives:**

* **To describe the main features of the Java programming language and environment.**
* **To understand the fundamental object-oriented programming concepts.**
* **To design and develop java applications along with their GUI's.**
* **To design and develop java applets.**

**5. Relationship of Course to Program Outcomes:**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Outcome Description** | **Contribution** |
| **(a)** | An ability to apply knowledge of mathematics, science, and engineering | **🗸** |
| **(b)** | An ability to conduct experiments/lab, as well as to analyze and interpret data | **🗸** |
| **(c)** | An ability to function on multidisciplinary teams |  |
| **(d)** | An understanding of professional and ethical responsibility | **🗸** |
| **(e)** | An ability to communicate effectively | **🗸** |
| **(f)** | A recognition of the need for, and an ability to engage in life-long learning | **🗸** |
| **(g)** | A knowledge of contemporary issues | **🗸** |
| **(h)** | An ability to use the techniques, skills, and modern tools | **🗸** |

**6. Course References:**

**6.1Textbooks:**

**"The Way to Mastering the JavaLanguage ", A. Azab, M. Majed and K. Hussain, Dar AlKutub AlIlmiah, Cairo, 2002.**

**6.2Support Material (Journals, Publications, etc):**

* 1. **“Introduction to Java” unpublished notes by Dr. Hussam Ramadan**

**6.3Study Guide(s) (if applicable):**

None

**6.4Homework and Laboratory Guide(s) (if applicable):**

None

**6.5Websites:**

<http://www.java.com/en/>

**7. Teaching Methods:**

Lectures, Tutorials, Problem Solving Sessions andLaboratory Sessions.

**8. Learning Outcomes:**

**8.1Knowledge and Understanding:**

**The student will gain knowledge and understanding of:**

**1- An Introduction to Java.**

**2- The Java Programming Environment.**

**3- Java Programming Fundamentals.**

**4- Objects and Classes in Java.**

**5- Inheritance in Java.**

**6- Graphical User Interfaces and the SWING package.**

**7- Java Applets.**

**8.2Cognitive Skills (Thinking and Analysis):**

**The student should be able to:**

* **Describe the main features of the Java programming language and environment.**
* **Understand the fundamental object-oriented programming concepts.**
* **Design and develop java applications along with their GUI's.**
* **Design and develop java applets.**

**8.3Interpersonal Skills and Responsibility:**

**The student should be able to:**

* **Decision making**
* **Effective communication using technical terms**
* **Working in groups to improve the collaboration among students**

**8.4Communication, Information Technology and Numerical Skills**

* **Expressing thoughts about supporting theory by concrete examples**
* **Preparing to listen**
* **Encouraging the speaker to speak more.**
* **Ability to share one's thoughts.**
* **Ability to be concise and clear.**

**9. Methods of Assessment:**

|  |  |
| --- | --- |
| **Mark** | Assessment Instruments |
| 15 | Midterm Examination- 1 |
| 15 | Midterm Examination- 2 |
| 5 | Quize |
| 10 | Evaluations |
| 5 | project |
| 10 | Final lab |
| 40 | Final Examination |
| **100** | **Total** |

**10. Course Policies:**

* No late homework will be accepted.
* The quizzes may be pop up or announced, and may be given at anytime during class-time.
* Homework assignments are considered individual efforts. However, students are encouraged to share thoughts with others. Absolutely no copying and no plagiarism. Copyright should be respected. Academic dishonesty cases will be dealt with severely.
* All exams are closed book.
* The final exam will be comprehensive.

**11. Course Academic Calendar**

|  |  |  |
| --- | --- | --- |
| **Week** | **Basic and support material to be covered** | **Homework/reports and their due dates** |
| (1) | **Introduction to Java.** |  |
| (2) | **The Java Programming Environment.** |  |
| (3)-(4) | **Java Programming Fundamentals:**  **Data types**  **Control and I/O Statements**  **Object-Oriented Programming Concepts** |  |
| (5)-(6) | **Objects and Classes in Java.** Class and Object Definitions. **Attributes, Methods.**  **Instantiation and Constructor Methods.**  **Encapsulation and Accessor and Mutator Methods.**  **Static Attributes and Methods.** |  |
| (7) | Midterm Examination- 1 | |
| (8)-(9) | **Inheritance in Java**  **Inheritance Relationships and Trees.**  **Inheritance Definition in Java.**  **Packages.**  **Object Assignments and Inheritance.** |  |
| (10)-(11) | **Graphical User Interfaces, SWING and the AWTConcepts**  **Graphics and Graphical Interfaces in Java.**  **Graphical User Interface Design Principles.**  **Event-Driven Programming.**  **AWT and SWING Graphical Interface Packages.** |  |
| (12) | **Java Applets**  **Applets and Internet Programming.**  **Applet vs. Applications.**  **Steps to Convert Applications to Applets.** |  |
| (13) | Midterm Examination- 2 & project discussion |  |
| (14-16) | Final Examination | |

**12. Expected Workload:**

On average students need to spend weekly 2 hours of study and preparation for each 50-minute lecture/tutorial.

**13. Attendance Policy:**

Absence from lectures and/or tutorials shall not exceed 25%. Students who exceed the 25% limit without an accepted medical or emergency excuse shall not be allowed to take the final examination and shall receive a grade of “DN” for the course.