King Fahd University of Petroleum & Minerals

College of Computer Sciences and Engineering

Information and Computer Science Department

ICS 201: Introduction to Computing II (3-3-4)

Syllabus – First Semester 2011-2012 (111)

Website: Blackboard (WebCT)

Class Time, Venue and Instructor Information:

Lecturer				
Sec.	**Time**	**Venue**	**Instructor**	**Office Hours**
01	SMW 08:00 - 08:50	24-151	**Dr. Sami Zhioua** Office: 22-137-2 Phone: 03-860-1251 E-mail: zhioua@kfupm.edu.sa	SMW 10:00 – 11:00 SM 11:00 – 12:00
02	SMW 09:00 - 09:50	22-130	**Mr. Irfan Ahmad** Office: 22-148-2 Phone: 03-860-1243 E-mail: irfanics@kfupm.edu.sa	SMW 10:00 – 11:50
03	SMW 10:00 - 10:50	22-130	**Dr. Abdallah Al-Sukairi** **(course coordinator)** Office: 22-315 Phone: 03-860-2822 E-mail: sukairi@kfupm.edu.sa	SMW 11 :00 – 11 :50 SMW 12 :10 – 01 :00
05	SMW 13:10 - 14:00	24-137		
51	S 14:10 – 16:50	22-421	**Mr. Faisal Alvi** **(Lab coordinator)** Office: 23-058 Phone: 03-860-1869 E-mail: alvif@kfupm.edu.sa	UT 10:30 – 12:00
52	U 14:10 – 16:50	22-421		
53	T 14:10 – 16:50	22-421		
54	W 14:10 – 16:50	22-335	**Mr. Irfan Ahmad** Office: 22-148-2 Phone: 03-860-1243 E-mail: irfanics@kfupm.edu.sa	SMW 10:00 – 11:50

Catalog Course Description:

Advanced object-oriented programming; inheritance; polymorphism; abstract classes and interfaces, container/collection classes, packages, object-oriented design, software modeling, event-driven programming, recursion, use of stacks, queues and lists from API, searching and sorting.

Pre-requisites: ICS 102

Textbook: Absolute Java, Walter Savitch, Fourth Edition, Addison-Wesley, 2009.

Course Objectives:

The objectives of this course are to

1. Introduce students to advanced object-oriented programming.
2. Instill programming and problem-solving skills.
3. Introduce graphical user interface principles and develop/implement them.

Course Learning Outcomes:

After completion of this course, the student shall be able to:

1. Develop solutions for a range of problems using object-oriented programming.
2. Apply divide and conquer strategy to searching and sorting problems using iterative and/or recursive solutions.
3. Design and implement simple GUI applications.
4. Write simple multithreaded applications.
5. Use API in writing applications.

Suggested Lab Work (Closed Lab)

Programming assignments to practice different problem solving strategies, with emphasis on sound object-oriented design principles. Solving basic problems using static and dynamic data structures. Design and implementation of simple GUIs with good software requirements, specifications and validation.

Assessment Plan:

Activity	Weight
3 Programming Assignments (3% + 3% + 4%)	**10%**
Quizzes + Class Participation	**10%**
Major Exam 1 (6:00 PM Saturday, Oct 15th, 2011)	**15%**
Major Exam 2 (6:00 PM Saturday, Nov 26, 2011)	**20%**
Final Exam (7:00 PM Sunday, Jan 8th, 2012) **Comprehensive**	**25%**
Lab	**20%**

Lab Assessment:

Activity	Weight
Lab Performance (0.5% * 12 Labs)	**6%**
Quizzes (2% + 2% + 3%)	**7%**
Lab Project (1 * 7%)	**7%**
TOTAL	**20%**

Important Notes:

1. Students are expected to be courteous toward the instructor and their classmates throughout the duration of this course.
2. All cell phones and pagers must be “on silent” mode during classes and “turned off” during exams.
3. Attendance is taken at the beginning of the class.
4. **Unexcused** Lecture Absences Policies:
    a. **Two** late attendances are considered as **one** absence.
    b. Every lab absence is worth **.5** percentage point of your **overall score**.
    c. The **tenth** absence will result in an automatic **DN** grade.
5. **Unexcused** Lab Absences Policies:
    a. Every lab absence is worth 1 percentage point of your **overall score**.
6. An **unexcused absence** can become an **excused absence ONLY** by an official letter from the Dean of Student’s office, and must be presented no later than one week after appearing before the instructor.
7. Assignments must be submitted on the due date. **No** late or email submissions will be accepted.
8. No make up for exams or any other class work will be made.
9. **3-Day Policy**: One has **3 days** starting from the end of the class time in which the graded assignment/exam papers have been distributed and/or posted in order to object to the score of that assignment or exam. The objection shall be submitted electronically by filling the grade dispute form.
10. **ZERO-TOLERANCE for CHEATING, whether in exams, quizzes or PROGRAMMING ASSIGNMENTS.** Plagiarism, copying and other anti-intellectual behavior are prohibited by the university regulations. Violators will face serious consequences.

Tentative Schedule of Classes, Labs, Assignments, and Quizzes

Week 1	Intro and review of ICS 102 I	Lab 00: Introduction, Syllabus Review and Account Creation
	Review of ICS 102 II	
	Review of ICS 102 III	
Week 2	Inheritance 1, Chapter 7	Lab 1: ICS 102 Review
	Inheritance 2, Chapter 7	
	Inheritance 3, Chapter 7	
Week 3	Problem Solving (Inheritance + Polymorphism)	Lab 2: Inheritance
	Polymorphism, Chapter 8	
	Abstract classes, Chapter 8	
Week 4	Interfaces, Chapter 13	Lab 3: Polymorphism
	Problem Solving (Polymorphism + Abstract classes + Interfaces)	HW 1 Assigned,
	Exception Handling 1	
Week 5	Exception Handling 2	Lab 4: Abstract Classes and Interfaces
	Java Virtual Machine (Mostly handouts)	HW 1 Due Lab Quiz 1
	Review for Major Exam 01	
Week 6	Intro to Graphics in Java	Lab 5: Exception Handling and Inner Classes
	GUI: SWING I, Chapter 17	Major Exam 1 6:00 PM Saturday, Oct 15th, 2011.
	GUI: SWING II, Chapter 17	
Week 7	GUI: SWING III, Chapter 17	Lab 6: Computer Graphics
	Problem Solving (GUIs and Event Handling)	
	GUI: Graphics I, Chapter 19	
Week 8	GUI Graphics II, Chapter 19	Lab 7: GUI Programming1
	Applets, Chapter 18	Lab Project Assigned
	Problem Solving (Advanced GUIs and Applets)	
Id al-Adha Vacation		

Week 9	Threads in Java 2, Chapter 20	Lab 8: GUI Programming 2
	Algorithms and Problem Solving	HW2 Assigned,
	Problem Solving (Threads)	
Week 10	Recursion I	Lab 9: Threads
	Recursion II	HW2 Due Lab Quiz 02
	Review for Major Exam 02	
Week 11	Searching	Lab 10: Algorithms and Recursion
	Sorting 1 (Selection and Insertion)	Major Exam 2 6:00 PM Saturday, Nov 26, 2011.
	Sorting 2 (Merge and Quick)	
Week 12	Using API for Searching and Sorting – Practice	Lab 11: Searching
	Using the *ArrayList* class, Chapter 14	
	Problem Solving (Searching, Sorting and using API)	
Week 13	Generics in Java, Chapter 14	Lab 12: Sorting
	Collections in Java, Chapter 14	HW3 Assigned, Lab Quiz 03
	Iterators, Chapter 16	
Week 14	Problem Solving (ArrayList, Collections and Iterators)	Lab 13: Java Collections
	Course Review I	HW3 Due
	Course Review II	
Week 15	Course Review III	Lab Project Due
	Course Review IV	
	Course Review V	
Final Exam: [7:00 PM Sunday, Jan 8th, 2012]		