ISM3230, Section 001
Introduction to Computer Systems Software Development
3 Credits, Spring 2012

Instructor: Mehran Basiratmand   Lecture Location: FL 411
Office: CM 214   Lecture Time: Mondays 7:10PM – 10:00PM
Phone: 561.297.0220   Office Hours: By Appointment
Course Web Site: http://blackboard.fau.edu   I am on campus Monday – Friday
Email: mehran@fau.edu

TA: Office hours will be posted
Prerequisite: ISM2000 or departmental approval.

Course Description:

This course offers an overall understanding of computer system components and software development using structured and Object-Oriented programming languages. Topics include computer hardware, operating systems, algorithms, and new trends in programming. Hands-on approaches and real-world technology solutions are used.

Course Objectives:

This course will teach students the general understanding of computer programming components, applications, architecture, and programming concepts. Students will learn the basic skills of structured programming as well as basic Object Oriented Programming using Java programming language, including file handling, algorithm implementation, selection, repetition, error handling, libraries and concepts associated with Object Oriented Programming. Participants will be exposed to various technical and operational hands on aspects of computer system components and programming languages in particular, Java programming environment. In this course, we will take an in-depth look at programming concepts, techniques and mechanism. A few practical and hands-on approaches will be discussed and demonstrated to better explore Java development tool, and to expose students to real-world example of application development and usage. This course also will prepare those students who wish to continue along Information Technology tracks.

Detail course objective includes:
- Students will learn about hardware components including memory and processor
- The function of software will be discussed in details
- Students will learn the purpose and usage of operating system
- Students will exposed to the role and concept of compilers specifically Java
- Participants will learn steps necessary to download and install compilers
- Students will learn the components of programming languages
- Participants will learn about structure and Object Oriented programming
- Participates will be exposed to various stages of application development
- Students will learn to design and to write software codes from basic concepts to complex programs

The following topics will be covered and it is not limited to:

• Introduction to Computer Systems	• Loops
• Software Development Life Cycle	• File Handling
• Concept of virtual environment	• Control Structures
• Programming Languages	• Classes and Objects
• Development Environment	• Arrays
• Structure Programming	• Selection Process
• Variables, Memory Allocation	• Graphical User Interface
• Functions/Methods	• Understanding Operating Systems

LEARNING GOALS/OUTCOMES:

The following learning outcomes are expected of students.
1- Ability to identify various aspects of computer system components including input/out devices, different storage units with their respective usage, operating system function, compilers, and networking concept
2- Ability to install Java development environment and to utilize analytical skills in identifying and subsequently installing Java compiler, and to provide descriptive information about benefits and shortfall of various Java environment versions.
3- Understanding software development life cycle and version control
4- Ability to identify various programming components including declaration, methods, commands and output
5- Understanding structure programming language components
6- Understanding object oriented programming components
7- Ability to use reserved words associated with Java programming language
8- Ability to develop complete codes and to successfully compile and execute these codes using Java in relatively short programs
Students will demonstrate effective writing communication in form of code comments to identify various commands and components of their codes
9- Students will be introduced to complex projects to bridge the gap between business requirements and code development
10- Students will be exposed to contemporary certification programs in the field of Java programming language

Course Martials:

In addition to the textbook outlined below, several websites will be provided and introduced via Blackboard site. Quizzes and exams will include contents from these sites. These web sites will include several examples of system configuration, terminologies, Operating Systems commands, and basic programming constructs using the Java language. If you find that you are struggling with basic programming fundamentals (if/else statements, loops, arrays, functions) you may want to use a search engine and/or other materials.

Text Book:
Java™ Programming: Guided Learning with Early Objects, 1st Edition

D.S. Malik - Creighton University Robert Burton - Oregon State University
ISBN-10: **1423901622** ISBN-13: **9781423901624**
Published: 2009

This text book has been widely acclaimed by professional information technology professionals as premier reference book for learning Java.
Bring: USB keys: 2GB or 4GB

Labs:

This course is designed to be taught in an instructional lab on Mondays. You should expect to spend 10-15 hours each week outside of class working on your reading, programming assignments and homework.

Grading:

1. Quizzes and Class Participation & Programming Assignments: 40%
2. Mid-Term: 25%
4. Final: 35%

You must have a 73 or higher final score to pass this class.

Final Grade Assignment:

93.00 → 100	A
89.00 → 92.99	A-
87.00 → 88.99	B+
83.00 → 86.99	B
79.00 → 82.99	B-
77.00 → 78.99	C+
73.00 → 76.99	C
69.00 → 72.99	C-
67.00 → 68.99	D+
60.00 → 66.99	D
00.00→ 59.99	F

Quizzes and Class Participation:

There will be several pop quizzes given over the course of the semester. You will have 10 minutes to answer 5-10 multiple-choice questions. Students are responsible for bringing test scan sheets and No. 2 pencils to every class. Due to the nature of this course, you are expected to attend class regularly. Participation in classroom and on-line discussions and hands-on labs are vital in developing professional-level skills. If you are absent from class, it is your responsibility to contact other students to obtain missed lectures notes and assignments.

Exams:

The mid-term will cover the materials presented in class up to that point. The final will be a comprehensive exam. Both exams will be multiple-choice, and again, students will be held responsible for coming to class with the appropriate test scan sheets and pencils. With an approved excuse, a make-up mid-term exam may be

taken before the next class, with a 10% discount to the score (except illness). There will be no make-up for quizzes or the final exam. If you miss the mid-term exam, it is your responsibility to contact me and make sure I get your message for making any arrangement. I will make no effort under any circumstances to contact you for such arrangement.

Homework:

Homework will be assigned throughout the semester. It is absolutely essential for you to do all the homework and understand what you did. Many test questions and programming assignments are based on the homework problems. If you have difficulties in doing or understanding the homework, **it is your responsibility** to contact other students for help or make an appointment to come to see me.

Programming Assignments:

You will be given several programming assignments during the semester. You will typically have one to two weeks to complete the assignment. All students must work independently. Assignments will be due at the beginning of class. Late assignments will be discounted 10% and must be turned in before the next class. Students must become familiar with posting assignments in to Blackboard and using ZIP files. Students will be required to send their source code, executable, and data file (if applicable).

Submission Guidelines:

1. Due Date and late completion of an assignment. All assignments due by 11:59 PM on the due date indicated in the course schedule. For each day that the assignment is late, five points will be deducted from the assignment's score. No extra assignments are permitted for additional credit in this course unless assigned by the instructor to the entire class.

2. Email Submission. All assignments are to be submitted to Blackboard. Be sure you receive an acknowledgement from the instructor for each assignment (if you feel it is necessary). E-mails will NOT be accepted.

3. Format of Submission. The following format must be used when submitting assignments. In the "Subject" line of your email must indicate the followings: ISM3230 YourName NameOfDeliverable.

Example: ISM3230 – John_Doe – Question on assignment #.

Note: Remember to put the course name in the subject field of every e-mail message that you send me. E-mail messages that are missing this information are likely to be automatically redirected to a folder that the instructor will seldom check (perhaps Spam folder!!!).

Exam and Assignment Make-up policy:

There are no make-up exams and assignments for this course. If there are emergencies or other non-academic circumstances beyond your control that preclude you from taking a

scheduled exam or from submitting a due assignment, please let me know at the earliest possible opportunity before the exam or assignment is given.

- Absence. 3 absences may result in a failing grade or may severely impact your grade.

- Religious Accommodation. Link to FAU Religious Accommodation Policy is below: http://www.fau.edu/academic/registrar/catalog/academics.php (Listed under the "Policies for all students" section)

Incomplete:

  Incomplete grade may be granted only to students who are making satisfactory progress toward successful completion of the course **and** experiencing hardship out of their own control. Satisfactory progress requires that you have passed all tests and completed all assignments for that period of time. Adequate evidence of hardship must be presented when requesting for an "I" grade. You must submit a written request, along with supporting document, to me and make sure to get a written statement from me for granting you such status. Any request for incomplete before the official last day to drop a class will be automatically denied. Any request for incomplete in the last two weeks of class will be automatically denied.

Disability policy statement:

- In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute course work must register with the Office for Students with Disabilities (OSD). For more information, please contact: Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305). The most recent disability accommodation policy is located at – ADA policy: http://www.fau.edu/eop/ada/ada_policy.php

Code of Academic Integrity policy statement:

- Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see the Code of Academic Integrity in the University Regulations at http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf .

Usage of E-Mail:

- Students are required to check their email throughout the course. By University Policy, every email communication related to the course is supposed to use FAU e-mail account (now via Google or my.fau.edu).

- Each student is responsible for keeping up with the class schedule, checking FAU email, and checking the course web site.

Classroom etiquette policy:
In order to minimize the level of distraction, all beepers and cellular phones must be on quiet mode during class meeting times. Students who wish to use a laptop computer/PDA for note taking need prior approval of the instructor since key clicks and other noises can distract other students.

Other Information:
You should check the Blackboard site at least twice a week to find more information about homework, projects, and other related issues. Email is the preferred way to communicate with me for help or any other issues you would like to discuss with me.

Schedule of Classes:
We might have one online lecture. Date will be determine in advance
Changes (if any) to the schedule will be provided each week in advanced based on progress made after each lecture

Lecture Topics:
Some contents will be placed online in Blackboard as well... Several topics will be discussed per week. Please take notes and keep up with the reading.

Lecture Jan 9th- May 4th	Topics	Chapter Readings	Exams Supplemental Info
1/9	Introduction to Computer Systems and Components	Online	Visit Blackboard
1/16	<u>No Class MLK Holiday</u>	Online	
1/23	Operating System / Understanding Programming Languages	Chapter O	Quiz I
1/30	Elements of Java – Java Environment – History and application of Java programming language	Chapter I	
2/6	Basic Input / Output	Chapter II	Quiz II
2/13	Introduction to Objects and Classes including GUI	Chapter III	Assignment 1
2/20	Control Structure and Selection Control Structure and Selection continuation	Chapter IV Chapter V	Assignment 2
2/27	Review and Mid-Term Exam	LAST TO DROP WITH "W" IS 3/2	**Mid-term Exam**
3/5	No Class – Spring Break	N/A	
3/12	Control Structure and Selection Continuation	Chapter 4/5	Assignment 3

3/19	User defined Methods	Chapter VI	Assignment 4
3/26	User defined Methods – Continuation	Chapter VI Supplemental	Quiz III
4/2	Array Processing	Chapter VII	Assignment 5
4/9	Application of Array processing	Chapter VIII	Assignment 6
4/16	Advanced Topics using Java	Chapter X Chapter XI Chapter XII	Assignment 7
4/23	Review and Project Discussion		Project
4/30	Final Exam		Final Exam

Please visit FAU Academic Calendar: http://www.fau.edu/registrar/pdf/Docs/acadcal1112.pdf