

 Lebanese American University	COE	212
School of Engineering	Engineering Programming (Required)	3 credits
Department of Electrical and Computer Engineering	MWF from 11:00 – 11:50 AM	ENG 401
Course syllabus	Dr. Wissam F. Fawaz	Fall 2013

1. Course Description and Course Prerequisite

This is an introductory programming course with an emphasis on algorithm development, programming constructs, computer organization, data representation, debugging, and program testing. A wide range of numerical as well as non-numerical problems relating to engineering will be solved in Java as a means towards reinforcing the understanding of these concepts.

2. Course Objectives

Upon satisfactory completion of this course, the students will be able to:

- Understand the principles underlying Object Oriented programming.
- Use a programming language with broad acceptance outside the classroom.
- Develop programs that adhere to specific coding standards.
- Become familiar with the concept of debugging:
 - distinguish between logical and syntax errors
 - be able to identify and correct syntax errors in programs
 - find and correct logical programming errors using pencil and paper tracing
- Utilize an object oriented programming language to solve real life problems related to Engineering

3. Contribution of course to meeting the professional component

Professional Component	Credits
Mathematics and Basic Sciences	0
Engineering Topic	3
General Education	0

4. Relationship of course to program outcomes

<p>PO (a) <i>an ability to apply knowledge of mathematics, science and engineering</i></p> <ul style="list-style-type: none"> • Science/(Engineering Programming) • Engineering/(Computer Systems) <p>PO (k) <i>an ability to use the techniques, skills and modern engineering tools necessary for engineering practice</i></p> <ul style="list-style-type: none"> • Uses computer programs necessary for engineering practice
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5. Course Outline

Topics to be covered include:

- An introduction to Programming (Week 1)
- Data and Expressions (Weeks 2 & 3)
- Using Classes and Objects (Weeks 4 & 5)
- Writing Classes (Weeks 6 & 7)
- Conditionals and Loops (Weeks 8 – 10)
- Arrays (Weeks 11 & 12)
- Inheritance (Weeks 13 & 14)

6. Required tools / software / skills

Java Software Development Kit (JDK)

7. Textbook[s]

John Lewis and William Loftus, JAVA Software Solutions: Foundations of Program Design, 7th Edition, Pearson, 2012.

8. Additional References

B. Eckel, Thinking in JAVA, Fourth Edition, Prentice Hall, 2006.

Nell Dale, C. Weems and Mark Headington, Programming and Problem Solving with JAVA, Johns and Bartlett Publishers, 2003.

9. Schedule of Exams & Grading Percentage

Exams I and II are conducted in normal class hours (date will be announced during the course of the semester). There will be one or two announced quizzes a month. Finally, note that the final exam is going to be comprehensive.

Homeworks/Quizzes:	25%
Exam I:	20%
Exam II:	25%
Final:	30%

10. Course Policies

Cheating is considered to be a very serious breach of the cheating policy of the faculty and will not be tolerated. A student must make a concerted effort to show up for every exam as there will be no make up for missed exams.

11. General Comments

Instructor: Dr. Wissam FAWAZ email: wissam.fawaz@lau.edu.lb
Office: 103, Bassil Bldg, ext: 2414
Office Hours: Monday, Wednesday and Friday, from 10:00 –11:00 AM & 1:00 – 2:00 PM
Course webpage: http://www.wissamfawaz.com/engineering_programming.htm

12. General Rules & Regulations

- A student can miss no more than the equivalent of 5 weeks of instruction. Students who exceed the allowed number of absences must withdraw from the course; otherwise, the course grade will be recorded as "F".
- Plagiarism: students caught cheating on an exam receive a grade of Zero on the exam in the first cheating attempt and a warning. Students caught cheating for the second time in the same course receive an F grade in the course and a second warning. A grade of zero on an exam resulting from cheating must be counted in the student's course grade. The zero cannot be dropped in computing the final grade in case the instructor has a policy of allowing students to drop their worst exam grade.
- Any student who receives 3 warnings will be suspended.