DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING COURSE SYLLABUS

	ENGLISH ARABIC		CREDITS			
COURSE IIILE	CODE/NO	CODE/NO.	Th.	Pr.	Tr.	Total
Object-Oriented Computer Programming	EE 202	ه ک ۲۰۲	2	3	-	۴
Pre-requisites:	EE 201					
Course Role in Curriculum	Required or Elective: Required					
	A pre-requisite for:		EE 305, EE 364			

Catalogue Description:

Object-oriented programming: classes, objects and methods. Object-oriented design. Simple data structures. Best programming practices (structured coding, documentation, testing and debugging).

Textbooks:

H. Deitel and P. Deitel, *Java: how to program*, 9th ed. Prentice-Hall, 2009.

Supplemental Materials:

C. Thomas Wu, *An introduction to object-oriented programming with JAVA*, 5th ed., McGraw-Hill, 2009.

Course Learning Outcomes:

By the completion of the course the student should be able to:

- 1. **Apply** available classes to write simple application programs
- 2. **Identify** the difference between objects and classes
- 3. **Create** simple classes based on predefined requirements
- 4. Apply loops and conditional statements to write simple programs or methods
- 5. Write class and object methods
- 6. **Identify** the main use of arrays and write methods that deal with array data
- 7. Apply tracing concept to given application program that deal with so many classes
- 8. Write mathematical expressions and I/O statements
- 9. Write statements to handle exceptional errors
- 10. Apply the Java SDK and the Eclipse IDE to develop applications

To	nias to be Couvered.	Duration
10	pics to be Covereu.	<u>in Weeks</u>
1.	The basic idea of Classes and Objects, Messages and Methods, Data Values,	2
	Inheritance, Software Engineering Life Cycle, Java Program Components.	
2.	Numerical Data: Variables, Arithmetic Expressions, Constants, I/O.	2
3.	Self defined Classes: Constructors, Class/Object Methods, Data Members,	3
	Class/Object Constants, Methods/Constructors Overloading, Parameters Passing,	
	Organizing Classes into Packages, Javadocs Comments.	
4.	Flow Control: If Statement, Nested If Statement, Boolean Expressions, Switch	2
	Statement, For/do/While Loops.	
5.	Arrays: Defining an Array, Arrays of Objects, Two-Dimensional Arrays, Lists	2
	and Maps.	
6.	Classes: overloading constructor, this, Composition, static members, Final	3
	instance variables, Data abstraction.	

<u>Student Outcomes addressed by the course</u>: (Put a $\sqrt{\text{sign}}$)

(a)	an ability to apply knowledge of mathematics, science, and engineering		
(b)	b) an ability to design and conduct experiments, as well as to analyze and interpret data		
(c)	an ability to design a system, component, or process to meet desired needs within realistic	\checkmark	
	constraints such as economic, environmental, social, political, ethical, health and safety,		
	manufacturability, and sustainability		
(d)	an ability to function on multidisciplinary teams		
(e)	an ability to identify, formulate, and solve engineering problems		
(f)	an understanding of professional and ethical responsibility		
(g)	an ability to communicate effectively		
(h)	the broad education necessary to understand the impact of engineering solutions in a		
	global, economic, environmental, and societal context		
(i)	a recognition of the need for, and an ability to engage in life-long learning	\checkmark	
(j)	a knowledge of contemporary issues	\checkmark	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for	\checkmark	
	engineering practice.		

Key Student Outcomes assessed in the course: (i) and (j)

Assessment methods :

	M = 1 - (A = C) - 11/2/2012	150/
Major I	Monday (4-6) 11/3/2013	15%
Major II	Monday (4-6) 23/4/2013	15%
Assignments/Quizzes		10%
Lab		20%
Final exam		40%
Total		100%

Instructor or course coordinator:		Dr. Rami Alhmouz, ralhmouz@kau.edu.sa		
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