UNIVERSITAS BAKRIE

SYLLABUS

Kode Mata Kuliah *(Course Code):* [FTK206]	**Nama Mata Kuliah** *(Course Name)* **:** [Pemograman Berorientasi Objek/Object Oriented Programming]		
Program Studi *(Study Program)* **:** [Information System]	**Fakultas** *(Faculty)* **:** [FTIK - UB]		
Mata Kuliah Pra-syarat *(Course Prerequisite)* **:** [FTK101_Algorithm and Programming]	**Kredit** *(Credit)* **:** [3 SKS]		
	Kuliah *(Lecture)* **:** [2 SKS]	**Tutorial :** [0]	**Praktikum** *(Practicum)***:** [1 SKS]
Revisi *(Revision Status)***:** [R-1/~~2/3/4/5/...~~]	**Semester Ganjil/Genap*** *(~~Odd~~/Even Semester*)* **Tahun Akademik 2012/2013** *(AY 2012/2013)*		
Lecturer's name: [Siti Rohajawati, M.Kom.]			

COURSE DESCRIPTION

[The course aims at giving the students a broad foundation in the fundamental concepts of object oriented programming accompanied by specific labs to develop the basic skills in object oriented programming with Java. It introduces the basic concepts and principles of the Object Oriented approach such as: Abstraction and Encapsulation principles, Classes, objects and the constructor concepts, Information hiding principle and the accessors concept. Methods, the message passing and the overloading principles.

COURSE OBJECTIVES

At the end of this courses, the students are expected to be able to :

- Use an object-oriented approach to decompose a problem and produce an object-oriented program as a solution to the problem.
- Use classes and instances to develop programs as a collection of communicating components.
- Describe and use UML notation to develop class diagrams.
- Collaborates the concepts of abstraction and encapsulation principles concentrating on inheritance and polymorphism.
- Solve problems recursively.
- Understand and use basic concepts of high-level language procedural programming; Main program, Declarations, Assignment-statements, I/O-statements, Selection-statements, Loop-statements, Method Call-statements, Statements vs. Expressions.
- Handle program exceptions properly.
- Define, use and reconstruct files.
- Identify and use basic data structures (linked lists, stacks, queues).
- Analyze, design and implement OO programs.
- Use simple generic methods and classes.
- Use simple GUI components.

METHODS OF INSTRUCTIONS

The lecturer may use lectures, questions and computer lab exercises from the textbook in the Power Point presentations and the interactive discussions whether through face-to-face conventional way or through on-line course management system (B.I.G).

ATTENDANCE REQUIREMENT

Punctuality and regular attendance in classes is of prime importance for successful completion of this course. Students will be expected to arrive for class on time and to remain in class until the end of the class session. Students should attend at least 80% of the scheduled lectures and labs to be able to take the Final test.

ASSESSMENT

Class review questions to be completed in the class or as homework. Dictionaries, spellcheckers, and other methods of checking are encouraged. Lab exercises to be completed in the class or as homework.

Group Class Review Questions. These include short answers (**S.A.**) and exercise (**E**) to provide feedback of the students' understanding topic by topic.

Individual Lab Exercises. It includes practices and cases for writing and executing into java programming to provide feedback of the students' practical competency.

Closed-book Mid-Test and Final-Test. These written tests will evaluate the students' level of knowledge and skills on this course.

Coursework evaluation will be weighted as follows:

Middle Semester Test	30%	
Final Semester Test	30%	
Others (class participation, Assignments/quiz/pretest/Lab)		40%

MATERIAL REFERENCES AND REQUIRED SUPPLIES

Textbooks [T]:

[T1] Gaddis, Tony, (2011). ***Starting Out with Java - Early Objects,* 4th Edition,** Pearson Education.
[T2] An Introduction to Object-Oriented Programming with Java, 4th Edition by C.Thomas Wu, Mc Graw Hill.
[T3] Website.

Compiler Software [CS]:
[CS1] JDK Standard Edition (Java JDK 6),
[CS2] jGRASP Java Integrated Development Environment (IDE)

COURSE OUTLINE

This section should show topics, sub-topics, specific method of instruction/ delivery and material references.

Session	Topic & Sub-topics	Methods of delivery	Material references
1	Introduction Syllabus and SAP Topic: Introduction to Computer and Java Specific sub-topics: 1. Computer System: Hardware and Software 2. Programming Language	Lecture, discussion, reading requirements.	[# chapter] [# chapter] Etc.

Session	Topic & Sub-topics	Methods of delivery	Material references
	3. The programming process 4. Object Oriented Programming		
2	Topic: Java Fundamentals Specific sub-topics: 1. The parts of a Java Program 2. Variables and Literals 3. Primitive Data Types 4. Arithmetic Operators 5. Combined assignment operators 6. Conversion between primitive data types 7. The string class 8. Reading keyboard input	Lecture, discussion, reading requirements.	[# chapter] [# chapter] Etc.
3	Topic: A first Look at Classes and Objects Specific sub-topics: 1. Classes 2. Instance fields and methods 3. Constructors 4. Classes, variables and scopes 5. Package and import statements 6. Finding the classes and their responsibilities	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
4	Topic: Decision Structures Specific sub-topics: 1. The IF-ELSE-IF statement 2. Nested IF-statement 3. Logical operators 4. The conditional operators 5. The switch statement 6. Formatting number 7. The Random Class	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
5	Topic: Loops and Files Specific sub-topics: 1. The increment and decrement operators	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.

Session	Topic & Sub-topics	Methods of delivery	Material references
	2. The WHILE, DO-WHILE and FOR loop 3. Running Totals and Sentinel Values 4. Nested Loop, Break and continue statement 5. Introducing to File Input and Output		
6	Topic: A second Look at Classes and Objects: Specific sub-topics: 1. Statics class members 2. Overloaded: Methods and Constructors 3. Passing and returning object as arguments to methods 4. Methods: tostring, equals, and this 5. Aggregation, inner classes, enumerated types and garbage collection 6. Class collaboration	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
7	Topic: Arrays and the Arraylist class: Specific sub-topics: 1. Introduction to array 2. Processing array contents 3. Passing and returning arrays as argument to methods 4. Arrays of objects 5. Search and sort algorithm 6. Two, three and more dimensional arrays 7. The ArrayList class 8. Review Material for Mid Exam	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
MIDDLE SEMESTER TEST			
8	Topic: Text Processing and Wrapper classes: Specific sub-topics: 1. Introduction to wrapper classes 2. Character: testing and	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.

Session	Topic & Sub-topics	Methods of delivery	Material references
	conversion 3. The stringbuilder class 4. Tokenizing strings 5. Wrapper classes for the numeric data types		
9	Topic: Inheritance: Specific sub-topics: 1. Inheritance concept 2. Supeclass: constructors, overriding methods 3. Protected Members 4. Class that inherit from subclasses 5. The object class 6. Polymorphism 7. Abstract classes: and methods 8. Interfaces	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
10	Topic: Exception and Advanced File I/O Specific sub-topics: 1. Handling Exceptions 2. Throwing Exceptions 3. Binary File 4. Random Access File 5. Object Serialization	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
11	Topic: GUI Application Part 1 Specific sub-topics: 1. Introduction 2. Dialog Boxes 3. Creating window 4. Equipping GUI classes 5. Layout Managers 6. Radio button, checkboxes, border, splash screen	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.
12	Topic: GUI Application Part 2: Specific sub-topics: 1. Read Only Text Fields 2. Lists 3. Combo boxes 4. Displaying images 5. Mnemonics and tool tips 6. File and color: chooser 7. Menus, Text areas,	Lecture, discussion, reading requirements. **Lab Practice**	[# chapter] [# chapter] Etc.

Session	Topic & Sub-topics	Methods of delivery	Material references
	sliders, look and feel		
13	Topic: Applets and More: Specific sub-topics: 1. Introduction to Applets 2. Introduction to HTML 3. Creating Applets with Swing 4. Using AWT for portability 5. Drawing Shapes 6. Handling Mouse Event, Timer, Playing Video	Lecture, discussion, reading requirements.	[# chapter] [# chapter] Etc.
14	Topic: Recursion & Database: Specific sub-topics: 1. Solving problem with recursion 2. A recursive binary search method 3. Introduction to DBMS and JDBC 4. SQL: update, creating and delete table 5. Review Material for Final Exam.	Lecture, discussion, reading requirements.	[# chapter] [# chapter] Etc.
FINAL SEMESTER TEST			

Dipersiapkan oleh *(Prepared by* **)**:			**Disahkan oleh** *(Certified by)* :		
Nama (*Name*) Jabatan (*Position*) Tanggal (*Date*)	: : :	[Siti Rohajawati]	Nama (*Name*) Jabatan (*Position*) Tanggal (*Date*)	: : :	[Siti Rohajawati] [Kepala Program Studi]