



Course description:

This course aims to provide students with the chance to implement and practice the topics covered in Programming-2. This process is done by applying students with an in-lab practice to be done inside the lab and a post-lab programming assignment to be submitted within a week.

Aims of the course: *Students are expected to*

1. Describe basic Java concepts including objects and classes, applications and applets.
2. Understand the theory and principles behind Object Oriented Programming and its realization within Java.
3. Identify the basic language features used to construct appropriate graphical interfaces.
4. Describe the concept of recursion and give examples of its use.
5. Explore I/O manipulation including streams and files.

Intended Learning Outcomes: (ILOs): *Upon successful completion of this course, students will be*

A. Knowledge and Understanding

A1. Concepts and Theories:

1. Practice examples on OOP
2. Practice examples on Inheritance
3. Practice examples on GUI
4. Practice examples on File management and Exception handling

A2. Professional Responsibility:

- Abide by laws and regulations when using computer networks.

B. Subject-specific skills

B1. Problem solving skills:

Supply the student with the ability to solve different problems related to the topics

B2. Modeling and Design:

Learn how to design a complete java project

B3. Application of Methods and Tools:

Learn how to implement a complete java project

C. Critical-Thinking Skills

C1. Analytic skills: Assess

Learn how to analyze a problem

C2. Strategic Thinking:

Understand the required strategy to solve problems

C3. Creative thinking and innovation:

Design the student's GUI according to a given problem



D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Communication:

Express and communicate ideas in written and oral forms.

D2. Teamwork and Leadership:

Be cooperative members of a team

D3. Organizational and Developmental Skills:

plan, prioritize, and achieve defined goals

D4. Ethical and Social Responsibility:

Understand that they are accountable for their actions and there must be a balance between economic growth and the welfare of the society and environment.

Course Structure:

Week	Hours	ILOs	Topics	Teaching Procedure	Assessment methods
1	3	A1	Methods revision	Lab work	Pre-lab, in-lab, and post-lab questions
2-3	6	A1, B1, B2, C1, C3, D1	Objects Oriented Aspects	=	Q Pre-lab, in-lab, and post-lab questions quiz+ project
4-5	6	A1, B3, B1, B2, C1, C2, D1	Objects Oriented Aspects	=	Pre-lab, in-lab, and post-lab questions
6-7	6	A1, B3, B1, B2, C1, C2, D1	Object-Oriented Programming: Inheritance	=	Pre-lab, in-lab, and post-lab questions
8-9	6	A1, B3, B1, B2, C1, C2, D1, D2	Object-Oriented Programming: Polymorphism	=	Pre-lab, in-lab, and post-lab questions
10-12	9	A1, B3, B1, B2, C1, C3, C3, D1, D2, D3, D4	GUI Components	=	Pre-lab, in-lab, and post-lab questions
13	3	A1, A2, B2, B3, D1, D2, D3, D4	Exception Handling	=	Pre-lab, in-lab, and post-lab questions
14	3	A1, B2, B3, D1	Files and Streams	=	Pre-lab, in-lab, and post-lab questions
15	3	A1, B3, B1, B2, C1, C3, C3, D1, D2, D3, D4	Recursive methods :	=	Pre-lab, in-lab, and post-lab questions

References:

A. Main Textbook:

Introduction to Java programming / Y. Daniel Liang. 3rd ed.- Upper Saddle River (NJ) , 2001

B. Supplementary Textbook(s):

Java How to Program: Early Objects Version, 8th Edition- Paul Deitel, Deitel& Associates, Inc., 2010



Assessment Methods:

Methods	Grade	Date
In-lab assessment	30%	
Mid Exam	30%	
projects	10%	
Final exam	30%	

