



Zarqa University
Faculty: Information Technology
Department: Computer Science
Course title: Computer Programming Lab 1 (1501111)

Instructor:
Lecture's time:
Semester:
Office Hours:

Course description:

This introductory course is intended for students with little, if any, previous programming experience. Students will gain the basic knowledge and experience to solve simple programming problems in lab using established techniques in program design and development. The lab work enables students to learn how to edit, compile, run and test programs that cover important aspects of Java programming language. Finally, this course is designed to enhance the student's team working skills and to further develop their interpersonal and communication skills.

Aims of the course: *Students are expected to:*

1. Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
2. Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
3. Be aware of the important topics and principles of software development.
4. Have the ability to write a computer program to solve specified problems.
5. Use the Java Netbeans environment to create, debug and run Java programs

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

A. Knowledge and Understanding

A1. Concepts and Theories:

1. Practice examples on classes
2. Practice examples on methods
3. Practice examples on variables
4. Practice examples on control structures.

A2. Contemporary Trends, Problems and Research:

- Understand current best programming practices

A3. Professional Responsibility:

- A abide by laws and regulations of software development and design

B. Subject-specific skills

B1. Problem solving skills:

- Solve different problems in various domains

B2. Modeling and Design:

- Learn how to design a complete java class



B3. Application of Methods and Tools:

- Learn how to use Netbeans environment to create, debug and run Java programs

C. Critical-Thinking Skills

C1. Analytic skills:

- Learn how to analyze a problem

C2. Strategic Thinking:

- Understand the required strategy to solve problems

C3. Creative thinking and innovation:

- Plan how to design algorithms to solve problems and implement them using programs.

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

Communication: Express and communicate ideas in written and oral forms.

Teamwork and Leadership: Be cooperative members of a team

Organizational and Developmental Skills: plan, prioritize, and achieve defined goals

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	Credit Hours	ILOs	Topics	Teaching Procedure	Assessment methods
1 st	3	A1, C2, C3	Course Outline - Chapter1: Introduction	Presentation methods and techniques, -Lecturing with active participations. -Problem solving. -Cooperative learning. Discussion. -Learning by activities. -Connecting students with different sources of information	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation b) Exams c) Activities file
2 nd	3	A1, B1, B2, C1, C2, C3, D1,D2	Chapter2: -Program Form -Keywords & Identifier -Print & println -Control code (Escape Sequences) -Comments -Data Types	=	=
3 rd	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter2: -Variables Declarations -Concatenation (+) -Arithmetic Operators -Increment operators	=	=



			(x++, ++x, x+=) -Decrement operators (x--, --x, x-=)		
4 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter2: -Type casting -Precedence Rule -Programming Errors -Math methods -String -String methods	=	=
5 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter2: -Input / Output: JOptionPane.showInputDialog JOptionPane.showMessageDialog -Scanner: System.in	=	=
6 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter3: -Comparison Operators -Logical Operators -if statement types: if () - if () ... else ()	=	=
7 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter3: -If statement types (continue): if () ... if else () .. else () -Nested If -Switch Statement	=	=
8 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter3: -Convert Switch to If (Third Type) and Vice Versa -Break -Conditional Operator (?)	=	=
9 th	3		mid Exam		
10 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter4: -While Loops -Do ... while -For loop	=	=
11 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter4: -Nested loop -Convert While to for and Vice Versa -Break and Continue	=	=
12 th 13 th	3	A1,A2,A3, B1, B2, B3, C1, C2, C3, D1,D2,D3,D4	Chapter5: -Methods: Argument/Parameter correspondence -Methods output	=	=
14 th	3	A1,A2,A3, B1,	Chapter6: -Array-1D Declaration	=	=



		B2, B3, C1, C2, C3, D1,D2,D3,D4	-Operations on Whole Arrays -Passing Arrays to Methods -Searching arrays. - 2D-Array.		
15 th			Final Exam		

References:

A. Main Textbook:

Daniel Liang, 2012, Introduction to Java Programming. 9th ed. Prentice Hall

B. Supplementary Textbook(s):

Problem Solving with Java / Koffman, Elliot B. 2nd ed Addison-Wesley, 2002, ISBN: 0-201-72214-3.

Assessment Methods:

Methods	Grade	Date
Mid-term Exam	30%	specified later
LAB Sheets	30%	
Final Examination	40%	specified later

