HASAN KALYONCU UNIVERSITY
Faculty of Engineering
Course Description Form

COURSE: Java Programming				
CODE: CENG460	**SEMESTER:** SPRING or FALL			
LANGUAGE: ENGLISH	**TYPE:** ELECTIVE			
PRE-REQUISITES: CENG112	**THEORY**	**PRACTICAL**	**CREDIT**	**ECTS**
WEEKLY HOURS:	3	0	3	5

CONTENT OF THE COURSE:

An introduction to Java, a highly-portable object-oriented programming language particularly suited to programming for a variety of platforms. This is not an introductory programming course -- it is really a course in Java as a "second" language.

OBJECTIVE OF THE COURSE:

Upon successful completion of the course, students are expected to have the following competencies:

LO1: Gain knowledge about basic Java language syntax and semantics to write Java programs using efficiency concepts.

LO 2: Understand the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods, etc., and exception handling mechanisms. Understand the principles of inheritance, packages, and interfaces.

LO 3: Have obtained experience designing, implementing, testing, and debugging java classes, applications.

LO 4: To use object-oriented concepts in state-of-the-art and real-world problems.

WEEKLY SCHEDULE	
Week	**Topics**
1	Introduction to Java
2	Java Basics (Variables, data types, Math, Strings, input)
3	Conditional Statements (if, if else), iterations (while, for loops)
4	Arrays (1-dim, 2-dim, operations on arrays)
5	Methods (What are Methods?, Method Structure, Declaration Of Methods, Calling Of Methods, Defining Methods, Method Parameters Scope, static methods, etc.)
6	String(Using Java Objects: StringBuilder and StringBuffer, Java String Methods, etc)
7	Exceptions(Exceptions Overview, Exception Keywords, Catching Exceptions, The finally Block, Exception Methods, Declaring Exceptions)
8	Midterm
9	Classes including instance variables, constructors.
10	Classes (this Keyword, static Keyword, getters, setters)

11	Access control, Class scope, Packages
12	Inheritance (Why use Inheritance?, Types Of Inheritance)
13	Polymorphism, Method Overloading, Method Overriding
14	Abstract classes, Interfaces

TEXTBOOK: Introduction to java programming, 10th edition, by Y Daniel Liang.

REFERENCE BOOKS: Core Java Volume I—Fundamentals,10th Edition, Cay S. Horstmann.

EVALUATION SYSTEM:		
IN-TERM STUDIES	**QUANTITY**	**PERCENTAGE (%)**
Midterm Exam	1	30
Homework	2	10
Project		
Quiz	2	15
Final Exam	1	45
TOTAL	**6**	100
CONTRIBUTION OF INTERM STUDIES TO OVERALL GRADE	5	55
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE	1	45
TOTAL	6	100

COURSE CATEGORY:	PERCENTAGE (%)
Mathematics and Basic Sciences	20
Engineering	20
Engineering Design	50
Social Sciences	10

TABLE OF ECTS / WORKLOAD:			
Activities	**QUANTITY**	**Duration (Hour)**	**Total Workload**
Course Duration	13	3	39
Hours for off-the-classroom study (Pre-study, practice)	14	5	70
Laboratory works	-	-	-
Mid-term	1	2	2
Final examination	1	2	2

Homework	2	15	30
Quiz	2	3	6
Total Work Load	**33**	**28**	**149**
Total Work Load / 30			**4,97**
ECTS Credit of the Course			**5**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
LO1	3	1	1	3	0	0	0	0	0	0	0
LO2	2	2	2	2	0	0	0	0	0	0	0
LO3	2	2	2	2	0	0	0	0	0	0	0
LO4	3	3	3	3	0	0	0	0	0	0	0
	PO: Program Outcomes | LO: Learning Outcomes Values: 0: None | 1: Low | 2: Medium | 3: High										

INSTRUCTOR(S):	Asst. Prof. Dr. Saed ALQARALEH
FORM PREPARATION DATE:	22/5/2019

LEARNING OUTCOMES OF THE COURSE:	PROGRAM OUTCOMES:
LEARNING OUTCOMES OF THE COURSE: **LO1:** Gain knowledge about basic Java language syntax and semantics to write Java programs using efficiency concepts. **LO 2:** Understand the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods, etc., and exception handling mechanisms. Understand the principles of inheritance, packages and interfaces. **LO 3:** Have obtained experience designing, implementing, testing, and debugging java classes, applications. **LO 4:** To use object-oriented concepts in state-of-the-art and real-world problems.	**PO1:** Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems. **PO2:** Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose. **PO3:** Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose. **PO4:** Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in engineering practice; ability to employ information technologies effectively. **PO5:** Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or discipline specific research questions. **PO6:** Ability to work efficiently in intra-disciplinary and multi-disciplinary teams; ability to work individually. **PO7:** Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language; ability to write effective reports and comprehend written reports, prepare design and production reports, make effective

	presentations, and give and receive clear and intelligible instructions.
	PO8: Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.
	PO9: Consciousness to behave according to ethical principles and professional and ethical responsibility; knowledge on standards used in engineering practice.
	PO10: Knowledge about business life practices such as project management, risk management, and change management; awareness in entrepreneurship, innovation; knowledge about sustainable development.
	PO11: Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering; awareness of the legal consequences of engineering solutions.