COURSE INFORMATON					
Course Title	*Code*	*Semester*	*L+P Hour*	*Credits*	*ECTS*
ADVANCED OBJECT ORIENTED PROGRAMMING	**CSE511**		**3+0**	**3**	**7**

Prerequisites	

Language of Instruction	English
Course Level	Master's Degree
Course Type	
Course Coordinator	
Instructors	Assist. Prof. Onur Demir
Assistants	
Goals	The aim of the course is to provide knowledge in OOP, advanced programming techniques in Java and introduction to mobile application development.
Content	Understanding of Java's advance rapid application development (RAD) techniques and concepts, Graphical User Interface (GUI) design, advanced network (TCP/IP) development; Java Database Connectivity (JDBC). Mobile environments and technologies (e.g. Android). The emphasis will be on term project and system development assignments which are all designed and reported in UML format.

Course Learning Outcomes	Program Learning Outcomes	Teaching Methods	Assessment Methods
1) Adequate knowledge in using object oriented programming techniques using Java.	2	1,2	A,C,D
2) Adequate knowledge in designing and programming client/server applications, TCP/IP programming, multithreading;	5,2	1,2	A,C,D
3) Ability to use data structures for Java programming	2	1,2	A,C,D
4) Adequate knowledge in basic Android programming	5	1,2	A,C,D

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Lab, 4: Case-study
Assessment Methods:	A: Testing, B: Experiment, C: Homework, D: Project

COURSE CONTENT

Week	Topics	Study Materials
1	REVIEW OF CORE JAVA CONCEPTS	Textbook
2	REVIEW OF CORE JAVA CONCEPTS ECLIPSE	Textbook
3	OOP CONCEPTS – CLASSES, INTERFACES	Textbook
4	OOP CONCEPTS – POLYMORPHISM INHERITANCE	Textbook
5	EXCEPTION HANDLING	Textbook
6	DATA STRUCTURES I –LINKED LISTS, STACKS, QUEUES	Textbook
7	DATA STRUCTURES II- SETS, MAPS, HASH TABLES	Textbook
8	DATA STRUCTURES III- BSTS, PRIORITY QUEUES, HEAPS	Textbook
9	MIDTERM	Textbook
10	FILES AND STREAMS, MULTITHREADING	Textbook
11	NETWORKING	Textbook
12	RELATIONAL DATABASES	Textbook
13	MOBILE APPLICATION DEVELOPMENT AND ANDROID	Textbook
14	MOBILE APPLICATION DEVELOPMENT AND ANDROID II	Textbook

RECOMMENDED SOURCES

Textbook	Big Java, C. Horstman, Wiley
Additional Resources	Head First Design Patterns, O'Reilly Press Head First Object Oriented Analysis & Design, O'Reilly Press

MATERIAL SHARING

Documents	
Assignments	
Exams	

ASSESSMENT

	IN-TERM STUDIES	NUMBER	PERCENTAGE
Mid-term		1	60

Term Project	1	20
Homework	5	20
Total		**100**
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE		30
CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE		70
Total		**100**

COURSE CATEGORY	Expertise/Field Courses

COURSE'S CONTRIBUTION TO PROGRAM						
No	**Program Learning Outcomes**	**Contribution**				
		1	2	3	4	5
1	Knowledge in the advanced computer architecture field					
2	Knowledge in advanced system design for computer engineering					
3	Knowledge in the theoretical topics of computer science		x			
4	Ability to comprehend, analyse and critique academic publications and conduct scholarly research at the frontiers of computer engineering					
5	Ability and knowledge in the fields of Next-Generation and contemporary computer networks				x	

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Excluding the exam weeks: 12x Total course hours)	12	3	36
Hours for off-the-classroom study (Pre-study, practice)	14	3	42
Midterm examination	1	2	2
Homework	5	10	50
Term Project	1	30	30
Final examination	1	3	3
Total Work Load			163
Total Work Load / 25 (h)			6,52
ECTS Credit of the Course			7