TED UNIVERSITY, COURSE SYLLABUS

Faculty	Engineering	Department	CMPE

Course Code & Number	**CMPE 114-211**	Course Title	**Fundamentals of Programming II**
Type of Course	☑ Compulsory ☐ Elective	Semester	☐Fall ☑Spring ☐ Summer
Course Credit Hours	(2+0+2) 3	Number of ECTS Credits	6
Pre-requisite	N/A	Co-requisite	N/A
Mode of Delivery	☑ Face-to-face ☑ Distance learning	Language of Instruction	☑ English ☐ Turkish
Course Coordinator	Dr. Elif Kurtaran Özbudak	Course Lecturer(s)	Dr. Elif Kurtaran Özbudak Dr. Haydar Çukurtepe Dr. Fırat Akba Dr. Bilgin Avenoğlu
Required Reading	Java Software Solutions, 9th/E, Lewis & Loftus	Course Assistant(s)	İbrahim İleri Semihanur Aktay Enes Arslan Ali Egemen Taşören

Course Catalog Description	Classes. Objects. Operator overloading. Packaging. Linked lists. Queues. Stacks. Searching and sorting algorithms.
Course Objectives	This is an introductory course for computer programming in Java. The course covers the fundamentals of algorithmic problem solving for a variety of problems involving the use of basic data structures as well as basic principles of object-oriented programming. Advanced topics such as inheritance, polymorphism, recursion, pointers, collections, linked lists, etc. will also be covered
Course Learning Outcomes	Upon successful completion of this course, a student will be able to 1. understand computing and computer programming. 2. develop basic computational thinking skills, i.e. algorithmic thinking. 3. be able to use an integrated development environment to design and write codes in the Java programming language. 4. be able to implement software solutions using Java programming language. 5. be able to design software solutions to different problems. 6. be able to use the object-oriented paradigm for simplifying and modeling the solutions of large programming problems. 7. be able to understand and use several complex data structures such as linked list, stacks, queues, etc. and to be able to use Java collections to facilitate them.

Course Contents	Classes, objects, arrays/multidimensional arrays, inheritance, encapsulation, overloading, overriding, polymorphism, exceptions, recursion, collections

Teaching Methods & Learning Activities	☑ Telling/Explaining ☑ Discussions/Debates ☑ Questioning ☑ Reading ☑ Peer Teaching ☐ Scaffolding/Coaching ☑ Demonstrating ☑ Problem Solving ☐ Inquiry ☑ Collaborating ☐ Think-Pair-Share ☐ Predict-Observe-Explain ☐ Microteaching ☐ Case Study/Scenario Analysis	☐ Simulations & Games ☑ Video Presentations ☑ Oral Presentations/Reports ☐ Concept Mapping ☐ Brainstorming ☐ Drama/Role Playing ☐ Seminars ☐ Field Trips ☐ Guest Speakers ☑ Hands-on Activities ☐ Service Learning ☑ Web Searching ☐ Experiments ☐ Other(s): ....

Assessment Methods (Formal & Informal)	☑ Test/Exam
	☑ Quiz/Homework
	☑ Oral Questioning
	☑ Performance Project
	   ☑ Written
	   ☑ Oral
		☐ Observation
		☑ Self-evaluation
		☑ Peer Evaluation
		☐ Portfolio
		☑ Presentation (Oral, Poster)
		☐ Other(s): ....

Student Workload (Total 163 Hrs)	☑ Lectures ....**28**.. hrs ☑ Course Readings ....**10**.. hrs ☐ Workshop .... hrs ☐ Online Discussion .... hrs ☐ Debate .... hrs ☐ Work Placement .... hrs ☐ Field Trips/Visits .... hrs ☐ Observation .... hrs ☑ Laboratory Applications ....**35**...hrs ☐ Hands-on Work .... hrs ☐ Quizzes ....…................................ hrs ☑ Midterm I…............................**15**.. hrs ☐ Midterm II…….................................. hrs ☑ Final…..............................…..**30**.. hrs	☐ Resource Review .... hrs ☐ Research Review .... hrs ☐ Report on a Topic .... hrs ☐ Case Study Analysis .... hrs ☐ Oral Presentation .... hrs ☐ Poster Presentation .... hrs ☐ Demonstration .... hrs ☐ Web Designs .... hrs ☐ Mock Designs .... hrs ☑ Team Meetings..........................**15** hrs ☑ Other (Project)..........................**30** hrs

COURSE POLICIES

I. Attendance

Attendance to the lectures and labs is necessary but not mandatory.

II. Missed Work

There will be no make-up for labs. Make-ups for midterm and final exams will be provided if the student can provide a legal document (a health committee report or a positive COVID-19 test result, taken maximum three days before the exam date) confirming a life-threatening health issue at the time of the examination.

III. Late Assignment Submission Policy

Late submission is not possible for labs.

IV. Extra Credit

Extra credits will not be offered.

V. Assignment Rules

A student can submit only one work. In case of multiple submissions, only the latest submission will be considered. Students cannot submit work on other students' behalf.

VI. Plagiarism

"All of the following are considered plagiarism:
- turning in someone else's work as your own
- copying words or ideas from someone else without giving credit
- failing to put a quotation in quotation marks
- giving incorrect information about the source of a quotation
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not" (www.plagiarism.org)

Plagiarism is a very serious offense and will be penalized accordingly by the university disciplinary committee. The best way to avoid accidentally plagiarizing is to work on your own before you ask for the help of other resources.

VII. Cheating

Cheating has a very broad description which can be summarized as "acting dishonestly". Some of the things that can be considered as cheating are the following:
- Copying answers on examinations, homework and laboratory works,
- Using prohibited material on examinations,
- Lying to gain any type of advantage in class
- Providing false, modified or forged data in a report
- Plagiarizing
- Modifying graded material to be re-graded.
- Causing harm to colleagues by distributing false information about an examination, homework or laboratory.

VIII. Class Participation

Participation in class is necessary but not mandatory. Some lectures require you to attend to the lectures to earn some points. By actively participating in class, you can improve your learning process and immediately confirm what you have learned and what you have not internalized. Do not forget that you are not expected to know all of the material being discussed in class. Actually, you are expected not to know it. Therefore, there is no point in being hesitant to join a conversation or ask a question.

IX. Class Readings

Class readings are necessary but not mandatory. The material covered in class by your instructor will only provide a fundamental understanding of the general context. If you are willing to effectively learn something, you must actively work on it yourself. Reading is one of the most successful ways of learning about a topic.

COURSE ASSIGNMENTS

A. Mid-term [20%]
There will be 1 midterm examination worth 20% of the overall grade.
B. Quizzes [0%]
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C. Labs [30%]
There will be 10 labs. 3 points for each lab.
D. Project [20%]
There will be a term project comprising %20 of the total score.
E. Final [30%]
There will be a final examination worth 30% of the overall grade.

GRADING

A. The course will be graded based on a curve.
Note: A weighted midterm and final exams' average of 20 points is required to pass this course, independent of other grades. Students, who cannot satisfy this condition, will get F grade.

TENTATIVE COURSE OUTLINE

W	Day	Topics	Related Reading from Book	Assignments
1	14-18 Feb	Classes and Methods		
2	21-25 Feb	Arrays and Multidimensional Arrays		Lab 01
3	28 Feb-04 Mar	Object-Oriented Design		Lab 02
4	07-11 Mar	Object-Oriented Design		Lab 03
5	14-18 Mar	Inheritance		Lab 04
6	21-25 Mar	Inheritance		Lab 05
7	28 Mar-1 Apr	Polymorphism		Lab 06
8	04-08 Apr	**No Lab - No Lecture**		Midterm
9	11-15 Apr	Polymorphism		Lab 07
10	18-22 Apr	Exceptions		Lab 08
11	25-29 Apr	Recursion		Lab 09
12	02-06 May	**RAMADAN FEAST: no class**		

13	09-13 May	Collections		Lab 10
14	16-20 May	Collections **19 MAY NATIONAL DAY : no lab**		
15	23-27 May	Project Presentations		
		FINAL EXAM (from May 30, 2022 to Jun 10, 2022)		

COURSE ASSESSMENTS & LEARNING OUTCOMES MATRIX	
Assessment Methods	**Course Learning Outcomes**
Quiz 01	
Quiz 02	
Labs (01- 06)	LO1, LO2, LO3, LO4, LO5
Labs (07-09)	LO1, LO2, LO3, LO4, LO5, LO6
Labs (10)	LO1, LO2, LO3, LO4, LO5, LO6, LO7
Midterm	LO1, LO2, LO3, LO4, LO5
Project	LO1, LO2, LO3, LO4, LO5, LO6, LO7
Final	LO1, LO2, LO3, LO4, LO5, LO6, LO7

Prepared By & Date	Dr. Bilgin Avenoğlu 08/02/2022	Revision Date	08/02/2022