CENG 211
Programming Fundamentals

Course Introduction

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Course Objectives

- At the end of this course, you will be able to
    - convert a problem definition into a programming challenge,
    - devise a data structures-based solution to this challenge,
    - implement the solution in a robust and efficient way,
    - test and improve your solution/implementation,
  - using an object-oriented programming language.
- You will become comfortable in using object-oriented principles, paradigms, best practices, and some design patterns.
- You will be familiar with their concrete implementation in Java.

Course Topics

- Introduction to Java Programming
- Object-Oriented Programming (Encapsulation and ADT's)
- Inheritance
- Polymorphism
- Interfaces
- Exceptions
- Generics
- Collections
- Object-Oriented Design and UML Diagrams
- GRASP
- Single Responsibility, Open-Closed, Interface Segregation Principles

Course Material

- This course covers fundamental object-oriented programming.
- Course material will be presented using powerpoint and shared as pdf files. Moreover, the source code will be supplied.
- Main Textbook:
  - Absolute Java, Global Edition, 6/E, Walter Savitch, Kenrick Mock, Pearson, 2016
- Supplementary Textbook:
  - Starting Out with Java: From Control Structures through Objects, Global Edition, 6/E, Tony Gaddis, Pearson, 2016

Instruction

Instructor

- Assoc. Prof. Dr. Tugkan Tuglular (e-mail for appointment)

Teaching Assistants & Office Hours

- Dilek Öztürk : Thursday 15:30-17:15
- Serhat Caner : Thursday 08:45-10:30
- Hüseyin Ünlü : Wednesday 15:30-17:15

The Chain of Information Sources

- Textbook ➔ Online Resources ➔ Assistants ➔ Instructor

Course Platforms

- Course material will be available on **Microsoft Teams** platform under under the Team named as CENG 211 – 2021 Fall with team code **zmksrd3** .
- Make sure that you are registered under the Team CENG 211 – 2021 Fall.
- Please enroll CENG 211 – Fall 2020 on **cloud-lms.iyte.edu.tr** . Announcements will be made through **cloud-lms.iyte.edu.tr** and **Microsoft Teams**. You will be assumed that you read them.
- Exams will be performed face to face.
- Assignments will be submitted to **cloud-lms.iyte.edu.tr**.

Grading

- 2 Quizzes , each 10%
- Midterm Exam 25%
- Final Exam 35%
- Homework Assignments
  - Groups of 2 or 3
  - 4 Homeworks, each 5%
- Final rounding
- Catalog grading (check regulation)
- Cheating in homeworks will result in getting 0
- Repetitive cheating will have worse results

Temporary Schedule

Week	Date (Tuesday)	Topic	Homework Annoucement	Quiz	Face-to-Face (F) Online (O)
1	04.10.2021	Introduction to Java, File I/O			F
2	11.10.2021	Defining Classes			F
3	18.10.2021	Arrays, Enumarations	**1**		F
4	25.10.2021	ArrayList, Inheritance		**1**	F
5	01.11.2021	Polymorphism			F
6	08.11.2021	Abstract Classes, Interfaces, Abstract Data Types	**2**		F
7	15.11.2021	Enumarations with Methods, Inner Classes			F
8	22.11.2021	**Midterm Exam**			F
9	29.11.2021	Exception Handling, Generics, Collections	**3**		O
10	06.12.2021	Object-Oriented Design, UML Class Diagrams			O
11	13.12.2021	UML Sequence Diagrams, UML Statechart Diagrams			O
12	20.12.2021	Object-Oriented Design Guidelines	4	**2**	F
13	27.12.2021	GRASP patterns			O
14	03.01.2022	Single Responsibility, Open-Closed, Interface Segregation Principles			O
	10.01.2020	**Final Exam**			F

Suggestions

- Learn using Ecplise IDE as soon as possible
- Many useful youtube videos on Java, Eclipse, and OO programming
- Write code every day
- There is no best programming language
- Don’t forget that this course is about OO programming but not Java
- Your instructor is not a Java compiler ☺

TODO

- group formations should be finished by the next lecture
- e-mail your groups with names and student ID to dilekozturk@iyte.edu.tr