CMPE/CMSE 211- Object-Oriented Programming

Department:
Computer Engineering

Program Name: Computer Engineering	**Program Code:** 25/29	
Course Number: CMPE/CMSE 211	**Credits:** 4 Cr	**Year/Semester:** 2023-2024 Fall

☒ Required Course ☐ Elective Course

Prerequisite(s):
CMPE112 Programming Fundamentals

Catalogue Description:
Basics of Java programming language. Introduction to object-oriented programming. Classes, objects, methods, access modifiers (private, public, protected). Class derivation, abstract classes, interfaces, static class members. Inheritance, encapsulation, polymorphism. Object construction and destruction, exception handling. Method overloading and overriding, container classes, template classes. Unified Modelling Language (UML) class diagrams. (Pre-requisite: CMPE 112)

Course Web Page: https://staff.emu.edu.tr/doguarifler/en/teaching/cmpe211

Textbook(s):
Introduction to Java Programming and Data Structures, Comprehensive Version, 11th Edition, Y. D. Liang, Pearson, 2019.

Indicative Basic Reading List:
Java How to Program P. Deitel and H. Deitel, 11th Edition, 2018

Topics Covered and Class Schedule: (4 hours of lectures per week)

Week 1	**Introduction to elementary programming in Java (Liang: Ch1)**
Week 2	**Overview of selection structures, Characters and Strings in Java (Liang: Ch2, Ch3, Ch4)**
Week 3	**Iterative Structures and Methods in Java (Liang: Ch5, Ch6)**
Week 4	**Single and Multidimensional Arrays in Java (Liang: Ch7, Ch8)**
Week 5	**Objects and Classes (Liang: Ch9)**
Week 6-7	**Object-Oriented Programming (Liang: Ch10)**
Week 8-9	**Midterm Exams**
Week 10-11	**Inheritance and Polymorphism (Liang: Ch11)**
Week 12-13	**Exception Handling (Liang: Ch12)**
Week 14	**Abstract Classes (Liang: Ch13)**
Week 15-16	**Final Exams**

Laboratory Schedule: (2 hours of laboratory per week)
The preliminary schedule is as follows:

LW #1 (Chapters 1-2 of the textbook) – 16-20 October 2023 (Week 4)
LW #2 (Chapters 3-5 of the textbook) – 23-27 October 2023 (Week 5)
LW #3 (Chapter 6 of the textbook) – 30 October-3 November 2023 (Week 6)
LW #4 (Chapters 7-8 of the textbook) – 6-10 November 2023 (Week 7)
LW #5 (Chapters 9-10 of the textbook) – 4-8 December 2023 (Week 11)
LW #6 (Chapter 11 of the textbook) – 11-15 December 2023 (Week 12)
LW #7 (Chapter 12 of the textbook) – 18-22 December 2023 (Week 13)

Course Learning Outcomes:

On successful completion of this course, all students are expected to be able to:

(1) Design and implement algorithms in the Java language
(2) Define and call methods
(3) Pass parameters to methods
(4) Use Arrays
(5) Define objects using Java classes
(6) Define classes, private and public members, access class members
(7) Use Composition, Inheritance and Polymorphism in classes
(8) Draw Unified Modelling Language (UML) class diagrams
(9) Use Exception Handling
(10) Use Abstract Classes in Java

	Method	No	Percentage
Assessment	Midterm Exam(s)	1	40 %
	Labs	7	10 %
	Final Examination	1	50 %

Contribution of Course to Criterion 5

Credit Hours for:
Mathematics & Basic Science : 0
Engineering Sciences and Design : 4
General Education : 0

Relationship of Course to Program Outcomes

The course has been designed to contribute to the following program outcomes:

1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Exams:

- You have re-sit exam chance at the end of semester if you fail. Note that; if your letter grade is "D" or above and you have no warning, you will not be able to enter re-sit exam. Yet, be aware that if you attend the re-sit exam, grade you get will be replace your midterm and final exam grades even if your grade is decreased.
- If you miss the midterm or the final exam, you **MUST submit a medical report to the course instructor, describing your excuse, within 3 days of that examination. The report will be evaluated by the committee of instructors. If the committee approves, you will be able to take a make-up exam.**
- If you miss both midterm and final exams and do not submit any written report, you will get an "NG" grade. In the same case, if you submit report for both missed exams, you will be able to enter make-up for one of them only.

Labs:

- There will be no makeup for the missed lab experiments. The overall lab score will be computed as the sum of the highest 6 of 7 lab scores.
- Exemption for 10% lab work **will not be provided** for students who are repeating the course.

Plagiarism:

- Plagiarism (which also includes any kind of cheating in exams, assignments, and lab works) is a disciplinary offence and will be dealt with accordingly. Furthermore, the penalty of plagiarism is to get grade zero for the corresponding exam, assignment, or lab work.

Important Remarks:

- You should have regular attendance to the lectures for being successful in the course. Course related materials, exercises, laboratory experiments, old exam questions and announcements will be published on the course web site and you will be responsible from all. Note that the course web site can update during the semester. Therefore, please check it regularly.

Prepared by Dogu Arifler	23/09/2023