# METU
Department of Computer Engineering

## CENG 546 – Object-Oriented Programming Languages and Systems
**Fall 2017-2018**

<table>
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<tr>
<th>Instructor:</th>
<th>Ahmet Coşar</th>
<th>Tel.: 5566, Office: A208, <a href="mailto:cosar@metu.edu.tr">cosar@metu.edu.tr</a></th>
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<td>Lecture Hours:</td>
<td>Saturday, 10:00-13:00</td>
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**Catalog Description:**
Introduction to Object-Oriented Programming Languages. Abstraction, approaches to modular program design, principles of abstract data types, basic concepts of objects: local variables and methods. Classes and instances, single and multiple inheritance and object hierarchies. Principles of object-oriented software development. Overview of and experience with the object-oriented programming environments such as C++ and Java through programming assignments.

**References:**

**C++:**
- B. Stroustrup, The C++ Programming Language, Addison Wesley.
- S. B. Lippman, C++ Primer, Addison-Wesley.
- B. Eckel, Thinking in C++, Prentice-Hall.

**Java:**
- B. Eckel. Thinking in Java. Prentice Hall.

**Prerequisite:**
The student is assumed to have knowledge of C programming and fundamental data structures.

**Course Outline:**

**PART I – C++**
1. Overview of OO paradigm, basics of C++
2. Operator overloading in C++
3. Composite classes in C++
4. Templates in C++
5. Exception Handling in C++
6. Inheritance and virtual functions in C++
7. Midterm (C++)

**PART II – Java**
8. Quick Review of Java Basics
9. Advanced Concepts in Java
10. Reflection
11. Serialization
12. Database Connectivity
13. Remote Method Invocation
14. Concurrency
15. Final (Java)

**Grading:**
- 4 assignments (2 C++, 2 Java) 40%
- Midterm exam (C++) 27%
- Final Exam (Java) 27%
- Participation in class 6%

**Grading Policies:**
1. Makeup exams will be possible only if a legal excuse (e.g. medical report) is provided.
2. Academic dishonesty will be subject to disciplinary action. (Honeste vivere!)
3. No grouping or cooperation (at code level) is allowed for the assignments.