IŞIK UNIVERSITY
COMPUTER SCIENCE AND ENGINEERING

| Course Code: CSE203 | | | | Course Name: Object Oriented Programming | | | |
|---|---|---|---|---|---|---|---|
| Semester | (Lc + T + L) | Credit | ECTS | Language | Category | Instructional Methods | Prerequisites |
| 2 | 2+0+2 | 3 | 6 | English | Compulsory | Lecture, laboratory, project | CSE101 |
| Course Content | | Objects and classes, constructor, static variable, constants, methods, visibility modifiers, passing objects to methods, immutable objects, data field encapsulation, class abstraction, the upper and lower class concepts, inheritance, inheritance, polymorphism, | | | | | |
| Course Objectives | | Introducing object oriented programming paradigm, designing and implementing object oriented programs with Java. | | | | | |
| Course Outcomes | | **CO1: To be able to explain object oriented programming concept**<br>**CO2: To be able to develop mid-scale object oriented programs using Java** | | | | | |
| Textbook | | **1.** Y. Daniel Liang, Introduction to Java Programming, Pearson, International Edition, Brief 8th /9th Edition<br>**2.** Lecture notes, Laboratory notes, Example problems | | | | | |
| Other References | | Computer and projector | | | | | |

## CONTRIBUTION of the COURSE on ELECTRICAL and ELECTRONICS ENGINEERING PROGRAM OUTCOMES
## DERSİN ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ PROGRAM ÇIKTILARINA KATKISI
### Contribution degree: 1-low, 2-medium, 3-high
### Katkı Derecesi: 1 düşük, 2 orta, 3 yüksek

| | Electrical and Electronics Engineering Program Outcomes<br>Elektrik Elektronik Mühendisliği Program Çıktıları | 1 | 2 | 3 |
|---|---|---|---|---|
| 1 | A comprehension of mathematics (algebra, differential, integral and probability), science (physics and chemistry) and fundamentals of computer science (programming and simulation)<br><br>Matematik (cebir, diferansiyel, integral ve olasılık), fen bilimleri (fizik ve kimya) ve bilgisayar bilimlerinin (programlama ve benzetim) temellerini kavrama. | | | X |
| 2 | Ability to apply knowledge of mathematics, science, and engineering to problems in electrical and electronics engineering<br><br>Matematik, fen ve temel mühendislik bilgilerini elektronik mühendisliği problemlerine uygulama yeteneği | | | |
| 3 | Ability to recognize the needs and challenges of our age, and to assess the global and social impacts of engineering solutions<br><br>Çağımızın ihtiyaç ve sorunlarını tanıma, mühendislik çözümlerinin küresel ve toplumsal etkilerini değerlendirebilme | | | |
| 4 | Comprehension of professional and ethical responsibility<br><br>Mesleki ve etik sorumluluk gereklerini kavrama | | | |
| 5 | Ability to design and conduct experiments, as well as to analyze and interpret data<br><br>Deney tasarlama, gerçekleştirme, verileri analiz etme ve yorumlama yeteneği | | | |

**CSE203 OBJECT ORIENTED PROGRAMMING WITH JAVA**
**COURSE CATALOG FORM**

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| | | | | |
|---|---|---|---|---|
| 6 | Ability to identify, formulate and solve engineering problems<br><br>Mühendislik projeleri kapsamında problemleri tanımlama, modelleme ve çözme yeteneği | | | |
| 7 | Ability to design and integrate electronic system components to satisfy given requirements<br><br>Elektronik uygulamalarına yönelik sistem ve süreçleri analiz etme, değerlendirme, sistem bileşenlerini isterleri karşılayacak şekilde tasarlama ve entegre etme yeteneği | | | |
| 8 | Ability to take individual responsibilities and to work as part of a team<br><br>Takım içerisinde çalışabilme, bireysel sorumluluk alabilme yeteneği | | | |
| 9 | Ability to effectively communicate knowledge and opinions via written, oral and visual means<br><br>Bilgi ve görüşlerini, yazılı, sözlü ve görsel araçlarla etkin olarak aktarabilme yeteneği | | | |
| 10 | Ability to recognize the need for, and be motivated to engage in life-long learning<br><br>Yaşam boyu eğitim ihtiyacını tanıma ve bu eğitime katılma yönelimi | | | |
| 11 | Ability to use the hardware and software based modeling, simulation, design and communication tools necessary for engineering practice<br><br>Mühendislik uygulamaları için gereken donanım ve yazılım tabanlı modelleme, benzetim, tasarım ve iletişim araçlarını kullanma yeteneği | | | X |

**COURSE PLAN**

| Week | Topics | Lab/Tutorial |
|---|---|---|
| 1 | Java programming language review | **Introducing Netbeans** |
| 2 | Designing and creating objects | Objects |
| 3 | Accessing objects using references | Objects |
| 4 | Static variables, static methods | Static variables, static methods |
| 5 | Accessibility, data encapsulation, passing objects to methods | Accessibility, data encapsulation, passing objects to methods |
| 6 | Repeat arrays, array of objects | array of objects |
| 7 | String class | String class |
| 8 | File I/O | File I/O |
| 9 | Object oriented thinking | Object oriented thinking |
| 10 | Inheritance | Inheritance |
| 11 | Inheritance | Inheritance |
| 12 | Inheritance | Inheritance |
| 13 | Exception handling | Exception handling |
| 14 | Axess/Excel library for Java | Axess/Excel library for Java |

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COURSE ASSESMENT AND ECTS WORK LOAD

| Type of Work | Count | Contribution (%) | ECTS WORK LOAD | |
| --- | --- | --- | --- | --- |
| | | | Time (Hour) (Including prep. time) | Work load |
| Attendance | 14 | 0 | 2 | 28 |
| Final Exam | 1 | 40 | 26 | 26 |
| Quizzes | 4 | 20 | 2 | 8 |
| Term project | | | | 0 |
| Reports | | | | 0 |
| Final Project | | | | 0 |
| Seminar | | | | 0 |
| Assignments | 4 | 20 | 12 | 48 |
| Presentation | | | | 0 |
| Midterms | 1 | 20 | 12 | 12 |
| Project | | | | 0 |
| Laboratory | 14 | 0 | 2 | 28 |
| Tutorial | | | | 0 |
| Other(Self study) | | | | 0 |
| **CONTRIBUTION OF SEMESTER LONG STUDIES** | 60 | | **Total work load** | 150 |
| **CONTRIBUTION OF END OF SEMESTER STUDIES** | 40 | | **Total work load / 25** | 6 |
| **Total:** | **100** | | **ECTS Credit** | **6** |

| Preparation Date /Revision Date: | Prepared by: Asst.Prof. Ayşegül T. ERMAN | Approved by: |
| --- | --- | --- |
| | | |