



# ESOGÜ Electrical-Electronics Engineering Department

**COURSE CODE:** 151222137- 151242137 **COURSE TITLE:** Computer Programming

| Semester   | Weekly Hours |   | COURSE        |                          |                                  |                              |          |
|--|--------------|---|---------------|--------------------------|----------------------------------|------------------------------|----------|
|  | Theoretical  | Practical   | Credits       | ECTS                     | Type                             | Language                     |          |
| 2  | 2            | 2   | 3             | 5                        | Compulsory ( x )<br>Elective ( ) | Turkish ( )<br>English ( X ) |          |
| Write the credit (for non-credit courses weekly hours) below (If necessary distribute the credits.). |              |   |               |                          |                                  |                              |          |
| <b>Math and Basic Science</b>  |              | <b>Electrical Engineering</b><br>[mark (√) if there is high design content]   |               | <b>General Education</b> |                                  | <b>Humanities</b>            |          |
|  |              | ( )   |               |                          |                                  |                              |          |
| <b>Assessment</b>  |              | <b>THEORETICAL-PRACTICAL COURSES</b>  |               |                          | <b>LABORATORY COURSES</b>        |                              |          |
|  |              | <b>Type</b>   | <b>Number</b> | <b>%</b>                 | <b>Activity Type</b>             | <b>Number</b>                | <b>%</b> |
| <b>Midterm</b>   |              | Midterm   | 1             | 30                       | Quiz                             | 3                            | 15       |
|  |              | Quiz  |               |                          | Lab performance                  |                              | 15       |
|  |              | Homework  |               |                          | Report                           |                              |          |
|  |              | Project   |               |                          | Oral exam                        |                              |          |
|  |              | Other(laby)   | 1             | 40                       | Other (Final)                    |                              | 10       |
| <b>Final</b>   |              |   |               | 30                       |                                  |                              |          |
| <b>Makeup exam (Oral/Written)</b>  |              | written   |               |                          |                                  |                              |          |
| <b>Prerequisites</b>   |              | Basic Programming Knowledge   |               |                          |                                  |                              |          |
| <b>Brief content of the course</b>   |              | This course, structured program design and implementation of programs to be used for the C language is the language of the program includes advanced applications such as arrays, pointers, structures, files and link list.  |               |                          |                                  |                              |          |
| <b>Objectives of the course</b>  |              | The aim of the course is to teach the C programming language, the ability to write programs using the advanced level  |               |                          |                                  |                              |          |
| <b>Contribution of the course towards professional education</b>                                     |              | <ul style="list-style-type: none"> <li>Learn what software development is and what software developers do.</li> <li>Learn programming concepts and terminology to facilitate ommunication with software developers.</li> <li>Learn to read, trace, and understand simple code. Learn to write, test, and debug code to solve a simple problem.</li> <li>Evaluate their personal aptitude for career as a programmer or software developer.</li> </ul>   |               |                          |                                  |                              |          |
| <b>Outcomes of the course</b>  |              | Students who successfully complete this course: <ul style="list-style-type: none"> <li>Describe a typical computer system and its critical components.</li> <li>Describe the software development process, its purpose, critical steps, and where programming fits in that process.</li> <li>Describe the evolution of common characteristics of, and differences among, modern programming languages.</li> <li>Describe the architectural aspects of a software application.</li> <li>Identify a problem that requires a programmed solution.</li> </ul> |               |                          |                                  |                              |          |
| <b>Textbook of the course</b>  |              | A. Kelley, I. Pohl, A Book on C, Addison Wesley,1995  |               |                          |                                  |                              |          |
| <b>Other reference books</b>   |              | International Standard, Programming Languages; C, ©ISO/IEC ISO/IEC 9899:1999 (E)  |               |                          |                                  |                              |          |
| <b>Required material for the course</b>  |              | Visual Studio   |               |                          |                                  |                              |          |

| WEEKLY PLAN OF THE COURSE |  |
|---------------------------|--|
| Week                      | Topics                                 |
| 1                         | Summary of introduction to programming |
| 2                         | Strings                                |
| 3                         | Pointers                               |
| 4                         | Pointer / Array                        |
| 5                         | Dynamic memory allocation              |
| 6                         | specifiers                             |
| 7                         | structures                             |
| 8                         | Midterm                                |
| 9                         | Midterm                                |
| 10                        | typedef                                |
| 11                        | union                                  |
| 12                        | Macro                                  |
| 13                        | Files                                  |
| 14                        | Link List                              |
| 15,16                     | Final                                  |

| NO | OUTCOMES OF THE PROGRAMME  | 4 | 3 | 2 | 1 |
|----|--|---|---|---|---|
| 1  | Adequate knowledge of mathematics, science and Electrical and Electronic Engineering; ability to practice theoretical and practical knowledge of these areas into modeling and solving complex problems of Electrical and Electronic Engineering                                   |   |   |   |   |
| 2  | Ability to identify complex engineering problems in Electrical and Electronic Engineering and related fields, for this purpose having skills to formulate, select and apply appropriate methods.   |   |   |   |   |
| 3  | Having skills to apply modern design methods to design a complex system, process, equipment or product that should work under realistic conditions and constraints and satisfy specific requirements concerning the Electrical and Electronic Engineering.                         |   |   |   |   |
| 4  | Having skills to develop, select and apply modern techniques and tools needed to analyze and solve complex applications in Electrical and Electronic Engineering, skills to use information technology effectively.  |   | X |   |   |
| 5  | Skills to design and conduct tests, collect data, analyze results, and interpret data for the experimental investigation of complex problems in Electrical and Electronic Engineering  |   |   | X |   |
| 6  | Ability to function effectively as an individual and as a member of teams within the discipline and in multidiscipline areas.  |   |   |   |   |
| 7  | Communicating effectively in oral and written form both in Turkish and English. Effective report writing and understanding written reports, preparing design and manufacturing reports, making effective presentations, skills to give and receive clear and concise instructions. |   |   |   |   |
| 8  | Awareness of the necessity of lifelong learning, access to information, monitoring developments in science and technology and the ability to self-renewing   |   |   |   |   |
| 9  | Understanding of professional and ethical responsibility   |   |   |   |   |
| 10 | Information on project management, change management and risk management practices, awareness on entrepreneurship and innovation, knowledge on sustainable development.  |   |   |   |   |
| 11 | Information about universal and societal effects of engineering applications on health, safety and environment; awareness of the legal consequences of engineering solutions.  |   |   |   |   |

**Scale for assessing the contribution of the course to the program outcomes:**

**4: High                      3: Medium                      2: Low                      1:None**

**Name of Instructor(s):** Prof. Dr. Osman Parlaktuna

**Signature(s):**

**Date:** 02.03.2016