



ECTS

# Program Information Package

Program: Computer Engineering | Total ECTS: 240 | Date of Issue: 20.09.2026

## Program Information

|                                |                       |
|--------------------------------|-----------------------|
| <b>Program Name</b>            | Computer Engineering  |
| <b>Education Level</b>         | Bachelor              |
| <b>Language of Instruction</b> | English               |
| <b>Program Duration</b>        | 8 Semesters           |
| <b>Maximum Duration</b>        | 14 Semesters          |
| <b>Head of Program</b>         | Prof. Dr. Hilal KAZAN |
| <b>Internship</b>              | Required              |
| <b>Total ECTS</b>              | 240                   |

## Admission and Registration Requirements

Enrollment in the program is possible through central placement conducted by ÖSYM (Turkish Higher Education Institutions Examination Center), the Vertical Transfer Examination (DGS), domestic and international inter-institutional transfer based on success criteria, intra-institutional transfer based on success criteria, and inter-institutional and intra-institutional transfer based on central placement scores.

## Graduation Requirements

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According to Article 40 of our University's Associate Degree and Undergraduate Education and Training Regulations, students who successfully complete all courses included in the curriculum of their undergraduate program at the end of any semester, have a general grade point average (GGPA) of at least 2.00, have completed a total of at least 240 ECTS credits, and have fulfilled any internship, graduation project, and similar obligations, are entitled to receive an undergraduate degree.

## Occupational Profiles of Graduates

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Computer Engineering graduates can find career opportunities in companies operating in fields such as software, cybersecurity, defense industry, finance/banking, communication, and healthcare, as well as in related government institutions. Additionally, there are academic career opportunities for graduates who wish to work in research, development, and education activities in these and similar fields.

## About the Program

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The program language is English. The normal duration of the program is 4 years, excluding the foreign language preparatory class. Students must complete the program within a maximum of seven years, starting from the semester in which the courses related to the program are offered, regardless of whether they register for each semester, excluding the foreign language preparatory class. Upon completion of the program, a "Bachelor's Degree in Computer Engineering" is awarded. All academic staff have completed their postgraduate studies at the world's most renowned universities in computer science and related fields. Research groups conduct research in algorithm design and analysis, computational biology and bioinformatics, perceptual networks, cloud computing, cryptography, coding theory, and computer simulations. Faculty members have many research projects funded by European Union programs or supported by scientific organizations such as TÜBİTAK. Research outputs are published in the most renowned international journals and conferences in their fields.

## **Exams, Assessment and Evaluation**

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Exams at our university consist of midterm exams, final exams, make-up exams, exemption exams, supplementary exams, and single-course exams. Exams are conducted according to the schedule prepared and announced by our faculty. Student ID cards must be presented to enter the exams. A midterm exam is an exam given during the semester in which a course included in our faculty's undergraduate program curriculum is taught. Each course has at least one midterm exam per semester, or assignments, projects, and similar work done during the course may be used in place of a midterm exam at the discretion of the course instructor. The final exam is the exam held at the end of the semester in which the course is taught, within the dates specified in the academic calendar. Course grades are determined by evaluating the elements mentioned above and are given using letter grades.

## **Program Educational Objectives**

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The Department of Computer Engineering admitted its first students in the 2012-2013 academic year. Since its establishment, the mission of the Department of Computer Engineering has been to provide the necessary educational infrastructure to create human resources capable of meeting current and future needs in the field of computer science. This mission includes training computer engineers for leadership positions in both industry and academia. In this context, we aim to equip our students with analytical reasoning, engineering design skills, and the abilities required throughout all stages of a software development project, through a goal-oriented, contemporary, and dynamic education system.

## **Transition to Higher Degree Programs**

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Graduates of the Computer Engineering Department, after earning their undergraduate degree, can continue their postgraduate education if they meet the general grade point average, foreign language proficiency level, ALES exam, and other examination requirements set by each institute for application to relevant programs.

## **Recognition of Prior Learning**

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Depending on the degree obtained, successful completion of theoretical or practical courses may be considered as prior learning by the department's equivalency committee. Similarly, for students continuing their education, transferring courses taken at another institution in Turkey or abroad is possible under certain conditions. After the department's equivalency committee's work, such requests are decided upon by the department board.

## Program Outcomes

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- PÇ-1** Knowledge of mathematics, science, basic engineering, computing and related discipline-specific topics; ability to apply this knowledge in solving complex engineering problems.
- PÇ-2** Ability to identify, formulate and analyze complex engineering problems using fundamental knowledge of science, mathematics and engineering, and to consider the United Nations' Sustainable Development Goals relevant to the problem at hand.
- PÇ-3** Ability to design creative solutions to complex engineering problems; ability to design complex systems, processes, devices or products to meet current and future requirements under realistic constraints and conditions.
- PÇ-4** Ability to select and use appropriate techniques, resources, and modern engineering and information technology tools, including estimation and modeling, for the analysis and solution of complex engineering problems, as well as recognizing their limitations.
- PÇ-5** Ability to use research methods, including literature search, design and execution of experiments, data collection, analysis and interpretation of results, in order to investigate complex engineering problems or research topics specific to computer engineering.
- PÇ-6** Knowledge of the impacts of engineering practices on society, health and safety, economy, sustainability and environment in the context of the United Nations' Sustainable Development Goals; awareness of the legal implications of engineering solutions.
- PÇ-7** Knowledge about ethical responsibility, acting in accordance with the principles of engineering profession; awareness of acting impartially, without discrimination in any matter and being inclusive of diversity.
- PÇ-8** Ability to work effectively as an individual and as a team member or leader in disciplinary and multidisciplinary teams (face-to-face, distance or both).
- PÇ-9** Ability to communicate effectively, verbally and in writing, on technical issues, taking into account the various differences (education, language, profession, etc.) of the target audience.
- PÇ-10** Knowledge of business life practices such as project management and economic feasibility analysis; awareness of entrepreneurship and innovation.
- PÇ-11** Ability to learn independently and continuously, to adapt to new and emerging technologies and to think inquisitively about technological changes.

## NQF Matrix

| Subject Area                                           | No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------------------------------------------------------|----|---|---|---|---|---|---|---|---|---|----|----|
| Bilgi                                                  | 1  | x | - | - | x | - | x | x | - | - | -  | -  |
| Beceriler                                              | 1  | - | - | - | - | - | x | x | x | - | -  | -  |
|                                                        | 2  | - | x | - | - | x | x | - | - | - | -  | -  |
|                                                        | 3  | - | x | x | - | - | x | - | - | - | -  | -  |
| Bağımsız Çalışabilme ve Sorumluluk Alabilme Yetkinliği | 1  | - | - | - | - | - | - | - | x | - | -  | -  |
| Öğrenme Yetkinliği                                     | 1  | - | - | - | - | x | - | - | - | - | -  | -  |
|                                                        | 2  | - | - | - | - | - | x | - | - | - | -  | -  |
|                                                        | 5  | - | - | - | - | - | x | - | - | - | -  | -  |
| İletişim ve Sosyal Yetkinlik                           | 3  | - | - | - | x | - | - | - | - | - | -  | -  |

# Course Plan

## Semester 1

| Code      | Course Name                                     | L | P | Lab | Credit | ECTS | Language |
|-----------|-------------------------------------------------|---|---|-----|--------|------|----------|
| TURK 101  | Turkish Language I                              | 2 | 0 | 0   | 2      | 2    | Turkish  |
| ENEN 1001 | English for Engineers I                         | 3 | 0 | 0   | 3      | 3    | English  |
| MATH 1001 | Calculus I                                      | 4 | 0 | 0   | 4      | 5    | English  |
| PHYS 1001 | Physics I                                       | 3 | 0 | 0   | 3      | 4    | English  |
| PHYL 1001 | Physics I Laboratory                            | 0 | 2 | 0   | 1      | 2    | English  |
| BIO 1001  | Biology                                         | 3 | 0 | 0   | 3      | 5    | English  |
| CS 1001   | Introduction to Programming I                   | 3 | 2 | 0   | 4      | 6    | English  |
| CS 1011   | Introduction to Computer Engineering and Ethics | 2 | 0 | 0   | 2      | 3    | English  |

## Semester 2

| Code      | Course Name                         | L | P | Lab | Credit | ECTS | Language |
|-----------|-------------------------------------|---|---|-----|--------|------|----------|
| TURK 102  | Turkish Language II                 | 2 | 0 | 0   | 2      | 2    | Turkish  |
| ENEN 1002 | English for Engineers II            | 3 | 0 | 0   | 3      | 3    | English  |
| MATH 1002 | Calculus II                         | 4 | 0 | 0   | 4      | 5    | English  |
| MATH 1004 | Linear Algebra                      | 4 | 0 | 0   | 4      | 5    | English  |
| PHYS 1002 | Physics II                          | 3 | 0 | 0   | 3      | 4    | English  |
| PHYL 1002 | Physics II Laboratory               | 0 | 2 | 0   | 1      | 2    | English  |
| CS 1002   | Introduction to Programming II      | 3 | 2 | 0   | 4      | 6    | English  |
| CS 1006   | Discrete Computational Structures I | 2 | 0 | 0   | 2      | 3    | English  |

## Semester 3

| Code | Course Name | L | P | Lab | Credit | ECTS | Language |
|------|-------------|---|---|-----|--------|------|----------|
|------|-------------|---|---|-----|--------|------|----------|

|           |                                         |   |   |   |   |   |         |
|-----------|-----------------------------------------|---|---|---|---|---|---------|
| ENWH 1001 | Worker Health and Occupational Safety I | 2 | 0 | 0 | 2 | 2 | English |
| MATH 2003 | Differential Equations                  | 4 | 0 | 0 | 4 | 5 | English |
| CS 2001   | Object Oriented Programming             | 3 | 2 | 0 | 4 | 5 | English |
| CS 2003   | Introduction to Database Systems        | 3 | 0 | 0 | 3 | 5 | English |
| CS 2007   | Discrete Computational Structures II    | 3 | 0 | 0 | 3 | 4 | English |
| EE 2011   | Digital Systems                         | 3 | 0 | 0 | 3 | 4 | English |
| EE 2013   | Digital Systems Laboratory              | 3 | 0 | 0 | 1 | 2 | English |
| NAE 1000  | Üniversite Seçmeli Dersler              | 0 | 0 | 0 | 0 | 0 | -       |

## Semester 4

| Code      | Course Name                                  | L | P | Lab | Credit | ECTS | Language |
|-----------|----------------------------------------------|---|---|-----|--------|------|----------|
| ENWH 1002 | Worker's Health and Occupational Safety II   | 2 | 0 | 0   | 2      | 2    | English  |
| MATH 2005 | Probability and Statistics                   | 3 | 0 | 0   | 3      | 5    | English  |
| CHM 1001  | General Chemistry                            | 3 | 0 | 0   | 3      | 5    | English  |
| CS 2002   | Data Structures                              | 3 | 2 | 0   | 4      | 5    | English  |
| CS 2004   | Computer Organization and Architecture       | 3 | 0 | 0   | 3      | 5    | English  |
| CS 2006   | Database Management Systems and Applications | 3 | 0 | 0   | 3      | 5    | English  |
| NAE 1000  | Üniversite Seçmeli Dersler                   | 0 | 0 | 0   | 0      | 0    | -        |

## Semester 5

| Code      | Course Name                                   | L | P | Lab | Credit | ECTS | Language |
|-----------|-----------------------------------------------|---|---|-----|--------|------|----------|
| HIST 101a | Atatürk's Principles and Revolution History I | 2 | 0 | 0   | 2      | 2    | English  |
| ENEC 2000 | Engineering Economics                         | 3 | 0 | 0   | 3      | 3    | English  |
| MATH 2006 | Numerical Analysis for Engineers              | 4 | 0 | 0   | 4      | 5    | English  |
| CS 3001   | Algorithms                                    | 3 | 0 | 0   | 3      | 5    | English  |

| Code    | Course Name                         | L | P | Lab | Credit | ECTS | Language |
|---------|-------------------------------------|---|---|-----|--------|------|----------|
| CS 3003 | Software Engineering                | 3 | 0 | 0   | 3      | 5    | English  |
| CS 3005 | Systems Programming                 | 3 | 0 | 0   | 3      | 5    | English  |
| CS 3007 | Principles of Programming Languages | 3 | 0 | 0   | 3      | 5    | English  |

## Semester 6

| Code     | Course Name                                    | L | P | Lab | Credit | ECTS | Language |
|----------|------------------------------------------------|---|---|-----|--------|------|----------|
| HIST 102 | Atatürk's Principles and Revolution History II | 2 | 0 | 0   | 2      | 2    | Turkish  |
| CS 3000  | Internship I                                   | 0 | 2 | 0   | 1      | 5    | English  |
| CS 3002  | Formal Languages and Automata Theory           | 3 | 0 | 0   | 3      | 5    | English  |
| CS 3004  | Operating Systems                              | 3 | 0 | 0   | 3      | 5    | English  |
| CS 3006  | Introduction to Artificial Intelligence        | 3 | 0 | 0   | 3      | 5    | English  |
| EE 3008  | Microcontrollers                               | 3 | 2 | 0   | 4      | 5    | English  |
| NAE 1000 | Üniversite Seçmeli Dersler                     | 0 | 0 | 0   | 0      | 0    | -        |

## Semester 7

| Code      | Course Name  | L | P | Lab | Credit | ECTS | Language |
|-----------|--------------|---|---|-----|--------|------|----------|
| AECS 1000 | Alan Seçmeli | 0 | 0 | 0   | 0      | 0    | -        |
| AECS 1000 | Alan Seçmeli | 0 | 0 | 0   | 0      | 0    | -        |
| AECS 1000 | Alan Seçmeli | 0 | 0 | 0   | 0      | 0    | -        |
| AECS 1000 | Alan Seçmeli | 0 | 0 | 0   | 0      | 0    | -        |
| AECS 1000 | Alan Seçmeli | 0 | 0 | 0   | 0      | 0    | -        |
| AECS 1000 | Alan Seçmeli | 0 | 0 | 0   | 0      | 0    | -        |

## Semester 8

| Code | Course Name | L | P | Lab | Credit | ECTS | Language |
|------|-------------|---|---|-----|--------|------|----------|
|------|-------------|---|---|-----|--------|------|----------|

|              |              |   |   |   |   |   |   |
|--------------|--------------|---|---|---|---|---|---|
| AECS<br>1000 | Alan Seçmeli | 0 | 0 | 0 | 0 | 0 | - |
| AECS<br>1000 | Alan Seçmeli | 0 | 0 | 0 | 0 | 0 | - |
| AECS<br>1000 | Alan Seçmeli | 0 | 0 | 0 | 0 | 0 | - |
| AECS<br>1000 | Alan Seçmeli | 0 | 0 | 0 | 0 | 0 | - |
| AECS<br>1000 | Alan Seçmeli | 0 | 0 | 0 | 0 | 0 | - |
| AECS<br>1000 | Alan Seçmeli | 0 | 0 | 0 | 0 | 0 | - |

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