

Department of Computer Engineering
Undergraduate Curriculum

| FIRST SEMESTER | | | | | | SECOND SEMESTER | | | | | | | | | | | |
|----------------|--|---|---|----|------|-----------------|---|----|-------|----|------|--|--|----|---|----|----|
| Course Code | Course Name | T | A | CR | ECTS | Course Code | Course Name | T | A | CR | ECTS | | | | | | |
| ATA121 | Ataturk's Principles and the History of Turkish Renovation I | 2 | 0 | 2 | 2 | ATA122 | Ataturk's Principles and the History of Turkish Renovation II | 2 | 0 | 2 | 2 | | | | | | |
| CHEM1007 | Basic Chemistry | 4 | 0 | 4 | 6 | CSE1042 | Computer Programming II | 3 | 2 | 4 | 8 | | | | | | |
| CSE1000 | Introduction to Computer Engineering | 2 | 0 | 2 | 3 | MATH1002 | Calculus II | 4 | 0 | 4 | 6 | | | | | | |
| CSE1041 | Computer Programming I | 3 | 2 | 4 | 6 | MATH2056 | Linear Algebra | 3 | 0 | 3 | 4 | | | | | | |
| MATH1001 | Calculus I | 4 | 0 | 4 | 6 | PHYS1002 | Physics II | 4 | 0 | 4 | 5 | | | | | | |
| PHYS1001 | Physics I | 4 | 0 | 4 | 5 | PHYS1004 | Physics Lab | 0 | 2 | 1 | 3 | | | | | | |
| TRD121 | Turkish Language I | 2 | 0 | 2 | 2 | TRD122 | Turkish Language II | 2 | 0 | 2 | 2 | | | | | | |
| Total | | | | | 21 | 2 | 22 | 30 | Total | | | | | 18 | 4 | 20 | 30 |

| THIRD SEMESTER | | | | | | FOURTH SEMESTER | | | | | | | | | | | |
|----------------|-----------------------------------|---|---|----|------|-----------------|--|----|-------|----|------|--|--|----|---|----|----|
| Course Code | Course Name | T | A | CR | ECTS | Course Code | Course Name | T | A | CR | ECTS | | | | | | |
| CSE2023 | Discrete Computational Structures | 3 | 0 | 3 | 6 | CSE2038 | Systems Programming | 2 | 2 | 3 | 7 | | | | | | |
| CSE2025 | Data Structures | 3 | 2 | 4 | 8 | CSE2046 | Analysis of Algorithms | 3 | 0 | 3 | 6 | | | | | | |
| ECON2003 | Introduction to Economics | 3 | 0 | 3 | 4 | ECON2004 | Engineering Economy | 2 | 0 | 2 | 4 | | | | | | |
| EE2031 | Electric Circuits | 3 | 0 | 3 | 5 | EE2032 | Electronics | 2 | 2 | 3 | 5 | | | | | | |
| MATH2055 | Differential Equations | 3 | 0 | 3 | 4 | MATH2059 | Numerical Methods | 3 | 0 | 3 | 4 | | | | | | |
| NTExxx | Non-Technical Elective - 1 | 2 | 0 | 2 | 3 | STAT2053 | Introduction to Probability and Statistics | 3 | 0 | 3 | 4 | | | | | | |
| Total | | | | | 17 | 2 | 18 | 30 | Total | | | | | 15 | 4 | 17 | 30 |

| FIFTH SEMESTER | | | | | | SIXTH SEMESTER | | | | | | | | | | | |
|----------------|----------------------------------|---|---|----|------|----------------|--------------------------------------|----|-------|----|------|--|--|----|---|----|----|
| Course Code | Course Name | T | A | CR | ECTS | Course Code | Course Name | T | A | CR | ECTS | | | | | | |
| CSE3000 | Summer Practice I | 0 | 0 | 0 | 10 | CSE3038 | Computer Organization | 3 | 2 | 4 | 7 | | | | | | |
| CSE3015 | Digital Logic Design | 3 | 2 | 4 | 7 | CSE3044 | Software Engineering | 3 | 2 | 4 | 7 | | | | | | |
| CSE3033 | Operating Systems | 3 | 2 | 4 | 7 | CSE3048 | Introduction to Signals and Systems | 3 | 0 | 3 | 5 | | | | | | |
| CSE3055 | Database Systems | 3 | 2 | 4 | 7 | CSE3064 | Formal Languages and Automata Theory | 3 | 0 | 3 | 6 | | | | | | |
| CSE3063 | Object-Oriented Software Design | 3 | 0 | 3 | 5 | IE3035 | Operations Research | 3 | 0 | 3 | 5 | | | | | | |
| IE3081 | Modeling and Discrete Simulation | 3 | 0 | 3 | 4 | | | | | | | | | | | | |
| Total | | | | | 15 | 6 | 18 | 40 | Total | | | | | 15 | 4 | 17 | 30 |

| SEVENTH SEMESTER | | | | | | EIGHTH SEMESTER | | | | | | | | | | | |
|------------------|------------------------|---|---|----|------|-----------------|----------------------------|----|-------|----|------|--|--|----|---|----|----|
| Course Code | Course Name | T | A | CR | ECTS | Course Code | Course Name | T | A | CR | ECTS | | | | | | |
| CSE4000 | Summer Practice II | 0 | 0 | 0 | 10 | CEP100 | Civic Engagement Practices | 0 | 2 | 1 | 1 | | | | | | |
| CSE4017 | Microprocessors | 3 | 2 | 4 | 7 | CSE4098 | Engineering Project II | 0 | 2 | 2 | 8 | | | | | | |
| CSE4074 | Computer Networks | 3 | 0 | 3 | 5 | NTExxx | Non-Technical Elective - 2 | 2 | 0 | 2 | 3 | | | | | | |
| CSE4097 | Engineering Project I | 0 | 2 | 2 | 5 | NTExxx | Non-Technical Elective - 3 | 2 | 0 | 2 | 3 | | | | | | |
| TExxx | Technical Elective - 1 | 3 | 0 | 3 | 5 | TExxx | Technical Elective - 3 | 3 | 0 | 3 | 5 | | | | | | |
| TExxx | Technical Elective - 2 | 3 | 0 | 3 | 5 | TExxx | Technical Elective - 4 | 3 | 0 | 3 | 5 | | | | | | |
| UExxx | University Elective | 2 | 0 | 2 | 3 | TExxx | Technical Elective - 5 | 3 | 0 | 3 | 5 | | | | | | |
| Total | | | | | 14 | 4 | 17 | 40 | Total | | | | | 13 | 4 | 16 | 30 |

T: Theoretical Hours, A: Applied Hours, CR: Credits, ECTS: ECTS Credits

Total Credits: 145, Total ECTS Credits: 260, Total Contact Hours: 158, Total Number of Courses: 51

| TECHNICAL ELECTIVES | | | |
|---------------------|---|---------|--|
| CSE4014 | VLSI Circuit Design | CSE4066 | Introduction to Cryptography |
| CSE4026 | Introduction to Robotics and Control Theory | CSE4070 | Software Frameworks |
| CSE4032 | Introduction to Distributed Systems | CSE4075 | Wireless and Mobile Networks |
| CSE4034 | Advanced Unix Programming | CSE4082 | Artificial Intelligence |
| CSE4038 | Introduction to Parallel Processing | CSE4083 | Computer Graphics |
| CSE4040 | Cloud Computing | CSE4084 | Multimedia Systems |
| CSE4044 | Software Project Management | CSE4085 | Human Computer Interaction |
| CSE4054 | Distributed Databases | CSE4086 | Mobile Device Programming |
| CSE4055 | Information Systems: Analysis & Design | CSE4087 | Embedded System Design |
| CSE4056 | Management of Information Systems | CSE4088 | Introduction to Machine Learning |
| CSE4057 | Information Systems Security | CSE4093 | Special Topics in Computer Engineering I |
| CSE4058 | Fundamentals of Electronic Commerce | CSE4094 | Special Topics in Computer Engineering II |
| CSE4059 | Internet Programming | CSE4095 | Special Topics in Computer Engineering III |
| CSE4060 | Principles of Programming Languages | CSE4096 | Special Topics in Computer Engineering IV |
| CSE4061 | Compiler Design | | |

Courses from other departments or from the graduate programs can be taken as technical electives with the consent of the instructor and the approval of the academic advisor. Only one of the technical electives with 4XX code can be taken from the other engineering departments. Some technical electives may have prerequisite(s).