Tarih: 6 Şubat 2026 01:00

Year

Department of Electronics and Automation / Department of Electronics and Automation /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
BMD104	Algorithm and Programming	3.00	1.00	0.00	4.00	4.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	PreBachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	To teach the logic of the algorithm, to teach user-defined types, files, pointers, sorting, searching, libraries, interrupts and using port in the C programming language.
Course Contents	:	Algorithms designing, introduction to the C programming language and the general structure of C language, basic types of data and input and output commands, decision-making structures and loops, series and pointers, string operations, file operations, libraries, interrupts, using port.
Recommended or Required Reading	:	Ders kitabı, dizüstü bilgisayar, projeksiyon cihazı
Planned Learning Activities and Teaching Methods	:	Lecture Demosntration Creative Thinking Development Computer-Based Learning
Recommended Optional Programme Components	:	DevC++ FlowChart
Course Instructors	:	Dr. Öğr. Üyesi İsmail Çalıkuşu
Instructor's Assistants	:	Öğr.Gör Hilal Mutlu
Presentation Of Course	:	The algorithm course is taught using lecture, demonstration, creative thinking development, and computer-based learning methods. First, fundamental algorithm concepts and flowcharts are explained theoretically. Then, students gain hands-on experience by coding their algorithms using the Dev-C++ program. The instructor presents sample codes, allowing students to analyze and build their own algorithms. Creative thinking techniques are used to enhance problem-solving skills. Through interactive applications, students test their algorithms step by step and learn debugging processes. This approach is supported by computer-aided learning, helping students reinforce their programming skills.
Update Date	:	2/5/2026 1:43:45 PM
Dosya İndirilme Tarihi	:	2/6/2026

Course Outcomes

Upon the completion of this course a student :

1 Knows the principles and stages of problem-solving, can create algorithms and flowcharts.

2 Can design algorithms.

3 Can write programs using the structure, data types, and variables of the C programming language.

4 Knows the basic input-output commands of the C programming language

5 Knows the control (conditional statement) commands in the C programming language.

6 Knows loop commands in the C programming language.

7 Knows how to create array variables in the C programming language.

8 Can perform operations on string expressions in the C programming language.

9 Can perform file operations in the C programming language.

10 Can use standard libraries in C++ and the functions available within these librarie

11 Knows how to create and manage an interrupt program in C++.

12 Knows how to use and implement port operations in C++

Pre / Side Conditions

Course Code	Course Name	Condition	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes

Tarih: 6 Şubat 2026 00:59

Year

Department of Electronics and Automation / Department of Electronics and Automation /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
BMD102	Alternative Current Circuit Analysis	3.00	1.00	0.00	4.00	4.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	PreBachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	To make the students to gain the knowledge and skills about circuit solution of alternative current and making calculations.
Course Contents	:	Structure of alternating current and basic concepts, basic alternating current circuits, series alternating current circuit and the law of voltages, parallel alternating current circuit and the law of currents, series-parallel alternating current circuits, solution methods of alternating current circuits, alternating current circuit theorems, power in alternating current and compensation, three phase circuits.
Recommended or Required Reading	:	Karakoç, T. (2017). Alternatif akım devre analizi. Eğitim Yayınevi. Kolev, L. V. (1993). Interval methods for circuit analysis (Vol. 1). World Scientific.
Planned Learning Activities and Teaching Methods	:	Lecture Question Answer Problemn Solving
Recommended Optional Programme Components	:	Students should understand the basic principles of alternating current and phase relationships. They should reinforce their knowledge by practicing circuit analysis and waveforms
Course Instructors	:	Dr. Öğr. Üyesi İsmail Çalıkuşu
Instructor's Assistants	:	Öğr.Gör Tahir Karakoç
Presentation Of Course	:	The alternating current circuit analysis course is conducted using question-answer, lecture, problem-solving, and basic applications methods. Initially, the fundamental principles of alternating current are explained theoretically, and students are provided with example problems to reinforce their understanding. To ensure active student participation, the question-answer method is employed to highlight key concepts. Subsequently, problem-solving techniques are applied, focusing on the mathematical and physical modeling of alternating current circuit analysis. Finally, simple laboratory applications are carried out to help students translate theoretical knowledge into practice, reinforcing their learning experience.
Update Date	:	2/1/2026 11:45:45 PM
Dosya İndirilme Tarihi	:	2/6/2026

Course Outcomes

Upon the completion of this course a student :

1 Understand the behavior of fundamental loads in alternating current.

2 Perform circuit analysis of series and parallel circuits.

3 Solve problems by applying fundamental circuit solution theorems in AC circuit analysis.

4 Analyze resistor, inductor, and capacitor circuits using complex numbers.

5 Calculate power and power factor in single-phase and multi-phase circuits.

6 Perform the necessary calculations for power factor correction (compensation).

7 Understand the working principles of three-phase circuits and analyze the line-to-phase voltage relationships

Pre / Side Conditions

Course Code	Course Name	Condition	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Complex numbers and basıc terms	*Use of Complex Numbers in AC Circuits	*Measuring AC voltage and frequency using an oscilloscope	*Karakoç, T. (2017). Alternatif akım devre analizi. Eğitim Yayınevi. Chapter 1	*Lecture , Problem Solving	Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1

Tarih: 6 Şubat 2026 01:02

Year

Department of Electronics and Automation / Department of Electronics and Automation /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
BMD114	BIOMATERIALS	2.00	0.00	0.00	2.00	3.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	PreBachelor
Course Type	:	Optional
Preconditions	:	Not
Objectives of the Course	:	To introduce biomaterials and to teach application areas in medicine and structural behavior of the biomaterials.
Course Contents	:	Introduction to biomaterials, the history and development. Classification and structure of medical materials (Metals, Ceramics, Polymers, Composites, Fabrics, bone, teeth, cartilage and other natural materials such as leather). Rating of the biological materials. Soft and hard tissues. Materials characterization (the relationship between microstructure and mechanical properties, density, porosity, liquid absorption, Electrical design, X-ray, magnetic resonance, the response for ultrasonic systems). Mechanical and corrosion behavior of implant materials. Material testing and laboratory applications. Surface properties and tissue interaction of materials. Biocompatibility and the immune system. Implant materials and applications of Orthopedic, Cardiology, Dentistry, Reconstructive and other surgical. Bio-electrolytes, bio-adhesives, bio-nano-materials, biomaterials transport in drug, terms of use biomaterials as implant materials, problems, sterilization. Ethical rules in the development and use of biomaterials.
Recommended or Required Reading	:	Allahverdiyev, A. M., Karagöz, A., Şendemir, A., Figen, A. K., Kalemtaş, A., Topcu, A. W., ... & Akdeste, Z. BİYOMALZEMELER. Nobel Akademik Yayıncılık. BOZBEYOĞLU, P., & BUDAK, B. BİYOMALZEMELERİN MEDİKAL BİYOTEKNOLOJİ ALANINDAKİ UYGULAMALARI. Fen Bilimleri ve Matematikte Güncel Araştırmalar. Köse, N. (2016). Ortopedide Biyomalzemeler ve İmplantlara Biyolojik Yanıt. Temel Bilimler ve Araştırma Kitabı, Totbid-Bayt, 3-16.
Planned Learning Activities and Teaching Methods	:	In this course, students will be introduced to the fundamental principles and applications of biomaterials through theoretical instruction. Lectures will be delivered using slides and visual aids to enhance understanding, ensuring active student participation. Discussion and question-answer methods will be used to develop critical thinking skills, while case studies will explore the role of biomaterials in biomedical engineering. To reinforce learning, students will be encouraged to review academic articles and prepare short individual presentations.
Recommended Optional Programme Components	:	Students taking the Biomaterials course should have a fundamental understanding of materials science, biocompatibility, and biomedical applications. Active participation in class and staying updated with recent research and articles are essential. They should develop a multidisciplinary perspective to understand the interactions of biomaterials with the human body and their biomechanical properties. Additionally, students are expected to critically evaluate the applications of biomaterials while considering ethical and safety aspects.
Course Instructors	:	Dr. Öğr. Üyesi İsmail Çalıkuşu
Instructor's Assistants	:	Öğr.Gör Furkan Soysaldı
Presentation Of Course	:	The Biomaterials course is a theoretical class, conducted with the support of visual and written materials. The course begins with an introduction to fundamental concepts and classification of biomaterials, followed by discussions on biocompatibility, biomechanical properties, and biomedical applications. To ensure active student participation, methods such as question-answer sessions, discussions, and case studies are utilized. Additionally, students analyze recent research papers related to biomaterials to develop scientific thinking skills. The assessment process includes midterm exams, short presentations, and assignments, allowing students to reinforce their understanding of the subject.
Update Date	:	2/1/2026 11:47:17 PM
Dosya İndirilme Tarihi	:	2/6/2026

Course Outcomes

Upon the completion of this course a student :

1 Explains the history, development, and significance of biomaterials in the medical field.

2 Classifies biomaterials and distinguishes between different types.

3 Understands the fundamental physical, chemical, and mechanical properties of biomaterials.

4 Defines the concept of biocompatibility and explains the interactions between biomaterials and the human body.

5 Analyzes the interactions between biomaterials and cells/tissues.

6 Gains knowledge about metallic, ceramic, polymer, and composite biomaterials.

7 Evaluates the mechanical and corrosion behavior of biomaterials.

8 Understands the manufacturing processes and characterization methods of biomaterials.

9 Explains how implant materials are used in orthopedics, dentistry, cardiology, and other surgical applications.

10 Evaluates the sterilization and application conditions of biomaterials.

11 Gains knowledge about bioelectrolytes, bio-adhesives, and bio-nanomaterials.

12 Explains the role of biomaterials in drug delivery systems.

13 Understands the importance of ethical considerations in the development and use of biomaterials.

Pre / Side Conditions

Course Code	Course Name	Condition	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes

Tarih: 6 Şubat 2026 01:03

Year

Department of Database, Network Design and Management / Department of Database, Network Design and Management /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
DST112	MEDICAL DEVICE TECHNOLOGIES	2.00	0.00	0.00	2.00	3.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	PreBachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	The aim of this course is to provide students with fundamental knowledge of medical device technologies, including device classification, operating principles, clinical usage, safety requirements, and maintenance–calibration procedures. Students are expected to be able to technically and clinically evaluate basic medical devices such as ECG, EEG, defibrillators, ventilators, and sterilization systems.
Course Contents	:	This course covers an introduction to medical device technologies, classification and risk levels of medical devices, operating principles of ECG and EEG devices, defibrillators and ventilator systems, sterilization and disinfection equipment, hospital technological infrastructure, device safety, risk management, maintenance and calibration principles, and the interpretation of device labels and user manuals.
Recommended or Required Reading	:	Baura, G. Medical Device Technologies: A Systems-Based Overview, Elsevier. Chan, A.Y.K. Biomedical Device Technology: Principles and Design, Charles C. Thomas Publisher. Bulat, E. (Ed.). Fundamentals of Biomedical Engineering, Nobel Academic Publishing. Ministry of Education, Biomedical Device Technologies Course Modules.
Planned Learning Activities and Teaching Methods	:	The course is delivered through online lectures, digital presentations, electronic course materials, case studies, and video-based instructional content. Online case analyses, device demonstration videos, user manual reviews, and interactive discussion sessions are used to enhance students' learning.
Recommended Optional Programme Components	:	Students are encouraged to follow virtual hospital tours, manufacturer training videos, and online simulations related to medical device maintenance and calibration. The digital review of technical documentation and user manuals is also recommended.
Course Instructors	:	Dr. Öğr. Üyesi İsmail Çalıkuşu
Instructor's Assistants	:	Asst.Prof.Dr İsmail ÇALIKUŞU
Presentation Of Course	:	The course is delivered synchronously and asynchronously via distance learning platforms. Theoretical lectures, digital presentations, video materials, and online assessment tools are used to deliver the course content
Update Date	:	2/1/2026 11:55:36 PM
Dosya İndirilme Tarihi	:	2/6/2026

Course Outcomes

Upon the completion of this course a student :
1 Defines the basic medical devices and systems used in digital healthcare environments.
2 Explains the digital operating principles of ECG, EEG, ventilator, and patient monitoring systems.
3 Applies patient safety, data security, and risk management rules in medical devices.
4 Performs calibration, maintenance, and performance monitoring of digital medical devices.
5 Correctly interprets digital user manuals, labeling information, and technical documentation of medical devices.

Pre / Side Conditions

Course Code	Course Name	Condition	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Introduction to medical devices	*Device classification	*Device examples	*Read basic medical device conceptsRead Ch.1 (pp.1–11) and list 5 medical devices.	*Lecture, discussion	Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1
2.Week	*Classification of medical devices	*Risk classification	*Label analysis	*Review MDR & risk classesRead Ch.4 and classify one device.	*Presentation	Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1
3.Week	*ECG principles	*ECG recording	*ECG device	*User manual King et al. (2015), Ch.1, pp.1–11. The list includes 5 devices that could disable the student's basic understanding of medical devices.	*Lecture	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
4.Week	*EEG systems		*EEG electrodes Placing Electrodes	*Cahpter 9,sf.168–170. Draw EEG electrode layout.	*Demonstration	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
5.Week	*Defibrillators		*Simulator	*Ch.12, pp.205–213. The student writes 3 risk factors for defibrillation.	*Video Demosntration	Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3

Tarih: 6 Şubat 2026 01:04

Year

Department of Electronics and Automation / Department of Electronics and Automation /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
BKE202	SCIENTIFIC AND CULTURAL ACTIVITIES II	0.00	1.00	0.00	1.00	3.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	PreBachelor
Course Type	:	Optional
Preconditions	:	Not
Objectives of the Course	:	The aim of this course is to encourage students scientific and cultural activities, to increase the interest in these kinds of activities and attitudes, to ensure participation, to redound awareness of life-long learning.
Course Contents	:	Participate in scientific, cultural and social activities
Recommended or Required Reading	:	Etkinlik Biletleri
Planned Learning Activities and Teaching Methods	:	Seminar-Presentation-Report
Recommended Optional Programme Components	:	The course is conducted in accordance with the NEVÜ Scıentıfıc And Cultural Actıvıtıes Course Instructıons.
Course Instructors	:	Dr. Öğr. Üyesi İsmail Çalıkuşu
Instructor's Assistants	:	-----
Presentation Of Course	:	Practice
Update Date	:	3/19/2025 10:07:47 AM
Dosya İndirilme Tarihi	:	2/6/2026

Course Outcomes

Upon the completion of this course a student :

1 Can comprehend the importance of scientific activities

2 Can comprehend the importance of cultural activities.

3 Can share information and gain competence in learning together.

4 Can improve their social skills.

5 Can increase the interest of scientific and cultural activities

6 Can develop a positive attitude regarding the scientific and cultural activities.

7 Can show willigness in attending various social, culturas-art activities.

8 Can create awareness of lifelong learning and inquiry.

Pre / Side Conditions

Course Code	Course Name	Condition	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Principles and stages of problem-solving, algorithms, and flowcharts	*Algorithm that sums two input numbers	*Implementing a simple algorithm in C++	*Concept of algorithm, basic flowcharts Lecture Notes: https://drive.google.com/drive/folders/1E2CiLLb5lIVFjCIlBntnil0gM92BCnBf?usp=drive_link	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2
2.Week	*Algorithm design		*Writing an algorithm that processes user input in C++	*Lecture Notes: https://drive.google.com/drive/folders/1AJLWgxWnZBAETLdKilKys2WHMvOlA8J_?usp=drive_link		Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2
3.Week	*Structure of C++ programming, data types, variables		*Defining variables and using data types in C++	*Lecture Notes: https://drive.google.com/drive/folders/1L42jpiRFu4UKlRt3clOW4Zvi2Tqr6Sgw?usp=drive_link		Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3
4.Week	*Basic input-output commands	*A program that takes user name and age as input and displays them		*Basic scanf and printf usage Lecture Notes: https://drive.google.com/drive/folders/1n6eEkRZ8ofSI_N2B9QsU7hXulhRLTpFN?usp=drive_link	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4
5.Week	*Control statements	*Determining if an entered number is positive, negative, or zero	*Creating decision-making mechanisms with if-else	*if-else structures and logical operators Lecture Notes: https://drive.google.com/drive/folders/1CJp8WYq-cxBUoy8ckYVs0c_Oh2zmf-k2?usp=sharing	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
2.Week	*Fundamental Concepts and Characteristic Values of Alternating Current	*Analysis of the period, frequency, and angular velocity of AC signals Wavelength calculation and phase difference measurements Vector representation of AC signals using phasor notation Instantaneous, maximum, average, and RMS value calculations Phase angle calculation applications		*Source: Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi. Fundamental Concepts of Alternating Current – p.19 Period and Cycle – p.19 Alternation and Frequency – p.19-20 Angular Velocity and Wavelength – p.20 Phase and Phase Difference – p.22 Zero Phase, Leading Phase, and Lagging Phase – p.22-23 Phase Relations of AC Signals – p.23 Phase Angle Calculation of an AC Wave – p.23 Phasors and Their Use in Alternating Current – p.25 Characteristic Values of Alternating Current – p.29 Instantaneous, Maximum, Average, and RMS Values – p.29-31 Chapter Review Problems – p.31	*Lecture Problem Solving	Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2 Ö.Ç.1 Ö.Ç.2
3.Week	*Analysis of Series Circuits in Alternating Current		*Measurements and Analysis of Series AC Circuits	*Karakoç, T. (2017). Alternative Circuiit Analysis. Eğitim Press. Fundamental Concepts of Alternating Current s-42-61	*Lecture method Problem Solving	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
4.Week	*Parallel AC Circuit and Kirchhoff's Current Law	*Measuring branch currents in a parallel RLC circuit		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, p. 29-35	*Lecture, Problem Solving, Simulation	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
5.Week	*Mixed AC Circuits			*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 36-42	*Lecture, Laboratory, Simulation	Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3 Ö.Ç.2 Ö.Ç.3
6.Week	*Source Transformation and Mesh Current Method	*Reanalyzing circuits using source transformation		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 43-50	*Lecture, Problem Solving	Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.3
7.Week	*Node Voltage Method	*Applying node voltage analysis in a simple AC circuit		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 51-57	*Lecture, Simulation, Experiment	Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.3
8.Week	*Midterm Exam			*Review of previous topics - Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi		

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Introduction to Biomaterials			*Research the history and basic concepts of biomaterials Week 1 Lecture Note's Link https://docs.google.com/presentation/d/187dgH1j45mFvY18U9znug942Gs55Efql/edit?usp=drive_link&ouid=115592129015417344548&rtpof=true&sd=true	*Lecture, Question-Answer	Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1 Ö.Ç.1
2.Week	*Biocompatibility			*Read about biocompatibility and interactions between biomaterials and the body	*Lecture, Question-Answer	Ö.Ç.4 Ö.Ç.4 Ö.Ç.4 Ö.Ç.4 Ö.Ç.4 Ö.Ç.4
3.Week	*Classification of Biomaterials			*Study different types of biomaterials and their properties	*Lecture, Question-Answer	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
4.Week	*Properties of Biomaterials			*Research the physical, chemical, and mechanical properties of biomaterials	*Lecture, Question-Answer	Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3
5.Week	*Cell and Tissue Interactions			*Study the biological processes between biomaterials and cells/tissues	*Lecture, Question-Answer	Ö.Ç.4 Ö.Ç.5 Ö.Ç.4 Ö.Ç.5 Ö.Ç.4 Ö.Ç.5 Ö.Ç.4 Ö.Ç.5 Ö.Ç.4 Ö.Ç.5 Ö.Ç.4 Ö.Ç.5
6.Week	*Metallic Implant Materials			*Study the applications and advantages of metallic implants Lecture Notes: https://drive.google.com/drive/folders/1c1EYibMP5CgLjlIqbvAUznciw2FXxiAF?usp=drive_link	*Lecture, Question-Answer	Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6
7.Week	*malzemeleri Ceramic Implant Materials			*Study the biocompatibility and mechanical properties of ceramic implants Lecture Notes:https://docs.google.com/presentation/d/1i4ZtnlX3pCRim4wufdF6bZDSRB-f1AdA/edit?usp=drive_link&ouid=115592129015417344548&rtpof=true&sd=true	*Lecture, Question-Answer	Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6
8.Week	*Midterm Exam					
9.Week	*Polymer Implant Materials			*Study the biomedical applications of polymer biomaterials	*Lecture, Question-Answer	Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6
10.Week	*Composite Implant Materials			*Read about the advantages and applications of composite implant materials	*Lecture, Question-Answer	Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6 Ö.Ç.6
11.Week	*Glass Ceramics			*Research the role of glass ceramics in dentistry and medical applications	*Lecture, Question-Answer	Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7
12.Week	*Dental Ceramics			*Study the biomechanical properties and applications of dental ceramics	*Lecture, Question-Answer	Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7
13.Week	*Coatings			*Research the effects of surface coatings in biomaterials	*Lecture, Question-Answer	Ö.Ç.8 Ö.Ç.8 Ö.Ç.8 Ö.Ç.8 Ö.Ç.8 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
6.Week	*Ventilators		*Vent modes	*Researching Ventilationn Modes	*Lecture Presentation	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
7.Week	*Sterilization			*Explains the importance of sterilization Chapter 11, pp. 189–203. The student writes about the effect of sterilization on equipment safety.	*Lecture Presentation	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
8.Week	*Midterm Exam					Ö.Ç.2
9.Week	*Hospital infrastructure			*Ch.3, pp.31–44. The student diagrams the device data flow in the Hospital Information System (HIS).	*Lecture Presentation	Ö.Ç.1 Ö.Ç.1 Ö.Ç.1
10.Week	*Device safety			*Chapter 12, pp. 210–218. The student prepares an FMEA table for a device. Prepare the FMEA.	*Lecture Presentation	Ö.Ç.3 Ö.Ç.3 Ö.Ç.3
11.Week	*Calibration			*Ch.13, pp.235–239. The student writes down the calibration steps.	*Lecture Presentation	Ö.Ç.4 Ö.Ç.4 Ö.Ç.4
12.Week	*Maintenance Adminbistration			*By studying King, Fries & Johnson (2015), Chapter 14, pp. 247–257, the student learns how maintenance management of digital medical devices is monitored through electronic records, performance data, and reliability analysis. The student examines how maintenance logs, service histories, and digital maintenance management systems (such as CMMS integrated with hospital information systems) support patient safety, device continuity, and quality of healthcare services, and prepares a brief evaluation.	*LEcture Presentation	
13.Week	*Labeling			*Ch.9, pp.162–167. A student interprets a device label.	*Lecture Presantation	Ö.Ç.5 Ö.Ç.5 Ö.Ç.5
14.Week	*Clinical cases			*Chapters 9–10, pp. 149–188. The student prepares an example of a user error.	*Lecture Presenatation	Ö.Ç.2 Ö.Ç.2 Ö.Ç.2
15.Week	*Review			*Bölüm 16, s. 279–297. Öğrenci cihazının kullanımını özetlee.	*Lecture	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5

Assesment Methods %

3 Final : 60.000

4 Uygulama / Pratik : 40.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	3.00	3.00
Final	1	3.00	3.00
Derse Katılım	14	2.00	28.00
Ders Öncesi Bireysel Çalışma	14	2.00	28.00
Ders Sonrası Bireysel Çalışma	14	2.00	28.00
		Total :	90.00
		Sum of Workload / 30 (Hour) :	3
		ECTS :	3.00

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8
2.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
6.Week	*Loops	*A program that calculates the sum of numbers from 1 to 100	*Using for, while, and do-while loops	*for, while, and do-while loops Lectuıre Notes: https://drive.google.com/drive/folders/1exiRTW4nYutW6YA3pzRyfOF6YFsCoHg3?usp=drive_link	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6 Ö.Ç.3 Ö.Ç.4 Ö.Ç.6
7.Week	*Arrays	*Finding the largest and smallest elements in a 5-element array	*Defining an array and accessing its elements	*Declaring arrays and accessing elements Lecture Notes: https://drive.google.com/drive/folders/1C6n7qked_3RekeKr1CE56vqk0dRx8WEn?usp=drive_link	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7
8.Week	*Midterm					
9.Week	*String manipulations	*A program that calculates the length of a given string	*Using string data type and basic string operations	*string data type and functions	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.3 Ö.Ç.8 Ö.Ç.3 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
9.Week	*Superposition Theorem	*Verifying the superposition theorem in a two-source AC circuit		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 58-64	*Lecture, Problem Solving, Laboratory	Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.3
10.Week	*Thevenin and Norton Theorems	*Finding the Thevenin equivalent circuit of an AC circuit		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 65-72	*Lecture, Simulation, Laboratory	Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4
11.Week	*Power Calculations in Alternating Current	*AC devresinde aktif, reaktif ve görünen gücü ölçme		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 73-80	*Lecture, Problem Solving	Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3
12.Week	*Power Calculations in Alternating Current	*Analyzing power factor and applying correction techniques		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, p. 81-87	*Lecture, Problem Solving, Simulation	Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.4 Ö.Ç.3 Ö.Ç.4
13.Week	*Power Factor Correction (Compensation)	*Simulating a capacitor bank for power factor correction		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 88-94	*Lecture, Simulation, Experiment	Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.3 Ö.Ç.5
14.Week	*Three-Phase Circuits	*Measuring line and phase voltages in a three-phase system		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, p. 95-102	*Lecture, Simulation, Experiment	Ö.Ç.4 Ö.Ç.6 Ö.Ç.7 Ö.Ç.4 Ö.Ç.6 Ö.Ç.7 Ö.Ç.4 Ö.Ç.6 Ö.Ç.7 Ö.Ç.4 Ö.Ç.6 Ö.Ç.7 Ö.Ç.4 Ö.Ç.6 Ö.Ç.7 Ö.Ç.4 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.6

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
14.Week	*Biomaterials Production and Characterization			*Read and analyze biomaterial characterization techniques	*Lecture, Question-Answer	Ö.Ç.8 Ö.Ç.8 Ö.Ç.8 Ö.Ç.8 Ö.Ç.8 Ö.Ç.8
15.Week	*Heat Treatment Cycles of Industrial Alloys			*Research the use of metal alloys in biomedical applications	*Lecture, Question-Answer	Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7

Assesment Methods %

1 Ara Sınav (Bütünlemede Kullanılan) : 40.000

2 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Derse Katılım	15	2.00	30.00
Ders Sonrası Bireysel Çalışma	15	1.00	15.00
Ev Ödevi	10	3.00	30.00
Problem Çözme	2	5.00	10.00
		Total :	85.00
		Sum of Workload / 30 (Hour) :	3
		ECTS :	3.00

Program And OutcomeRelation

	P.O.1	P.O.2	P.O.3	P.O.4	P.O.5	P.O.6	P.O.7	P.O.8	P.O.9	P.O.10	P.O.11	P.O.12	P.O.13	P.O.14
	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
L.O. 1	4	5	3	5	5	2	3	0	0	0	0	0	0	0
L.O. 2	4	3	5	2	3	2	4	0	0	0	0	0	0	0
L.O. 3	2	5	4	1	1	3	3	0	0	0	0	0	0	0
L.O. 4	3	4	4	1	3	5	3	0	0	0	0	0	0	0
L.O. 5	4	1	4	2	2	1	2	0	0	0	0	0	0	0
L.O. 6	4	4	4	5	3	1	4	0	0	0	0	0	0	0
L.O. 7	2	4	5	2	2	4	2	0	0	0	0	0	0	0
L.O. 8	1	5	5	2	5	2	1	0	0	0	0	0	0	0
L.O. 9	5	1	5	5	1	1	1	0	0	0	0	0	0	0
L.O. 10	3	1	3	3	1	3	5	0	0	0	0	0	0	0
L.O. 11	4	1	4	2	1	5	3	0	0	0	0	0	0	0
L.O. 12	1	3	5	3	1	5	2	0	0	0	0	0	0	0
L.O. 13	2	4	5	3	1	4	5	0	0	0	0	0	0	0
Avarage	3.00	3.15	4.31	2.77	2.23	2.92	2.92	0	0	0	0	0	0	0

Ders/Program Çıktıları İlişkisi

P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEWARE OF PLAGIARISM! Please pay attention to proper academic citation rules and avoid plagiarism, an unethical and academically fraudulent behavior, when completing reports, assignments, or other academic works, and it is treated with the same disciplinary action as cheating in a classroom setting. It is imperative to refrain from presenting another person s ideas, language, expressions, or any other form of intellectual property as your own. Regardless of quality, your assignments/projects/research should reflect your original work. Perfection is not a requirement, and in case of any uncertainties regarding academic writing guidelines, you may seek clarification from your course instructor.

Engel Durumu/Uyarlama Talebi : Engel durumuna ilişkin herhangi bir uyarlama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevsehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.

Ders/Program Çıktıları İlişkisi

BEWARE OF PLAGIARISM! Please pay attention to proper academic citation rules and avoid plagiarism, an unethical and academically fraudulent behavior, when completing reports, assignments, or other academic works, and it is treated with the same disciplinary action as cheating in a classroom setting. It is imperative to refrain from presenting another person s ideas, language, expressions, or any other form of intellectual property as your own. Regardless of quality, your assignments/projects/research should reflect your original work. Perfection is not a requirement, and in case of any uncertainties regarding academic writing guidelines, you may seek clarification from your course instructor.

Engel Durumu/Uyarlama Talebi : Engel durumuna ilişkin herhangi bir uyarlama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevsehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
3.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8
4.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
10.Week	*File operations	*A program that writes to and reads from a file	*Reading from and writing to a file	*Using fstream for file operations	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9 Ö.Ç.2 Ö.Ç.9
11.Week	*Pointers	*A program that displays the memory address of a variable	*Defining pointers and working with memory addresses	*Declaring pointers and working with memory addresses	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5 Ö.Ç.2 Ö.Ç.5
12.Week	*Sorting, searching	*A program that sorts an array using Bubble Sort	*Implementing basic sorting and searching algorithms (Bubble Sort, Linear Search)	*Introduction to sorting and searching algorithms	*Lecture, Demonstration, Creative Thinking, Computer-Based Learnin	Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7 Ö.Ç.6 Ö.Ç.7
13.Week	*Libraries	*A program that performs mathematical operations using the cmath library	*Using standard libraries to develop a program	*Overview of standard C++ libraries	*Lecture, Demonstration, Creative Thinking, Computer-Based Learnin	Ö.Ç.3 Ö.Ç.3

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
15.Week	*Balanced and Unbalanced Loads in Three-Phase Circuits	*Analyzing balanced and unbalanced three-phase loads		*Karakoç, T. (2017). Alternatif Akım Devre Analizi. Eğitim Yayınevi, s. 103-110	*Lecture, Problem Solving, Simulation	Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7 Ö.Ç.7

Assesment Methods %

1 Ara Sınav : 40.000

3 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Derse Katılım	12	4.00	48.00
Laboratuvar	12	1.00	12.00
Ev Ödevi	10	2.00	20.00
Problem Çözme	14	2.00	28.00
		Total :	108.00
		Sum of Workload / 30 (Hour) :	4
		ECTS :	4.00

Program And OutcomeRelation

	P.O.1	P.O.2	P.O.3	P.O.4	P.O.5	P.O.6	P.O.7	P.O.8	P.O.9	P.O.10	P.O.11	P.O.12	P.O.13	P.O.14
	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
L.O. 1	4	3	4	5	4	5	4	4	4	2	1	4	1	1
L.O. 2	5	3	2	4	4	3	2	4	2	2	5	4	1	3
L.O. 3	3	5	4	1	3	5	2	4	4	4	5	4	1	3
L.O. 4	5	4	5	1	4	1	1	4	2	2	2	5	1	1
L.O. 5	5	3	1	3	4	2	2	5	2	2	5	1	4	3
L.O. 6	2	5	4	3	1	4	5	3	4	4	2	5	3	5
L.O. 7	3	2	2	2	3	1	2	1	5	4	1	5	3	2
Avarage	3.86	3.57	3.14	2.71	3.29	3.00	2.57	3.57	3.29	2.86	3.00	4.00	2.00	2.57

Ders/Program Çıktıları İlişkisi

P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEWARE OF PLAGIARISM! Please pay attention to proper academic citation rules and avoid plagiarism, an unethical and academically fraudulent behavior, when completing reports, assignments, or other academic works, and it is treated with the same disciplinary action as cheating in a classroom setting. It is imperative to refrain from presenting another person s ideas, language, expressions, or any other form of intellectual property as your own. Regardless of quality, your assignments/projects/research should reflect your original work. Perfection is not a requirement, and in case of any uncertainties regarding academic writing guidelines, you may seek clarification from your course instructor.

Engel Durumu/Uyarlama Talebi : Engel durumuna ilişkin herhangi bir uyarlama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevsehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
5.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8
6.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
14.Week	*Interrupts	*A program that interrupts user input and stops the process	*Creating a simple interrupt mechanism	*Basic interrupt mechanisms and signals	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9 Ö.Ç.4 Ö.Ç.9
15.Week	*Port usage	*A program that reads and writes data via the serial port	*Serial communication using C++	*serial library and basic port usage	*Lecture, Demonstration, Creative Thinking, Computer-Based Learning	Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8 Ö.Ç.2 Ö.Ç.3 Ö.Ç.8

Assesment Methods %

1 Ara Sınav (Bütünlemede Kullanılan) : 40.000

2 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	1.00	1.00
Derse Katılım	30	3.00	90.00
Uygulama / Pratik	15	1.00	15.00
Ev Ödevi	10	1.00	10.00
		Total :	116.00
		Sum of Workload / 30 (Hour) :	4
		ECTS :	4.00

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
7.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8
8.Week		*Midterm Exam				
9.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

Program And OutcomeRelation

	P.O.1	P.O.2	P.O.3	P.O.4	P.O.5	P.O.6	P.O.7	P.O.8	P.O.9	P.O.10	P.O.11	P.O.12	P.O.13	P.O.14
	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
L.O. 1	2	1	5	3	4	1	1	1	4	5	1	2	1	1
L.O. 2	1	3	3	3	3	3	1	2	3	3	1	1	3	3
L.O. 3	4	5	1	4	2	3	2	2	3	4	2	4	3	1
L.O. 4	1	3	4	2	4	1	4	4	1	4	1	4	3	5
L.O. 5	4	1	5	2	1	5	4	5	5	3	3	1	4	2
L.O. 6	2	5	4	5	1	1	2	1	4	4	4	2	1	2
L.O. 7	1	2	5	1	1	3	3	1	2	3	1	1	4	2
L.O. 8	5	3	5	5	1	2	1	3	3	2	1	4	3	3
L.O. 9	3	1	3	4	3	4	5	2	1	3	2	5	1	5
L.O. 10	4	2	5	4	1	3	1	5	1	3	2	5	4	1
L.O. 11	3	2	4	4	4	1	1	4	4	4	3	3	4	4
L.O. 12	3	4	5	4	5	4	3	2	3	4	4	1	3	1
Avarage	3.00	2.92	4.42	3.67	2.67	2.83	2.50	2.92	3.08	3.83	2.25	3.00	3.08	2.67

Ders/Program Çıktıları İlişkisi

P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
3	3	4	3	2	3	2	3	3	4	2	3	3	2

BEWARE OF PLAGIARISM! Please pay attention to proper academic citation rules and avoid plagiarism, an unethical and academically fraudulent behavior, when completing reports, assignments, or other academic works, and it is treated with the same disciplinary action as cheating in a classroom setting. It is imperative to refrain from presenting another person s ideas, language, expressions, or any other form of intellectual property as your own. Regardless of quality, your assignments/projects/research should reflect your original work. Perfection is not a requirement, and in case of any uncertainties regarding academic writing guidelines, you may seek clarification from your course instructor.

Engel Durumu/Uyarlama Talebi : Engel durumuna ilişkin herhangi bir uyarlama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevsehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
10.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8
11.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
12.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8
13.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
14.Week	*The Individual and Social Importance of Scientific and Cultural Activities, Academic and Social Benefits of Participation.	*Participate in activities such as scientific meetings, seminars, panel, workshops, museum education, art and culture trips, cinema, theater, concerts, exhibitions, sporting events, club events and social responsibility projects.	*Types of Events, Planning, Organization Processes, and Implementation Stages.	*Event Selection, Participation Process, and Knowledge Sharing with a Lifelong Learning Perspective.	*Activity-Based Learning, Development of Inquiry and Critical Thinking Skills.	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.5 Ö.Ç.6 Ö.Ç.7 Ö.Ç.8

Assesment Methods %

1 Final : 100.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Araştırma Sunumu	1	2.00	2.00
Seminer	3	3.00	9.00
Diğer	14	4.00	56.00
Panel	3	3.00	9.00
Rapor	1	14.00	14.00
		Total :	90.00
		Sum of Workload / 30 (Hour) :	3
		ECTS :	3.00

Program And OutcomeRelation

	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
L.O. 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avarage	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ders/Program Çıktıları İlişkisi

P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14
0	0	0	0	0	0	0	0	0	0	0	0	0	0

Engel Durumu/Uyarlama Talebi : Engel durumuna ilişkin herhangi bir uyarlama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevsehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.