Firat University

FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

YDİ109	Advance English-I				
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	YDİ109	Advance English-I	2	2	2

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
• To expand general language adequacy by preceding use of the target language and production via receptive language with the help of reading texts covered thoroughly in integration of the four strands of listening, reading, speaking, writing. • Enhancing language skills regarding listening, speaking, reading, writing. • Educating so as to get students to acquire foreign language skills needed in their academic studies and business life. • To teach how to use the topics covered in the flow of the course in four skills of a language (listening, speaking, reading, writing).
Teaching Methods and Techniques:
1)Hello, My Name is Scott 2)Python Boy 3)Car-aoke 4)Mud Day 5)His Mustache Pays 6)Man Wants People to Laugh Review:Units 1-6 7)Tall Hair 8)Man Flies Like a Bird 9)32 Days With Scorpions 10)Reaching to the Sky 11)His Car Is His Kitchen 12)Kind Woman Is a Winner Review:Units 7-12 13)Students Study With Animals 14)A Wild Ride 15)53 and a Half Hot Dogs 16)Man Leaves Wife in the Atlantic 17)Leopard Man 18)Making an International Star Review:Units 13-18
Prerequisites:

Course Coordinator:

Instructors:
Instructor Çerkez Topluk
Assistants:

Recommended Sources

Textbook	:	
Resources	:	Totally True Book 1 by Jann Huizenga (Oxford University Press)
Documents	:	
Assignments	:	
Exams	:	

Course Category

Mathmatics and Basic Sciences	:		**Education**	:	
Engineering	:		**Science**	:	
Engineering Design	:		**Health**	:	
Social Sciences	:	100	**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Unit 1- Hello, My Name Is ScottUnit 2- Python Boy(1. half)		
2	Unit 2- Python Boy(2. half)Unit 3- Car-aoke		
3	Unit 4- Mud DayUnit 5- His Mustache Pays(1. half)		
4	Unit 5- His Mustache Pays(2. half)Unit 6- Man Wants People to Laugh		
5	Review: Units 1-6Unit 7- Tall Hair(1. half)		
6	Unit 7- Tall Hair(2. half)Unit 8- Man Flies Like a Bird		
7	Unit 9- 32 Days With ScorpionsUnit 10- Reaching to the Sky(1. half)		
8	Unit 10- Reaching to the Sky(2. half)Unit 11- His Car Is His Kitchen		
9	Unit 12- Kind Woman Is a WinnerReview: Units 7-12(1. half)		
10	Review: Units 7-12(2. half)Unit 13- Students Study With Animals--VISAS--		
11	Unit 14- A Wild RideUnit 15- 53 1/2 Hot Dogs(1. half)		
12	Unit 15- 53 1/2 Hot Dogs(2. half)Unit 16- Man Leaves Wife in the Atlantic		
13	Unit 17- Leopard ManUnit 18- Making an International Star(1. half)		
14	Unit 18- Making an International Star(2. half)Review: Units 13-18--FINALS--		

Course Learning Outcomes

No	Learning Outcomes
C01	Students learn how to use the topics covered in the flow of the course in four skills of a language (listening, speaking, reading, writing).

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment		
In-Term Studies	**Quantity**	**Percentage**
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**% 100**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration**	**Total Work Load**
Course Duration	14	2	28
Hours for off-the-c.r.stud	14	4	56
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	5	5
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	10	10
Total Work Load			**99**
ECTS Credit of the Course			**3**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P05	P08	P09
All	5	4	4
C01	5	4	4

Firat University

FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

MAT161	Mathematics-1				
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	MAT161	Mathematics-1	4	4	6

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
To understand the concepts of limit, continuity, differentiation and integration
Teaching Methods and Techniques:
Functions, limit and continuity, differentiation and its application, integration and its application
Prerequisites:

Course Coordinator:

Instructors:
Associate Prof. Dr. Münevver YILDIRIM YILMAZ
Assistants:

Recommended Sources

Textbook	:	Thomas' Calculus 1, Thomas. G.B.,Weir. M.D.,Hass J.R., Pearson, Onbirinci Baskı 2010
Resources	:	
Documents	:	
Assignments	:	
Exams	:	

Course Category

Mathmatics and Basic Sciences	:	100	**Education**	:	
Engineering	:		**Science**	:	
Engineering Design	:		**Health**	:	
Social Sciences	:		**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Functions		
2	Limit and Continuity		
3	Limit and Continuity		
4	Derivative,Tangents, rate of change, differentiation rules		
5	Chain Rule, Implicit differentiation, related rates, Linearization		
6	Application of derivatives :Extreme Values		
7	Mean value Theorem		
8	Midterm		
9	Monotonic Functions, Concavity, Optimization		
10	Definition of Integration, Riemann Sums		
11	Application of definite Integrals: Area, Arclength,Volume		
12	Transcendental Functions		
13	Integration by Parts,Trigonometric Integrals,Rational Functions		
14	Final exam.		

Course Learning Outcomes

No	Learning Outcomes
C01	Students learn the definitions of Limit, Continuity, differentiation and integration
C02	Students solve the limit, continuity, differentiation and integration questions
C03	Students learn the definition of exponential and logarithmic functions.
C04	Students find the extreme values of functions
C05	Students evaluate the volumes of solid generated by rotations

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment

In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**% 100**

ECTS Allocated Based on Student Workload

Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	12	6	72
Assignments	5	4	20
Presentation	0	0	0
Mid-terms	1	10	10
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	12	12
Total Work Load			**170**
ECTS Credit of the Course			**6**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P01	P02
All	5	4
C01	4	4
C02	3	
C03	5	4
C04	4	
C05	3	4

Firat University

FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

FİZ111	Physics-1				
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	FİZ111	Physics-1	4	4	6

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
To introduce the fundamental principles and concepts of physics in detail at freshmen level. To show the necessity and importance of physics for other branches of natural sciences and engineering through applications in real life, and industry and technology.
Teaching Methods and Techniques:
Physics and Measurement; Vectors; Motion in One Dimension; Motion in Two Dimensions; Newton's Laws of Motion; Circular Motion and Other Application of Newton's Laws; Work and Kinetic Energy; Potential Energy and Conservation of Energy; Linear Momentum and Collisions; Rotation of a Rigid Object About Fixed Axis; Simple Harmonic Motion; Newton's Law of Gravity; Static Equilibrium and Elasticity, Thermodynamic's Laws, / Heat Engines, Entropy, and the Second Law of Thermodynamics.
Prerequisites:

Course Coordinator:

Instructors:
Prof. Dr. E.GÜZEL
Assistants:

Recommended Sources

Textbook	:	Serway Physics-5th Edition Other Sources 1.David Halliday-Robert Resnick
Resources	:	
Documents	:	
Assignments	:	
Exams	:	

Course Category

Mathmatics and Basic Sciences	:	20	**Education**	:	
Engineering	:	20	**Science**	:	60
Engineering Design	:		**Health**	:	
Social Sciences	:		**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Physics and Measurement and Vectors		
2	Motion in One Dimension and Motion in Two Dimensions		
3	The Laws of Motion and Other Applications of Newton's Laws		
4	Work and kinetic energy		
5	Potential Energy and energy conversation		
6	Linear Momentum and Collisions		
7	Rotation of a Rigid Object About a Fixed Axis		
8	Angular Momentum		
9	Midterm		
10	Static Equilibrium and Elasticity		
11	Oscillatory Motion		
12	Wave Motion		
13	work and heat in thermodynamic processes		
14	Final Exam		

Course Learning Outcomes

No	Learning Outcomes
C01	Students would have up to date information, software, theoretical and practical knowledge on Physics. Moreover, they will be equipped with knowledge sufficiently to use Physics related resources.
C02	Students would acquire theoretical knowledge on subject of Physics theories.
C03	They could apply the theoretical knowledge gained in the field of Physics
C04	Students would be able to analyze the experimental results.
C05	They would acquire the ability to figure out the physical concepts and issues in the field of Physics through scientific methods and interprete them.

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment		
In-Term Studies	**Quantity**	**Percentage**
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**% 100**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration**	**Total Work Load**
Course Duration	14	3	42
Hours for off-the-c.r.stud	16	6	96
Assignments	8	4	32
Presentation	0	0	0
Mid-terms	1	2	2
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	2	2
Total Work Load			**174**
ECTS Credit of the Course			**6**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P01	P02	P08	P09
All	5	4	3	2
C01	5	4	3	2
C02	5	4	3	2
C03	5	4	3	2
C04	5	4	3	2
C05	5	4	3	2

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FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

FİZ105		Physics Lab.			
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	FİZ105	Physics Lab.	2	1	3

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
To show the applications of known as theoretical in mechanical physics and to compare experimental and theoretical data
Teaching Methods and Techniques:
Length measurements, error analysis, one and two dimensional motion, vibration, motion, collisions, conservation laws.
Prerequisites:

Course Coordinator:

Instructors:

Assistants:

Recommended Sources

Textbook	:	Fiz. 156 Test Sheet
Resources	:	
Documents	:	
Assignments	:	
Exams	:	

Course Category

Mathmatics and Basic Sciences	:	100	**Education**	:	
Engineering	:		**Science**	:	
Engineering Design	:		**Health**	:	
Social Sciences	:		**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Introduction of Laboratory Equipment		
2	Physical Measurements and Error Accounts		
3	Speed and acceleration		
4	Projectile motion		
5	Newton's laws of motion- Motion on an inclined plane		
6	Elastic collision		
7	Completely inelastic collision		
8	Midterm exam		
9	Simple Harmonic Motion		
10	Conservation of Energy		
11	Simple Pendulum		
12	Measurement of the acceleration of gravity		
13	Damped Harmonic Motion		
14	Final Exam.		

Course Learning Outcomes

No	Learning Outcomes
C01	Understanding the Mechanics of Physics as Visual

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment		
In-Term Studies	**Quantity**	**Percentage**
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%40
Total		**%80**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration**	**Total Work Load**
Course Duration	0	0	0
Hours for off-the-c.r.stud	14	2	28
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	10	10
Practice	14	2	28
Laboratory	0	0	0
Project	0	0	0
Final examination	1	12	12
Total Work Load			**78**
ECTS Credit of the Course			**3**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P01	P02	P05
All	4	3	5
C01	4	3	5

Firat University

FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

EEM103	Fundamentals of EEE-1				
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	EEM103	Fundamentals of EEE-1	2	2	4

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
Teaching information, elements, laws and theorems underlying of Electrical-Electronics Engineering, achieving to predict how circuit elements behaviour according to the definition relations, generating the formulation relating to a circuit, solving a circuit by using laws/ theorems.
Teaching Methods and Techniques:

Prerequisites:

Course Coordinator:

Instructors:
Prof. Dr. Yakup DEMİR
Assistants:

Recommended Sources

Textbook	:	Electrotechnique-1 lecture notes, Prof. Dr. Şevki HOŞAĞASI
Resources	:	Linear and Nonlinear Circuits, O. L. CHUA, C. A. DOSER, E. S. KUH, Mcgraw-Hill, 1987. ,Çözümlü Elektrik Problemleri-Doğru Akım, Doç.Dr. F.ERALP
Documents	:	
Assignments	:	
Exams	:	

Course Category

Mathmatics and Basic Sciences	:	40	**Education**	:	
Engineering	:	60	**Science**	:	
Engineering Design	:		**Health**	:	
Social Sciences	:		**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Unit systems. Description of electricity. Conductors and non-conductors.		
2	The effects of electricity current. Definitions for current, voltage, and resistance. Calculation of equivalent resistance.		
3	DC' s definition. Kirchhoff's Laws.		
4	The effects of heat on resistance. Introduce basic measurement principles and measurement devices.		
5	Resistance measurement by Wheatstone bridge.		
6	Electrical work and power. Conversion electrical energy into heat.		
7	Energy loss and voltage drop in the lines.		
8	Equivalent circuit of voltage source and its series and parallel combinations. Maximum power theorem.		
9	Thevenin's and Norton's theorems. Superposition theorem.		
10	Capacitors/capacitance, series and parallel combinations of capacitors and DC behaviour of capacitors.		
11	DC behaviour of capacitors.		
12	Magnetic circuits. Inductors/inductance, series and parallel combinations.		
13	DC behaviour of inductors.		
14	Chemical effects of the current, battery and accumulator.		

Course Learning Outcomes

No	Learning Outcomes
C01	Application ability of mathematics, science and engineering knowledge
C02	Describing, modelling, formulating and solving ability of engineering problems

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment		
In-Term Studies	**Quantity**	**Percentage**
Mid-terms	2	%30
Quizzes	6	%20
Assignment	3	%15
Attendance	1	%5
Practice	0	%0
Project	0	%0
Final examination	1	%30
Total		**% 100**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration**	**Total Work Load**
Course Duration	14	2	28
Hours for off-the-c.r.stud	14	4	56
Assignments	8	3	24
Presentation	0	0	0
Mid-terms	2	2	4
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	2	2
Total Work Load			**114**
ECTS Credit of the Course			**4**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P01	P02
All	3	3
C01	3	
C02		3

Firat University

FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

EEM101	Introduction to EEE				
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	EEM101	Introduction to EEE	1	1	2

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
The students will be familiar to their profession. The students will be describing, modelling, formulating and solving engineering problems. They will learn how to make design. They will be aware about ethical rules for their profession. They learn about long-life learning and time planning.
Teaching Methods and Techniques:
Electrical and Electronic Engineering and other engineering areas. Engineering profession and ethical statements. Specialist areas of Electrical and Electronic Engineers Engineering instruments of Electrical and Electronic Engineers Expectation of state sectors from Electrical and Electronic Engineers. (Seminar work) Expectation of private sectors from Electrical and Electronic Engineers. (Seminar work) Techniques for solving engineering problems. Tear and Ver Plank approach. Polya approach Teare ve Ver Planck yaklaşımı, Polya Yaklaşımı. State study on a real engineering problem. A simple application of engineering design process. Team working. Concurrent engineering. Other design factors (Security, environment, esthetic, test and design for productivity). Engineering communication. Academic life abilities and engineering carrier.
Prerequisites:

Course Coordinator:

Instructors:
Associate Prof. Dr. Mehmet Özdemir
Assistants:

Recommended Sources

Textbook	:	Power point presentations
Resources	:	Elektrik ve Bilgisayar Mühendisliği'ne Giriş, C. B. FLEDDERMANN, M. D. BRADSHAW, Çeviren: Erhan AKIN, Nobel Dağıtım, Ankara, 2003
Documents	:	
Assignments	:	
Exams	:	

Course Category

Mathmatics and Basic Sciences	:	20	**Education**	:	
Engineering	:	80	**Science**	:	
Engineering Design	:		**Health**	:	
Social Sciences	:		**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Electrical and Electronic Engineering and other engineering areas.		Handouts
2	Academic life abilities and engineering carrier.		Handouts.
3	Engineering profession and ethical statements.		handouts.
4	Specialist areas of Electrical and Electronic Engineers		Handouts.
5	Engineering instruments of Electrical and Electronic Engineers		Handouts.
6	Techniques for solving engineering problems.		Handouts.
7	Tear and Ver Plank approach. Polya approach		Handouts.
8	State study on a real engineering problem.		Handouts.
9	A simple application of engineering design process.		Handouts.
10	Team work.		handouts.
11	Concurrent engineering.		Handouts.
12	Expectation of state and private sectors from Electrical and Electronic Engineers. (Seminar work)		
13	Engineering communication.		Handouts.
14	Academic life abilities and engineering carrier.		Handouts.

Course Learning Outcomes

No	Learning Outcomes
C01	Working fields of electrical-electronic engineering and comparing to the other engineering fields.
C02	Ethic in engineering proffesion.
C03	Use of engineering devices for electrical-electronic engineers. Expectations of the private and state sectors from electrical-electronic engineers.
C04	Development of the solution techniques to the engineering problems.
C05	Studying on an engineering problem.
C06	Giving oral presentation.

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment		
In-Term Studies	**Quantity**	**Percentage**
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**% 100**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration**	**Total Work Load**
Course Duration	14	1	14
Hours for off-the-c.r.stud	14	2	28
Assignments	1	5	5
Presentation	0	0	0
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
Total Work Load			**49**
ECTS Credit of the Course			**2**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P02	P04	P06	P07	P09
All	4	3	2	4	
C01					2
C02				4	
C03					3
C04	1				
C05	4				
C06		3	2		

Firat University

FACULTY OF ENGINEERING
ELECTRICAL-ELECTRONICS ENGINEERING

BMÜ117		Algorithms and Programming			
Semester	**Course Code**	**Course Name**	**L+P**	**Credit**	**ECTS**
1	BMÜ117	Algorithms and Programming	4	3	7

Language of Instruction:
Turkish
Course Level:
Faculty
Work Placement(s):
No
Department / Program:
ELECTRICAL-ELECTRONICS ENGINEERING
Course Type:
Zorunlu
Goals:
To understand the programming. the mathematical and logical problems necessary for engineering realize on computer
Teaching Methods and Techniques:
The use of programming logic and flowchart, structure and properties of the C language variables, operators defined in the C language, basic input / output functions and to learn the conditional structure. Loops (for, while, do-while) break, continue, goto, arrays, matrix operations, and strings. Functions and subroutines.
Prerequisites:

Course Coordinator:

Instructors:
Asist Prof. Dr. Turgay KAYA
Assistants:

Recommended Sources

Textbook	:	C Programlama Dili, M. KAYA, Ö. KARADUMAN, H. KÜRÜM, Üniversite Kitabevi, 2005.
Resources	:	C How to Program, H. M. DEITEL and P. J. DEITEL, 4th Ed., Prentice Hall, 2004.
Documents	:	
Assignments	:	Other books and problem solving in the Internet
Exams	:	

Course Category

Mathmatics and Basic Sciences	:	20	**Education**	:	
Engineering	:	80	**Science**	:	
Engineering Design	:		**Health**	:	
Social Sciences	:		**Field**	:	

Course Content

Week	Topics	Study Materials	Materials
1	Introduction to programming.		
2	Algorithms and flowcharts.		
3	Algorithms and flowcharts.		
4	The structure and properties of the C language.		
5	variables, operators defined in the C language, process priorities		
6	The basic input / output functions.		
7	Conditional statements (if, if-else, switch).		
8	Conditional statements (if, if-else, switch).		
9	Conditional expressions and sample programs.		
10	Loops (for, while, do-while) break, continue, goto statements.		
11	Loops (for, while, do-while) break, continue, goto statements.		
12	Series. Matrix operations. Strings.		
13	The library functions defined in the C language		
14	Functions and subroutines. Pointers.		

Course Learning Outcomes

No	Learning Outcomes
C01	To give the program and programming logic
C02	the mathematical and logical problems necessary for engineering perform on computer

Program Learning Outcomes

No	Learning Outcome
P08	Ability to work effectively in disciplinary and multi-disciplinary teams.
P02	Ability to define, formulate and solve complex engineering problems; ability to select and apply appropriate modeling and analysis methods for this purpose.
P07	Professional and ethical responsibility
P06	Ability to communicate effectively in Turkish orally and in writing; knowledge of at least one foreign language.
P01	Sufficient knowledge in mathematics, science and electrical and electronic engineering; ability to apply theoretical and applied knowledge in these fields to engineering problems.
P05	Ability to design and conduct experiments, collect data, analyze and interpret results for the study of engineering problems.
P03	Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; for this purpose, the ability to apply modern design methods
P11	Information about the effects of engineering practices on health, environment and safety in universal and social dimensions and the problems of the age; awareness of the legal consequences of er
P09	Awareness of the necessity of lifelong learning; the ability to access information, follow developments in science and technology, and constantly renew oneself.
P10	Information on project management and business practices such as risk management and change management; awareness of entrepreneurship, innovation and sustainable development.
P04	Ability to develop, select and use modern techniques and tools necessary for engineering practice; Ability to use information technologies effectively.

Assessment		
In-Term Studies	**Quantity**	**Percentage**
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**% 100**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration**	**Total Work Load**
Course Duration	14	2	28
Hours for off-the-c.r.stud	14	10	140
Assignments	5	2	10
Presentation	0	0	0
Mid-terms	1	2	2
Practice	0	0	0
Laboratory	14	2	28
Project	0	0	0
Final examination	1	2	2
Total Work Load			**210**
ECTS Credit of the Course			**7**

Course Contribution To Program

Contribution: 1: Very Slight 2:Slight 3:Moderate 4:Significant 5:Very Significant

	P02	P04	P09
C01	5	5	5
C02	5	5	5