Course Description Form	
Course Code and Name	EKO-301 ECONOMY
Course Semester	5
Catalog Content	Economics and economics, economic analysis tools, demand, supply and market, the effects of price and income on demand and supply, mixed economy state, consumer theory, production and costs, full competition and monopoly, market structures and incomplete competition, macroeconomic input and national income, determination of national income, total demand and total supply, money and banking, central banking and monetary system, inflation and underemployment, open economy macroeconomics, international monetary system, international trade,
Textbook	ECONOMY, Prof. Dr. Kurban Ünlüönen, Doç. Dr. Ahmet Tayfun, Nobel Yayıncılık, 2015
Supplementary Textbooks	
Credit	2
Prerequisites of the Course (*Attendance Requirements*)	NO
Type of the Course	COMPULSORY
Instruction Language	TURKISH
Course Objectives	To explain the basic principles of economic science and the rationale of economic thought
Course Learning Outcomes	1. Understand the basic principles of economic science and the rationale of economic thought 2. To express the price mechanism and the formation of prices. 3. To examine the enterprise and its varieties together with production, costs and production factors. 4. Analyze some current developments with money and banking issues. 5. International economic issues, multinational companies, foreign capital, information exchange and Turkey with applications.
Instruction Methods	Lecture, Question and Answer, Demonstration
Weekly Schedule	1. Thinking about Economics and Basic Concepts 2. Common Economic Problems of All Societies 3. Definition of Talebin, Factors Affecting Demand, Demand Flexibility 4. Definition of Supply, Factors Affecting Supply, Supply Flexibility 5. Market and Market Price Formation, Market Types 6. Government's Price Intermediary, Ceiling-Based Price Practice 7. Consumer Balance 8. Production and Manufacturing Balance 9. Firm Balance 10. National Income, Factors Determining National Income 11. Employment and Unemployment 12. Income Distribution 13. Money and the Bank 14. Foreign Trade 15. Growth and Development

Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours 2 Weekly tutorial hours Reading Activities Internet browsing, library work Designing and implementing materials Report preparing 4 Preparing a Presentation 2 Presentations 2 Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	1	60
Assignment		0
Application		0
Projects		0
Practice		0
Quiz		0
Percent of In-term Studies (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	**Total Number of Weeks**	**Duration (weekly hour)**	**Total Period Work Load**
Weekly Theoretical Course Hours	15	2	30
Weekly Tutorial Hours			
Reading Tasks			
Studies			
Material Design and Implementation			
Report Preparing	2	2	4
Preparing a Presentation	1	2	2
Presentations	1	2	2
Midterm Exam and Preperation for Midterm Exam			
Final Exam and Preperation for Final Exam			
Other (should be emphasized)			
Total Workload			38
Total Workload / 25			1.5
Course Credit (ECTS)			2

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Evaluate and classify the new information in the area.				x	
2	Develop a new idea, method, design and application for the field.					x
3	It makes critical analysis, synthesis and evaluation of new and complex ideas.					x

	4	Develop original methods using high-level mental skills such as creative thinking and critical thinking in the field.				x	
	5						
	6						
	7						
	8						
	9						
	10						
The Course's Lecturer(s) and Contact Informations	1. Dr. Öğr. Üyesi Orhan ERDEN omerasal@gazi.edu.tr2.						

Course Description Form		
Course Code and Name	**ENG 101 - Foreign Language-I**	
Course Semester	1	
Catalog Content	Personal pronouns, possessive adjectives, nouns, and their plural forms, demonstrative, adjectives, this/that and these/those, some adverbs, Simple Present Tense, Simple Present forms of Be in positive, negative statements and in questions and answers. Conjunctions, demonstrative pronouns, definite, indefinite articles, verbal nouns personal pronouns as objects, modal verbs can, must and their usage with the examples.	
Textbook	- Elementary Course boks - Essential Grammar in Use	
Supplementary Textbooks	- Oxford Dictionary - Passport to English	
Credit	**2 ECTS**	
Prerequisites of the Course (*Attendance Requirements***)**	No Prerequisites - %70 Attendance Requirements	
Type of the Course	Obligatory	
Instruction Language	Turkish	
Course Objectives	The aim is to teach the students some basic grammar rules at the elementary level.	
Course Learning Outcomes	The student learns to introduce himself, ask for and give names, greet people at different times of the day, say numbers, say what nationality he is, ask about people's nationality, ask where people from, ask about and identify objects, ask and talk about likes and dislikes, ask and talk about routines ask and talk about present activities ask and tell the time, ask and talk about ability.	
Instruction Methods	Expression	
Weekly Schedule	**1. Week**	Verb to be (positive, negative and question forms), subject pronouns, possessive adjectives, question word (what) and exercises
	2. Week	Nouns and their plural forms , numbers (ordinal and cardinal) days, months, seasons, question words (who, how, how old, where)
	3. Week	Present continuous tense (positive, negative and question forms) exercises
	4. Week	Verbal nouns examples and exercises
	5. Week	Simple present tense (positive, negative and question forms), some adverbs of time (always, usually, often, sometimes, never)
	6. Week	Examples and exercises, question word what time, prepositions of time (in, on, at)
	7. Week	General review
	8. Week	Midterm exam
	9. Week	Modal verb (can) positive, negative and question forms, examples and exercises, family members
	10. Week	Must and Have to (positive, negative, question forms), the difference between must and have to
	11. Week	Exercises with can, must, have to
	12.	Subject pronouns, object pronouns, possessive adjectives,

	Week	possessive pronouns
	13. Week	Text studies with the related grammar points
	14. Week	Vocabulary study
	15. Week	General review

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Weekly theoretical course hours: 2

Weekly tutorial hours: 2

Reading Activities: 10

Internet browsing, library work Designing and implementing materials: 8

Report preparing: 0

Preparing a Presentation: 0

Presentations: 0

Preparation of Midterm and Midterm Exam: 6

Final Exam and Preparation for Final Exam: 6

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	1	40
Assignment	1	20
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	10	2	20
Weekly Tutorial Hours			
Reading Tasks	5	2	10
Studies	4	2	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	3	2	6
Final Exam and Preperation for Final Exam	3	2	6
Other (should be emphasized)			
Total Workload	-	-	50
Total Workload / 25			50/25
Course Credit (ECTS)			2

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.		x			
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.					x
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.		x			
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.			x		

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.			x			
6	Ability to work efficiently in intra-disciplinary teams.				x		
7	Ability to work efficiently in multi-disciplinary teams.		x				
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.					x	
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.					x	
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x		
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.			x			
12	Knowledge on practices in business, such as project management, risk management and change management.		x				
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.					x	
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.			x			

	15	Knowledge about awareness of the legal consequences of engineering solutions.			x			
The Course's Lecturer(s) and Contact Informations	Department Management tasarim@gazi.edu.tr							

Course Description Form	
Course Code and Name	Fiz-103 / PHYSICS-I
Course Semester	1
Catalog Content	Vector, Force, Motion, Work, Energy, Momentum, Rotational Kinematics
Textbook	Serway-I Physics for Scientists and Engineers Raymond A. Serway
Supplementary Textbooks	Principles of Physics-I Frederick J. Bueche David A. Jerde
ECTS	6
Prerequisites of the Course (*Attendance Requirements***)**	Compulsory
Type of the Course	Fundamental sciences
Instruction Language	Turkish
Course Objectives	To gain skills how to solve the basic mechanical and physical problems.
Course Learning Outcomes	1- To learn fundamentals of mechanics. 2-Facilitate the solution and analysis of engineering problems.
Instruction Methods	The mode of delivery of this course is face to face
Weekly Schedule	1. Week : Physics and Measurement 2. Week : Motion in One Dimension 3. Week: Vectors 4. Week: Motion in Two Dimensions 5. Week : The Laws of Motion 6. Week : Circular Motion 7. Week: Work 8. Week: **Midterm** 9. Week: Kinetic Energy 10. Week: Potential Energy 11. Week: Conservation of Energy 12. Week: Linear Momentum 13. Week: Collisions 14. Week: Rotation of a Rigid Object about a Fixed Axis 15. Week: Rotation of a Rigid Object about a Fixed Axis (cont.) 16. Week: **Final Exam**
Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours: 3 hours Weekly tutorial hours :2 hours Reading Activities :28 hours Internet browsing, library work : 28 hours Preparation of Midterm and Midterm Exam :10hours Final Exam and Preparation for Final Exam : 10 hours Other: 6 hours

Assessment Criteria

	Numbers	Total Weighting (%)
Midterm Exams	1	60
Assignment	0	0
Application	0	0
Projects	0	0
Practice	0	0
Quiz	0	0
Percent of In-term Studies (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40
Attendance	0	0

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	3	42
Weekly Tutorial Hours	14	2	28
Reading Tasks	14	2	28
Studies	14	2	28
Material Design and Implementation	0	0	0
Report Preparing	0	0	0
Preparing a Presentation	0	0	0
Presentations	0	0	0
Midterm Exam and Preparation for Midterm Exam	1	10	10
Final Exam and Preperation for Final Exam	1	10	10
Other (should be emphasized)	6	1	6
Total Workload			152
Total Workload / 25			6.08
Course Credit (ECTS)			6

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			x		
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.				x	

	3	Ability to work efficiently in intra-disciplinary teams.					x
	4	Ability to work efficiently in multi-disciplinary teams; ability to work individually.				x	
	5	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.				x	
	6	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x	
	7	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.				x	

The Course's Lecturer(s) and Contact Information	1. Name, Surname of the Lecturer(s) : E-mail address:

Course Description Form	
Course Code and Name	**FİZ 104 - Physics**
Course Semester	2
Catalog Content	Electric Fields, Gauss's Law, Electrical Potential, Capacitance and dielectrics, Current and Resistance, Direct Current Circuits, Magnetic Fields, Sources of Magnetic Fields, Faraday's Law, Inductance, Alternating Current Circuits, Electromagnetic Waves, Applications.
Textbook	Physics For Scientists and Engineers with Modern Physics, R.Serway, Saunders College Publishing, 1990.
Supplementary Textbooks	
Credit	**6 ECTS**
Prerequisites of the Course (*Attendance Requirements***)**	No Prerequisites - %70 Attendance Requirements
Type of the Course	Obligatory
Instruction Language	Turkish
Course Objectives	To introduce the basic concepts of electricity and magnetism in detail, to make students comprehend and to use them in solving engineering problems.
Course Learning Outcomes	Learning the basic concepts of electricity and magnetism. Facilitating the solution and analysis of engineering problems.
Instruction Methods	Expression

Weekly Schedule	**1. Week**	Electric Fields: Properties of electric loads, Conductors and insulators, Coulomb's law, Electric fields, Areas of continuous load distribution, Movements of charged particles in electric field
	2. Week	Gauss's Law: Electric flux, Gauss's law and its applications, electrostatic equilibrium, comparison of Gauss's law with Coulomb's law, obtaining Gauss's law
	3. Week	Electrical Potential: Potential differences and potential, Potential energy, Potential of continuous load distributions, Potential of loaded conductors and insulators
	4. Week	Capacitance and dielectrics: Definition and calculation of capacitance, Energy in capacitors storage, electric field dipoles, dielectric atomic interpretation
	5. Week	Current and Resistance: Electric current, Resistors and Ohm's Law, Resistance and Temperature, Electric power and power, superconductors
	6. Week	Direct Current Circuits: Electromotive force, Connecting resistors, Kirchhoff rules, RC circuits.
	7. Week	Magnetic fields: Magnetic field, forces acting on magnetic fields, loads and current carrying conductors, Applications, Hall Effect
	8. Week	Midterm Exam
	9. Week	Sources of Magnetic Fields: Biot-Savart's Law: Biot-Savart's Law and Applications, Ampere's Law and its applications, Magnetic field of the solenoid, Magnetic flux, Gauss's Law for Magnetism, Magnetic properties of matter, magnetic field of the earth
	10. Week	Faraday's Law: Faraday's induction law and its applications, emf, Lenz's Law, Induced emf, Maxwell Equations
	11. Week	Inductance: Self-induction, RL circuits, Magnetic field energy, mutual inductance, LC circuits, RLC circuits
	12. Week	Alternating Current Circuits: ac sources, resistors in ac circuits, capacitors, inductors, series connected AC circuits, power
	13. Week	Electromagnetic Waves: Maxwell Equations, Plane electromagnetic waves, transport of energy by electromagnetic waves
	14. Week	Continue to electromagnetic waves.
	15. Week	Applications and problem solutions.

Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours: 4 Weekly tutorial hours: 4 Reading Activities: 6 Internet browsing, library work Designing and implementing materials: 8 Report preparing: 0 Preparing a Presentation: 0 Presentations: 0 Preparation of Midterm and Midterm Exam: 8 Final Exam and Preparation for Final Exam: 8

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	1	40
Assignment	1	20
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	15	4	60
Weekly Tutorial Hours	15	4	60
Reading Tasks	2	3	6
Studies	2	4	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	2	4	8
Final Exam and Preperation for Final Exam	2	4	8
Other (should be emphasized)			
Total Workload	-	-	150
Total Workload / 25			150/25
Course Credit (ECTS)			6

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.					x
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.					x
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.				x	
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.					x

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.				x		
6	Ability to work efficiently in intra-disciplinary teams.			x			
7	Ability to work efficiently in multi-disciplinary teams.			x			
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.		x				
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.			x			
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x		
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.			x			
12	Knowledge on practices in business, such as project management, risk management and change management.				x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.				x		
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.					x	

	15	Knowledge about awareness of the legal consequences of engineering solutions.				x		
The Course's Lecturer(s) and Contact Informations	Department Management tasarim@gazi.edu.tr							

COURSE DESCRIPTION	
Course code and title	FİZ156, PHYSICS LABORATORY
Course Semester	1
Course Content	Introduction of laboratory and laboratory equipment, Physical measurement and error, Export to Experimental Data to the Table, Graph drawing and using graphs, writing reports, Velocity, Acceleration, Two dimensional motion, Newton's Laws of Motion in the inclined Plane, Collisions, Simple Harmonic Motion
Recommended or Required Reading	Laboratory Manual for General Physics, Physics 1 For Scientists and Engineers, 5 th edition, Raymond A. Serway, Robert J. Beichner
Recommended or Required Reading	Young Freedman UniversityPhysics 13th Edition Fundamentals of Physics [10th Edition] Halliday & Resnick
Credits of Course (ECTS)	2
Prerequisites	Lectures must be attended by students
Type of Course	Basic Science Education
Language of Instruction	English
Purpose and Object of the Course	Examining of basic mechanical events in nature with experimental and also study with fundamental information. Obtaining and learning of the experimental data and using this data
Learnıng Outcomes Of The Course Unıt	1. Learning measurement methods and error calculation 2.Export to Experimental Data to the Table, learning of drawing data graphs, benefits of the graphs and writing report 3. Examing the results of reproducible and error-including experiments with the classical mechanical formulas
Planned Learning Activities and Teaching Methods	Face to face
Course Per Week	1.Week: Introduction of laboratory and laboratory equipment 2.Week: Physical measurement and error 3.Week: Export to Experimental Data to the Table, learning of drawing data graphs, benefits of the graphs and writing report 4.Week: Making of "Velocity, Acceleration" experiment 5.Week: Evaluating of results of "Velocity, Acceleration" experiment and writing reports 6.Week: Making of "Two dimensional motion" experiment 7.week: Evaluating of results of "Two dimensional motion" experiment and writing reports 8.Week: Making of "Newton's Laws of Motion in the inclined Plane" experiment 9.Week: Evaluating of results of "Newton's Laws of Motion in the inclined Plane" experiment and writing reports 10.Week: Making of "Collisions" experiment 11.Week: Evaluating of results of "Collisions" experiment and writing reports 12. Week: Midterm exam, Make-up experiment 13. Week: Making of "Simple Harmonic Motion" experiment 14. Week: Evaluating of results of "Simple Harmonic Motion" experiment and writing reports 15. Week: Final
Workload	Theoretical Study Hours of Course Per Week:0 Practising Hours of Course Per Week: 2 hours Reading:0 Searching in Internet and Library:0 Designing and Applying Materials:0 Preparing Reports: 14 hours Preparing Presentation:0 Presentation:0 Mid-Term and Studying for Mid-Term: 5 hours Final and Studying for Final: 5 hours

Assessment Methods And Criteria

	Number	Total contribution (%)
Mid-terms	1	30
Assignment	1	20
Exercise	0	0
Projects	0	0
Practice	0	0
Quiz	5	2
Contribution of In-term Studies to Overall Grade (%)		60
Contribution of Final Examination to Overall Grade (%)	1	40
Attendance		0

Efficiency

Activities	Total number of weeks	Time (Weekly)	Total efficiency at the end of the semester
Theoretical Study Hours of Course Per Week	14	0	0
Practicing Hours of Course Per Week	14	2	28
Reading	0	0	0
Searching in Internet and Library	0	0	0
Designing and Materials, Applying	0	0	0
Preparing Reports	14	1	14
Preparing Presentation	0	0	0
Presentation	0	0	0
Mid-Term and Studying for Mid-Term	1	5	5
Final and Studying for Final	1	5	5
Other	0	0	0
TOTAL WORKLOAD			52
TOTAL WORKLOAD/ 25			2.08
ECTS of Course			2

Course's Contribution To Program

No	PROGRAM LEARNING OUTCOMES	1	2	3	4	5
1	Has necessary theoretical and practical knowledge in mathematics, life sciences, computation and computer engineering fields				x	
2	Defines engineering problems, comes up with feasible analytical approaches for the solution, selects and applies appropriate modeling methods and ICT techniques				x	
3	Has the ability of surveying the literature, gathering data, setting up and doing experiments, analyzing the results towards the solution of an engineering problem				x	
4	Has the ability of designing and evaluating the system (which is the outcome of a solved problem) under real life requirements and constraints.				x	

	5	To realize the system design, applies efficient project management by ensuring careful resource and process planning				x
	6	In multidisciplinary and disciplinary projects, works efficiently as a result oriented team leader or player				x
	7					
	8					
	9					
	10					
Name of Lecturer(s) and E-mail(s) of Lecturer(s)	Prof. Dr. Haluk KORALAY koralay@gazi.edu.tr					

Appendix 7: Course Description Form

COURSE DESCRIPTION FORM	
Course Code and Name	ISG 301 Occupational Health and Safety – I
Course Semester	5
Catalog Content	Basic concepts of occupational health and safety, national legislations, international organizations and contracts, business law, personal protective equipment, precautions to be taken at work place and its extensions, emergency exit routes and gates, risk factors (physical, chemical, biological, psychosocial etc.), fire, explosion, emergency plans.
Textbook	1. İş Sağlığı ve Güvenliği Temel Eğitimi. Aydın ŞIK, Semra Akar ŞAHİNGÖZ, Detay Yayıncılık, Ankara, 2015. 2. İş Güvenliği. Ercüment N. DİZDAR, Murathan Yayınevi, Trabzon 2006. İş Sağlığı ve Güvenliği. Editörler: Mustafa ALTIN, Şakir TAŞDEMİR, Eğitim Yayınevi. Konya, 2017.
Supplementary Textbooks	İş Güvenliği Kültürü. Salih DURSUN. Beta Yayınları, İstanbul, 2012
Credit (ECTS)	2
Prerequisites of the Course *(Attendance Requirements)*	No prerequisite Attendance requirement 70 %
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	The aim of this course is to teach the students the basic concepts related to occupational health and safety, to learn the legislations related to occupational health and safety, international organizations and contracts and to learn the risks that may be encountered in working life related to occupational health and safety.
Course Learning Outcomes	1. To be able to find, display and express legislations related to occupational health and safety, and national - international organizations and contracts, 2. To be able to list, distinguish, personal safety equipment. 3. To be able to list, describe and select health and safety signs 4. To be able to list the precautions that can be taken against fire and explosions 5. To be able to define and classify the risks that may be encountered in working life 6. To be able to examine the emergency plans and to draw conclusions.
Instruction Methods	Face to face

Weekly Schedule

1. Week Aim and importance of basic OHS concepts, overview of occupational health and safety, security culture
2. Week Basics of law, business law, ethics
3. Week OHS legislation (Law No. 6331), International organizations (ILO)
4. Week Occupational health and safety services, occupational health and safety boards, management systems
5. Week Personal protective equipment (PPE)
6. Week Health and safety signs
7. Week Health and safety precautions to be taken in workplace buildings and their extensions, emergency exit routes and gates
8. Week Midterm exam
9. Week Physical risks, ergonomics
10. Week Chemical risks
11. Week Fire
12. Week Measures against explosion
13. Week Biological risks, psychosocial risks, work hygiene, working environment surveillance
14. Week Shift work and night work
15. Week Emergency plans, first aid

Weekly theoretical course hours	: 2 hours
Weekly tutorial hours	: -
Reading Activities	: 5 hours
Internet browsing, library work	: 5 hurs
Designing and implementing materials	: -
Report preparing	: -
Preparing a Presentation	: -
Presentations	: -
Preparation of Midterm and Midterm Exam	: 6 hours
Final Exam and Preparation for Final Exam	: 6 hours

Assessment Criteria

Criteria	Numbers	Total Weighting (%)
Midterm Exams	1	60
Assignment		
Application		
Projects		
Practice		
Quiz		
Attendance		
Percent of In-term Studies (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	2	28
Weekly Tutorial Hours			
Reading Tasks	5	1	5
Studies	5	1	5
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			

Midterm Exam and Preparation for Midterm Exam	2	3	6	
Final Exam and Preparation for Final Exam	2	3	6	
Other (should be emphasized)				
Total Workload			50	
Total Workload / 25			2,00	
Course Credit (ECTS)			2	

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.					
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.					
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.					
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.					
5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.					
6	Ability to work efficiently in intra-disciplinary teams.				x	
7	Ability to work efficiently in multi-disciplinary teams.				x	
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.				x	
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.					x
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x	
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.					x
12	Knowledge on practices in business, such as project management, risk management and change management.			x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.	x				
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.					x
15	Knowledge about awareness of the legal consequences of engineering solutions.					x

The Course's Lecturer(s) and Contact Information	Departments

Appendix 7: Course Description Form

COURSE DESCRIPTION FORM	
Course Code and Name	ISG 302 Occupational Health and Safety – II
Course Semester	6
Catalog Content	Work accidents and occupational diseases. Occupational health and safety in working at closed areas, working with electricity, in the design, manufacture and use of work equipment, working at high altitudes and in maintenance and repair works. Occupational health and safety in field-specific studies. Risk analysis and evaluation.
Textbook	1. İş Sağlığı ve Güvenliği Temel Eğitimi. Aydın ŞIK, Semra Akar ŞAHİNGÖZ, Detay Yayıncılık, Ankara, 2015. 2. İş Güvenliği. Ercüment N. DİZDAR, Murathan Yayınevi, Trabzon 2006. İş Sağlığı ve Güvenliği. Editörler: Mustafa ALTIN, Şakir TAŞDEMİR, Eğitim Yayınevi. Konya, 2017.
Supplementary Textbooks	İş Güvenliği Kültürü. Salih DURSUN. Beta Yayınları, İstanbul, 2012
Credit (ECTS)	2
Prerequisites of the Course *(Attendance Requirements)*	No prerequisite Attendance requirement 70 %
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	The purpose of this course is to teach students measures related to occupational healt and safety in occupational accidents, occupational diseases, working in closed areas, in the design, production and use of work equipment, in electrical work and during maintanance works and to ensure that students are able to conduct risk analysis and assessment of their profession.
Course Learning Outcomes	1. To be able to prevent and take measures related to work accidents and occupational diseases. 2. To be able to evaluate the risks related to occupational health and safety in the design, manufacture and use of work equipment, during working in closed areas, working with electricity, working at high attitudes, maintenance-repair work, 3. To be able to evaluate the risks and take necessary precautions related to occupational health and safety in field-specific studies 4. Perform risk analysis, evaluate the results, take precautions
Instruction Methods	Face to face

Weekly Schedule

1. Week Work accidents and occupational diseases
2. Week Occupational health and safety when working in closed areas
3. Week Occupational health and safety when working with electricity
4. Week Business health and safety in the design, manufacture and use of work equipment
5. Week Occupational health and safety during working at high attitudes
6. Week Occupational health and safety during working at high attitudes
7. Week Work safety in maintenance and repair work
8. Week Midterm exam
9. Week Occupational health and safety in field-specific studies
10. Week Occupational health and safety in field-specific studies
11. Week Occupational health and safety in field-specific studies
12. Week Risk analysis and evaluation
13. Week Risk analysis and evaluation
14. Week Risk analysis and evaluation
15. Week Risk analysis and evaluation

Weekly theoretical course hours	: 2 hours
Weekly tutorial hours	: -
Reading Activities	: 2 hours
Internet browsing, library work	: 2 hours
Designing and implementing materials	: -
Report preparing	: 6 hours
Preparing a Presentation	: -
Presentations	: -
Preparation of Midterm and Midterm Exam	: 6 hours
Final Exam and Preparation for Final Exam	: 6 hours

Assessment Criteria

Criteria	Numbers	Total Weighting (%)
Midterm Exams	1	60
Assignment		
Application		
Projects		
Practice		
Quiz		
Attendance		
Percent of In-term Studies (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	2	28
Weekly Tutorial Hours			
Reading Tasks	2	1	2
Studies	2	1	2
Material Design and Implementation			
Report Preparing	2	3	6
Preparing a Presentation			
Presentations			

Midterm Exam and Preparation for Midterm Exam	2	3	6	
Final Exam and Preparation for Final Exam	2	3	6	
Other (should be emphasized)				
Total Workload			50	
Total Workload / 25			2,00	
Course Credit (ECTS)			2	

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.					
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.					
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.					
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.					
5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.					
6	Ability to work efficiently in intra-disciplinary teams.				x	
7	Ability to work efficiently in multi-disciplinary teams.				x	
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.				x	
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.					x
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x	
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.					x
12	Knowledge on practices in business, such as project management, risk management and change management.			x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.	x				
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.					x
15	Knowledge about awareness of the legal consequences of engineering solutions.					x

The Course's Lecturer(s) and Contact Information	Departments

Course Description Form	
Course Code and Name	IST-201 Statistics
Course Semester	1
Catalog Content	Ability to learn the basic concepts of statistics and use of statistics in the scientific fields
Textbook	Esin, A., Ekni, M., Gamgam, H., 2006, İstatistik, Gazi Kitabevi.
Supplementary Textbooks	Ünver,Ö., Gamgam, H., Altunkaynak, B., 2006, Temel İstatistik Yöntemler, Seçkin yayınevi
Credit	3
Prerequisites of the Course (*Attendance Requirements*)	There is no prerequisite or co-requisite. 70% is compulsory attendance of the course.
Type of the Course	Compulsory / Proffesional
Instruction Language	Turkish
Course Objectives	Ability to learn the basic concepts of statistics and use of statistics in the scientific fields. To gain the ability to interpret data with descriptive techniques.
Course Learning Outcomes	1. Ability to learn the basic definition and use of statistics in the fields 2. Ability to obtain the basic concepts of statistics 3. Collecting, displaying and interpreting of data 4. Ability to summarizing the data with frequency distributions and graphs 5. Calculate and interpret measures of central tendency 6. Calculate and interpret the measures of dispersion 7. Ability to comment on the distribution of the data 8. Ability to comment on the confidence interval and hypothesis test
Instruction Methods	The mode of delivery is face to face
Weekly Schedule	1. Basic statistical concepts 2. Data arrangement 3. Frequency distributions and tables 4. Measures of central tendency 5. Measures of central tendency 6. Measures of dispersion 7. Mid-term examination 8. Measures of dispersion 9. Basics of probability 10. Bernoulli distribution, Binomial distribution 11. Normal distribution 12. Central limit theorem, Sampling distribution 13. Confidence Interval 14. Confidence Interval 15. Hypothesis Testing 16. Final exam

Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours 3 Reading Activities 14 Studies 14 Library Activities Preparation for midterm and midterm 8 Preparation for final exam and final exam 14

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	1	60
Assignment		
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload	**Activity**	**Total Number of Weeks**	**Duration (weekly hour)**	**Total Period Work Load**
	Weekly Theoretical Course Hours	14	3	48
	Weekly Tutorial Hours			
	Reading Tasks	7	2	14
	Studies	7	2	14
	Material Design and Implementation			
	Report Preparing			
	Preparing a Presentation			
	Presentations			
	Midterm Exam and Preperation for Midterm Exam	2	4	8
	Final Exam and Preperation for Final Exam	2	7	14
	Other (should be emphasized)			
	Total Workload			92
	Total Workload / 25			3.68
	Course Credit (ECTS)			4

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	CO1				X	
2	CO2				X	
3	CO3					X
4	CO4			X		
5	CO5				X	
6	CO6				X	
7	CO7			X		
8	CO8				X	
9	CO9			X		
10	CO10		X			

The Course's Lecturer(s) and Contact Informations

1.Assoc. Prof. Dr. Meltem Ekiz, email: ozmeltem@gazi.edu.tr
2. Res. Assist. Dr. Sinem Tuğba Şahin Tekin, email:sinemsahin@gazi.edu.tr
3. Res. Assist. Dr. Esra Gökpınar, email:eyigit@gazi.edu.tr
4. Res. Assist. Dr. Hatice Tül Kübra Akdur, email: hatice_senol@wsu.edu
5. Res. Assist. Dr. Deniz Özonur, email:denizozonur@gazi.edu.tr

NO	PROGRAM LEARNING OUTCOMES
CO1	Having a sufficient substructure concerning basic mathematics as well as natural and applied sciences, also having the competence in use of theoretical knowledge along with application experiences in engineering solutions.
CO2	Equipped with determination, formulation and solution skills of complex engineering problems, and having the ability to select and apply appropriate analysis and modeling methods.
CO3	Ability to design a complex system, process, equipment or product meeting certain needs under realistic limitations and conditions. In this way, having the skill to use modern designing methods (realistic limitations and conditions include subjects such as economics, environmental conditions, sustainability, productivity, ethics, health, security, social and political problems).
CO4	Having the ability to develop, select and use of modern methods and tools, talented to use of informatics technologies effectively.
CO5	Having the ability to design an experimental setup, carry out experiments, acquire data, analyze and interpret the outcomes.

CO6	Having the ability to study in interdisciplinary and multidisciplinary teams effectively and talented to carry out individual studies.
CO7	Having the ability in written and oral Turkish communication and use of a foreign language (at least).
CO8	Awareness of the necessity of lifelong learning, having the ability to access knowledge, following developments in science and technology and renewing himself/herself.
CO9	Entrepreneurial and innovative approach has to be one active.
CO10	Project planning and to disseminate the project results.

COURSE DESCRIPTION FORM	
Course Code and Name	KIM 103 Chemistry
Course Semester	2
Catalog Content	Matter: Its Properties and Measurement; Atoms and the Atomic Theory; Electrons and The Periodic Table and Some Atomic Properties; Stoichiometry and Introduction to Chemical Reactions; Chemical Bonding; Gases; Chemical Thermodynamics; Intermolecular Forces: Liquids and Solids; Solutions and Their Physical Properties; Chemical Kinetics; Principles of Chemical Equilibrium; Acids and Bases and Additional Aspects of Acid-Base Equilibria; Electrochemistry.
Textbook	Genel Kimya Temel Kavramlar, Raymond CHANG, Çeviri editörleri;Tahsin UYAR, Serpil AKSOY, Recai İNAM
Supplementary Textbooks	General Chemistry: Principles and Modern Applications Editors: Petrucci, Harwood, Herring.
Credit	6
Prerequisites of the Course (Attendance Requirementsmust be indicated here)	There is no prerequisite or co-requisite for this course
Type of the Course	Compulsory
Teaching Language	Turkish
Course Objectives	Be able to learn basic chemistry knowledge required in engineering education.
Course Learning Outcomes	1.Be able to demonstrateand use the basic knowledge on atomic structure and atomic theories and periodic table. 2. Be able to make calculations in chemical reactions by using stoichiometry. 3. Be able to applyseveral theories in liquid solutions and gases and solve problems. 4. Be able to employ heat, work, enthalpy and internal energy changes. 5. Be able to use chemical bonding knowledge and different theories of chemical bonding in order to demonstrate 3-D structure of chemical compounds. 6. Be able to use the knowledge of solid crystals to solve the problems. 7. Be able to solve chemical thermodynamics, chemical equilibrium and acid-bases problems. Be able to use the knowledges in daily life.
Teaching Methods	The course will be taught face to face.
Weekly Schedule	**1. Week** Matter: Its Properties and Measurement: The Aim of Chemistry, Classification of Chemistry and Research Areas, Measurement of Matter: SI (Metric) Units, Density and Percent Composition: Their Use in Problem Solving, Unit Conversion, Significant Figures, Rounding Numbers. **2. Week**Atoms and the Atomic Theory: Atom, Proton, Neutron, Electron, Isotopes, Elements, Molecule, Compound, Avogadro Number, Atomic Mass, Mole Concept, Composition of Chemical Compounds, Naming Compounds: Organic and Inorganic Compounds, Oxidation States. **3. Week**Electrons and Introduction to the Periodic

	Table: Electromagnetic Radiation, Atom Spectrum, Bohr Atom Model, Quantum Theory, Quantum Numbers and Electron Distribution, Periodic Table, Atom and Ion Radius, Electronegativity, Ionization Potential, Electron Affinity, Magnetic Properties, Group and Period Determination of Elements. **4. Week** Stoichiometry and Chemical Reactions: Formulas of chemical Compounds, Chemical Equations and Stoichiometry, Limiting Reactant, Reaction Yield Calculations. Solutions, Electrolyte and Non-Electrolyte Solutions. Solution Concentrations, Molarity, Molality, Mol Ratio, Composition Percentage, Arrhenius Acids-Bases, Acid-Base Reactions, Precipitation Reactions, Oxidation-Reduction (Redox) Reactions, Half-Reaction Method, Balancing of Redox Reactions. **5. Week** Chemical Bonding: Overview of Chemical Bonding, Covalent-Ionic-Metallic Bonding, Electronegativity and Polarity, Dipole Moment, Lewis Theory, Writing Lewis Structures, Formal Charge. **6. Week** Gases: Properties of Gases, The Simple Gas Laws, Boyle-Charles-Avogadro Laws, Ideal and General Gas Equation, Gases in Chemical Reactions, Mixtures of Gases, Dalton's Law, Diffusion of Gases, Graham's Law. **7. Week** Chemical Thermodynamics: Concepts in Thermodynamics, System, Surrounding, Work, Heat and Energy, State and Path-Dependent Functions, First Law of Thermodynamics, Internal Energy, Enthalpy, Heat of Reaction Measurements, Calorimetry, Standard Enthalpy of Formation, Indirect Determination of Enthalpy, Hess Law, Spontaneous and Non-Spontaneous Change, Entropy, Second Law of Thermodynamics, Free Energy, Standard Gibbs Energy Change and Equilibrium. **8. Week**MIDTERM **9. Week**Intermolecular Forces: Liquids and Solids: Van der Waals Forces, Hydrogen Bond, Some Properties of Liquids, Surface Tension, Viscosity, Vapor Pressure of Liquids, Phase Diagram of Water (Boiling Point, Critical Temperature and Pressure), Vapor Pressure-Temperature Relation, Clausius-Clapeyron Equation, Some Properties of Solids, Melting, Sublimation, Solid Structures, Crystal Network, Simple Cubic Crystals. **10. Week**Solutions and Their Physical Properties: Types of Solutions, Solubilities of Gases, Henry's Law, Vapor Pressure of Ideal Solution, Raoult and Dalton Laws, Colligative Properties, Molecular Weight Determination via Vapor Pressure Depression, Boiling-Point Elevation, Freezing-Point Depression, Osmotic Pressure. **11. Week**Chemical Kinetics: The Rate of a Chemical Reaction, The Rate Law, Effect of Concentration on Reaction Rates, Zero and First Order Reactions, Activation Energy and The Effect of Temperature on Reaction Rate, Arrhenius Equation, Catalysis. **12. Week**Principles of Chemical Equilibrium: Chemical Equilibrium Concept, Dynamic Equilibrium, Equilibrium Constant Expression (K_p, K_c), The Reaction Quotient, Q, Predicting the Direction of Net Change, The Temperature Dependence of Equilibrium Constant, Altering Equilibrium Conditions, Le Chatelier's Principle.

13. Week Acids and Bases and Additional Aspects of Acid-Base Equilibria: Arrhenius, Lowry-Bronsted and Lewis Acid-Bases Theories, Self-Ionization of Water and the pH Scale, Strong and Weak Acid-Bases, pH Determination of Acid and Bases, Buffer Solutions, Solubility Equilibrium.
14. Week Electrochemistry: Galvanic and Electrolytic Cells, Standard Electrode Potentials, Cell Diagrams (Cell Schemes), Standard Cell Potential, The Effect of Gibbs Free Energy Change on Equilibrium Constant, Electrolysis and Batteries.

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Weekly Theoretical Course Hours 4
Reading Activities 28
Literature Search, Library Work 28
Midterm Exam and Preparation of Midterm Exam 10
Final Exam and Preparation for Final Exam 10
Other (should be emphasized) 10

Assessment Criteria

	Numbers	**Total Contribution (%)**
Midterm Exams	1	60
Assignments		
Applications		
Projects		
Practices		
Quizzes		
Percentage of In-term Studies (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	**Total Number of Weeks**	**Duration(weekly hour)**	**Total Term Work Load**
Weekly Theoretical Course Hours	14	4	56
Weekly Tutorial Hours			
Reading Tasks	14	2	28
Literature and Library Studies	14	2	28
Material Design and Implementation			
Report Preparation			
Preparation of Presentation			
Presentations			
Midterm Exam and Preparation for Midterm Exam	1	10	10
Final Exam and Preparation for Final Exam	1	10	10
Other (should be emphasized)	5	2	10
Total Workload			142
Total Workload / 25			5.68
Course Credit (ECTS)			6

Contribution Level Between Course Learning

No	Program	1	2	3	4	5

Outcomes and Program Outcomes	
The Course's Lecturer(s) and Contact Information	All chemistry department members

	Outcomes					
1	PO1					
2	PO2					
3	PO3					
4						
5						
6						
7						
8						
9						

<table>
<tr><th colspan="2">COURSE DESCRIPTION FORM</th></tr>
<tr><td>Course Code and Name</td><td>KIM 152 Chemistry Laboratory</td></tr>
<tr><td>Course Semester</td><td>2</td></tr>
<tr><td>Catalog Content</td><td>Understanding of basic chemistry knowledge. Learning basic laboratory rules and order.</td></tr>
<tr><td>Textbook</td><td>None</td></tr>
<tr><td>Supplementary Textbooks</td><td>None</td></tr>
<tr><td>Credit</td><td>2</td></tr>
<tr><td>Prerequisites of the Course (Attendance Requirements must be indicated here)</td><td>There is no prerequisite or co-requisite for this course. All of the experiments have to be completed successfully.</td></tr>
<tr><td>Type of the Course</td><td>Compulsory</td></tr>
<tr><td>Instruction Language</td><td>Turkish</td></tr>
<tr><td>Course Objectives</td><td>Understanding of basic chemistry knowledge. Learning basic laboratory rules and order.</td></tr>
<tr><td>Course Learning Outcomes</td><td>Consolidation of basic chemistry knowledge through chemistry experiments.</td></tr>
<tr><td>Teaching Methods</td><td>The course will be thought face to face.</td></tr>
<tr><td>Weekly Schedule</td><td>1. WeekWelcome & Introduction to chemical experiments.
2. WeekLearning the physical and chemical properties of materials.
3. WeekPurification methods: crystallization technique.
4. Week Diffusion
5. WeekStoichiometry
6. WeekCalculation of Ideal Gas Constant.
7. Week Effect of temperature on reaction rate.
8. Week Indicators and pKa determination.
9. Week Acid-base titration
10. Week MIDTERM
11. WeekChemical equilibrium
12. WeekPractice
13. Week Practice
14. Week Practice</td></tr>
<tr><td>Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)</td><td>Weekly Tutorial Hours 2
Literature Search, Library work 10
Report Preparation 10
Preparation of Midterm and Midterm Exam 5
Final Exam and Preparation for Final Exam 5</td></tr>
<tr><td>Assessment Criteria</td><td>
<table>
<tr><th></th><th>Numbers</th><th>Total Contribution (%)</th></tr>
<tr><td>Midterm Exams</td><td>1</td><td>30</td></tr>
<tr><td>Assignments</td><td></td><td></td></tr>
<tr><td>Applications</td><td>10</td><td>15</td></tr>
<tr><td>Projects</td><td></td><td></td></tr>
<tr><td>Practices</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

Quizzes	10	15
Percentage of In-term Studies (%)	21	60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	Total Number of Weeks	Duration(weekly hour)	Total Term Work Load
Weekly Theoretical Course Hours			
Weekly Tutorial Hours	14	2	28
Reading Tasks			
Literature and Library Studies	10	1	10
Material Design and Implementation			
Report Preparation	10	1	10
Preparationof Presentation			
Presentations			
Midterm Exam and Preparation for Midterm Exam	1	5	5
Final Exam and Preparation for Final Exam	1	5	5
Other (should be emphasized)			
Total Workload			58
Total Workload / 25			2,32
Course Credit (ECTS)			2

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	PO1					
2	PO2					
3	PO3					
4						
5						
6						
7						
8						
9						
10						

The Course's Lecturer(s) and Contact Information

All chemistry department members

Course Description Form	
Course Code and Name	**MAT 101 - Mathematics-I**
Course Semester	1
Catalog Content	Real and complex numbers, polynomials, second order one variable equations. Equations having root and fractional equations. Solutions of equations which are can be transform to second order equations. Some properties of second order equations and solutions of inequalities. Determinants and solutions of linear equations. Line equations on a surface. Vectors. Logarithm.
Textbook	-Hacısalihoğlu, H., Temel ve Genel Matematik 1, Seldem Yay., Ankara, 2000 -Halilov, H., Hasanoğlu, A. ve Can, M., Yüksek Matematik 1-2
Supplementary Textbooks	-Balcı, M., Hacısalihoğlu H. ve Gökdal F., Temel ve Genel Matematik -Arıkan, H., Özgür, İ. ve. Gözükızıl, Ö.F, Genel Matematik I-II
Credit	**6 ECTS**
Prerequisites of the Course (*Attendance Requirements***)**	No Prerequisites - %70 Attendance Requirements
Type of the Course	Obligatory
Instruction Language	Turkish
Course Objectives	To learn some basic concepts of Mathematics.
Course Learning Outcomes	To have some basic notions of numbers, one variable equations, solutions of linear algebraic equations, determinant, vectors and logarithm.
Instruction Methods	Expression

Weekly Schedule

1. Week	Real and complex numbers
2. Week	Complex Numbers
3. Week	Complex Numbers
4. Week	Polinomials
5. Week	Second order one variable equations.
6. Week	Equations having root and fractional equations.
7. Week	Solutions of equations which are can be transform to second order equations
8. Week	Midterm exam
9. Week	Some properties of second order equations and solutions of inequalities.
10. Week	Determinants
11. Week	Solutions of linear equations
12. Week	Solutions of linear equations
13. Week	Line equations on a surface
14. Week	Vectors
15. Week	Logarithm

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Weekly theoretical course hours: 4

Weekly tutorial hours: 4

Reading Activities: 6

Internet browsing, library work Designing and implementing materials: 8

Report preparing: 0

Preparing a Presentation: 0

Presentations: 0

Preparation of Midterm and Midterm Exam: 8

Final Exam and Preparation for Final Exam: 8

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	1	40
Assignment	1	20
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		60

Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	15	4	60
Weekly Tutorial Hours	15	4	60
Reading Tasks	2	3	6
Studies	2	4	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	2	4	8
Final Exam and Preperation for Final Exam	2	4	8
Other (should be emphasized)			
Total Workload	-	-	150
Total Workload / 25			150/25
Course Credit (ECTS)			6

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.					x
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			x		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.					x
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.				x	

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.			x			
6	Ability to work efficiently in intra-disciplinary teams.					x	
7	Ability to work efficiently in multi-disciplinary teams.			x			
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.				x		
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.			x			
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.					x	
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.			x			
12	Knowledge on practices in business, such as project management, risk management and change management.				x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.				x		
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.					x	

	15	Knowledge about awareness of the legal consequences of engineering solutions.			x			
The Course's Lecturer(s) and Contact Informations	Department Management tasarim@gazi.edu.tr							

Course Description Form	
Course Code and Name	**MAT 102 - Mathematics-II**
Course Semester	2
Catalog Content	Definitions of one variable functions and different kinds of one variable functions. Limit. Continuity of functions. Definitions of derivative. Derivative of some kinds of functions. Applications of derivative. Definitions of differential and integral. Some rules of indefinite integral. Definite integral. Calculations of surface area and volume with the help of integral.
Textbook	-Hacısalihoğlu, H., Temel ve Genel Matematik 1, Seldem Yay., Ankara, 2000 -Halilov, H., Hasanoğlu, A. ve Can, M., Yüksek Matematik 1-2
Supplementary Textbooks	-Balcı, M., Hacısalihoğlu H. ve Gökdal F., Temel ve Genel Matematik -Arıkan, H., Özgür, İ. ve. Gözükızıl, Ö.F, Genel Matematik I-II
Credit	**6 ECTS**
Prerequisites of the Course (*Attendance Requirements***)**	No Prerequisites - %70 Attendance Requirements
Type of the Course	Obligatory
Instruction Language	Turkish
Course Objectives	To learn some basic concepts of advanced mathematics
Course Learning Outcomes	To learn one variable functions, limit and continuity, derivative and its applications, indefinite and definite integral, their applications.
Instruction Methods	Expression

Weekly Schedule

1. Week	Definitions of one variable functions and different kinds of one variable functions.
2. Week	Limit, continuity of functions.
3. Week	Limit, continuity of functions
4. Week	Definition of derivative. Implicit differentiation
5. Week	Derivative of trigonometric functions.
6. Week	Derivative of Inverse trigonometric functions and logarithmic functions.
7. Week	Application to limit of derivative.
8. Week	Midterm exam
9. Week	Increasing and decreasing functions and maximum minimum problems.
10. Week	Drawing graph
11. Week	Differential and integral. Rules of indefinite integral.
12. Week	Rules of indefinite integral.
13. Week	Definite integral.
14. Week	Calculations of surface area and volume by the help of integral.
15. Week	Calculations of surface area and volume by the help of integral.

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Weekly theoretical course hours: 4

Weekly tutorial hours: 4

Reading Activities: 6

Internet browsing, library work Designing and implementing materials: 8

Report preparing: 0

Preparing a Presentation: 0

Presentations: 0

Preparation of Midterm and Midterm Exam: 8

Final Exam and Preparation for Final Exam: 8

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	1	40
Assignment	1	20
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		60

Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	15	4	60
Weekly Tutorial Hours	15	4	60
Reading Tasks	2	3	6
Studies	2	4	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	2	4	8
Final Exam and Preperation for Final Exam	2	4	8
Other (should be emphasized)			
Total Workload	-	-	150
Total Workload / 25			150/25
Course Credit (ECTS)			6

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.					x
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.					x
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.				x	
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.					x

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.				x		
6	Ability to work efficiently in intra-disciplinary teams.			x			
7	Ability to work efficiently in multi-disciplinary teams.			x			
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.		x				
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.		x				
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.			x			
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.			x			
12	Knowledge on practices in business, such as project management, risk management and change management.		x				
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.			x			
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.					x	

	15	Knowledge about awareness of the legal consequences of engineering solutions.			x			
The Course's Lecturer(s) and Contact Informations	Department Management tasarim@gazi.edu.tr							

COURSE DESCRIPTION FORM	
Course Code and Name	MATH 201 Differential Equations
Course Semester	3
Catalog Data of the Course (Course Content)	Some basic skills such as first and high order differential equations, solutions and applications with Laplace and inverse Laplace transformation and applications.
Textbook of the Course	Adil Mısır, Teori Teknik ve Uygulamalı Diferensiyel Denklemler, Gazi Kitabevi, 2016.
Supplementary Textbooks	Ogün Doğru, Diferensiyel Denklemlerin Temelleri (Çeviri Kitap), Nobel Yayıncılık, 2013. Tahsin Engin, Cevdet Cerit, Fatma Ayaz, Mühendislik ve Temel Bilimler için Diferensiyel Denklemler, İzmir Güven Kitabevi, 2013.
Credit (ECTS)	5
Prerequisites of the Course	There is no prerequisite or co-requisite for this course.
Type of the Course	Compulsory
Instruction Language of the Course	English
Course Objectives	To be able to study first and high order differential equations, solutions and applications with Laplace and inverse Laplace transformation and applications.
Learning Outcomes	1. Learn the definition of differential equation 2. Learn the solution methods of differential equations 3. Learn the application of differential equations 4. Learn Laplace and inverse Laplace transformation and applications
Instruction Method	The type of this course is face to face.
Weekly Schedule of the Course	1. Week: Fundamental of differential equations and classification of equations. Geometrical meanings of differential equations. 2. Week First order separable and homogeneous equations and their solution procedures: 3. Week: Linear differential equations, Bernouilli and Riccati differential equations 4. Week: Exact differential equations, integrating factors. 5. Week: Some applications of first order differential equations 6. Week: First order nonlinear differential equations 7. Week: Lagrange and Clairaut differential equations 8. Week: Theory of higher order of differential equations, Higher order homogenous differential equations with constant coefficients 9. Week: Higher order nonhomogenous differential equations with constant coefficients, Method of undetermined coefficients 10. Week: The method of variation of parameters. 11. Week: Laplace transformations and their properties 12. Week: Inverse Laplace transformations and their properties 13. Week: Applications of Laplace and inverse Laplace transformations 14. Week: Applications of Laplace and inverse Laplace transformations 15. Week: Final Exam
Assesment Tasks *(The time spent for the activities listed here will determine the amount of credit required.)*	Weekly theoretical course hours 4 Hours per week 0 Reading Activities 0 Internet browsing, library work 16 Designing and implementing materials 0 Report preparing 0 Preparing a Presentation 0 Presentations 0 Preparation of Midterm and Midterm Exam 22 Final Exam and Preparation for Final Exam 31

Assesment Criteria

	Sayısı	Toplam Katkısı (%)
Midterm Exams	1	60
Assignment	0	0
Practice	0	0
Projects	0	0
Practise	0	0
Quizes	0	0
Percent of In-term Studies to Year- to Year (%)	1	60
Percentage of Final Exam to Total Score (%)	1	40
Attendance		

Workload of the Course

Efficiency	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	4	56
Hours Per Week	0	0	0
Reading Tasks	0	0	0
Internet Browsing, Library Work	2	8	16
Designing and Implementing Materials	0	0	0
Report Preparing	0	0	0
Preparing a Presentation	0	0	0
Presentations	0	0	0
Midterm Exam and Preperation for Midterm Exam	1	22	22
Final Exam and Preperation for Final Exam	1	31	31
Other	0	0	0
Total Workload			125
Total Workload / 25			5
Course Credit (ECTS)			5

Contribution Level Between Course Outcomes and Program Outcomes

No	Program Learning Outcomes	1	2	3	4	5
1	PLO1				x	
2	PLO2				x	
3	PLO3			x		
4	PLO4		x			
5	PLO5				x	
6	PLO6			x		
7	PLO7			x		
8	PLO8				x	
9	PLO9			x		
10	PLO10			x		

Names of Lecturers and e-mails of Lecturers

Mathematics Department Teaching Members
E-mail address: fefmatematik@gazi.edu.tr
Phone: 2021051

No	Program Learning Outcomes
1	To train individuals who are contemporary, entrepreneur and have unique and aesthetic values, self- confidence and capable of independent decision-making.
2	To enable the student to gain the ability of relating mathematics with the other sciences..
3	To teach mathematical thinking methods in order to improve the ability to express mathematics both orally and in writing.
4	To train individuals who are knowledgeable about the history of mathematics and the production of scientific knowledge and can follow developments in these disciplines.
5	To provide necessary equipments to take positions such areas as banking, finance, econometrics, and actuarial.
6	To acquire ability to solve problems encountered in real life by means of mathematical modeling using mathematical methods.
7	To provide ability to do necessary resource researches in the areas of mathematics and to use accessed information.
8	To give appropriate training in such areas as in computer programming and creating algorithms in order to take parts in developing IT sector.
9	To gain substructure to be able to study at graduate level.
10	To enable the student to gain the ability of relating mathematics with the other sciences.

Course Description Form	
Course Code and Name	**TAR 101 – ATATÜRK İLKELERI VE İNKILAP TARIHI-I**
Course Semester	3
Catalog Content	Modernization process of Turkey
Textbook	1. Mustafa Kemal, Nutuk, Ankara, 1997. 2. Aybars, E., Türkiye Cumhuriyeti Tarihi 1-2, İzmir, 2005. 3. Komisyon, Türkiye Cumhuriyeti 1-2, Atatürk Araş. Mer. Yay. 4. Komisyon, Atatürk İlkeleri ve İnkılap Tarihi I/1-2, II, YÖK Yayını
Supplementary Textbooks	
Credit	**3 ECTS**
Prerequisites of the Course	No Prerequisites - %70 Attendance Requirements
Type of the Course	Obligatory
Instruction Language	Turkish
Course Objectives	To teach stages of establishment in modern Turkey
Course Learning Outcomes	Having knowledge about the establishment of Turkish Republic and Ataturk
Instruction Methods	Face to face

Weekly Schedule

1. Week	Conceptions revolution and etc
2. Week	Regression causations of Ottoman Empire (internal and external causations)
3. Week	Modernization activities in Ottoman Empire (Periods of the Mahmud I and Selim III)
4. Week	Innovations at the period of Mahmud II
5. Week	Political position and dismemberment of Ottoman Empire during 19th century
6. Week	Period of Tanzimat
7. Week	Period of Constitutional Monarchy
8. Week	Midterm exam
9. Week	Panslavism
10. Week	Wars of Trablusgarp and I.-II. Balkan
11. Week	Causes and results of the First World War
12. Week	Mustafa Kemal Pasha, Congresses of Erzurum and Sivas
13. Week	The national oath and establishment of TBMM
14. Week	Conceptions revolution and etc.
15. Week	Conceptions revolution and etc.

Teaching and Learning Methods

Weekly theoretical course hours: 2

Weekly tutorial hours: 0

Reading Activities: 2

Internet browsing, library work Designing and implementing materials: 0

Report preparing: 1

Preparing a Presentation: 1

Presentations: 1

Preparation of Midterm and Midterm Exam: 10

Final Exam and Preparation for Final Exam: 10

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	x	40
Assignment		
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		40
Percentage of Final Exam to Total Score (%)	x	60

Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	2	28
Weekly Tutorial Hours			
Reading Tasks			
Studies	8	1	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	2	3	6
Final Exam and Preperation for Final Exam	2	4	8
Other (should be emphasized)			
Total Workload	-	-	50
Total Workload / 25			50/25
Course Credit (ECTS)			2

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			x		
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			x		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.				x	
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.		x			

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.		x				
6	Ability to work efficiently in intra-disciplinary teams.				x		
7	Ability to work efficiently in multi-disciplinary teams.				x		
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.					x	
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.					x	
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x		
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.				x		
12	Knowledge on practices in business, such as project management, risk management and change management.				x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.					x	
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.				x		

	15	Knowledge about awareness of the legal consequences of engineering solutions.				x		
The Course's Lecturer(s) and Contact Informations								

COURSE DESCRIPTION FORM	
Course Code and Name	TKN 401 – WORKPLACE TRAINING
Course Semester	7/8
Catalog Content	Recognizing the workplace-factory, Engineering ethics, Occupational Health and Safety legislation and practices, Analysis of legislation and practices related to workplace training, Labor law, Quality Management and Standards, Reporting techniques, Preparing a presentation, Risky management in business processes, Workplace specific applications, Reporting of data-information and presentation
Textbook	Regulations and instructions related to workplace training, occupational health and safety books
Supplementary Textbooks	Forms related to workplace training, Regulations, Occupational health and safety books, Labor law books, Various legislation and regulations
Credit	18 ECTS
Prerequisites of the Course (*Attendance Requirements*)	No Prerequisites 100% Attendance
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	1) To improve/strengthen the knowledge, skills and experiences that students gain in theoretical studies in the faculty as well as laboratory/workshop practices 2) To provide identification of business organizations, design/production processes and new technologies 3) To supply recognition of quality control processes and control mechanisms 4) To prepare the students for their professional life in engineering, to be a guide them in determining their career goals and to be enable to work on their field
Course Learning Outcomes	1) Increases interest and the depth of knowledge in engineering 2) Do group/individual works. 3) Gain self-learning skills. 4) Learn career and career management concepts. 5) Gain the skill of using computer software and executing project-experiment study in working engineering field. 6) Gain reporting and presentation skills.
Instruction Methods	

Weekly Schedule

Week	Topics
1	Legislation and application related to workplace training, orientation.
2	Occupational health and safety
3	Labor law application
4	Engineering ethics application
5	Health, environmental and safety impacts of engineering applications.
6	Engineering standards and applications
7	Quality management and its applications
8	The role of the workplace in sustainable development and its applications
9	Lecturer workplace visit and interim report presentation
10	Risk management and applications in workplace
11	Organization management and workflow application
12	Ordering and process following
13	Competitiveness, cost and procedures
14	Engineering economy and its applications

	15	Reporting and presentation

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Weekly theoretical course hours	5 hours
Weekly tutorial hours	225 hours
Reading activities	
Internet browsing, library study	10 hours
Designing and implementing materials	75 hours
Report preparing	40 hours
Presentation preparing	15 hours
Presentation	10 hours

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	-	-
Assignment	5	20
Application	15	30
Projects	1	20
Practice	15	30
Quiz	-	-
Percent of In-term Studies (%)		**100**
Percentage of Final Exam to Total Score (%)		
Attendance		

Workload

Activity	**Total Number of Weeks**	**Duration (weekly hour)**	**Total Period Work Load**
Weekly Theoretical Course Hours	15	5	75
Weekly Tutorial Hours	15	15	225
Reading Tasks			
Studies	5	2	10
Material Design and Implementation	15	5	75
Report Preparing	10	4	40
Preparing a Presentation	5	3	15
Presentations	5	2	10
Midterm Exam and Preperation for Midterm Exam			
Final Exam and Preperation for Final Exam			
Other (should be emphasized)	-	-	-
Total Workload	-	-	450
Total Workload/ 25			450/25
Course Credit (ECTS)			18

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.				x	

2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.				x	
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.					x
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.					x
5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.				x	
6	Ability to work efficiently in intra-disciplinary teams.				x	
7	Ability to work efficiently in multi-disciplinary teams.				x	
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.			x		
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.				x	
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.			x		
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.				x	

	12	Knowledge on practices in business, such as project management, risk management and change management.					x
	13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.				x	
	14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.					x
	15	Knowledge about awareness of the legal consequences of engineering solutions.				x	

The Course's Lecturer(s) and Contact Information	1. Prof. Dr. Tayfun MENLİK tmenlik@gazi.edu.tr 2. Prof.Dr.Can ÇINAR cancinar@gazi.edu.tr 3. Prof.Dr. Hüseyin Yılmaz ARUNTAŞ aruntas@gazi.edu.tr 4. Prof.Dr.İhsan KORKUT ikorkut@gazi.edu.tr 5. Prof.Dr.Kurtuluş BORAN kboran@gazi.edu.tr 6. Prof.Dr.Halil ARIK harik@gazi.edu.tr 7. Prof.Dr.Güngör BAL gunbal@gazi.edu.tr 8. Prof.Dr.Musa ATAR musaatargul@gmail.com 9. Prof.Dr.O.Ayhan ERDEM ayerdem@gazi.edu.tr 10. Prof.Dr.H.Rıza BÖRKLÜ rborklu@gazi.edu.tr

COURSE DESCRIPTION FORM	
Course Code and Name	**TKN 403 - INTERNSHIP**
Course Semester	7
Catalog Content	Gaining general knowledge about business, Learning business processes, management-organization structure, Having knowledge about occupational health and discipline, Increasing knowledge and skills related to the field of engineering by observing working conditions, doing application-project in his/her field, monitoring the functions of the sector employees closely and analyzing at the same time, Monitoring technological developments in the sector
Textbook	All library resources
Supplementary Textbooks	All library resources
Credit	12 ECTS
Prerequisites of the Course (*Attendance Requirements*)	No Prerequisites 100% Attendance
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	1) To improve/strengthen gained theoretical knowledge of students during education process, to recognize business processes, to develop skills and experiences by executing internship studies in the field of engineering, too 2) To provide an introduction of corporation management/organisation, production processes and new technologies. Gain hand skills and abilities on-the-job training.
Course Learning Outcomes	1) Students get to know the company at which they did internship in his/her field. 2) Students learn work flow and management organization processes. 3) Intern gets a knowledge about the task-functioning of design, planning, production, quality control and maintenance-repair departments. 4) Students see field application in place.
Instruction Methods	

Weekly Schedule

Week	Topics
1	orientation
2	Examine the applications of Occupational health and safety rules in workplace
3	Examine company organization structure
4	Follow workflow process
5	Take charge in the field projects
6	Examine their project duties based on their theoretical knowledge
7	Follow field applications
8	Follow industrial product processes
9	Research product development and new technologies
10	Examine market and competition conditions
11	Make analysis about organization performance
12	Perform productivity analysis
13	Observe application
14	Reporting

	15	Reporting

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Research activities	50 hours
Internet browsing	40 hours
Designing and implementing materials	105 hours
Report preparing	75 hours
Others	30 hours

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm exam	-	-
Assignment	-	-
Application	1	50
Projects		
Practice	1	50
Quiz		
Percent of In-term Studies (%)	**1**	**100**
Percentage of Final Exam to Total Score (%)		
Attendance	-	-

Workload

Activity	**Total Number of Weeks**	**Duration (weekly hour)**	**Total Period Work Load**
Weekly Theoretical Course Hours			
Weekly Tutorial Hours			
Reading Tasks	10	5	50
Studies	8	5	40
Material Design and Implementation	15	7	105
Report Preparing	15	5	75
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam			
Final Exam and Preperation for Final Exam			
Other (should be emphasized)	10	3	30
Total Workload	-	-	300
Total Workload / 25			300/25
Course Credit (ECTS)			12

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.		x			

2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			x		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.				x	
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.				x	
5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.				x	
6	Ability to work efficiently in intra-disciplinary teams.				x	
7	Ability to work efficiently in multi-disciplinary teams.			x		
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.			x		
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.				x	
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x	
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.			x		

	12	Knowledge on practices in business, such as project management, risk management and change management.			x		
	13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.			x		
	14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.			x		
	15	Knowledge about awareness of the legal consequences of engineering solutions.		x			
The Course's Lecturer(s) and Contact Information	Department Management						

Course Description Form	
Course Code and Name	**TUR 101 –TURKISH LANGUAGE-I**
Course Semester	1
Catalog Content	Notice, Language & Features of the Language, Language – Thought Relation, Mother Tongue, Context, Language and Expression, Symbol – Image, Culture and Types, Civilization, Petition Writing, Languages around the World and Place of Turkish Language among them, Historical Periods and Progress of Turkish Language, Current Status and Spreading Areas of the Turkish Language, Grammar and Sections, Elements in Turkish Language from Foreign Language, Orthography and Application, Punctuation Marks and Usage Related Applications.
Textbook	1. Yakıcı, A., Yücel, M., Doğan, M. ve Yelok, V. S., Üniversiteler İçin Türk Dili ve Kompozisyon Bilgileri (Editör: V. S. Yelok), Bilge Yayınları, Ankara, 2005. 2. Eker, S., Çağdaş Türk Dili, Grafiker Yay., İstanbul, 2006. 3. Parlatır, İ., Gülensoy, T. ve Birinci, N., Yüksek Öğretim Öğrencileri İçin Türk Dili Kompozisyon Bilgileri, Yargı Yayınevi, Ankara, 2003. 4. Bilgin, M., Anlamdan Anlatıma Türkçemiz, Anı Yayıncılık, Ankara, 2005
Supplementary Textbooks	
Credit	**2 ECTS**
Prerequisites of the Course	No Prerequisites - %70 Attendance Requirements
Type of the Course	Obligatory
Instruction Language	Turkish
Course Objectives	Recognition of evolution of language, culture and civilization concepts, recognition of historic background and features of Turkish Language, recognition of how orthography and punctuation marks shall be used; gaining and improvement of scientific, questioning, critical commenting, creative and constructive thinking habits.
Course Learning Outcomes	To let students to sense the features and operational rules of Turkish language and illustrate; to improve vocabulary of the students via written and oral texts; to let students to gain compliance with spelling rules and appropriate usage of punctuation marks habits; to let students to gain book reading habits; to let students to gain scientific, questioning, critical commenting, creative and constructive thinking habits.
Instruction Methods	Face to face

Weekly Schedule

1. Week	Notice, Language & Features of the Language,
2. Week	Language – Thought Relation,
3. Week	Mother Tongue, Context, Language and Expression, Symbol – Image,
4. Week	Culture (Language – Culture Relation, Culture Types),
5. Week	Civilization, Petition Writing,
6. Week	Languages around the World (Formation of Languages, Types of Languages, Classifications of the Languages)
7. Week	Place of Turkish Language among World Languages,
8. Week	Midterm exam
9. Week	Historical Periods and Progress of Turkish Language,
10. Week	Current Status and Spreading Areas of the Turkish Language,
11. Week	Midterm Exam
12. Week	Grammar and Sections (Phonetics, Formatting),
13. Week	Elements in Turkish Language from Foreign Language,
14. Week	Orthography and Application,
15. Week	Punctuation Marks and Usage Related Applications.

Teaching and Learning Methods

Weekly theoretical course hours: 2

Weekly tutorial hours: 0

Reading Activities: 2

Internet browsing, library work Designing and implementing materials: 0

Report preparing: 1

Preparing a Presentation: 1

Presentations: 1

Preparation of Midterm and Midterm Exam: 10

Final Exam and Preparation for Final Exam: 10

Assessment Criteria

	Numbers	**Total Weighting (%)**
Midterm Exams	x	40
Assignment		
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		40
Percentage of Final Exam to Total Score (%)	x	60

Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	2	28
Weekly Tutorial Hours			
Reading Tasks			
Studies	8	1	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	2	3	6
Final Exam and Preperation for Final Exam	2	4	8
Other (should be emphasized)			
Total Workload	-	-	50
Total Workload / 25			50/25
Course Credit (ECTS)			2

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			x		
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			x		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.				x	
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.		x			

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.		x				
6	Ability to work efficiently in intra-disciplinary teams.				x		
7	Ability to work efficiently in multi-disciplinary teams.				x		
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.					x	
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.					x	
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x		
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.				x		
12	Knowledge on practices in business, such as project management, risk management and change management.				x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.					x	
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.				x		

	15	Knowledge about awareness of the legal consequences of engineering solutions.				x		
The Course's Lecturer(s) and Contact Informations								

Course Description Form	
Course Code and Name	**TUR 102 –TURKISH LANGUAGE-II**
Course Semester	2
Catalog Content	Notice, Language & Features of the Language, Language – Thought Relation, Mother Tongue, Context, Language and Expression, Symbol – Image, Culture and Types, Civilization, Petition Writing, Languages around the World and Place of Turkish Language among them, Historical Periods and Progress of Turkish Language, Current Status and Spreading Areas of the Turkish Language, Grammar and Sections, Elements in Turkish Language from Foreign Language, Orthography and Application, Punctuation Marks and Usage Related Applications.
Textbook	1. Yakıcı, A., Yücel, M., Doğan, M. ve Yelok, V. S., Üniversiteler İçin Türk Dili ve Kompozisyon Bilgileri (Editör: V. S. Yelok), Bilge Yayınları, Ankara, 2005. 2. Eker, S., Çağdaş Türk Dili, Grafiker Yay., İstanbul, 2006. 3. Parlatır, İ., Gülensoy, T. ve Birinci, N., Yüksek Öğretim Öğrencileri İçin Türk Dili Kompozisyon Bilgileri, Yargı Yayınevi, Ankara, 2003. 4. Bilgin, M., Anlamdan Anlatıma Türkçemiz, Anı Yayıncılık, Ankara, 2005
Supplementary Textbooks	1. Yakıcı, A., Yücel, M., Doğan, M. ve Yelok, V. S., Üniversiteler İçin Türk Dili ve Kompozisyon Bilgileri (Editör: V. S. Yelok), Bilge Yayınları, Ankara, 2005. 2. Eker, S., Çağdaş Türk Dili, Grafiker Yay., İstanbul, 2006. 3. Parlatır, İ., Gülensoy, T. ve Birinci, N., Yüksek Öğretim Öğrencileri İçin Türk Dili Kompozisyon Bilgileri, Yargı Yayınevi, Ankara, 2003. 4. Bilgin, M., Anlamdan Anlatıma Türkçemiz, Anı Yayıncılık, Ankara, 2005
Credit	**2 ECTS**
Prerequisites of the Course	No Prerequisites - %70 Attendance Requirements
Type of the Course	Obligatory
Instruction Language	Turkish
Course Objectives	To let students to gain usage skill of Turkish language, complying with its rules; best expression of feelings and thoughts in writing and oral; gaining and improvement of scientific, questioning, creative and constructive thinking habits.
Course Learning Outcomes	To determine elements of the sentence and importance of these in order to establish an accurate, good and nice sentences; to be able to read and inspect writings related with literature and thoughts world and perform rhetoric applications; to identify written composition types and to perform applications related with these; realization of linguistic faults and to be able to correct these, to know and apply the rules, to be complied during issuance scientific writings. To improve accurate and better speaking, writing skills of the student on the basis of selected texts from Turkish and world literatures and thought history.
Instruction Methods	Face to face

Weekly Schedule	**1. Week**	Sentence Structure, Wordings, Sentence and Sentence Composing Elements
	2. Week	Sentence Types
	3. Week	Sentence Analysis, Sentence Inspection Examples
	4. Week	Composition (In the Composition; Subject, Note and Keynote)
	5. Week	Theme, Imagination, Paragraph
	6. Week	Narration Types
	7. Week	Creative, Fictional Writings
	8. Week	Midterm exam
	9. Week	Creative, Fictional Writings
	10. Week	Thought and Idea Transmitting Writings
	11. Week	Formal Writings (Minutes, Announcements, Reports, Business Letters and CV)
	12. Week	Linguistic Faults (Writing and Punctuation Mark Faults)
	13. Week	Linguistic Faults (Expression Failures, Voice Based Faults)
	14. Week	Conference
	15. Week	Scientific Research

Teaching and Learning Methods	Weekly theoretical course hours: 2 Weekly tutorial hours: 0 Reading Activities: 2 Internet browsing, library work Designing and implementing materials: 0 Report preparing: 1 Preparing a Presentation: 1 Presentations: 1 Preparation of Midterm and Midterm Exam: 10 Final Exam and Preparation for Final Exam: 10

Assessment Criteria		**Numbers**	**Total Weighting (**

		%
Midterm Exams	x	40
Assignment		
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		40
Percentage of Final Exam to Total Score (%)	x	60
Attendance		

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	2	28
Weekly Tutorial Hours			
Reading Tasks			
Studies	8	1	8
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preperation for Midterm Exam	2	3	6
Final Exam and Preperation for Final Exam	2	4	8
Other (should be emphasized)			
Total Workload	-	-	50
Total Workload / 25			50/25
Course Credit (ECTS)			2

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			x		
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			x		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.				x	
4	Ability to develop, select and use modern techniques and tools necessary for analysis and solution of complex problems in engineering applications; ability to use information technologies effectively.		x			

5	Ability to design and conduct experiments, gather data, analyze and interpret results for examination of engineering problems or discipline-specific research topics.		x				
6	Ability to work efficiently in intra-disciplinary teams.				x		
7	Ability to work efficiently in multi-disciplinary teams.				x		
8	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.					x	
9	Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and to receive.					x	
10	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				x		
11	Conformity to ethical principles, professional and ethical responsibility; Information on standards used in engineering applications.				x		
12	Knowledge on practices in business, such as project management, risk management and change management.				x		
13	Knowledge about awareness of entrepreneurship, innovation, and sustainable development.					x	
14	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.				x		

	15	Knowledge about awareness of the legal consequences of engineering solutions.				x		
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