



# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000103		GERMAN I				
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits	
1	D0000103	GERMAN I	3	3	3	

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

To use the German language at a basic level for written and oral communication and strengthen the infrastructure of the forward-looking language

**Teaching Methods and Techniques:**

Current issues with German basic grammar

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Ömer Lütfi İSPİRLİ Ömer Lütfi İSPİRLİ Birsen ÖZYURT İlker ETİKAN Ömer Lütfi İSPİRLİ Ayşe ERYAMAN Ömer Lütfi İSPİRLİ Ömer Lütfi İSPİRLİ Ömer Lütfi İSPİRLİ Ömer Lütfi İSPİRLİ Ömer Lütfi İSPİRLİ Bahattin ÖZTOPRAK Yılmaz ANAS Ömer Lütfi İSPİRLİ

**Assistants:****Recommended or Required Reading****Resources**

Einfach Grammatik  
Übungsgrammatik Deutsch A1 bis B1  
Berliner Platz 1Langenscheidt

**Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	0	%0
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	0	%0
<b>Total</b>		<b>%0</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	0	0	0
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	0	0	0
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	0	0	0
<b>Total Work Load</b>			<b>0</b>
<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000106 Ataturk's Principles and History of Turkish Revolution I					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	D0000106	Ataturk's Principles and History of Turkish Revolution I	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

In order to understand conditions and features of the establishment of Republic of Turkey: To understand the reasons that forced Turkish nation to have Independence War, in which condition and within which terms Turkish War of Independence took place, upon which basis the state was established, and finally to educate next generations who know establishment philosophy of the state and who are respectful to Turkish state and nation.

**Teaching Methods and Techniques:**

Aim of the course, its scope, and basic concepts. Final period of Ottoman Empire, its problems, modernization efforts and collapse. Turkish War of Independence.

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Specialist Dr. Adnan GELMEZ Specialist Dr. Sadet ALTAY Specialist Dr. Ayşe ERYAMAN Specialist Dr. Sabri ZENGİN Specialist Dr. İzzet Bahri ATEŞLİ

**Assistants:****Recommended or Required Reading**

**Resources** 2- YÖK-Komisyon, Atatürk İlkeleri ve İnkılap Tarihi, Ankara 1989. ,1- Kemal Atatürk, Nutuk I-III, İstanbul 1993. ,3- Komisyon, Türkiye Cumhuriyeti Tarihi Sabri ZENGİN, Atatürk İlkeleri ve İnkılap Tarihi, 2. Baskı, Taşhan Kitap, Tokat 2016.

**Course Category**

<b>Mathematics and Basic Sciences</b> :		<b>Education</b> :	
<b>Engineering</b> :		<b>Science</b> :	
<b>Engineering Design</b> :		<b>Health</b> :	
<b>Social Sciences</b> :	100	<b>Field</b> :	

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	The aim of the course and resources		
2	Basic concepts related to the course Revolution, reform, upheaval, rebellion, blow. The principle of Ataturk's Revolution.		
3	Internal reasons for the decline of the Ottoman Empire The problems that occurred in public administration, education, et		
4	External reasons for the decline of the Ottoman Empire Colonialism, industrial revolution, imperialism. The Eastern Questi		
5	The basic concepts of the contemporary world Enlightenment, democracy, secularism, liberalism, socialism, nationalism		
6	Reform movements of the Ottoman Empire Lale devri (Tulip period). Selim III and Mahmut II reforms.		
7	Reform movements of the Ottoman Empire Tanzimat and Islahat in the reform era. New Ottomans. Constitutional monar		
8	Midterm Exam		
9	Intellectual movements in the late Ottoman period Westernism, Ottomanism, Islamism, Turkism		
10	The fall of the Ottoman Empire Trablusgarb War. Balkan War. World War I. Armenian question.		
11	The fall of the Ottoman Empire The end of World War I: The Armistice of Mondros. Invasions after the Armistice. Separat		
12	Of national struggle Salvation suggestions: Protection mandate and supporters. Suggestions on regional liberation. Full ii		
13	Of national struggle Ataturk's arrival to Anatolia. Conventions as mergers of the national struggle.		
14	Of national struggle The concept of the National Pact. Anatolia, pass control. The opening of Parliament. Features of the		
15	Of national struggle Anatolia, pass control. The opening of Parliament. Features of the Parliament		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Models of change in the world to compare with the characteristics of Ottoman modernization and change is, led by Ataturk.
C02	Turkish nation the reasons for analysis of contemporary medeniyetten must remain back.
C03	After colonialism and the industrial revolution and the developments in international relations to explain the effects of these developments on Turkey.
C04	To explain the basic concepts that are effective in shaping the modern world.
C05	How to Know the stages and characteristics of Ottoman modernization.
C06	The imperialist ambitions of the states on the territory of Turkey, who want to divide Turkey to recognize the separatist elements.
C07	That the establishment of National Defence of Turkey national and spiritual values based on the knowledge of unity and togetherness, conscious of these values to take ownership of and commitm
C08	Defence of Turkey feelings of gratitude to the heroes of this struggle to have succeeded.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself. knows the grammar rules and features.
P19	Knows Ataturk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P06	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	15	2	30
Hours for off-the-c.r.stud	15	1	15
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	5	5
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	10	10
<b>Total Work Load</b>			<b>60</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1025 INFORMATION AND COMMUNICATION TECHNOLOGIES					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	GAZ-1025	INFORMATION AND COMMUNICATION TECHNOLOGIES	2	2	5

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

This course is aimed at using ICT opportunities to gain qualifications on how to improve himself.

**Teaching Methods and Techniques:**

Electives (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Internet and Internet Browser		
2	E-mail Management		
3	Newsgroups / Forums		
4	Web-Based Learning		
5	Preparing for Your Website		
6	Electronic Commerce		
7	Word Processor Program Resume		
8	Internet and Career		
9	Preparation for Job Interviews		
10	Spreadsheet		
11	Formulas and Functions		
12	graphics		
13	Making presentations		
14	Introductory Material Preparation		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Communicating on the Internet
C02	To apply for a job on the Internet
C03	Edit digital data
C04	Ready-made templates to prepare promotional material

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	14	3	42
Assignments	10	3	30
Presentation	1	5	5
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	1	12	12
Project	1	2	2
Final examination	1	1	1
<b>Total Work Load</b>			<b>135</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000129		French I				
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits	
1	D0000129	French I	3	3	3	

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:****Teaching Methods and Techniques:****Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

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**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	0	%0
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	0	%0
<b>Total</b>		<b>%0</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	0	0	0
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	0	0	0
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	0	0	0
<b>Total Work Load</b>			<b>0</b>
<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000140		English I			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	D0000140	English I	3	3	3

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

English

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

The objective of this course is to be able to bring the students to the A2 Level in terms of CEF.

**Teaching Methods and Techniques:**

Compulsory Foreign Language Courses (English)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor H.Tüzün Paçcı

**Assistants:****Recommended or Required Reading**

Resources	Essential Grammar in Use by Raymond Murphy ( CUP),New Headway Elementary (4th Edition),English Grammar in Use by Raymond Murhpy New Headway Elementary( Fifth Edition) (Oxford University Press) + Student's Book + Workbook + iTools ( Digital Teaching Res
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**Course Category**

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

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	verb to be, subject pronouns, possessive adjectives, possessive 's		
2	personal information, introducing yourself, the family words		
3	greetings in everyday situations, expressions for short conversations in everyday situations		
4	The Simple Present Tense		
5	Adverbs of frequency , Object Pronouns		
6	Noun Plurals, Telling the time		
7	have got / has got		
8	Linking words ( and, so, but, because)		
9	There is / are , prepositions ( in,on,under, next to)		
10	Adjectives of quantity (some, any, alot of, lots of, many, much)		
11	Demonstrative Adjectives + PronounsAdjectives for good & bad, adverb+ adjective		
12	NumberS & Prices		
13	Can / Can't		
14	was/were/could , The Simple Past Tense		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To understand and use basic grammatical structures in English
C02	Recognizing and using social expressions.
C03	Understanding that you hear in the target language.
C04	Ask questions and answer related to fundamental issues.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacac) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	14	1	14
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>58</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1003 TECHNICAL PHYSICS					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	GAZ-1003	TECHNICAL PHYSICS	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Students are to be taught the basic principles of physics and the ability to account if supported by experiments kazandırılmasıdır. öğrenci of the concept to be taught the basic principles of physics to calculate and provide the ability to test the concepts supported.

**Teaching Methods and Techniques:**

Compulsory (C) Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Birim Sistemleri		
2	Vectors, Force and Torque		
3	Balance and Equilibrium Conditions		
4	Finding the Center of Gravity		
5	Laws of Motion		
6	Laws of Motion		
7	Work, Power, Energy		
8	Work, Power, Energy		
9	Heat and Temperature		
10	Types of Heat Transfer and Heat Transfer: Conduction, Convection and Radiation		
11	Types of Heat Transfer: Conduction, Convection and Radiation		
12	fundamental Properties of Fluid Flow and Flow Account Types		
13	Duct and Pipe Flow Through		
14	Pressure Loss		

**Course Learning Outcomes****No Learning Outcomes**

C01	Make conversions by understanding the basic physical quantities and units.
C02	Business knows the power and energy concepts and express them with relations.
C03	The system can distinguish between static and dynamic.
C04	Thermal and fluid systems related to accounts

**Program Learning Outcomes****No Learning Outcome**

P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	5	1	5
Assignments	7	2	14
Presentation	7	2	14
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	7	2	14
Project	0	0	0
Final examination	1	2	2
<b>Total Work Load</b>			<b>120</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1043 PROFESSIONAL MATHEMATICS-I					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	GAZ-1043	PROFESSIONAL MATHEMATICS-I	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Öğrenciye, mesleği için gerekli olan matematik bilgi ve becerilerini işine uygulayabilme yeterliği kazandırmak.

**Teaching Methods and Techniques:**

Zorunlu Ders(Z)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Çiğdem ÖZTAŞ

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Course Learning Outcomes****No Learning Outcomes**

C01	And make operations related to the number of clusters
C02	Making process related to equations and inequalities
C03	Making process regarding the function
C04	Making process related to the logarithm
C05	Geometry related to operations
C06	Making process related to trigonometry

**Program Learning Outcomes****No Learning Outcome**

P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships, related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	0	%0
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	0	%0
<b>Total</b>		<b>%0</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	0	0	0
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	0	0	0
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	0	0	0
<b>Total Work Load</b>			<b>0</b>
<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes
bbb



**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
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P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**



**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
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P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
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P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1001		TECHNICAL DRAWINGS			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	GAZ-1001	TECHNICAL DRAWINGS	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

In this course, students basic geometric shapes to be drawn, aimed to gain the projection and view and perspective of interest that may qualify.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Technical Drawing Tools and Materials		
2	Line Types		
3	Drawings of Geometric Shapes		
4	Drawings of Geometric Shapes		
5	projection		
6	projection		
7	Removing appearance		
8	Removing appearance		
9	Removing appearance		
10	Scales and Dimensioning		
11	Scales and Dimensioning		
12	perspective		
13	perspective		
14	perspective		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To draw basic geometric shapes
C02	Projection and remove Appearance
C03	Make Perspective Drawing

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	7	2	14
Assignments	0	0	0
Presentation	7	3	21
Mid-terms	1	1	1
Practice	7	3	21
Laboratory	0	0	0
Project	6	4	24
Final examination	1	1	1
<b>Total Work Load</b>			<b>110</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1005 BASIC INSTALLATION OPERATIONS					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	GAZ-1005	BASIC INSTALLATION OPERATIONS	3	3	6

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Students of this course; adequacy of sheet and pipe work installation work in order to realize the structure will gain.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Sheet metal cutting		
2	To anchor plates		
3	To centering plates		
4	Steel pipe cut		
5	Connection piece to squeeze		
6	Surface to installation		
7	Recessed (Inset) make installation		
8	To Pipe Bending		
9	countersink		
10	Boru Bükme		
11	To prepare copper pipe brazing		
12	Die threading with		
13	Pipe threading into		
14	Tube diameter		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To combine sheets
C02	Make the installation of steel pipes
C03	To lay steel pipes
C04	Make the installation of copper and aluminum pipe
C05	To combine high-temperature brazing copper pipes
C06	Assembling of plastic pipes

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules of
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	12	2	24
Assignments	0	0	0
Presentation	5	2	10
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	30	2	60
Project	7	2	14
Final examination	1	1	1
<b>Total Work Load</b>			<b>180</b>
<b>ECTS Credit of the Course</b>			<b>6</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000194 Turkish Language I					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
1	D0000194	Turkish Language I	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Associate and express themselves correctly and effectively to the students at the undergraduate level, the main language awareness to acquiring; panels, conferences, panel, forum type meetings to teach effective listening.

**Teaching Methods and Techniques:**

The aim of the course is to give information about the scope and basic concepts. The main problem of the Turkish language rules. Effective and good use of language

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Erdal BARAN Erdal BARAN Erdal BARAN Yavuz GÜNEŞ Yavuz GÜNEŞ Yalçın KULAÇ Yalçın KULAÇ Faruk TOYDEMİR Cafer AKIN Yavuz GÜNEŞ Yalçın KULAÇ Yalçın KULAÇ Yalçın KULAÇ Yalçın KULAÇ Yalçın KULAÇ Cafer AKIN Faruk TOYDEMİR Faruk TOYDEMİR Faruk TOYDEMİR Erdal BARAN Erdal BARAN Erdal BARAN Erdal BARAN Cafer AKIN Yalçın KULAÇ Cafer AKIN Yavuz GÜNEŞ Yavuz GÜNEŞ Yavuz GÜNEŞ Yavuz GÜNEŞ Yavuz GÜNEŞ Cafer AKIN Yalçın KULAÇ Yavuz GÜNEŞ Yalçın KULAÇ Yalçın KULAÇ Cafer AKIN Yavuz GÜNEŞ Cafer AKIN Yalçın KULAÇ Cafer AKIN Cafer AKIN Cafer AKIN Cafer AKIN Yalçın KULAÇ Cafer AKIN Cafer AKIN Faruk TOYDEMİR Faruk TOYDEMİR Yalçın KULAÇ Cafer AKIN Faruk TOYDEMİR Yalçın KULAÇ Yavuz GÜNEŞ Yavuz GÜNEŞ Yavuz GÜNEŞ Cafer AKIN Yalçın KULAÇ Cafer AKIN Cafer AKIN Yavuz GÜNEŞ Yavuz GÜNEŞ Cafer AKIN Cafer AKIN Cafer AKIN Faruk TOYDEMİR Yavuz GÜNEŞ Faruk TOYDEMİR Faruk TOYDEMİR Cafer AKIN Cafer AKIN Yalçın KULAÇ Yalçın KULAÇ Yavuz GÜNEŞ Cafer AKIN Yavuz GÜNEŞ Erdal BARAN Erdal BARAN Yavuz GÜNEŞ Erdal BARAN

**Assistants:****Recommended or Required Reading****Resources**

Spelling, TDK Publications, Ankara, 2012.  
Turkish Dictionary, TDK Publications, Ankara, 2013.  
Prof. Dr. Hanifi Vural, Türk Dili, Taşahan Kitap, Tokat, 2012.

**Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Course Learning Outcomes**

No	Learning Outcomes
C01	Know the definition and functions of language.
C02	Know genres.
C03	Language can detect errors.
C04	He knows the historical development of the Turkish language.
C05	Express themselves verbally and in writing.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
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P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules of
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	0	%0
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	0	%0
<b>Total</b>		<b>%0</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	0	0	0
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	0	0	0
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	0	0	0
<b>Total Work Load</b>			<b>0</b>
<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000104 GERMAN II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	D0000104	GERMAN II	3	3	3

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

To use the German language at a basic level for written and oral communication and strengthen the infrastructure of the forward-looking language

**Teaching Methods and Techniques:**

Current issues with German basic grammar

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:****Assistants:****Recommended or Required Reading****Resources**

Einfach Grammatik  
Übungsgrammatik Deutsch A1 bis B1  
Berliner Platz 1Langenscheidt

**Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000107 Ataturk's Principles and History of Turkish Revolution II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	D0000107	Ataturk's Principles and History of Turkish Revolution II	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

To understand Ataturk's reforms and how basic principles of the republic came into existence in Republic of Turkey establishment period. To help Turkish youth in the way of being unified individuals as a nation and becoming effective in the contemporary world.

**Teaching Methods and Techniques:**

The last periods of the War of Independence. Treaties that causes the establishment of Republic of Turkey. Ataturk's principles which determine the features of Republic of Turkey and the revolutions which strengthen these principles

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Specialist Dr. Adnan GELMEZ Specialist Dr. İzzet Bahri ATEŞLİ Specialist Dr. Ayşe ERYAMAN Specialist Dr. Sadet ALTAY Specialist Dr. Sabri ZENGİN

**Assistants:****Recommended or Required Reading**

**Resources** 4- Komisyon, Atatürkçü Düşünce, Ankara 1992, AAM yay., 3- A. Afetinan, M. Kemal Atatürk'ten Yazdıklarım, İstanbul 1971, MEB yay., 7- Selahattin Tans Sabri ZENGİN, Atatürk İlkeleri ve İnkılap Tarihi, 2. Baskı, Taşhan Kitap, Tokat 2016.

**Course Category**

<b>Mathematics and Basic Sciences</b> :		<b>Education</b> :	
<b>Engineering</b> :		<b>Science</b> :	
<b>Engineering Design</b> :		<b>Health</b> :	
<b>Social Sciences</b> :	100	<b>Field</b> :	

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Of national struggle	Rebellions against the Parliament, The Treaty of Sevres	
2	Of national struggle	National War Fronts: The west facade, The South facade, The east facade.	
3	Of national struggle	Treaties which halted fighting: The Armistice of Mudanya, The Treaty of Lausanne.	
4	Establishment of the Republic of Turkey	Abolition of the sultanate, declaration of the republic, abolition of the caliph	
5	The democratization of the republic	People's Party, Progressive Republican Party, Free Republican Party, Democratic Pa	
6	Secularizing of the republic	Secularizing of the state management. Secularizing of the constitution. Secularizing of the edu	
7	The principle of nationalism	National government, The national history (Turkish Historical Society), National language (Tur	
8	Midterm Exam		
9	The principle of statism	Economics Congress of Turkey, national economy, promotion of private enterprise and develop	
10	Reactions to the Reforms	The rebellion of Seyh Sait, assassination attempt on Ataturk in Izmir, The Menemen event.	
11	The constitutions of Turkish History	1876, 1909, 1921, 1924, 1960, 1982 Constitutions and their features.	
12	Revolutions in the field of education	Tevhid-i Tedrisat Kanunu (The Law of Teaching Unification), Alphabet revolution, F	
13	Social Reforms	The hat and attire revolution, The abolition of dervish lodges, angles, tombs and religious orders, surnam	
14	Turkish foreign policy	Turkey's strategic importance, Liberation War era foreign policy, Turkish foreign policy of the Atatür	
15	Turkish foreign policy	Turkish foreign policy after Atatürk.	

**Course Learning Outcomes****No Learning Outcomes**

- C01 Determines that the establishment of agreements with Turkey and to analyze international law.  
C02 That the reforms of Ataturk founded modern Turkey in order to bring the level of contemporary civilizations, the basic principles (Principles) to explain.  
C03 Youth in Turkey's national, democratic, secular, social and individual values depending on the organization to be based on the principles of modern law.  
C04 Youth who follow developments in the world, state and nation in the contemporary world that individuals can apply to be effective, needs to be done.

**Program Learning Outcomes****No Learning Outcome**

- P12 Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.  
P01 Reads and prepares Plumbing, natural gas, heating and cooling projects.  
P17 She uses Turkish in the best way and expresses herself, knows the grammar rules and features.  
P19 Knows Ataturk's Principles and Revolutions, knows our history before and after the Republic  
P18 Uses foreign language in accordance with grammatical rules  
P15 Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.  
P13 Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.  
P10 Knows the principles of standard and quality, applies it in her profession  
P11 Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials  
P09 Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.  
P07 Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules  
P06 It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.  
P04 Knows organizational techniques for establishing and developing a business.  
P05 Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules of  
P03 Knows basic electrical knowledge and makes applications in her own profession.  
P02 Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.  
P14 Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.  
P08 Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning  
P16 Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	15	2	30
Hours for off-the-c.r.stud	15	1	15
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	5	5
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	10	10
<b>Total Work Load</b>			<b>60</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1008 COMPUTER SUPPORT DRAWING-I					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	GAZ-1008	COMPUTER SUPPORT DRAWING-I	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Computer-aided drafting and design (CAD) To understand the basic elements. Two-dimensional technical drawings in AutoCAD for applications in computer drawing package to draw using the program. Drawings of the drawings made previously on the record and make changes.

**Teaching Methods and Techniques:**

Required

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field : 100</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Drawing initial setup program		
2	Drawing entering commands / coordinates		
3	Geometrical shapes		
4	Dimension sheets		
5	Adding text to drawings		
6	Drawing template framework boots		
7	letterhead boots		
8	pulley boots		
9	flange boots		
10	sectioning		
11	Perspective Drawing		
12	Surface modeling		
13	Solid modeling		
14	Solid modeling		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Computer aided drawing
C02	Drawing applications
C03	Make a three-dimensional drawing applications

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	2	2	4
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	7	1	7
Practice	0	0	0
Laboratory	13	4	52
Project	0	0	0
Final examination	7	1	7
<b>Total Work Load</b>			<b>112</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1010		PIPE WELDING			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	GAZ-1010	PIPE WELDING	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

With this course, the students, combining oxy-acetylene-based steel using electric arc welding pipe and is aimed to gain competencies.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Pressure Regulator Setting		
2	Making of Flame Settings		
3	Oxy-Acetylene Welding and Sewing Radio Withdrawal		
4	Oxy-Acetylene Welding and Sewing Radio Withdrawal		
5	Oxy-Asetl puntaımaaks Piece of Work with the Supply-centering the workpiece with Asetl Resources		
6	Oxy-Acetylene Welding and Joining Steel Pipe		
7	Oxy-Acetylene Welding and Making Hot Twist		
8	Electric Arc Welding		
9	Electric Arc Welding with the centering		
10	Be spotted by Electric Arc Welding of Steel Pipe		
11	Merge with Electric Welding Steel Pipe		
12	Gas Metal Arc Welding (MIG / MAG) Source		
13	Pipe Welding with Birleřirme		
14	TYPES OF FLAME		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Oxy-Acetylene Welding in creating Flame
C02	Drawing on oxy-acetylene welding sewing
C03	Oxy-Acetylene Welding Pipe to Merge
C04	arc in the electric arc welding
C05	Joining pipes with electric arc welding
C06	Combine with Tig Welding Pipe

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships, related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	10	4	40
Assignments	0	0	0
Presentation	7	1	7
Mid-terms	1	1	1
Practice	7	3	21
Laboratory	9	4	36
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>162</b>
<b>ECTS Credit of the Course</b>			<b>5</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000141		English II			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	D0000141	English II	3	3	3

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

English

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

As a result of this course, students will be able to use the basic structures to express themselves. This course aims at giving the students basics of English at beginner level.

**Teaching Methods and Techniques:**

Compulsory Foreign Language Course (English)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:****Assistants:****Recommended or Required Reading****Resources**

New Headway Beginner Listening CDs  
New Headway Beginner Teachers Resource CD  
New Headway Beginner - Liz and John Soars - Oxford University Press

**Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Course Learning Outcomes**

No	Learning Outcomes
C01	To know and be able to use basic grammatical structures in English
C02	Recognize and use social expressions
C03	Understand that you hear in the target language
C04	Location-direction ability recipe
C05	Count the days and months
C06	To solve everyday problems

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
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P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships, related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	0	%0
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	0	%0
<b>Total</b>		<b>%0</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	0	0	0
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	0	0	0
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	0	0	0
<b>Total Work Load</b>			<b>0</b>
<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1042 PROFESSIONAL MATHEMATICS-II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	GAZ-1042	PROFESSIONAL MATHEMATICS-II	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

our goal is provide students with clear understanding of the ideas of mathematics as a solid foundation for subsequent courses in math and other disciplines.

**Teaching Methods and Techniques:**

The concept of function, quadratic equations, and Trigonometrik functions, complex numbers, the limit of a function and its derivative, Matrices and Determinants

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Çiğdem ÖZTAŞ

**Assistants:****Recommended or Required Reading**

Resources GENERAL MATHEMATICS, PROF.DR. MUSTAFA BALCI

**Course Category**

Mathematics and Basic Sciences	: 75	Education	:
Engineering	: 10	Science	:
Engineering Design	:	Health	:
Social Sciences	:	Field	: 15

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Matris ve Determinantlar		
2	Matrices		
3	The error analysis		
4	Methods of numerical solution of equation systems and linear systems of equations		
5	Methods of numerical solution of systems of linear equations		
6	Methods of numerical solution of stems of linear equations		
7	Methods of numerical solution of systems of linear equations		
8	Curve fitting methods		
9	Interpolation techniques		
10	Polygons, angles, circles and geometric applications in circulus		
11	Geometric objects		
12	Coordinate systems		
13	Coordinate systems		
14	Basic trigonometry and trigonometric functions		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To make basic geomtric drawings
C02	Able to solve basic trigonometric problems
C03	To learn basic geometric shapes
C04	To solve basic math problems which related to comptur programs
C05	Able to solve graphically and numerically function.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
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P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	14	3	42
Assignments	14	3	42
Presentation	0	0	0
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>128</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**



**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1054		PLUMBİNG			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	GAZ-1054	PLUMBİNG	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

This course is the establishment of the building plumbing, laying of waste water installations, aimed to gain competencies related to the assembly and installation of hot water use fire apparatus.

**Teaching Methods and Techniques:**

Electives (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Clean water supplies		
2	Leak trial		
3	Domestic waste water installation		
4	Waste water plumbing connection openings		
5	Building waste water systems		
6	Manhole connection of waste water installations		
7	Gas water heater installation		
8	Electric water heater installation		
9	The installation of electric instantaneous water heaters		
10	Pressure tank connection		
11	Fire equipment		
12	Fire tank assembly		
13	Fire cabinet assembly		
14	Fire sprinklers		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To pave the clean water supply
C02	To lay waste water systems
C03	Make the installation of hot water preparation equipment
C04	Make the fire equipment 1
C05	Make the fire equipment 2

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	12	2	24
Assignments	7	2	14
Presentation	0	0	0
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	20	2	40
Project	7	2	14
Final examination	1	1	1
<b>Total Work Load</b>			<b>150</b>
<b>ECTS Credit of the Course</b>			<b>5</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-1048		VOCATIONAL DRAWING			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	GAZ-1048	VOCATIONAL DRAWING	3	3	5

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

With this course, the student assembly drawings for heating and plumbing components; heating, gas and plumbing projects will gain competencies boots

**Teaching Methods and Techniques:**

Electives (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKÖĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences</b> :	<b>Education</b> :
<b>Engineering</b> :	<b>Science</b> :
<b>Engineering Design</b> :	<b>Health</b> :
<b>Social Sciences</b> :	<b>Field</b> :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Heating installation drawing symbols		
2	The boiler assembly drawing drawing		
3	Official expansion tank assembly drawing		
4	Floor heating system drawing		
5	Boiler room detail image		
6	Drawing symbols gas installations		
7	Isometric drawing		
8	The symbols of plumbing elements		
9	Armature assembly drawing pictures		
10	Installation pictures of hot water preparation device		
11	Building clean water distribution systems drawing		
12	Drawing waste water distribution systems		

**Course Learning Outcomes**

No	Learning Outcomes
C01	The heating system assembly drawings to draw
C02	Heating installation projects draw
C03	Natural gas installation projects draw
C04	Installation of plumbing elements to draw pictures
C05	To draw a plumbing project

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	9	2	18
Assignments	10	2	20
Presentation	6	2	12
Mid-terms	1	1	1
Practice	14	2	28
Laboratory	0	0	0
Project	14	2	28
Final examination	1	1	1
<b>Total Work Load</b>			<b>150</b>
<b>ECTS Credit of the Course</b>			<b>5</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

D0000195 Turkish Language II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
2	D0000195	Turkish Language II	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

To make students become familiar with the correct, beautiful and efficient use of the Turkish language to make them base the written and spoken intercourse of the language on strong principals to make them gain their skills in correspondence, presentations and explanations successfully in their business life to make them become intellectual individuals who read, think, inquire and bring solutions.

**Teaching Methods and Techniques:**

According to their subjects, reading, listening, writing, presentation, discussion, sampling, question and answer techniques will be used.

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:****Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences : 100</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	marks of punctuation. (point, comma, semicolon, double point, interjection)		
2	marks of punctuation. ( inverted commas, paranthesis)		
3	The rules of orthography. ( Writing of capitals and numbers and compounds )		
4	The rules of orthography. ( writing of idioms, dieresis, quotation words and foreign proper nouns)		
5	The rules of orthography. ( The writing of abbreviation and some additions.)		
6	composition. ( definition, aim, being succesful in composition )		
7	The methods of composition. ( The constitutetion of assistant reflection and main reflection.)		
8	The methods of composition. (The constitutetion of paragraph, the methods of progress of reflection in paragraph)		
9	The properties of expression		
10	Failure to expression properly.		
11	The forms of expression. (collecting homeworks)		
12	varieties of expression. ( oral expression)		
13	varieties of expression. ( written expression- letter, petition)		
14	varieties of expression.( written expression- story, fiction, theatre, verse)		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Understands the rules of writing on a topic, improves writing skills.
C02	Oral presentation and communication skills are gained.
C03	Written and oral expression and to communicate accurate and effective use of language is to understand, short equity requests, but being able to fully express, petition writing, report preparation
C04	Understand that our language is Turkish its place among the world' s languages??.
C05	Using the word in sentences comprehend the wrongs done in establishing the rules of spelling, punctuation, gains the ability to use correct and appropriate.
C06	Apart from textbooks, information texts to be read from a variety of genres, manners, life changing experience and perspective on life, the habit of seeing nice gains different opinions.
C07	Academic listening to a conversation, to ask questions, learn to make the necessary explanations, so how it should be understood that behavior within society and apply.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	14	2	28
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>58</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2059 COMPUTER SUPPORT DRAWING-II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2059	COMPUTER SUPPORT DRAWING-II	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

In this course; computer-aided three-dimensional drawings and installation is intended to gain competency to do.

**Teaching Methods and Techniques:**

ELECTIVE (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Operation of three-dimensional drawing program software commands and CAI		
2	The use of menus and toolbars		
3	The drafting and drafting commands to run		
4	Use of draft dimensioning commands		
5	Make three-dimensional solid modeling		
6	Create a solid layer of spin-forming and sweeping		
7	Mirroring solid models		
8	Three-dimensional surface modeling		
9	Three-dimensional model assembly		
10	Three-dimensional model assembly		
11	To create the three-dimensional model of the technical official		
12	Establishing the basic appearance		
13	The creation of auxiliary views and dimensioning of view		
14	CAD software to make conversions between data		

**Course Learning Outcomes****No Learning Outcomes**

C01 Computer-aided three-dimensional drawing and installation to

**Program Learning Outcomes****No Learning Outcome**

P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	7	4	28
Assignments	1	5	5
Presentation	0	0	0
Mid-terms	1	2	2
Practice	0	0	0
Laboratory	0	0	0
Project	3	5	15
Final examination	1	2	2
<b>Total Work Load</b>			<b>108</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2007		STEAM SYSTEM			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2007	STEAM SYSTEM	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Students of this course, the steam heating system, condensate tank installation, the feed water purification system and ensuring that safety is aimed to gain competencies

**Teaching Methods and Techniques:**

Compulsory (z)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Pipe diameter to appoint		
2	Make Pump Selection		
3	Select Condensate Pump		
4	Feed Water Pump to Choose		
5	Condensate Tank Make Selection		
6	Make Condensate Tank Fitting Assembly		
7	Condensate Tank Make Connections		
8	Make Selection System		
9	Make the Treatment System Installation		
10	Doing Mechanical Installation of Safety Devices		
11	Doing the Installation of Warning Devices		
12	Doing System Testing		
13	Determining the degasser tank capacity		
14	Doing Degasser Assembly		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Steam heating system set up
C02	Condensate tank to mount
C03	Feed water treatment system set up
C04	System safety is provided
C05	Detecting the degasifier tank capacity

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	10	2	20
Assignments	10	2	20
Presentation	7	2	14
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	9	2	18
Project	7	2	14
Final examination	1	1	1
<b>Total Work Load</b>			<b>130</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
bbb





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2041 NATURAL GAS SYSTEM-I					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2041	NATURAL GAS SYSTEM-I	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Students of this course, link building gas lines, underground lines, building gas main shut-off valve assembly and installation of distribution line is aimed to gain proficiency.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Gas project information		
2	Gas project information		
3	Gas project information		
4	Gas project information		
5	Gas line ground rules		
6	Tranche sizes		
7	Tranche sizes		
8	Cathodic protection techniques		
9	The main shut-off valve		
10	alves used in natural gas installations		
11	alves used in natural gas installations		
12	Building distribution line		
13	Gas supply line		
14	Gas supply line		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Take the gas service line connection box
C02	Natural Gas building, take the underground line connection
C03	To the gas main shut-off valve assembly
C04	Building and assembling gas distribution line

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	14	2	28
Assignments	5	2	10
Presentation	5	2	10
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	7	2	14
Project	7	2	14
Final examination	1	1	1
<b>Total Work Load</b>			<b>120</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
bbb





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2047 STUDY AND PROJECT TECHNIQUES-I					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2047	STUDY AND PROJECT TECHNIQUES-I	2	1	3

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

This course provides students with the Gas Facilities and infrastructure work will be accelerated.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Vehicle information infrastructure, equipment and information equipment		
2	Gas mains supply information		
3	Natural gas supplies implementing regulations and specifications for information		
4	Material information		
5	Occupational health and safety measures information		
6	Career term information		
7	Project information read		
8	Technical picture information		
9	Natural gas supplies implementing regulations and specifications for information		
10	Occupational health and safety measures information		
11	Commercial operation procedure information		
12	Job-related legislation bilgis		
13	Excavation license information		
14	Professional physics knowledge		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Line network infrastructure to detect
C02	Line to control network infrastructure
C03	Line network infrastructure to manufacturing

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	10	2	20
Assignments	7	2	14
Presentation	0	0	0
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>78</b>
<b>ECTS Credit of the Course</b>			<b>3</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2011		HEATING SYSETMS			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2011	HEATING SYSETMS	3	3	5

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Students of this course; installation of heating, boiler, boiler assembly, the establishment of mobile heating systems and heating systems are aimed to gain competencies related to commissioning.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Heat Loss Calculator		
2	Boiler Installation Device Selection		
3	Heaters		
4	Heating mounts		
5	Heater Installation		
6	Radiator valves		
7	Floor heating boilers		
8	Boiler installations		
9	Combi devices		
10	Making the installation of the heating unit		
11	Mobile heating		
12	Plastic sleeve piping		
13	Testing facilities		
14	Startup System		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To select the heating system circuit elements
C02	To make the heater assembly
C03	Central heating boiler installation do
C04	Combi make mounting
C05	Establish mobile heating system
C06	To commission the floor heating system

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	14	2	28
Assignments	7	1	7
Presentation	15	2	30
Mid-terms	1	1	1
Practice	15	1	15
Laboratory	7	2	14
Project	10	2	20
Final examination	1	1	1
<b>Total Work Load</b>			<b>158</b>
<b>ECTS Credit of the Course</b>			<b>5</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2053		WORK SECURITY			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2053	WORK SECURITY	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

With this course students; take first aid measures and is aimed at teaching the competencies related to ensuring the safety of work.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	First Aid Training		
2	First Aid Training		
3	First Aid Training		
4	First Aid Training		
5	First Aid Supplies		
6	First Aid for Materials will		
7	First Aid Supplies		
8	Personal Safety Supply		
9	Personal Safety Supply		
10	Personal Safety Supply		
11	Ensure the safety of employees		
12	Ensure the safety of employees		
13	Securing Business Environment		
14	Securing Business Environment		

**Course Learning Outcomes****No Learning Outcomes**

C01	Get first aid measures
C02	Ensure work safety

**Program Learning Outcomes****No Learning Outcome**

P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	1	1
Practice	8	2	16
Laboratory	0	0	0
Project	7	2	14
Final examination	1	1	1
<b>Total Work Load</b>			<b>60</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
bbb





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2005		MATERIALS TECNOLOGY			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2005	MATERIALS TECNOLOGY	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

In this course; material selection and aimed to gain qualifications to make the examination.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	The materials used in the art		
2	Basic concepts of atomic structure		
3	Unit types cage		
4	Basic concepts of solidification and melting		
5	Dendrite and grain formation during solidification		
6	Crystal defects		
7	pure metal		
8	Standard representations of alloy steel		
9	Alloys dissolved in the liquid state at any rate each other		
10	In the other case no insoluble liquid and solid alloys		
11	Visual inspection method		
12	Ultrasonic inspection method		
13	X-ray inspection method		
14	Magnetic testing method		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Examine the structural materials
C02	And to examine the alloy phase diagram
C03	Material deformation and make the examination

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
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P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	8	1	8
Assignments	8	1	8
Presentation	7	2	14
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>74</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
bbb



**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
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P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2001		BASIC ELECTRICITY			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2001	BASIC ELECTRICITY	2	2	3

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

This course is set up with simple electric circuits, set up automatic control circuits and electrical connections will gain competencies

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Make the connection of conductors		
2	Using the measurement tools		
3	Build series and parallel circuits		
4	Resetting the ground and make connections		
5	Resetting the ground and make connections		
6	Install mechanical pushbutton circuit		
7	Install thermostatically controlled circuit		
8	Establish control circuit switch		
9	Establish control circuit switch		
10	Connection to single-phase motors		
11	To determine the sequence of phase		
12	To determine the sequence of phase		
13	Make the three-phase motor connection		
14	Make the three-phase motor connection		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Build simple electrical circuits
C02	Simple to set up automatic control circuits
C03	Electric motors make connections

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	9	2	18
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	7	2	14
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>90</b>
<b>ECTS Credit of the Course</b>			<b>3</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2003 THERMODYNAMICS					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	GAZ-2003	THERMODYNAMICS	3	3	3

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

With this course, it is aimed to teach the basic principles of classical thermodynamics, to provide comprehension and solving of engineering problems in thermodynamics, to teach to use the first and second law of

**Teaching Methods and Techniques:**

Introduce to Thermodynamics, The first and second law, Analysis of the system and control volume, The behaviour and properties of the pure substances, The applications to the thermodynamics systems.

**Prerequisites and co-requisites:**

**Course Coordinator:**

**Name of Lecturers:**  
Instructor Ünsal AYBEK

**Assistants:**

**Recommended or Required Reading**

**Resources**

**Course Category**

<b>Mathematics and Basic Sciences</b>	:		<b>Education</b>	:	
<b>Engineering</b>	:	100	<b>Science</b>	:	
<b>Engineering Design</b>	:		<b>Health</b>	:	
<b>Social Sciences</b>	:		<b>Field</b>	:	

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Basic concepts (system, environment, change of state, online,), the zeroth law of thermodynamics		
2	Heat and business transformation		
3	Thermodynamic properties of pure substance (property relations, pv, Ts diagrams)		
4	Thermodynamic properties of pure substance (property relations, pv, Ts diagrams)		
5	The ideal gas equation, and phase transitions		
6	Thermodynamics 1 Law		
7	Thermodynamics 2 law		
8	Motor cycles, comparison of cycles		
9	Internal combustion engines work, efficiency, power		
10	Motor performance characteristics		
11	Fuels, physical and chemical properties, combustion, physical analysis, chemical properties, combustion spark ignition engin		
12	Classification of compression ignition engines burning fuels, hydrocarbons, alcohols and their derivatives, the classification		
13	And analysis of end-products of combustion, fuel and combustion-related tables, alternative fuels and combustion		
14	Sources of combustion engines, detonation, fuel evaporation, detonation resistance		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Use in accordance with terms and concepts of thermodynamics
C02	Stable and unstable system of energy and mass transfer calculations required to make applications perform.
C03	Grasp of reversible and irreversible processes.
C04	Thermodynamic analysis of the various systems, irreversibility, exergy, and use the concepts of efficiency.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules of
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	14	2	28
Assignments	0	0	0
Presentation	7	2	14
Mid-terms	1	1	1
Practice	7	1	7
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>79</b>
<b>ECTS Credit of the Course</b>			<b>3</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2008		NATURAL GAS DISTRIBUTION LINES			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2008	NATURAL GAS DISTRIBUTION LINES	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

This course provides students with the Gas Facilities and infrastructure work will be accelerated.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Akiskan bilgisi		
2	Tools, materials and equipment operating procedures, information Standard size information Commercial information		
3	Gas network information systems, natural gas installation regulations and specifications for application information		
4	First Aid knowledge, knowledge of occupational health and safety measures		
5	Material information, professional knowledge of physics, Vocational term information		
6	Gas operation in the natural gas network information		
7	Deactivate the rectifier / receiving data		
8	Fluid knowledge, communication skills Fluid information		
9	Tools, materials and equipment knowledge, knowledge of gas mains supply, natural gas installation regulations and speci		
10	Communication skills, knowledge of occupational health and safety measures		
11	Professional knowledge of mathematics		
12	Commercial operation procedure information		
13	Career term information		
14	Test information		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Natural gas distribution lines to prepare materials.
C02	Natural gas distribution lines to the equipment installation.
C03	Testing of gas distribution lines.
C04	To activate the natural gas distribution lines.

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacac) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	7	2	14
Assignments	5	2	10
Presentation	5	2	10
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	7	2	14
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>120</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2044 NATURAL GAS SYSTEM-II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2044	NATURAL GAS SYSTEM-II	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Students of this course is to lay a natural gas installation, take the column installation, attract the consumer line and the installation of gas tightness test is aimed to gain competencies able to do.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Boiler Gas Supply Line		
2	Boiler Gas Supply Line		
3	Gas Burners		
4	Gas Burners		
5	Indoor Natural Gas System		
6	Indoor Natural Gas System		
7	Gas Line Column		
8	Gas Line Column		
9	Natural Gas Consumption Building Line		
10	Natural Gas Consumption Building Line		
11	Gas Meters		
12	Gas Safety Rules		
13	Natural Gas System Testing Rules		
14	Rules Appliances in Leakage Test		

**Course Learning Outcomes**

No	Learning Outcomes
C01	To pave the boiler gas installations
C02	To lay the gas column line
C03	Line to lay natural gas consumption
C04	Make the leak test gas installations

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	10	2	20
Assignments	10	2	20
Presentation	7	2	14
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	11	2	22
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>120</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2054 STUDY AND PROJECT TECHNIQUES-II					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2054	STUDY AND PROJECT TECHNIQUES-II	2	1	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

This course prepares the project will be able to gain qualifications.

**Teaching Methods and Techniques:**

Electives (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Research Project Title		
2	Research Project Title		
3	Research Project Title		
4	Planning for the project Steps		
5	Planning for the project Steps		
6	Planning for the project Steps		
7	Planning for the project Steps		
8	Preparing Department Project		
9	Preparing Department Project		
10	Preparing Department Project		
11	Project Writing and Presentation		
12	Project Writing and Presentation		
13	Project Writing and Presentation		
14	Project Writing and Presentation		

**Course Learning Outcomes****No Learning Outcomes**

C01	Identify Project Thread
C02	Preparing project

**Program Learning Outcomes****No Learning Outcome**

P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	8	2	16
Assignments	0	0	0
Presentation	7	2	14
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>60</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2004 CLIMATIZATION TECHNICAL					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2004	CLIMATIZATION TECHNICAL	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

With this course, students are aimed to gain competencies needed to make the selection and installation of individual air conditioning system.

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Koray TUNCER

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Psychrometric and basic psychrometric diagram transactions		
2	Psychrometric and basic psychrometric diagram transactions		
3	Show on psychrometric diagram of the air conditioning in summer and winter		
4	Practical heat load calculations scene		
5	Individual air conditioners and secimi		
6	Cable cross-sections and fuse secimi		
7	Window-type air conditioners		
8	Window-type air conditioners		
9	Split type air conditioners		
10	Split type air conditioners		
11	Split type air conditioners		
12	Ducted split type air conditioners		
13	Ducted split type air conditioners		
14	Ducted split type air conditioners		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Using psychrometric chart
C02	Make a selection of air conditioners
C03	Make the installation of window air conditioners
C04	Make the installation of split air conditioners
C05	Make the installation of ducted split air conditioners

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	10	2	20
Assignments	10	2	20
Presentation	9	2	18
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	7	2	14
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>130</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
bbb





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2056		CONTACTS			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2056	CONTACTS	2	2	2

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

With this course the student, verbal, nonverbal, written, formal, competencies to communicate between the inside and the outside non formal and the organization will gain.

**Teaching Methods and Techniques:**

Electives (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

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

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Sözlü İletişim kurmak		
2	Sözlü İletişim kurmak		
3	Yazılı İletişim kurmak		
4	Yazılı İletişim kurmak		
5	Yazılı İletişim kurmak		
6	Sözsüz İletişim kurmak		
7	Sözsüz İletişim kurmak		
8	Biçimsel (Formal) İletişim kurmak		
9	Biçimsel (Formal) İletişim kurmak		
10	Biçimsel (Formal) İletişim kurmak		
11	Biçimsel Olmayan (Informal) İletişim kurmak		
12	Biçimsel Olmayan (Informal) İletişim kurmak		
13	Orğüt dışı iletişim kurmak		
14	Orğüt dışı iletişim kurmak		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Establish individual communication
C02	Organizational communication

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	2	28
Hours for off-the-c.r.stud	7	4	28
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	1	1	1
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>58</b>
<b>ECTS Credit of the Course</b>			<b>2</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2006		BUSINESS MANAGEMENT			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2006	BUSINESS MANAGEMENT	2	2	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

The aim of the Business Management Program is to educate qualified graduates who have basic business administration knowledge and adequacy, can work in private and public business as intermediate staff, submanager and middle manger, can follow and apply technological and scientific innovation, have enough adequacy for market and succesful in social relationship.

**Teaching Methods and Techniques:**

This course deals with he concept of entrepreneur and entrepreneurship, the importance of entrepreneurship, small business management, problems small business face and suggesting solutions of these problems.

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Bahattin TÜRKOĞLU

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Have proficiency in applying theoretical business management knowledge on business life.		
2	Have proficiency in using business management function and applying and following new management technics.		
3	Have proficiency for performing legal responsibilities of business, following and applying legislation.		
4	Have proficiency for performing legal responsibilities of business, following and applying legislation.		
5	Can use information and communication technologies that necessary for their area, follow technological change and apply ne		
6	Determine, analyse and solve problems that appear in vocational applications.		
7	Manage business finance, analyse business financial situation, and solve financial problems.		
8	Gain management skill by managing and enhancing human resource effectively in accordance with business aims .		
9	Understand production and marketing functions as a whole, have profiency in applying new production and marketing tec		
10	Have proficiency in calculating cost, making entry, preparing and interpreting financial statements.		
11	Have vocational ethical value that market needs in qualified staff, can use Turkish effectively in writing and speaking comm		
12	Have proficiency in analysing, interpreting, evaluating and solving their area' information analytically.		
13	Have profiency in following and applying vocational current and economic developments in national and international area		
14	Have profiency in following and applying vocational current and economic developments in national and international area		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Analyzing basic economic indicators
C02	To the idea of establishing workplace
C03	Commercial organizations carry out transactions
C04	Open up its workplace

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work. tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	14	2	28
Assignments	3	3	9
Presentation	7	2	14
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>109</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
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P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**



**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
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P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria			ECTS Allocated Based on Student Workload			
In-Term Studies	Quantity	Percentage	Activities	Quantity	Duration	Total Work Load
Mid-terms	0	%0	Course Duration	0	0	0
Quizzes	0	%0	Hours for off-the-c.r.stud	0	0	0
Assignment	0	%0	Assignments	0	0	0
Attendance	0	%0	Presentation	0	0	0
Practice	0	%0	Mid-terms	0	0	0
Project	0	%0	Practice	0	0	0
Final examination	0	%0	Laboratory	0	0	0
<b>Total</b>		<b>%0</b>	Project	0	0	0
			Final examination	0	0	0
			<b>Total Work Load</b>			<b>0</b>
			<b>ECTS Credit of the Course</b>			<b>0</b>

**Contribution of Learning Outcomes to Programme Outcomes**



**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. Knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	0	%0
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	0	%0
<b>Total</b>		<b>%0</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	0	0	0
Hours for off-the-c.r.stud	0	0	0
Assignments	0	0	0
Presentation	0	0	0
Mid-terms	0	0	0
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	0	0	0
<b>Total Work Load</b>			<b>0</b>
<b>ECTS Credit of the Course</b>			<b>0</b>

Contribution of Learning Outcomes to Programme Outcomes





# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2058		COOLING SYSTEM DESIGN			
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2058	COOLING SYSTEM DESIGN	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Elective

**Objectives of the Course:**

This course provides students with the cold room to make design and assembly is intended to gain the competencies required.

**Teaching Methods and Techniques:**

Electives (S)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

Mathematics and Basic Sciences :	Education :
Engineering :	Science :
Engineering Design :	Health :
Social Sciences :	Field :

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Industrial cooling systems and cold rooms		
2	Cooling load calculations		
3	Cooling load calculations		
4	The choice of circuit elements		
5	Calculation of tube diameter		
6	Calculation of tube diameter		
7	Installation of cold rooms		
8	Installation of cold rooms		
9	Installation of indoor unit		
10	Installation of outdoor unit		
11	Electric control panel assembly		
12	Cold rooms commissioning		
13	Cold rooms commissioning		
14	Cold rooms commissioning		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Cool to room design
C02	Cool to room installation
C03	Cold room to assemble the circuit elements
C04	To turn the cold room

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P13	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods, evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	4	56
Hours for off-the-c.r.stud	7	2	14
Assignments	5	2	10
Presentation	5	2	10
Mid-terms	1	1	1
Practice	7	2	14
Laboratory	7	2	14
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>120</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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# Tokat Gaziosmanpaşa University

Tokat Vocational School  
Gas and Installation Technology

GAZ-2002 RENEWABLE ENERGY SOURCES					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
4	GAZ-2002	RENEWABLE ENERGY SOURCES	3	3	4

**Mode of Delivery:**

Face to Face

**Language of Instruction:**

Turkish

**Level of Course Unit:**

Associate

**Work Placement(s):**

No

**Department / Program:**

Gas and Installation Technology

**Type of Course Unit:**

Required

**Objectives of the Course:**

Renewable energy sources and technologies, the aim of this course is to make students understand the subject

**Teaching Methods and Techniques:**

Compulsory (C)

**Prerequisites and co-requisites:****Course Coordinator:****Name of Lecturers:**

Instructor Ünsal AYBEK

**Assistants:****Recommended or Required Reading****Resources****Course Category**

<b>Mathematics and Basic Sciences :</b>	<b>Education :</b>
<b>Engineering :</b>	<b>Science :</b>
<b>Engineering Design :</b>	<b>Health :</b>
<b>Social Sciences :</b>	<b>Field :</b>

**Weekly Detailed Course Contents**

Week	Topics	Study Materials	Materials
1	Energy and Terminology		
2	Solar energy, solar energy technologies and applications		
3	Solar energy, solar energy technologies and applications		
4	Wind energy, wind energy technology and applications		
5	Wind energy, wind energy technology and applications		
6	Hydraulic energy, hydraulic energy technologies and applications		
7	Geothermal energy, geothermal energy, technology and applications		
8	Biomass energy, biomass energy technology and applications		
9	Biomass energy, biomass energy technology and applications		
10	Biomass energy, biomass energy technology and applications		
11	Wave energy, wave energy technology and applications		
12	Hydrogen energy, hydrogen energy technology and applications		
13	Energy Savings and Applications		
14	Energy Savings and Applications		

**Course Learning Outcomes**

No	Learning Outcomes
C01	Understanding of solar energy and technology
C02	Understanding of wind energy and technology
C03	Understanding of hydraulic energy and technology
C04	Understanding of geothermal energy and technology
C05	Understanding of biomass energy and technology
C06	Wave energy and understanding of technology
C07	Understanding of hydrogen energy and technology

**Program Learning Outcomes**

No	Learning Outcome
P12	Basic physics, mathematics, thermodynamics, working principles of machines that produce and convert heat energy. knows.
P01	Reads and prepares Plumbing, natural gas, heating and cooling projects.
P17	She uses Turkish in the best way and expresses herself, knows the grammar rules and features.
P19	Knows Atatürk's Principles and Revolutions, knows our history before and after the Republic
P18	Uses foreign language in accordance with grammatical rules
P15	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P10	Knows the principles of standard and quality, applies it in her profession
P11	Recognizes the material, examines the materials and their internal structures, makes material inspections. Knows the types of heat treatment and apply to materials
P09	Recognizes and selects installation elements. Installs floor and central heating systems, puts them into operation and Performs periodic maintenance and repair of systems.
P07	Knows scientific research methods. Evaluates the obtained data with cause-effect relationships. related to the field prepares projects in accordance with scientific research rules
P06	It takes the necessary first aid and occupational safety measures in the working environment and ensures working safety.
P04	Knows organizational techniques for establishing and developing a business.
P05	Drawing programs commonly used in computer environment (Autocad and Zetacad) and basic office programs (Word, Excel, Power Point) knows and uses effectively. Knows and applies the rules c
P03	Knows basic electrical knowledge and makes applications in her own profession.
P02	Knows the welding methods required by his profession and the principles of pipe work, tools and techniques related to pipe assembly. uses their equipment.
P14	Air conditioning systems, steam boilers, heat pumps, heat recovery systems and reads and implements projects related to equipment.
P08	Detection of natural gas pipelines, establishment of distribution lines, individual and central natural gas installations carries out the commissioning
P16	Knows the written, verbal and non-verbal communication rules and uses them appropriately.

Assessment Methods and Criteria		
In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
<b>Total</b>		<b>%100</b>

ECTS Allocated Based on Student Workload			
Activities	Quantity	Duration	Total Work Load
Course Duration	14	3	42
Hours for off-the-c.r.stud	4	5	20
Assignments	4	5	20
Presentation	1	10	10
Mid-terms	1	1	1
Practice	3	5	15
Laboratory	0	0	0
Project	0	0	0
Final examination	1	1	1
<b>Total Work Load</b>			<b>109</b>
<b>ECTS Credit of the Course</b>			<b>4</b>

Contribution of Learning Outcomes to Programme Outcomes
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