

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
PHYS1107	0	0	2	1	2	Z	TR	1/FALL
Course Name (Turkish)	Genel Fizik Laboratuvarı I							
Course Name (English)	General Physics Laboratory I							

Unit/Program	Chemistry Department/Undergraduate Program			
Course Prerequisite	No			
Course Objectives	To examine the basic laws of mechanics in practice.			
Course Outline	Conducting experiments on Basic Mechanics			
Textbook/ Material / Resources	1. Serway Fizik 1, Çeviren, Prof.Dr. Kemal ÇOLAKOĞLU, Palme Yayıncılık, Ankara, 1995 2. Fizik İlkeleri 1, Frederick J. Bueche, David A. Jerde, Çeviren, Prof.Dr. Kemal ÇOLAKOĞLU, Palme Yayıncılık, Ankara, 2000 3. Berkeley Fizik Programı (Mekanik), A. Ü. Fen Fakültesi Yayınları, 1975			
Internship Status	No			
Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
Çukurova University	Chemistry	Physics Laboratory-1	0-0-3-1.5-2	Essential
The instructor who proposed the course (Title, Name and Surname)			Signature	
Doç. Dr. Seda HEKİM				
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)

Weekly Course Content Distribution		
Week	Theory	Application/Laboratory
1		Introduction; Basic Laboratory Principles
2		Basic Quantities, Unit Systems, Physical Measurements and Errors
3		Introduction to Laboratory Equipment
4		Free Fall Experiment
5		Simple Pendulum
6		Coefficient of Friction
7		Centripetal Force
8		MIDTERM EXAM
9		Regular and Accelerated Motion
10		Newton's Second Law of Motion
11		Conservation of Energy
12		Elastic Collision
13		Inelastic Collision
14		MAKE-UP EXAM
15		GENERAL EXAM
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	100
	Engineering Sciences	
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation

Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	2	2
Self-Study (including pre-class and exam preparation)			
Make-up Exam			
Experiment and Observation			
Class Participation (Theory)			
Homework	14	1	14
Final Exam Practice	1	2	2
Laboratory	14	2	28
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz	14	1	14
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument			
Application/Practice			
Other			
TOTAL WORKLOAD:			60
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			2

		Program Outcomes (PO)										
		1	2	3	4	5	6	7	8	9	10	11
Learning Outcomes (LO) (Course Outcomes)												
1	The student is familiar with measurement systems and learns to use experimental instruments safely and effectively.	5	5	5	3	2	5	3	5	4	5	1
2	The student interprets some physical concepts such as force, speed, linear momentum, and energy by seeing them concretely in real life.	5	5	5	2	2	2	4	2	2	2	1
3	The student learns to compare the results of an experiment related to mechanics with theory.	5	4	5	1	1	1	2	1	5	2	1
4	The student learns how to work in a laboratory environment	5	5	4	5	3	4	5	5	3	4	1

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
PHYS1113	4	0	0	4	5	Z	TR	1/FALL
Course Name (Turkish)	GENEL FİZİK I							
Course Name (English)	GENERAL PHYSICS I							

Unit/Program	Chemistry Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	Learning the basic principles and concepts of physics
Course Outline	Physics and Measurement, Motion in One Dimension, Vectors, Motion in Two Dimensions, Circular Motion and Newton's Laws, Work and Kinetic Energy, Potential Energy and Conservation of Energy, Linear Momentum and Collisions, Linear Momentum and Collisions, Rotation of Rigid Bodies About a Fixed Axis, Rolling Motion and Angular Momentum, Static Equilibrium and Elasticity, Vibrational Motion and the Law of Gravitation, Vibrational Motion and Mass
Textbook/ Material/ Resources	11. Physics for Scientist & engineers with modern physics, Third Edition, Serway,R,A. 1992. 2. Serway, R.A. and Beichner, R.J. Physics For Scientist and Engineers with Modern Physics, Sounders College Publishing, 2000. 3. Physics, Keller, F. J., Gettys, W. E., Skove, M. J. McGraw, 1993
Internship Status	No

Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
Gazi University	Chemistry	Physics-I	4-0-0-4; 6	Essential
Hacettepe University	Chemistry	Physics-I	3-0-0-3; 4	Essential
Rize RTE University	Chemistry	Physics-I	2-0-2-3; 4	Essential
The instructor who proposed the course (Title, Name and Surname)			Signature	
Prof. Dr. Cengiz TATAR				
Instructors who can teach the course (Title, Name and Surname)			Signature	
Prof.Dr.Fethi DAĞDELEN				

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)

Weekly Course Content Distribution		
Week	Theory	Application/ Laboratory
1	Physics and Measurement	
2	Addition and Subtraction of Vectors, Multiplication of Vectors, Definitions of Scalar and Vector Multiplication	
3	Movement in one dimension	
4	Motion in Two Dimensions	
5	Laws of Motion	
6	Circular Motion and Application of Newton's Laws of Motion	
7	Work and Kinetic Energy	
8	Potansiyel Enerji ve Enerjinin Korunumu	
9	Midterm Exam	
10	Linear Momentum and Collisions	
11	Rotation of rigid bodies around fixed axis	
12	Rolling Motion and Angular Momentum	
13	Static Balance	
14	MAKE-UP EXAM	
15	Final	
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	100
	Engineering Sciences	
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation

Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	2	2
Self-Study (including pre-class and exam preparation)			
Make-up Exam			
Experiment and Observation			
Class Participation (Theory)			
Homework	14	1	14
Final Exam Practice	1	2	2
Laboratory	14	2	28
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz	14	1	14
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument			
Application/Practice			
Other			
TOTAL WORKLOAD:			60
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			2

		Program Outcomes (PO)										
		1	2	3	4	5	6	7	8	9	10	11
Learning Outcomes (LO) (Course Outcomes)												
1	The student becomes familiar with measurement systems and learns to use experimental instruments safely and effectively.	5	5	5	3	2	5	3	5	4	5	1
2	The student interprets some physical concepts such as force, speed, linear momentum and energy by seeing them concretely in real life.	5	5	5	2	2	2	4	2	2	2	1
3	The student learns to compare the results of an experiment related to mechanics with theory.	5	4	5	1	1	1	2	1	5	2	1
4	The student learns how to work in a laboratory environment.	5	5	4	5	3	4	5	5	3	4	1

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
CHEM1115	2	0	0	2	4	S	TR	1/FALL
Course Name (Turkish)	Kaynak Tarama Ve Rapor Hazırlama							
Course Name (English)	Source Scanning and Report Preparation							

Unit/Program	Chemistry Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	In order to develop resource scanning skills, which is the first step required for scientific studies, the ability to bring together information about the library, the resources found, and the subject to be researched and turn it into a scientific report.
Course Outline	Basic concepts related to research Research stages Problem and hypothesis selection Library use and literature search Critical thinking in research: Sample selection, control of variables Research designs and threats to validity Preparing a research report.
Textbook/ Material / Resources	- Kaptan, S. (1998) Bilimsel araştırma ve istatistik Teknikleri, Ankara Bilim Kitap. - Ataöv, T. (2006). Bilimsel araştırma el kitabı. İstanbul: Alkım Yayınevi
Internship Status	No

Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
Uludag University	Chemistry	Faculty of Education	1-2-0-2-4	Elective
Pamukkale University	Faculty of Agriculture	Faculty of Education	1-2-0-2-3	Elective
The instructor who proposed the course (Title, Name and Surname)			Signature	
Prof. Dr. Mustafa KARATEPE				
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)
To have knowledge about source scanning and presentation, which are very important for starting scientific research.

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)
The course is aimed at gaining theoretical knowledge.

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)
Weekly Course Content Distribution	

Week	Theory	Application/ Laboratory
1	Science and its functions, assumptions of science and the concept of research	
2	Ethics in Scientific Research	
3	Scientific Method and Its Stages	
4	Scanning scientific resources. Ways to access scientific information	
5	Determining the Research Topic / Problem - Criteria for Selecting the Research Problem	
6	Effective use of libraries and computers to access resources. Certain databases that can be used in scientific fields	
7	Conducting sample source scans	
8	Conducting sample source scans	
9	Midterm Exam	
10	Content in the preparation of scientific research reports	
11	Indirect quotation Format of Source Citation in In-Text Quotations	
12	Introduction (Problem Statement) Theoretical Framework	
13	Method Section Findings and Interpretation Section	
14	Discussion – Conclusion and Recommendations Section	
15	Final	
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	70
	Engineering Sciences	
	Social Sciences	
	Health Sciences	
	Educational Sciences	30
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation

Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	1	1
Self-Study (including pre-class and exam preparation)	2	5	10
Make-up Exam	1	2	2
Experiment and Observation			
Class Participation (Theory)	10	2	20
Homework			
Final Exam Practice	1	2	2
Laboratory			
Article Review	5	2	10
Writing an Article			
Reading	5	2	10
Case Study			
Performance			
Problem Solution	5	1	5
Project Preparation			
Project Submission			
Quiz			
Report Preparation	10	1	10
Submitting Reports	10	1	10
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument	10	2	20
Application/Practice			
Other			
TOTAL WORKLOAD:			100
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			4

		Program Outcomes (PO)										
Learning Outcomes (LO) (Course Outcomes)		1	2	3	4	5	6	7	8	9	10	11
1	Ability to apply basic knowledge of Chemistry, Mathematics and Physics to Chemistry problems	5	4	5	5	3	5	5	5	5	4	1
2	Awareness of constantly renewing oneself and developing one's research skills in order to adapt to innovations and developing technology.	4	5	4	5	5	4	5	5	5	5	5
3	Sensitivity to national and international effects on health, safety and the environment in chemical applications and in solving problems in the field of chemistry.	5	5	5	4	5	3	5	4	4	5	5
4	Awareness of professional and ethical responsibility	5	5	5	4	4	5	5	5	4	4	1
5	Quality and environmental awareness	3	3	3	3	2	1	3	4	2	2	5

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
CHEM1113	2	0	0	2	4	S	TR	1/FALL
Course Name (Turkish)	Laboratuvar Tekniği ve Güvenliği							
Course Name (English)	Laboratory Technique and Safety							

Unit/Program	Chemistry Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	Working in the laboratory, ensuring safety, recognizing laboratory tools and equipment, and their correct use are taught.
Course Outline	This course includes the following topics: Laboratory work principles, Laboratory safety, Things to be followed when working with chemicals, Things to be followed when working with glassware, Glassware cleaning and drying techniques, Laboratory supplies and equipment, Disinfection and Sterilization, Solutions, Chemical waste disposal and points to be considered, Laboratory accidents and first aid, Transportation and storage of chemicals, Chemicals harmful to human health and safety measures, Planning an experiment, setting up mechanisms, keeping an experiment notebook, General evaluation.
Textbook/ Material / Resources	Laboratuvar Tekniği. Cem Karagözlü, Necati Akbulut. Ege Üniversitesi Ziraat Fakültesi Laboratuvar Tekniği. İsmet Türker. Ankara Üniversitesi Ziraat Fakültesi
Internship Status	No

Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
KTÜ	Chemistry	Laboratory Technique and Safety	3-0-0-3; 4	Elective
Ankara University	Faculty of Agriculture	Laboratory Technique and Safety	2-0-0-2; 2	Elective 1
The instructor who proposed the course (Title, Name and Surname)			Signature	
Prof. Dr. Mustafa KARATEPE				
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)

Weekly Course Content Distribution		
Week	Theory	Application/ Laboratory
1	Laboratory Safety and First Aid	
2	Laboratory Accidents and First Aid	
3	Laboratory instruments and equipment	
4	Sample Collection Process	
5	Scale Features and Weighing Process	
6	Solutions and Concentration Calculations-I	
7	Solutions and Concentration Calculations-II	
8	Physical Analysis Methods-I	
9	Physical Analysis Methods-II	
10	Midterm Exam	
11	Chemical Analysis Methods-II	
12	Chemical Analysis Methods-II	
13	Instrumental Analysis Methods-I	
14	Instrumental Analysis Methods-II	
15	Biofuels	
16	Final	

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	100
	Engineering Sciences	
	Social Sciences	
	Health Sciences	

	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation			
Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	1	1
Self-Study (including pre-class and exam preparation)			
Make-up Exam	1	1	1
Experiment and Observation			
Class Participation (Theory)	14	2	28
Homework			
Final Exam Practice	1	1	1
Laboratory			
Article Review			
Writing an Article			
Reading	14	2	28
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz			
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument	14	1	14
Application/Practice	14	2	28
Other			
TOTAL WORKLOAD:			101
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			4

		Program Outcomes (PO)										
Learning Outcomes (LO) (Course Outcomes)		1	2	3	4	5	6	7	8	9	10	11
1	Lists the rules to be followed while working in the laboratory	3	2	4	4	3	2	2	4	5	4	1
2	Explains laboratory accidents and safety precautions to be taken.	3	2	4	4	3	2	2	4	5	4	1
3	Applies basic procedures performed in the laboratory.	4	5	5	4	5	5	4	4	4	5	1

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
CHEM1103	0	0	4	2	4	Z	TR	1/FALL
Course Name (Turkish)	Genel Kimya Laboratuvarı-1							
Course Name (English)	General Chemistry Laboratory-1							

Unit/Program	Chemistry Department/Undergraduate Program			
Course Prerequisite	No			
Course Objectives	To ensure a better understanding of the subjects covered in theory by conducting basic experiments on the subjects included in the General Chemistry course content, and to develop the student's application habit by ensuring that they use laboratory tools and equipment during the experiment phase.			
Course Outline	General Chemistry Experiments			
Textbook/ Material / Resources	GENEL KİMYA 1 ve 2 Petrucci HARWOOD Çeviri: Tahsin Uyar -Deney Föyler			
Internship Status	No			
Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
İTÜ	Chemistry	Chemistry Laboratory-1	0-0-2-1;3	Essential
Pamukkale University	Biomedical Engineering	Chemistry Laboratory-1	0-0-3-1;2	Elective
İstanbul University	Chemistry	Chemistry Laboratory-1	0-0-4-2;3	Essential
The instructor who proposed the course (Title, Name and Surname)			Signature	
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)
Renewal of course syllabuses

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)
Since the course is a practical course, it is held in the laboratory. In the course, chemical material recognition and general Chemistry Lab-1 course experiments will be carried out.

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)

Weekly Course Content Distribution		
Week	Theory	Application/Laboratory
1	Safety in the Laboratory and possible accidents	
2	Glassware used in the laboratory	
3		Volume and Weight Measurement
4		Solution Preparation from Solid Samples
5		Solution Preparation from Liquid Samples
6		Separation and Purification Methods
7		Purification by Crystallization
8		Catalysts
9		Midterm Exam
10		Heating and Cooling
11		Reduction-Oxidation Reactions
12		Determination of Hydrate Water
13		pH and Indicators
14		Preparation and Adjustment of Acid-Base Solutions
15		Determination of Acid in Vinegar
16		Final

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	20
	Quizzes	12	20
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	100
	Engineering Sciences	
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation

Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	2	2
Self-Study (including pre-class and exam preparation)	9	2	18
Make-up Exam	1	2	2
Experiment and Observation	9	2	18
Class Participation (Theory)			
Homework			
Final Exam Practice	1	2	2
Laboratory	14	4	56
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz	12	1	12
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument			
Application/Practice			
Other			
TOTAL WORKLOAD:			110
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			4

		Program Outcomes (PO)										
Learning Outcomes (LO) (Course Outcomes)		1	2	3	4	5	6	7	8	9	10	11
1	To learn about laboratory rules and safety	5	2	2	1	5	5	5	2	3	4	1
2	To know the materials used in the chemistry laboratory	4	5	5	1	5	5	4	4	4	5	1
3	To support chemistry knowledge with experiments	4	5	5	1	5	5	4	4	4	5	1
4	To practice basic experiment techniques and some device usage	4	5	5	1	5	5	4	4	4	5	1
5	To ensure that they understand the connection between daily life and chemicals	4	3	5	1	4	4	4	1	5	4	1

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
CHEM1101	6	0	0	6	6	Z	TR	1/FALL
Course Name (Turkish)	Genel Kimya							
Course Name (English)	General Chemistry							

Unit/Program	Chemistry Department/Undergraduate Program			
Course Prerequisite	No			
Course Objectives	It is aimed to make students understand the properties of matter and the states of new substances formed as a result of their changes, to introduce the symbols of elements and compounds, to understand the electron structure of the atom, some types of chemical reactions, to comprehend the subject of gases, thermochemistry and periodic properties.			
Course Outline	Properties and measurement of matter, Atomic theory and electron structure, chemical compounds, chemical reactions, Gases, Thermochemistry, reactions in aqueous solutions, Periodic Table,			
Textbook/ Material / Resources	1. Petrucci & Harwood, Çeviri editörü: Tahsin Uyar, Genel Kimya: Prensipler ve Modern Uygulamaları, Palme Yayıncılık 2. Raymond CHANG, Çeviri editörleri: Prof. Dr. Tahsin UYAR, Prof. Dr. Serpil AKSOY, Doç. Dr. Recai İNAM, Genel Kimya Temel Kavramlar, Palme Yayıncılık			
Internship Status	No			
Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
Marmara University	Chemistry	Genel Chemistry-1	4-0-0-4; 6	Essential
Gazi University	Chemistry	Genel Chemistry-1	4-0-0-4; 6	Essential
Eskişehir Osman Gazi University	Chemistry	Genel Chemistry-1	5-0-0-5; 7	Essential
The instructor who proposed the course (Title, Name and Surname)			Signature	
Prof.Dr.Kadir DEMİRELLİ				
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)
Understanding of the basic subjects of chemistry, Acquiring theoretical knowledge, Ability to identify, define, analyze and solve problems in chemistry and related fields, Making students comprehend the subjects specified in the course content as part of the basic subjects of chemistry and relating them to other branches of chemistry.

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)
Face-to-face oral presentation, in exceptional cases, it will be switched to online

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)

Weekly Course Content Distribution		
Week	Theory	Application/ Laboratory
1	Properties and Measurement of Matter	
2	Atomic theory and atomic theories	
3	Chemical compounds	
4	Chemical compounds/Mole concept	
5	Chemical Reactions	
6	Aqueous solution reactions	
7	Gases	
8	Gases (continued)	
9	Midterm Exam	
10	Thermochemistry	
11	Thermochemistry/Electron structure of an atom	
12	Electron structure of an atom (continued)	
13	Periodic table	
14	Periodic table (continued) and some atomic properties	
15	Final	
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
Sum:			100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	100
	Engineering Sciences	
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	

	Design Information	
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Workload (ECTS) Calculation			
Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	2	2
Self-Study (including pre-class and exam preparation)	3	15	45
Make-up Exam	1	2	2
Experiment and Observation			
Class Participation (Theory)	14	6	84
Homework			
Final Exam Practice	1	2	2
Laboratory			
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution	14	1	14
Project Preparation			
Project Submission			
Quiz			
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument	10	1	10
Application/Practice			
Other			
TOTAL WORKLOAD:			159
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			6

		Program Outcomes (PO)										
Learning Outcomes (LO) (Course Outcomes)		1	2	3	4	5	6	7	8	9	10	11
1	Will be able to define basic concepts in chemistry.	5	4	3	2	1	3	1	4	2	4	1
2		5	3	2	3	1	3	5	4	3	3	1
3	Will understand chemical reactions and their conditions	5	3	4	5	2	4	3	2	4	4	1
4	Will be able to solve problems using chemical reactions.	5	3	3	4	1	3	1	4	3	4	1
5	Will have basic information about gas laws and gases.	5	2	4	4	0	3	4	5	3	4	1

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
KİM1115	2	0	0	2	4	Z	TR	1/FALL
Course Name (Turkish)	Kaynak Tarama Ve Rapor Hazırlama							
Course Name (English)	Source Scanning and Report Preparation							

Unit/Program	Chemistry Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	In order to develop resource scanning skills, which is the first step required for scientific studies, the ability to bring together information about the library, the resources found, and the subject to be researched and turn it into a scientific report.
Course Outline	Basic concepts related to research Research stages Problem and hypothesis selection Library use and literature search Critical thinking in research: Sample selection, control of variables Research designs and threats to validity Preparing a research report.
Textbook/ Material / Resources	- Kaptan, S. (1998) Bilimsel araştırma ve istatistik Teknikleri, Ankara Bilim Kitap. - Ataöv, T. (2006). Bilimsel araştırma el kitabı. İstanbul: Alkım Yayınevi
Internship Status	No

Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
Uludağ Universty		Source Scanning and Report Preparation	1-2-0-2-4	essential
Pamukkale University		Source Scanning and Report Preparation	1-2-0-2-3	Essential
The instructor who proposed the course (Title, Name and Surname)			Signature	
Prof. Dr. Mustafa KARATEPE				
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)
To have knowledge about source scanning and presentation, which are very important for starting scientific research.

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)
The course is aimed at gaining theoretical knowledge.

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (Should be given as a summary, not exceeding two lines.)
Weekly Course Content Distribution	

Week	Theory	Application/ Laboratory
1	Science and its functions, assumptions of science and the concept of research	
2	Ethics in Scientific Research	
3	Scientific Method and Its Stages	
4	Scanning scientific resources. Ways to access scientific information	
5	Determining the Research Topic / Problem - Criteria for Selecting the Research Problem	
6	Effective use of libraries and computers to access resources. Certain databases that can be used in scientific fields	
7	Conducting sample source scans	
8	Conducting sample source scans	
9	Midterm Exam	
10	Content in the preparation of scientific research reports	
11	Indirect quotation Format of Source Citation in In-Text Quotations	
12	Introduction (Problem Statement) Theoretical Framework	
13	Method Section Findings and Interpretation Section	
14	Applications of definite integral: Area calculations	
15	Final	
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	70
	Engineering Sciences	
	Social Sciences	
	Health Sciences	
	Educational Sciences	30
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation

Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	1	1
Self-Study (including pre-class and exam preparation)	2	5	10
Make-up Exam	1	2	2
Experiment and Observation			
Class Participation (Theory)	10	2	20
Homework			
Final Exam Practice	1	2	2
Laboratory			
Article Review	5	2	10
Writing an Article			
Reading	5	2	10
Case Study			
Performance			
Problem Solution	5	1	5
Project Preparation			
Project Submission			
Quiz			
Report Preparation	10	1	10
Submitting Reports	10	1	10
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument	10	2	20
Application/Practice			
Other			
TOTAL WORKLOAD:			100
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			4

		Program Outcomes (PO)										
Learning Outcomes (LO) (Course Outcomes)		1	2	3	4	5	6	7	8	9	10	11
1	Ability to apply basic knowledge of Chemistry, Mathematics and Physics to Chemistry problems	5	4	5	5	3	5	5	5	5	4	1
2	Awareness of constantly renewing oneself and developing one's research skills in order to adapt to innovations and developing technology.	4	5	4	5	5	4	5	5	5	5	5
3	Sensitivity to national and international effects on health, safety and the environment in chemical applications and in solving problems in the field of chemistry.	5	5	5	4	5	3	5	4	4	5	5
4	Awareness of professional and ethical responsibility	5	5	5	4	4	5	5	5	4	4	1
5	Quality and environmental awareness	3	3	3	3	2	1	3	4	2	2	5

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
TRD109	2	0	0	2	2	Z	TR	1/FALL
Course Name (Turkish)	Türk Dili -I							
Course Name (English)	Turkish Language I							

Unit/Program	Chemistry Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	To make students comprehend the characteristics of the language and its place in social life; to teach the historical periods of Turkish; to make students comprehend the sound and shape structure of Turkish and to ensure the proper use of spelling and punctuation marks; to teach words in terms of their meanings and functions; to provide the ability to make presentations in front of a crowd.
Course Outline	The Concept of Language, the Place and Importance of Language as a Social Structure in Social Life, the Language-Culture Relationship, the Culture-Civilization Relationship, the Place of Turkish Among World Languages and Its Historical Development, Art-Creativity and Society, the Grammar of Turkey Turkish (Rules Related to the Sound Features and Phonetics of Turkish, Syllable Information, Spelling Rules and Application, Punctuation Marks and Application).
Textbook/ Material / Resources	Türk Dili, Anadolu Üniversitesi Yayınları, No:786, Eskişehir, 2003. Türk Dili Sözlü ve Yazılı Anlatım, Uğur, A., Ekspres Matbaası, Kütahya, 2002. Sözlü ve Yazılı Anlatım, Anadolu Üniversitesi Yayınları, No: 1073. Eskişehir, 1998. Uygulamalı Türkçe Bilgileri, Göker, O., Evos Basım Yayın, Ankara, 2001.
Internship Status	No

Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
The instructor who proposed the course (Title, Name and Surname)			Signature	
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)

Weekly Course Content Distribution		
Week	Theory	Application/ Laboratory
1	Definition and characteristics of language, the place and importance of language in our social life. Presentation, poetry, essay, composition, story, newspaper, magazine studies and applications, book introductions. Places where the dot is used.	
2	Language-thought, language-nation, language-culture connection; definition of culture. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Places where commas are used.	
3	Languages in the world, world languages in terms of source (origin), world languages in terms of structure, language differentiation; written language, spoken language (dialect, accent, accent). Petition. Presentation, poetry, essay, composition, story, newspaper, magazine studies and applications.	
4	The place of Turkish among world languages, the history of the Turkish language.	
5	CV. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Places where capital letters are used.	
6	Development of Turkish language. Altai Period, Oldest Turkish, First Turkish, Old Turkish. Gokturk Inscriptions. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Turkish equivalents of foreign words.	
7	Development of Turkish language; New Turkish, Modern Turkish. Dialect, Accent, Accent. The current status of Turkish language and areas of spread, alphabets used by Turks until today, linguistics. Presentation, poetry, essay, composition, story, newspaper, magazine studies and applications.	
8	Phonetics. Sound events; sound derivation, sound drop, vowel change, assimilation. Main sound harmony in Turkish words. Presentation, poetry, essay, composition, story, newspaper, magazine studies and applications, book introductions.	
9	MIDTERM EXAM	
10	Words in terms of meaning and function. Nouns, pronouns. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Spellings of the conjunction "ki" and the possessive suffix "ki".	
11	Words in terms of meaning and function. Nouns, pronouns. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Spellings of the conjunction "ki" and the possessive suffix "ki".	
12	Words in terms of meaning and function. Adjectives, adverbs. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Colon.	
13	Words in terms of meaning and function. Prepositions, gerunds. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Writing of the question particle mı, mi, mu, mü. Verbs; verb conjugations, verb tenses, person in verbs. Additional verb. Verbs according to their structures, auxiliary verbs, compound verbs. Presentation, poem, essay, composition, story, newspaper, magazine studies and applications, book introductions. Writing of the conjunction da, de	
14	MAKE-UP EXAM	
1	GENERAL EXAM	

5		
1		
6		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	20
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	80
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	
	Engineering Sciences	
	Social Sciences	100
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation			
Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application			
Self-Study (including pre-class and exam preparation)			
Make-up Exam			
Experiment and Observation			
Class Participation (Theory)			
Homework			
Final Exam Practice			
Laboratory			
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz			
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			

Team/Group Work			
Argument			
Application/Practice			
Other			
TOTAL WORKLOAD:			
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			2

		Program Outcomes (PO)										
		1	2	3	4	5	6	7	8	9	10	11
Learning Outcomes (LO) (Course Outcomes)												
1	Knows the morphology of Turkish and uses spelling and punctuation marks appropriately.	5	5	5	3	2	5	3	5	4	5	1
2	She acquires the habit of reading books and follows daily newspapers and other periodicals.	5	5	5	2	2	2	4	2	2	2	1
3	Speaks Turkish in a correct, beautiful and successful manner and has the ability to express himself/herself.	5	4	5	1	1	1	2	1	5	2	1
4	Have the ability to make presentations in front of the public, express their knowledge and ideas at a level that others can understand, and use effective communication.	5	5	4	5	3	4	5	5	3	4	1

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
TRD 109	2	0	0	2	2	Z	TR	1/FALL
Course Name (Turkish)	Türk Dili I							
Course Name (English)	Turkish Language I							

Unit/Program	Chemistry Department/Undergraduate Program			
Course Prerequisite	No			
Course Objectives	To make students comprehend the characteristics of the language and its place in social life; to teach the historical periods of Turkish; to make students comprehend the sound and shape structure of Turkish and to ensure the proper use of spelling and punctuation marks; to teach words in terms of their meanings and functions; to provide the ability to make presentations in front of a crowd.			
Course Outline	The Concept of Language, the Place and Importance of Language as a Social Structure in Social Life, the Language-Culture Relationship, the Culture-Civilization Relationship, the Place of Turkish Among World Languages and Its Historical Development, Art-Creativity and Society, the Grammar of Turkey Turkish (Rules Related to the Sound Features and Phonetics of Turkish, Syllable Information, Spelling Rules and Application, Punctuation Marks and Application).			
Textbook/ Material / Resources	Türk Dili, Anadolu Üniversitesi Yayınları, No:786, Eskişehir, 2003. Türk Dili Sözlü ve Yazılı Anlatım, Uğur, A., Ekspres Matbaası, Kütahya, 2002. Sözlü ve Yazılı Anlatım, Anadolu Üniversitesi Yayınları, No: 1073. Eskişehir, 1998. Uygulamalı Türkçe Bilgileri, Göker, O., Evos Basım Yayın, Ankara, 2001.			
Internship Status	No			
Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
The instructor who proposed the course (Title, Name and Surname)			Signature	
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (It should be given as a summary, it should not exceed two lines.)

Weekly Course Content Distribution		
Week	Theory	Application /Laboratory
1	First Day On Campus! a. verb to be, negative and interrogative forms b. greetings, names, ages c. countries and nationalities d. cardinal and ordinal numbers	
2	First Day On Campus! (cont.) a. days, months and seasons b. this is..., that is..., these are..., those are... c. personal pronouns d. what time is it?	
3	What are you doing at the moment? a. actions in progress with positive forms	
4	What are you doing at the moment? (cont.) a. actions in progress with negative and interrogative forms b. question words (who, what, where, when?)	
5	What do you like? a. permanent or habitual actions with positive, negative and interrogative forms	
6	What do you like? a. talking about schedules and calendars b. prepositions of time (at, in, on)	
7	General Revision and Quiz	
8	Can you speak...? a. abilities and inabilities b. object pronouns, possessive adjectives and possessive pronouns	
9	MIDTERM EXAM	
10	Can you speak...? a. family members b. obligations, necessity, prohibitions and lack of necessity (must, mustn't, don't/ doesn't have to)	
11	Tests and Parties a. have got, has got with positive, negative and interrogative forms	
12	Tests and Parties a. how much...?, how many...?	
13	Tests and Parties a. a lot of, much, many	
14	MAKE-UP EXAM	
15	GENERAL EXAM	
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	20
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	80
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	
	Engineering Sciences	100
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation			
Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application			
Self-Study (including pre-class and exam preparation)			
Make-up Exam			
Experiment and Observation			
Class Participation (Theory)			
Homework			
Final Exam Practice			
Laboratory			
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz			
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument			
Application/Practice			
Other			
TOTAL WORKLOAD:			
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			2

		Program Outcomes (PO)										
		1	2	3	4	5	6	7	8	9	10	11
Learning Outcomes (LO) (Course Outcomes)												
1	Have a foreign language knowledge base that is sufficient in the field.	5	5	5	3	2	5	3	5	4	5	1
2	Can understand short clear messages	5	5	5	2	2	2	4	2	2	2	1
3	Can understand short, everyday texts	5	4	5	1	1	1	2	1	5	2	1
4	Can write short, simple notes and messages	5	5	4	5	3	4	5	5	3	4	1

