

Chemistry (English)			
Bachelor	TR-NQF-HE: Level 6	QF-EHEA: First Cycle	EQF-LLL: Level 6

Course Introduction and Application Information

Course Code:	UNI236						
Course Name:	Critical Thinking						
Semester:	Fall Spring						
Course Credits:	<table border="1"> <tr> <td>ECTS</td> </tr> <tr> <td>5</td> </tr> </table>			ECTS	5		
ECTS							
5							
Language of instruction:	English						
Course Condition:							
Does the Course Require Work Experience?:	No						
Type of course:	University Elective						
Course Level:	<table border="1"> <tr> <td>Bachelor</td> <td>TR-NQF-HE:6. Master`s Degree</td> <td>QF- EHEA:First Cycle</td> <td>EQF-LLL:6. Master`s Degree</td> </tr> </table>			Bachelor	TR-NQF-HE:6. Master`s Degree	QF- EHEA:First Cycle	EQF-LLL:6. Master`s Degree
Bachelor	TR-NQF-HE:6. Master`s Degree	QF- EHEA:First Cycle	EQF-LLL:6. Master`s Degree				
Mode of Delivery:	E-Learning						
Course Coordinator:	Dr. Öğr. Üy. İBRAHİM EYLEM DOĞAN						
Course Lecturer(s):	Dr. Öğr. Üy. Hanife Bilgili						
Course Assistants:							

Course Objective and Content

Course Objectives:	This course aims at expanding students' capacities on how to distinguish the premise/s and the conclusion of arguments, how to analyze the logical structures of arguments, how to tell well-formed arguments from ill-formed ones.
Course	A selective course which provides students from all departments with reasoning, critical, and

Content: analytical skills in everyday contexts as well as professional. It is a weekly 3-hour course.

Learning Outcomes

The students who have succeeded in this course;

- 1) Analyze arguments of others and categorize their reasoning as weak or strong
- 2) Recognize common fallacies in reasoning
- 3) Construct good arguments with their acquired skills
- 4) Read texts or listen to talks and draw the internal structure of the arguments

Course Flow Plan

Week	Subject	Related Preparation
1)	Introduction: What is an argument, premises, and conclusion?	
2)	What does it mean to follow?	
3)	Fallacy: an introduction	
4)	Formal vs Informal fallacies	
5)	Formal Fallacies: Examples and applications	
6)	Non-sequitur: Affirming the consequent Denying the antecedent	
7)	Aristotelian Fallacies: Undistributed middle Fallacy of 4 terms Illicit Major-Illicit Minor	
8)	MIDTERM	
9)	Informal Fallacies: Examples and applications	
10)	Ad Hominem, Straw Man, False Analogy, Red Herring	
11)	Confusing what is Necessary with Sufficient	
12)	Fallacy of Composition, Fallacy of Division, Slippery slope, Loaded Question	
13)	False dilemma, Hasty Generalization, Sweeping Generalization, Begging the question	
14)	Statistical Fallacies: Cherry picking, Data dredging, False causality	
15)	Statistical Fallacies: Survivorship bias, Gambler's fallacy, Regression to the Mean	
16)	FINAL	

Sources

Course Notes / Textbooks:	Informal Logic: A Handbook for Critical Argumentation, Douglas N. Walton
References:	Walter Sinnott Armstrong and Robert Fogelin, Understanding Arguments: An Introduction to Informal Logic. 8th Ed. Wadsworth Cengage Learning.

Course - Program Learning Outcome Relationship

Course Learning Outcomes	1	2	3	4
Program Outcomes				
1) Knows the basic concepts related to the theory and applications of chemistry, uses theoretical and applied knowledge, can select, develop and design methods.				
2) Makes experimental planning and application for analysis, synthesis, separation and purification methods, provide solutions to the problems encountered and interpret the results.				
3) Expresses the basic principles of sample preparation techniques and instrumental analysis methods used in qualitative and quantitative analysis of items, discusses their application areas.				
4) Has knowledge about the sources, production, industrial applications and technologies of chemical substances.				
5) Makes structural analyzes of chemical substances and interprets the results.				
6) Work individually and in multidisciplinary groups, take responsibility, plan their tasks and use time effectively.				
7) Follows the information in the field and communicates with colleagues by using English at a professional level.				
8) Uses information and communication technologies along with computer software at the level required by the field.				
9) Follows the national and international chemistry literature, transfers the knowledge gained orally or in writing.				
10) Determines self-learning needs, manages/directs his/her learning.				
11) Takes responsibility and adheres to the ethical values required by these responsibilities.				

Course - Learning Outcome Relationship

No Effect	1 Lowest	2 Average	3 Highest

	Program Outcomes	Level of Contribution
1)	Knows the basic concepts related to the theory and applications of chemistry, uses theoretical and applied knowledge, can select, develop and design methods.	
2)	Makes experimental planning and application for analysis, synthesis, separation and purification methods, provide solutions to the problems encountered and interpret the results.	
3)	Expresses the basic principles of sample preparation techniques and instrumental analysis methods used in qualitative and quantitative analysis of items, discusses their application areas.	
4)	Has knowledge about the sources, production, industrial applications and technologies of chemical substances.	
5)	Makes structural analyzes of chemical substances and interprets the results.	
6)	Work individually and in multidisciplinary groups, take responsibility, plan their tasks and use time effectively.	
7)	Follows the information in the field and communicates with colleagues by using English at a professional level.	
8)	Uses information and communication technologies along with computer software at the level required by the field.	
9)	Follows the national and international chemistry literature, transfers the knowledge gained orally or in writing.	
10)	Determines self-learning needs, manages/directs his/her learning.	
11)	Takes responsibility and adheres to the ethical values required by these responsibilities.	

Assessment & Grading

Semester Requirements	Number of Activities	Level of Contribution
Midterms	1	% 40
Final	1	% 60

total		% 100
PERCENTAGE OF SEMESTER WORK		% 40
PERCENTAGE OF FINAL WORK		% 60
total		% 100

Workload and ECTS Credit Calculation

Activities	Number of Activities	Preparation for the Activity	Spent for the Activity Itself	Completing the Activity Requirements	Workload
Course Hours	14	1	3	3	98
Midterms	1	10	1	1	12
Final	1	15	1	1	17
Total Workload					127