



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Magnetic Properties of Compounds							
Course Code		KİM535		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	6	Workload	156 ( <i>Hours</i> )	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		Magnetic properties of matter, ferro-, ferri-and anti-ferromagnetism, diamagnetic and paramagnetic materials, defining the basic characteristics of magnetic behavior, magnetic quantity measurement.							
Course Content		Atomic diamagnetism,Molecular diamagnetism,Ions diamagnetism,Ions diamagnetism,Molecular paramagnetism,Ferromagnetism,Anti-ferromagnetism,Magnetic properties of transition metal complexes,Magnetic susceptibility,Determination of magnetic susceptibility,Determination of the magnetic moment of the magnetic sensibility,Applications							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving					
Name of Lecturer(s)		Prof. Nursabah SARIKAVAKLI							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

### Recommended or Required Reading

1	Cotton and Wilkinson, "Advanced Inorganic Chemistry", Fourth Edition
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Week	Weekly Detailed Course Contents	
1	Theoretical	Atomic diamagnetism
2	Theoretical	Molecular diamagnetism
3	Theoretical	Ions diamagnetism
4	Theoretical	Atom paramagnetism
5	Theoretical	Molecular paramagnetism
6	Theoretical	Ferromagnetism
7	Theoretical	Anti-ferromagnetism
8	Intermediate Exam	Midterm Exam
9	Theoretical	Magnetic properties of transition metal complexes
10	Theoretical	Magnetic susceptibility
11	Theoretical	Determination of magnetic susceptibility
12	Theoretical	Determination of the magnetic moment of the magnetic sensibility
13	Theoretical	Applications
14	Theoretical	Student Presentations
15	Theoretical	Student Presentations
16	Final Exam	Final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	4	0	9	36
Reading	14	0	1	14
Midterm Examination	1	30	2	32
Final Examination	1	30	2	32
Total Workload (Hours)				156
[Total Workload (Hours) / 25*] = ECTS				6

\*25 hour workload is accepted as 1 ECTS



**Learning Outcomes**

1	to be able to define atoms, molecules and ions diamagnetism.
2	to be able to find out the paramagnetism of atoms and molecules,
3	to be able to recognize the magnetic sensitivity and the magnetic properties of transition metal complexes,
4	to be able to apply the determination of the magnetic moment of the magnetic sensitivity.
5	Examine articles on compounds with magnetic properties

**Programme Outcomes (Chemistry Master)**

1	To be able to gain proficiency in depths and analysis by statistical methods in the same or a related area depending on the undergraduate competence,.
2	To be able to use the knowledge of his/her field and the skills to solve problems and/or applications in interdisciplinary research.
3	To be able to adopt to evaluate the information and skill his/her field by critical approach.
4	To be able to evaluate the effect of important persons, case and fact on his/her field applications.
5	To be able to gain the ability to discuss write and orally present to a group of literate listener.
6	To be able to communicate orally and written in a foreign language at least at European language B2 level.
7	To be able to use computer programs related to his/her field and have skills for informatics communication.
8	To be able to be careful in protecting social, scientific and cultural ethics in collection data, application and presentation.
9	To be able to develop strategic, political and application plans in his/her field and may evaluate the outcomes in quality periods.

**Contribution of Learning Outcomes to Programme Outcomes** 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	4	4	4	4	4
P2	4	4	4	4	4
P3	4	4	4	4	4
P5	4	4	4	4	4

