MARMARA UNIVERSITY Faculty of Arts and Sciences

Chemistry Department

SYLLABUS

2015-2016 Fall | **Course level:** Lisans (First Cycle)

Course Code	Course Name	Course Type	Course Pool (if exists)	Weekly Course T	Weekly Course A	Local Credit	ECTS Credit	Semester
CHEM2211.1	MATHEMATICAL METHODS IN CHEMISTRY	Zorunlu		2	2	4	4	3

Prerequisite (Ders Kodu ve Adı, Min Harfli Başarı Notu)	Prerequisite to (Ders Kodu ve Adı, Min Harfli Başarı Notu)	Weekly Time & Classroom Schedule (Gün, Saat Aralığı, Derslik)
<Bu dersi bağlayan önceki derslerin kodu, adı, min hb> {Her bir dersi birbirinden noktalı virgülle ayırınız.}	<Bu dersin bağladığı sonraki derslerin kodu, adı, min hb> {Her bir dersi birbirinden noktalı virgülle ayırınız.}	

Course Lecturer	Doç.Dr. Suzan Abdurrahmanoğlu	**Teaching Assistants**	<Unvan, Adı, Soyadı>
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Web		**Web**	
Office hour schedule	Monday 10.00-12.00	**Office hour schedule**	

Course Objectives

Aim of this course is to prepare students for the mathematical needs of chemistry education. For this purpose various types of mathematical calculations together with evalation of experimental results are taught in this course.

Textbooks and or References

Course Web page:

Course Learning Outcomes

1.	Learn basics of mathematical calculations used in chemistry
2.	Get used to solving mathematical equations
3.	learn to plot on graphical paper and to use calculator for calculating plot parameters
4.	learn to use some computer plotting programs and practice plotting by computer

Program Outcomes x Course Learning Outcomes Matrix

Program Outcomes	PK1	PK2	PK3	PK4	PK5	PK6	PK7	PK8	PK9	PK10	PK11	PK12	PK13	PK14	PK15	1:Weak; 2:Medium; 3:Strong — Course Learning Outcomes
		2				3		3						2		DK1. Learn basics of math...
		2				2		3						2		DK2. Get used to solving ...
		2				2		2						2		DK3. learn to plot on gra...
		3				2		2						2		DK4. learn to use some co...
							2									
	0	**2**	**0**	**0**	**0**	**2**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**TOTAL EFFECT**

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				T	A			
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Language of Instruction	Learning Activities and Teaching Methods	Course Presentation Form
İngilizce	Discussion and homework	blackboard, power-point presentation

Week	Date	Weekly Course Content	Reference No - Section
1. Week		Introduction	
2. Week		Significant figures and units	
3. Week		Errors and Uncertainty in measurements	
4. Week		Linear equations	
5. Week		Solving linear equation systems	
6. Week		Non-linear equations	
7. Week		Overview of the chapters before the Midterm exam	
8. Week		Midterm Exam	
9. Week		Solving non-linear equation systems by calculator	
10. Week		Interpolation and Extrapolation	
11. Week		Plotting graphs on graphical paper and use of calculators	
12. Week		Numerical Integration	
13. Week		Derivation of some simple functions	
14. Week		Integration of some simple functions	
15. Week		Evaluating data by using Excel and Graph computer programs	
16. Week		Study Week	
17. Week		Final Exam	

Evaluation Tool	YSSL (BDS)	BNAL (BDS)	BDKL (BDS)	Calculation of Grade

	Evaluation Tools	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)
Evaluation Tools and Weight %	**Final Exam**			60,00	0,00
	Final-Make up Exam (if exists)			60,00	0,00
	Semester Evaluation Tools			40,00	100,00
	Midterm Exam(s)			40,00	100,00
	Quiz(es)				
	Project				
	Homework				
	Laboratory/Atelier				
	Presentation / Seminar / Demo				
	Research / Report / Other				
	Attendance				

Student Workload Calculation

Tool	Weekly Avr. Hour	Semester Total Hour	Tool	Weekly Avr. Hour	Semester Total Hour	Tool	Weekly Avr.	Semester Total hour
Theoretical Hours	2,00	28	Midterm Exam and Preparation	1,00	14	Atelier and Preparation		
Applied Hours	2,00	28	Quiz and Preparation			Presentation/Seminar/ Demo and Preparation		
Pre-class Self Study	1,00	14	Project and Preparation			Research/ Report/ Other and Preparation		
Pre-application/Post-application Self Study			Homework and Preparation			Final Exam and Preparation	1,00	14
Total Student Workload Hours:	98		***1 ECTS Credit = 25 Student Workload Hours***			**Workload Calculation:**	Hesap Doğru	