

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY
COURSE SYLLABUS

Course Details				
Code	Academic Year			Semester
CHE111	1			1
Title	T	A	L	ECTS
Chemistry 1	2	1	2	6
Language	German			
Level	Undergraduate	X	Graduate	Postgraduate
Department / Program	Molecular Biotechnology			
Forms of Teaching and Learning	Formal Education			
Course Type	Compulsory	X	Elective	
Objectives	The objectives of this course are to learn the basics of Chemical Science and to have knowledge about the fields of study of chemical science. To know the basics of General Chemistry principles.			
Content	1) Atomic structure 2) Periodic table of the elements 3) Valence and bonding theories 4) Molecular structure 5) Crystal lattice/solids 6) solutions 7) Electrolytes 8) General laws 9) Chemical equilibrium 10) Redox reactions 11) Electrochemistry 12) Acid-base reactions 13) Thermochemistry 14) Thermodynamics and kinetics of reactions			
Prerequisites	-			
Coordinator	Asist Prof.Dr. Sibel Özenler			
Lecturer(s)	Asist Prof.Dr. Sibel Özenler			
Assistant(s)				
Work Placement	-			
Recommended or Required Reading				
Books / Lecture Notes	1) R.H. Petrucci, W.S. Harwood, F.G. Herring, J.F. Madura, 2007, General (Textbook) Chemistry, Principles and Modern Applications, Pearson Prentice Hall, ISBN:0-13-198825- 2) N.J.Tro, 2008, Chemistry-A Molecular Approach, Pearson Prentice Hall, ISBN:0-13-233250- 3) T.L. Brown, H.E. LeMay, B.E.Bursten, C.J. Murphy, 2009, Chemistry-The Central Science, Pearson Prentice Hall, ISBN:0-13-235849-.			

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Other Sources	1) C. E. Mortimer, U. Müller: Chemie, Thieme, Stuttgart 2003 (8. Aufl.), ISBN 3-13-484308-0 2) E. Riedel: Allgemeine und Anorganische Chemie, W. de Gruyter, Berlin 2008 (9. Aufl.), ISBN 978-3-11-020277-9 3) C. E. Housecroft, E. C. Constable, Chemistry, Pearson Prentice Hall, Harlow 2006, ISBN 0-13-127567-4		
Additional Course Material			
Documents			
Assignments			
Exams			
Course Composition			
Mathematics and Basic Sciences	50		%
Engineering			%
Engineering Design			%
Social Sciences			%
Educational Sciences			%
Natural Sciences	50		%
Health Sciences			%
Expert Knowledge			%
Assessment			
Activity	Count	Percentage (%)	
Midterm Exam	1	40	
Quiz			
Assignments			
Attendance			
Recitations			
Projects			
Final Exam	1	60	
	Total	100	
ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	14	2	28
Self-Study	5	15	75
Assignments	1	30	30
Presentation / Seminar Preparation			
Midterm Exam	1	2	2
Recitations	14	1	14

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Laboratory	14	2	28
Projects			
Final Exam	1	2	2
Total Work Load			179
ECTS Points (Total Work Load / Hours)			6

Learning Outcomes

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Weekly Content

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14							
15							
Contribution of Learning Outcomes to Program Objectives (1-5)							
	P1	P2	P3	P4	P5	P6	P7
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Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High						
Compiled by:							
Date of Compilation:	01.03.2021						