PLEASE KEEP THIS COURSE SYLLABUS FOR FUTURE REFERENCE AS IT CONTAINS IMPORTANT INFORMATION

EASTERN MEDITERRANEAN UNIVERSITY

DEPARTMENT OF CHEMISTRY									
COURSE CODE	CHEM333	COURSE LEVEL	L Freshman						
COURSE TITLE	Inorganic Chemistry II	COURSE TYPE	Faculty Core						
CREDIT VALUE	(3,0,0) 3	ECTS VALUE	7						
PREREQUISITES	CHEM232	COREQUISITES	None						
DURATION OF COURSE	One semester	Semester and year	Spring	2022-2023					

	Group(s)	Name	Office Hours	e-mail	Office	Telephone
Instructors*	01	Mustafa Gazi	Tuesday 13:30- 14:30	mustafa.gazi@emu.edu.tr	AS 228	630 1110
		Namık Kerküklü		namik.kerkuklu@emu.edu.tr	AS225	
Responsible Assistants			See the web page		10225	

COURSE WEB PAGE	https://lms.emu.edu.tr follow the link for Inorganic Chemistry II (CHEM333) - The password for the web page will be provided by your instructor in class. - Following information/tools will be provided to the students all-over the semester through Chem333 lms page: 1. Downloadable files of: - An updated copy of this course outline in pdf format - Lecture presentation slides (Lecture notes) - Answer keys of exams - Sample exam papers (past exam papers) - Printable Periodic table of elements 2. Links to Connect+ system and other pages with useful chemistry learning tools (movies, wikies etc)					
	3. Important dates, exam schedules and announcements					
PERSONAL	All important news and announcements are published on the course web page. Usually a copy of the news and					
e-MAILS	announcements are also sent to your e-mail address indicated in your student portal. It is your responsibility to make sure					
	that this e-mail address you provided during your registration is an active address and you check it regularly.					

CATALOGUE DESCRIPTION

Chemical forces and their effects. Acid-base chemistry. Chemistry in aqueous and non-aqueous solutions. Coordination chemistry: theory. The effective atomic number rule and the chemistry of organometallic compounds. Coordination chemistry: structure.

AIMS & OBJECTIVES

(Relationship of Course to Program Outcomes)

This course is designed as a one-semester for general chemistry courses designed for freshman students of health sciences. It offers the opportunity to the student to develop:

- an adequate background in fundamentals of inorganic chemistry.
- systematic problem solving skills through numerous conceptual and numerical problems requiring critical and analytical thinking skills in addition to a good grasp of chemical concepts.
- scientific literacy and awareness to become an informed citizen

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

- To increase your knowledge of inorganic chemistry, specifically the topics listed above
- To develop your information literacy and critical thinking skills so you can effectively and independently use the vast stores of existing chemical information
- To develop your experimental design and problem-solving skills so you can use the scientific method to address new questions
- To improve your written and oral communication skills, including solid argument construction
- Describe and explain fundamental concepts of physical chemistry, including those of electrochemistry, kinetic theory of gases, chemical kinetics, catalysis, and adsorption of gases
- Apply simple physical models to predict properties of chemical systems.
- Apply the theoretical concepts and methods of chemistry covered in this course to solve problems
- Use dimensional analysis method for solving numerical problems
- Use efficiently and effectively a variety of printed and electronic text, material (including the textbook) relevant to the course
- Use good scientific English for written and oral communication

ASSESSMENT (Exams & Home-works) (See also Grading Criteria)

- Exams:
 - There will be **one midterm exams**, and **one final exam**. Final exam will include questions from all topics covered in the whole semester. There will be no questions from the lab experiments in midterm and final exams.
 - All students should have a non-programmable scientific calculator, which can be used in exams. Mobile phones and tablets are not allowed in the exams. You may not use them as calculator.

- Students can see their papers in the first 10 days following the announcement of results, but not later than that.
- All assessment (including lab report and lab exams) marks will be announced via the student portal; they will not be announced on notice boards or elsewhere.
- Exams regarding the lab sessions are explained in the Laboratory section of this course outline.

Make-up Exams:

Caution:

- We strongly recommend the students not to miss exams on the regularly scheduled dates.
- Students having not attended the **Midterm** and/or **Final** exams are entitled to enter the Make up Exam. One CAN NOT sit for the makeup exam to improve his/her already existing regular exam mark.
- There will be a single make-up session with different question sets for midterm and final exams.
- The date will be right after the "Final Exams" period. It will be announced on the course web page.
- There will be no make-up exam for lab final.
- No medical report is needed for the make-up exam.
- No application is needed to sit in the make-up exam.
- There will be no make-up of make-up exams.

Not attending any two exams (midterm and final), including make-up exams will result with an NG grade.

Resit Exams

Those with a letter grade of D- or F can sit in resit exams. Also, those having an academic standing of "Warning" (irrespective of letter grade) can also sit in the resit exam. Online application is necessary. Resit exam mark replaces the sum of the marks of midterm and final exams (85% in Chem333). Students with an NG grade are not allowed to take resit exams.

Revision/Inspection of Exam Papers and Objections to Exam Grading:

Students may revise/inspect their marked exam papers. According to the by-laws, these requests should be made within 10 days of announcement of marks, after which the instructor may refuse paper inspection requests. Objections to any grade must first be made to the instructor. If still unsatisfied students may petition the head of department (Department of Chemistry, Faculty of Arts & Sciences).

Method of Assessment:

Assignments	20 %
Midterm	30%
Final	50%

ATTENDANCE POLICY

Lectures:

- The students are strongly advised to attend all the lectures for best performance. More than 50% absence might result with failure with an "NG" grade. (See the Grading Criteria).
- Attendance check is done in every class. The instructor may check the attendance in the first or the second hour or in both hours of a twohour session.
- Each student can follow his/her attendance records from the on-line attendance tracking system in portal.

GRADING CRITE	GRADING CRITERIA								
A to F Letter grades are determined by a "curve system". No fixed letter-grade templates apply.									
NG	NG Conditions that will lead to NG grade.								
nil grade	nil grade i) Not attending 50% of classes.								
	Not attending any two exams (midterm and final), including make-up exams.								
Important notice to	Important notice to all students repeating the course for a better grade:								
Whatever grade you receive at the end of this semester will replace your previous grade.									
ТЕХТВООК									
Lucascaria Chamistan James E. Hansa Academia Ducasia an imputed of Election 2009									

. Inorganic Chemistry, James E. House, Academic Press is an imprint of Elsevier 2008

Important Note:

- Students buying this book from the authorised bookstore (Deniz Shop) will be eligible to use the following on-line resources via the Connect + internet system of the publisher: downloading the electronic copy of chapters, use self-test utilities, see the animations/videos and other useful material. This system will allow the students to attend on-line quizzes or homeworks. Thus, each student buying the book will be provided with a unique registration-code. Students who do not have this code will not be able to use this system and they will not be allowed to take the on-line exams.
- A "Connect Plus with LearnSmart 360 Days Card" will be provided within each textbook purchased. PLEASE DO NOT THROW AWAY THIS CARD. It includes the registration code for the connect+ system. Renewing the code is possible with additional cost.
- A registration code can be used by only one student. Never give this code to others.

A detailed explanation of the Connect + system is available on the web page of the course.

LEARNING / TEACHING METHOD

- Regular classroom lectures
- Biweekly regular lab sessions

Week	Topics
1-2	Acids and Bases Chemistry: Arrhenius, Franklin, and Protonic acid-base theories; The Lewis Acid-base Definition; HSAB theory.

3	Dipole Moments and Intermolecular Interactions				
4-5	Introduction to Coordination Chemistry - De-nitions and Classi-cation of Ligands				
6	Nomenclature				
7	Coordination Number and Stereochemistry				
8	Structures, Symmetries Isomerism and Coordination Equilibria				
9,10	Midterm Week				
11	Bonding in Complexes				
12	Jahn-Teller Efect and Spin Crossover				
13	Colors and Optical Spectra				
14	Organometallic Chemistry				

REPEATING STUDENTS:

Students repeating the course for a better grade (to improve CGPA):

- Whatever grade you receive at the end of this semester will replace your previous grade. This may result with a lower grade. In such instances no appeals will be accepted to keep the old mark.

Exemption from the lab:

- Passing old lab marks (6/10) of repeating students (with the condition that they attended at least 2 lab sessions) are transferrable; therefore they don't have to repeat the lab work.

Names of students who have passing old lab grade (names of exempted students) will be posted on the course web page before the beginning of experiments. It is the students' responsibility to check that they are exempted from the LAB. Students who are not in the exemption list and do not attend Lab sessions will fail the whole CHEM333 course and will receive an NG grade.

ACADEMIC HONESTY - PLAGIARISM

Cheating is copying from others or providing information, written or oral, to others. Plagiarism is copying without acknowledgement from other people's work. According to university by laws cheating and plagiarism are serious offences punishable by disciplinary committee ranging from simple failure from the exam or project, to more serious action (letter of official warning, suspension from the university for up to one semester). Disciplinary action is written in student records and may appear in student transcripts.

	Periodic Table of Elements																	
	1 1A																	18 8A
1	1 H 1.008	2 2A											13 3A	14 4A	15 5A	16 6A	17 7A	2 He 4.003
2	3 Li 6.94	4 Be 9.01											5 B 10.81	6 C 12.01	7 N 14.01	8 0 16.00	9 F 19.00	10 Ne 20.18
3	11 Na 22.99	12 Mg 24.30	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 8B	10 8B	11 1B	12 2B	13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
4	19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.54	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
5	37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc 98.91	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.75	52 Te 127.6	53 I 126.90	54 Xe 131.29
6	55 Cs 132.91	56 Ba 137.33	57 La 138.91	72 Hf 178.49	73 Ta 180.95	74 W 183.85	75 Re 186.2	76 Os 190.2	77 Ir 192.22	78 Pt 195.08	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po 208.98	85 At 209.99	86 Rn 222.02
7	87 Fr 223.02	88 Ra 226.03	89 Ac 227.03	104 Rf 261.1	105 Db 262.1	106 Sg 263.1	107 Bh 264.1	108 Hs 265.1	109 Mt 266.1	110 Ds 271	111 Rg 272	112 Cn 285	113 Uut 284	114 Fl 289	115 Uup 288	116 Lv 292	117 Uus	118 Uuo 294
		Lant	hanides	58 Ce 140.12	59 Pr 140.91	60 Nd 44.24	61 Pm 146.92	62 Sm 150.36	63 Eu 151.97	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97	
		A	ctinides	90 Th	91 Pa	92 U	93 Nn	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr	

Useful Constants

Th

232.04

Pa

31.0

U

238.03

R = 0.0821 (L.atm)/(mol.K) or	8.314 J/mol.K	$N_A = 6.022 \times 10^{23}$ items/mol	$h = 6.63 \times 10^{-34} \text{ J.s}$
$c = 3.00 \times 10^8 \text{ m/s}$	1 atm = 760 mmHg	1 in = 2.54 cm	1 cal = 4.184 J

Am

243.0

Cm

247.0

Bk

247.0

Cf

51.08

Es

252.0

Fm

257.1

Md

258.10

No

259.10

Lr

260.1

Pu

244.0

Np