UNIVERSITY OF GUAM
UNIBETSEDÅT GUAHAN

College of Natural & Applied Sciences

DIVISION OF NATURAL SCIENCES

COURSE SYLLABUS

CH 100 INTRODUCTION TO INORGANIC CHEMISTRY

(Fanuchanan 2021)

Meetings: Monday and Wednesday. 08:00 - 09:20

Room: SC 101

Instructor: Dr. John F. K. Limtiaco

Office: SC 231

Email: limtiacoj6850@triton.uog.edu

Office Hours: Mon. / Wed. / Fri. 9:30 - 11:30

Course Description

Introduction to Inorganic Chemistry is an introductory chemistry lecture course designed for students preparing for technical training in the natural sciences or laboratory work. The course covers the elementary principles of inorganic chemistry emphasizing nomenclature, stoichiometry, and solution chemistry. CH 100 meets for three hours of lecture per week during the fanuchanan semester. The laboratory component, CH 100L, covers practical applications of theoretical concepts and it must be taken concurrently with the lecture course. Prerequisite: Completion of MA085 level II.

Course Content

CH 100 lecture will cover measurements and calculations in chemistry, matter and energy, elements, atoms, ions, and chemical nomenclature. Reactions in aqueous solutions, chemical composition, chemical quantities, modern atomic theory, chemical bonding, acids, and bases will also be covered.

Course Overall Objectives

The course objectives:

1. to provide a sound knowledge of fundamental concepts in chemistry.
2. to develop an appreciation of chemistry as central science and its relevance in life.
3. to develop problem solving skills in fundamentals of basic chemical concepts using quantitative and qualitative approaches.
4. to communicate basic chemical knowledge and problem-solving skills clearly.

5. to develop active participation in problem solving exercises in chemistry.

Chemistry Program Learning Outcomes

PLO 1: Demonstrate the knowledge of fundamental concepts of chemistry and its relevance to thescientific method and other fields in science

PLO 2: Demonstrate the skills to make observations, experimentation, collect and collate data,analyze, and interpret data in a safe chemical environment

PLO 3: Demonstrate the ability to clearly articulate, formulate, and communicate scientificinformation using computer, written and oral communication skills

PLO 4: Demonstrate critical thinking, problem solving skills and the ability to use chemical knowledge and mathematical skills to identify, evaluate, analyze, synthesize, and integrate dataand abstract ideas in solving problems

PLO 5: Demonstrate the knowledge and skills in advanced instrumentation, applications, interpretation, and experimental design to address scientific queries in chemistry, industry, theenvironment, health, and related fields

PLO 6: Demonstrate a sense of exploration and research approach that enables students topursue lifelong learning in chemistry

PLO 7: Demonstrate interaction skills and teamwork

Institutional Expected Student Learning Outcomes

Some of the expected fundamental knowledge, skills, and values that the University of Guam student will have demonstrated upon completion of any degree are:

ILO1: Mastery of critical thinking and problem solving

ILO2: Mastery of quantitative analysis

ILO3: Effective oral and written communication

ILO4: Understanding and appreciation of culturally diverse people, ideas, and values in ademocratic context

ILO5: Responsible use of knowledge, natural resources, and technology

ILO6: An appreciation of the arts and sciences

ILO7: An interest in personal development and lifelong learning

SLO:	Matching Program Learning Outcome (PLO)	Matching Institutional Learning Outcomes (ILO)	Method of Assessment
Explain fundamental chemistry concepts bysolving chemical and biophysical problems	PLO2	ILO2	Exams, pre-posttest,quizzes

Organize a vast array of interconnected chemical concepts and communicate them effectively.	PLO1, PLO2	ILO1, ILO2	Exams, quizzes
Analyze chemical information and formulate solutions to chemical problems.	PLO1, PLO2, PLO3, PLO4	ILO1, ILO2, ILO3	Exams, quizzes, assignments
Identify, analyze, and interpret chemical data. Develop an ability to adequately apply the chemical concepts, facts and models of chemistry to other disciplines in sciences.	PLO4	ILO1	Exams, quizzes, assignments
Apply mathematical concepts, equations,and quantitative information to the solution of chemical problems.	PLO2, PLO4	ILO1, ILO4	Exams, quizzes, assignments
Accomplish long-term retention of chemical facts and concepts.	PLO1, PLO2, PLO4	ILO1, ILO2	Final exam, Post-test
Use the chemical literature and computer resources to gather research information.	PLO6	ILO7	Post-lab questions, Lab reports
Communicate chemical information clearly.	PLO2, PLO3	ILO3	Assignments
Use computer programs to generate and analyze data.	PLO4	ILO1	Assignments

Required Textbook

Introductory Chemistry: A Foundation, 9th. Edition; Steven S. Zumdahl and Donald J. DeCoste. ISBN-10: 1-337-39942-6

Examination and Grading Procedure

The lecture grade will be assigned based on the following assessments:

Topic Exams = 45%

Pop Quizzes and Homework = 25%

Final Exam = 30%

Students are required to take all exams and no make-ups will be given. If you are unable to take any of these exams, the instructor must be notified prior to the

examination and evidence must be provided in the form of certificate or letter. Any failure in following this procedure will be regarded as absent and will not be given any points.

Assessment

Assessment of students learning will be based on topic exams, quizzes and assignments, and the final exam. A score indicating the total of points gained will be given for each assessment after grading.

Grading

The final grading for the course will be weighted as follows:

A: 90% or above, B: 80- 89%, C: 70 - 79%, D: 60 - 69%, F: Below 60%

Exam Dates

Proposed schedule for topic exams is provided at the end of the syllabus. Dates are subject to change.

Final Exam: December 13, 2021 @08:00 - 09:50

Other information

Students are strongly advised to conduct independent reviews from the questions given at theend of each chapter. The best way to learn chemistry is to practice solving problems from theexercises given in the textbook. Lastly, do enjoy learning!

Withdrawal from Course

Students must follow the withdrawal procedure stipulated in the Undergraduate Catalogue. The deadline to withdraw without a transcript record entry is August 24, 2021. The deadline for voluntary withdrawal is October 6, 2021. The deadline to withdraw by petition is December 10, 2021.

Academic Dishonesty

All submitted assignments and laboratory report must be the individual student work. The University's policy on academic misconduct, including cheating and plagiarism will be enforced.

Calculator

Use of scientific calculator is required for the course but no preprogrammed data or equation ispermitted in exam or laboratory classes. Use of cell phones, laptops, and other tablet devicesduring exams is not allowed. Students are allowed to use only material provided by the instructor (periodic table, scrap paper etc.) during exams. A student caught using a cell phone (for ANY purpose) or any material not provided by the instructor during an exam, or a quiz will get a ZERO on that exam/quiz. Repeat of a similar offence will result in the student getting a grade of "F" in the course.

UOG Disabilities Policy

In accordance with the Americans with Disabilities Act (ADA) of 1990 and the Rehabilitation Act of 1973, the University of Guam does not discriminate against students and applicants based on disability in the administration of its educational and other programs. The University offers reasonable accommodations for a student or applicant who is otherwise qualified, if the accommodation is reasonable, effective and will not alter a fundamental aspect of the University'sprogram nor will otherwise impose an undue hardship on the University, and/or there are not equivalent alternatives. Students are expected to make timely requests for accommodation, using the procedure below.

DSS Accommodation Services

If you are a student with a disability who will require an accommodation(s) to participate in this course, please contact the Student Counseling and Advising Service Disability Support Services office to discuss your specific accommodation needs confidentially. A Faculty Notification letter will be emailed to me specifying your approved accommodations. If you are not registered, you should do so immediately at the Student Center, Rotunda office #5, sssablan@triton.uog.edu or ph/TTY: 735-2460, to coordinate your accommodation request.

UOG Student Vaccination Requirements

Refer to memorandum by President Thomas W. Krise on August 13, 2021 (https://www.uog.edu/news-announcements/2020-2021/2021-covid19-vaccinations-for-students-fanuchanan-2021.php)

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights for students, parents and school officials can be viewed at:
http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html

2021 August

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
26	27	28	29	30	31	01
02	03	04	05	06	07	08
09	10	11	12	13	14	15
16	17	18 Start of Semester Chapter #1: Chemistry an Introduction	19	20	21	22
23 Chapter #2 Measurements and Calculations	24 Lab: -Safety Video -Course Intro/ Check-in -Pretest	25 Chapter #2 Measurements and Calculations	26 Lab: -Safety Video -Course Intro/ Check-in -Pretest	27	28	29
30 Chapter #3 Matter	31 Lab: Experiment #1 Measurements	Notes:				

2021 September

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
30	31	01 Chapter #4 Chemical Foundations: Elements, Atoms	02 Lab: Experiment #1 Measurements	03	04	05
06 Labor Day (No Classes)	07 Lab: Experiment #2 Water in Hydrates	08 Chapter #4 Chemical Foundations: Elements, Atoms	09 Lab: Experiment #2 Water in Hydrates	10	11	12
13 Chapter #5 Nomenclature	14 No Lab	15 Exam #1 (Chapters 1-5)	16 No Lab	17	18	19
20 Chapter #6 Chemical Reactions: An Introduction	21 Lab: Experiment #3 Single Displacement	22 Chapter #7 Reactions in Aqueous Solutions	23 Lab: Experiment #3 Single Displacement	24	25	26
27 Chapter #8 Chemical Composition	28 Lab: Experiment #3 Cont. Double Displacement	29 Chapter #8 Chemical Composition	30 Lab: Experiment #3 Cont. Double Displacement	01	02	03
04	05	Notes:				

2021 October

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
27	28	29	30	01	02	03
04 Chapter #9 Chemical Quantities	05 Experiment #4 Gravimetric Analysis	06 Chapter #9 Chemical Quantities	07 Experiment #4 Gravimetric Analysis	08	09	10
11 Fanuchanan Break	12 Fanuchanan Break	13 Fanuchanan Break	14 Fanuchanan Break	15 Fanuchanan Break	16 Fanuchanan Break	17
18 Chapter #10 Energy	19 Experiment #5 Calorimetry	20 Chapter #10 Energy	21 Experiment #5 Calorimetry	22	23	24
25 Chapter #11 Modern Atomic Theory	26 No Lab	27 Exam #2 (Chapters 6-10)	28 No Lab	29	30	31
01	02	Notes:				

2021 November

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
01 Chapter #12 Chemical Bonding	02 All Soul's Day (No Classes)	03 Chapter #12 Chemical Bonding	04 Experiment #6 Ionization Demonstration	05	06	07
08 Chapter #13 Gases	09 Experiment #6 Ionization Demonstration	10 Chapter #14 Liquids and Solids	11 Veteran's Day (No Classes)	12	13	14
15 Chapter #14 Liquids and Solids	16 Experiment #7 Gas Constant	17 Exam #3 (Chapters 11-14)	18 Experiment #7 Gas Constant	19	20	21
22 Chapter #15 Solutions	23 No Lab	24 Chapter #15 Solutions	25 Thanksgiving Holiday (No Classes)	26 Thanksgiving Break (No Classes)	27 Thanksgiving Break (No Classes)	28
29 Chapter #16 Acids and Bases	30 Experiment #8 Acid-Base Titration	01	02	03	04	05
06	07	Notes:				

2021 December

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
29	30	01 Chapter #17 Equilibrium	02 Experiment #8 Acid-Base Titration	03	04	05
06 Chapter #17 Equilibrium	07 Lab: -Checkout -Post-test	08 Our Lady of Camarin Day (No Classes)	09 Lab: -Checkout -Post-test	10	11	12
13 Final Exam (8:00 - 9:50 am)	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	01	02
03	04	Notes:				