

Course Title: **General Inorganic Chemistry I**

Course Prefix: **CHEM**

Course No.: **1033**

Section No.: **P03**

Department of **Chemistry**

College of **Arts & Science**

Instructor Name:

Hua-Jun Fan

Office Location:

EE O'Banion Science Building Room 330-M

Office Phone:

936-261-3111

Fax:

936-261-3117

Email Address:

HJFAN@pvamu.edu

U.S. Postal Service Address:

Prairie View A&M University

P.O. Box 519

Mail Stop **2900**

Prairie View, TX 77446

Office Hours: **TR 12:30 – 4:30pm or Walk-in or by appointment**

Virtual Office Hours: 1) eCourses (<http://ecourses.pvamu.edu/>) is PVAMU's official course management system for online or web-assist instruction, and 2) Smartwork from publisher

Course Location: **E. E. O'Banion Science Building Room A103**

Class Meeting Days & Times:

TR 11-12:20

Catalog Description:

General Inorganic Chemistry I. (3-0) Credit 3 semester hours. Theories of matter and concepts of measurement, atoms, molecules and ions; Stoichiometry and chemical calculations, reactions in aqueous solutions, kinetics of gases, thermo-chemistry, atomic structure, electron configurations and chemical bonds.

Prerequisites:

MATH 1113

Co-requisites:

Required Text:

Chemistry: The Science in Context, third Edition, by Thomas R. Gilbert, Rein V. Kirss, Natalie Foster, Geoffrey Davies. ISBN 978-0-393-14110-8 Paperback with the SmartWork Online Homework/eBc folder (**books from bookstore will include online homework access code, free**)

Recommended Text/Readings:

Access to Learning Resources:

PVAMU Library:

phone: (936) 261-1500;

web: <http://www.tamu.edu/pvamu/library/>

University Bookstore:

phone: (936) 261-1990;

web: <https://www.bkstr.com/Home/10001-10734-1?demoKey=d>

Course Goals or Overview:

The goal of this course is to establish a fundamental understanding of atomic and molecular structure of matter as well as chemical bonding and interactions, able to perform basic stoichiometric calculations

Course Outcomes/Objectives

Course Objectives Learning Objectives/Accrediting Body *American Chemical Society (ACS)*

Standards Met: **A, B, E, F.**

At the end of this course, the student will be able to

- 1 understand the scientific approach and methods involving making observations and gathering data;
- 2 analyze and formulate stoichiometric calculations;
- 3 apply the knowledge of First Law of Thermodynamics and energy to evaluate and balance calculations;
- 4 evaluate and analyze atomic structure and electronic configurations of elements;
- 5 apply the kinetic molecular theory of gases and perform simple calculations using the ideal gas law;
- 6 evaluate the periodic properties of elements and chemical bonding.
- 7 apply knowledge of chemistry to everyday life and explain the observation and changes in a case study

Course Requirements & Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams – written tests designed to measure knowledge of presented course material, Questions are embedded in the common exam to be used for assessment purpose.

-**Assessment** on Critical Thinking, and Empirical and Quantitative Skills through the embedded questions to evaluate the overall knowledge-mastering level of the whole class.

Exercises – Homework assignments designed to supplement and reinforce course material will be posted on Smartwork from Publisher

Assessment on Communication, Critical Thinking, and Empirical and Quantitative Skills through the online homework system that can be monitored in real time to show the students' learning progress and response to the teaching materials

Class Participation – daily attendance and participation in class discussions

Assessment on Communication, Critical Thinking, and Empirical and Quantitative Skills through the class observation on student's participation rate. The data is subjective

Quiz – in class or online quiz designed to measure ability to apply presented course material

- **Assessment** on Communication, Critical Thinking, and Empirical and Quantitative Skills through the in-class pop quiz and online take home quiz that can be used to monitor student's understanding the teaching materials

Projects/Case Study – A group of no more than 5 students to work on a special selected topic that designed to measure ability to apply presented course material to everyday real life scenario, write a report and presented to the class

Assessment on team work, Communication, Critical Thinking, Empirical and Quantitative, and Social responsibility skills through the university standard rubrics

Grading Matrix

Instrument	Value (points or percentages)	Total
Exercises	20 assignments at 6 points each	120
Quizzes	12 quizzes at 10 points each	120
Projects/Case study	1 projects at 160 points each	160
Exam	4 exams at 175 each	700
Final Exam	300	300
Total:		1400

Grade Determination:

- A = 90%;
- B = 80%-89%;
- C = 70%-79%;
- D = 60%-69%;
- F = 59% or below

Submission of Assignments:

- All homework assignments are due at the Time posted on Smartwork.

Formatting Documents for projects:

- Microsoft Word is the standard word processing tool used at PVAMU. If you're using other word processors, be sure to use the "save as" tool and save the document in either the Microsoft Word, Rich-Text, or plain text format.

Exam Policy

- Exams should be taken as scheduled. No makeup examinations will be allowed except under documented emergencies (See Student Handbook). Exams will usually contain 10 to 15 extra credit points
- All exams count. **No** drop of the lowest score.
- Only Scratch paper and ACS approved Periodic Table will be provided to students.
- Students need to bring Calculator, Scantron (blue or green color) and Pencil (No. 2).
- Students with excused absences will be allowed to take make-up exams within a limited period of time and at a time designated by instructor. You must bring the official/reasonable excuses note to take the makeup test. The reasonable excuse note include but not limited to University letterhead with signature, doctor note, police report, court orders, obituary, etc.

16 WEEK CALENDAR

Week One: Topic	Matter and Measurements
Chapter (s):	1
Assignment (s):	10 Questions on Smartwork for chapter 1 Due during Week Two
Week Two: Topic	Matter and Measurements
Chapter (s):	1
Assignment (s):	Homework due/Quiz on chap 1
Week Three: Topic	Atoms, Molecules, and Ions
Chapter (s):	2
Assignment (s):	10 Questions on Chapter 2 posted/Project 1 available
Week Four: Topic	Atoms, Ions, and Compounds
Chapter (s):	2
Assignment (s):	Homework on Chapter 2 Due/Quiz on Chapter 2/Exam #1 covering Chapters 1 & 2
Week Five: Topic	Chemical Reactions and Earth's Composition (finished) and Solution Chemistry and the Hydrosphere.
Chapter (s):	3 & 4
Assignment (s):	10 Questions on Chapter 3
Week Six: Topic	Solution Chemistry and the Hydrosphere (Cont')
Chapter (s):	4
Assignment (s):	Homework on Chapter 3 due/Quiz on chapter 3
Week Seven: Topic	Solution Chemistry and the Hydrosphere (Finished)/Start Chapter 5: Thermo chemistry
Chapter (s):	4 & 5
Assignment (s):	10 Questions on chapter 4/Project 1 due
Week Eight: Topic	Thermo chemistry (Cont')
Chapter (s):	5
Assignment (s):	Homework on Chapter 4 due/quiz on chapter 4/Exam #2 covering Chapters 3 & 4
Mid-Term Exam	
Week Nine: Topic	Thermo chemistry (Finished)/ Properties of Gases: The Air We Breathe
Chapter (s):	5 & 6
Assignment (s):	10 Homework questions on Chapter 5 due/10 questions on Chapter 6 posted/Quiz on Chapter 5
Week Ten: Topic	Properties of Gases (Cont')
Chapter (s):	6
Assignment (s):	Homework on Chapter 6 due/Quiz on chapter 6
Week Eleven: Topic	Electrons in Atoms and Periodic Properties
Chapter (s):	7
Assignment (s):	Exam #3 covering Chapters 5 & 6/10 Homework questions on chapter 7
Week Twelve: Topic	Electrons in Atoms and Periodic Properties
Chapter (s):	7
Assignment (s):	Homework on Chapter 7 due/Quiz on chapter 7
Week Thirteen: Topic	Chemical Bonding and Atmospheric Molecules
Chapter (s):	8
Assignment (s):	10 Homework questions on Chapter 8/Project 2 due
Week Fourteen: Topic	Chemical Bonding and Atmospheric Molecules
Chapter (s):	8
Assignment (s):	10 Homework questions on Chapter 8 due/Quiz on Chapter 8
Week Fifteen: Topic	Review
Chapter (s):	7 & 8
Assignment (s):	Exam #4 covering Chapters 7 & 8/Dead Week/Review for Final

Week Sixteen Final Exam

University Rules and Procedures

Disability statement (See Student Handbook): Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

Academic misconduct (See Student Handbook): You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

Forms of academic dishonesty:

1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.
3. Fabrication: use of invented information or falsified research.
4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

Nonacademic misconduct (See Student Handbook) The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

Sexual misconduct (See Student Handbook): Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

Attendance Policy: *Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class.*

Student Academic Appeals Process Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

Additional Class Policies:

- Students are expected to be respectful of peers and instructor at all times.
- Instructor will take questions at the beginning and end of each class session. Questions during lecture should be relevant to that topic. Excessive talking, inappropriate behavior or other classroom disruptions by any student will result in a deduction in class participation points.
- Attendance is recorded during class sessions at a time (which may vary) designated by the instructor. Without exception, if a student is not present when roll is called, they will be marked absent. Excessive absences will also result in lowered class participation points.
- Homework assignments are due on exam days. Late homework assignments will be penalized at 10% for each calendar day.
- There will not be any make-ups for missed in-class quizzes. On-line quizzes (administered through ECOURSES) will be announced in class and students will be allowed a minimum of 36 hours to complete them. **Deadlines are firm and no make-ups will be permitted.**
- Success in General Chemistry is dependent on the student using all available resources and spending sufficient time after lecture working on the concepts. In addition to the textbook and notes taken in lecture, ECOURSES will be an important resource. ECOURSES will allow for the posting of syllabi, suggested problems and quizzes.

Homework assignments will be either assigned from the text or will be given in the form of handouts. It is the instructor's recommendation that students spend time after every class reviewing notes, completing problems and reading for the next class session.

Technical Considerations for Online and Web-Assist Courses

Minimum Hardware and Software Requirements:

- Pentium with Windows XP or PowerMac with OS 9
- 56K modem or network access
- Internet provider with SLIP or PPP
- 8X or greater CD-ROM
- 64MB RAM
- Hard drive with 40MB available space
- 15" monitor, 800x600, color or 16 bit
- Sound card w/speakers
- Microphone and recording software
- Keyboard & mouse
- Netscape Communicator ver. 4.61 or Microsoft Internet Explorer ver. 5.0 /plug-ins
- Participants should have a basic proficiency of the following computer skills:
 - Sending and receiving email
 - A working knowledge of the Internet
 - Proficiency in Microsoft Word
 - Proficiency in the Acrobat PDF Reader
 - Basic knowledge of Windows or Mac O.S.

Netiquette (online etiquette): students are expected to participate in all discussions and virtual classroom chats when directed to do so. Students are to be respectful and courteous to others in the discussions. Foul or abusive language will not be tolerated. When referring to information from books, websites or articles, please use APA standards to reference sources.

Technical Support: Students should call the Prairie View A&M University Helpdesk at 936-261-2525 for technical issues with accessing your online course. The helpdesk is available 24 hours a day/7 days a week. For other technical questions regarding your online course, call the Office of Distance Learning at 936-261-3290 or 936-261-3282

Communication Expectations and Standards: All emails or discussion postings will receive a response from the instructor within 48 hours. You can send email anytime that is convenient to you, but I check my email messages continuously during the day throughout the work-week (Monday through Friday). I will respond to email messages during the work-week by the close of business (5:00 pm) on the day following ***my receipt*** of them. Emails that I receive on Friday will be responded to by the close of business on the following Monday.

Submission of Assignments: Assignments, Papers, Exercises, and Projects will distributed and submitted through your online course. Directions for accessing your online course will be provided. Additional assistance can be obtained from the Office of Distance Learning.

Discussion Requirement: Because this is an online course, there will be no required face to face meetings on campus. However, we will participate in conversations about the readings, lectures, materials, and other aspects of the course in a true seminar fashion. We will accomplish this by use of the discussion board. Students are required to log-on to the course website often to participate in discussion. It is strongly advised that you check the discussion area daily to keep abreast of discussions. When a topic is posted, everyone is required to participate. The exact use of discussion will be determined by the instructor.

It is strongly suggested that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, it should be copied and pasted to the discussion board.