UNIVERSITY OF GUAM
UNIBETSEDÅT GUAHAN

College of Natural & Applied Sciences
DIVISION OF NATURAL SCIENCES

COURSE SYLLABUS

CH100L-03 INTRODUCTION TO INORGANIC CHEMISTRY LABORATORY

(SPRING 2019)

Meetings: TUES. 11:00 – 13:50
Room: SC230

Instructor: Dr. John F. K. Limtiaco
Office: SC228
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Email: limtiacoj6850@triton.uog.edu
Office Hours: M 10:00 - 12:00, TH 11:00 – 14:00, TBA

Course Description

This is the laboratory component of the CH100 lecture. The two courses must be taken concurrently. Chemistry is a laboratory science and a laboratory experience is an integral component of chemistry courses. The laboratory course will introduce students to a number of important techniques of chemical measurements. Students will be taught how to carry out accurate measurements and the proper recording of measured quantities.

Course rationale

Laboratory skills is a core component of chemistry. This course covers important skills in quantitative and qualitative analysis in chemistry. It is also a required course for nursing and agricultural sciences majors and must be taken concurrently with CH100 lecture.

Course Student Learning Outcomes (SLO): Upon completion of the course, students will	**Matching Program Learning Outcome (PLO)**	**Matching Institutional Learning Outcomes (ILO)**	**Method of Assessment**
Use safety knowledge and skills to conduct experiments and collect data in the laboratory	PLO2	ILO5	Laboratory practical exam
Read and record data correctly	PLO2	ILO2	Laboratory reports
Differentiate the terms accuracy and precision	PLO1	ILO1	Lab written final exam
Apply significant figures in calculations and reporting	PLO2	ILO2	Laboratory reports

Conduct experiment, collect, analyze, and interpret data	PLO2	ILO5	Laboratory portfolio and note book
Apply precision and accuracy in measurements and calculations	PLO2 PLO5	ILO2	Laboratory reports
Relate the experimental observations to chemical concepts	PLO1 PLO4	ILO1	-Laboratory reports - Laboratory portfolio and note book
Solve quantitative and qualitative problems in chemistry	PLO4	ILO1	Laboratory written exam
Write clear laboratory reports using standard scientific reporting method	PLO3	ILO3	Laboratory reports
Use standard computer technology to plot and analyze data	PLO3 PLO5	ILO5	- Laboratory reports - Laboratory portfolio and note book
Collaborate with peers in learning chemistry	PLO7	ILO7	- Laboratory portfolio and note book

Chemistry Program Learning Outcomes

PLO 1: Demonstrate the knowledge of fundamental concepts of chemistry and its relevance to the scientific 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 scientific information 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 data and 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, the environment, health, and related fields
PLO 6: Demonstrate a sense of exploration and research approach that enables students to pursue 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 a democratic 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

REQUIRED LAB TEXT:

TBA

IMPORTANT NOTES:

You are expected to review the experimental procedure prior to our lab meeting.

(1) Write an outline for the assigned experiment prior to the lab meeting;
(2) Answer all of the Pre-laboratory questions;
(3) Lab reports are due one week after completing the experiment. There are two types of reports: Full – Write Up or Fill –In Sheet. The Full-Write Up will require all components of the report to be written whereas the Fill-In will only require completion of the data and results sheet in the lab manual. The instructor will inform you on what type of report will be required for each lab experiment.
(4) Lab reports are due one week after completing the practical work/experiment. Lab reports handed in late (up to one week after the due date) will have an automatic deduction of 10 points. Lab reports that are late by more than a week (but not more than 2 weeks) will have deductions of 25 points. Any lab report that is late by more than 2 weeks WILL NOT BE ACCEPTED.
(5) Students can drop one lab report in which they got the lowest marks. However, experiments not performed and/or lab reports not marked CANNOT be dropped; they will count as zero.
(6) A lab grading rubric will be issued at the start of each lab to guide report writing.
(7) Plagiarism using online and previous work or work of other students will not be tolerated. An automatic zero will be given and further disciplinary action may be taken.
(8) Make a study schedule and work steadily throughout the semester. Last minute cramming is unlikely to build a deeper understanding of chemistry, and is usually useless for long-term knowledge. The key to making a good laboratory report is PREPARATION.
(9) Laboratory note book (bound exercise book) is REQUIRED.
(10) Laboratory portfolio containing all your lab reports will be graded at the end of the semester.

GET A HEAD START AND **DO NOT** WAIT UNTIL THE LAST MINUTE TO COMPLETE THESE ASSIGNMENTS. DO NOT FALL BEHIND!

ATTENDANCE POLICY:

If you miss a lab, you have missed an integral part of the course. Lab make-ups will NOT be permitted. No credit will be given if you are absent from the lab. If you miss more than 75% of

the laboratory you will be disqualified from sitting the final exam for both the lecture and laboratory components.

WITHDRAWAL FROM COURSE:

Students must follow the withdrawal procedure stipulated in the Undergraduate Catalogue. Withdrawal within the 8 weeks of class session requires the completion of withdrawal form from the Records Office. Withdrawal after 8 weeks of session will require the completion of a Petition to Withdraw from the Records Office. Students failing to withdraw will get an "UW" on their record, which is equivalent to an F grade.

METHODS OF EVALUATION:

The lab part of your grade will be determined by completed lab reports, assignments and exercises, a lab final exam, lab portfolio and note book. Final lab grades will be based on the following:

Lab reports:	**40%**
Prelab pop quizzes	**15%**
Lab practical exam:	**20%**
Lab written final exam:	**25%**
Total:	**100%**

The performance level for the letter grade in the lab will be as follows:

A	=	90% and above
B	=	80% to 89%
C	=	70% to 79%
D	=	60% to 69%
F	=	below 60%

You must pass the lab and the lecture in order to pass the course.

ACADEMIC DISHONESTY

Professional and ethical conduct is expected at all times. Unethical conduct includes any form of cheating, including plagiarism. The term "cheating" includes, but is not limited to: (1) use of any unauthorized assistance in taking quizzes, tests, or examinations, e.g., looking at other students' answers, using crib notes (including electronic), getting information from another person via any kind of communication; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; or (3) the acquisition, without permission, of tests or other academic material belonging to a member of the University faculty or staff. If you need to use an electronic translator, you must discuss this with me in advance. All assignments and tests must be your own

work. Answers you write on the tests must come only from in your head or the information supplied in the test papers; anything else is cheating. Any evidence of cheating will result in a "0" for that assignment and/or exam or possibly an "F" for the entire course – final decision to be determined by me, the course instructor.

Use of scientific calculator is required for the course but no preprogrammed data or equation is permitted in exam or laboratory classes. Use of cell phones during 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.

SPECIAL ACCOMMODATIONS (ADA)

If you are a student with a special need who will require an accommodation(s) to participate in this course, please contact me privately to discuss your specific needs. You will need to provide me with documentation concerning your need(s) for accommodation(s) from the EEO/ADA Office. If you have not registered with the EEO/ADA Office, you should do so immediately at 735-2244/2971/2243 (TTY) to coordinate your accommodation request. For more information visit:
http://www.uog.edu/administration/office-of-the-president/eeoadatitle-ix-office

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

TOBACCO-FREE/SMOKE-FREE CAMPUS

UOG is a tobacco-free campus. Thank you for not using tobacco products on campus, and for helping make UOG a healthy learning and living environment. For more information visit:
http://www.uog.edu/smoke-free-uog

TENTATIVE LAB SCHEDULE- CH 100L (additional labs may be scheduled)

Experiment / Lab Activity

Safety in the Chemistry Lab
Lab Check-in

Expt. 2: Measurements and Calculations

Expt. 7: Water in Hydrates

Expt. 5: Determination of Specific Heat

Expt. 10 &11: Double and Single-Displacement Reactions
(separate days)

Expt. 12 Acids, Bases, and Salts- Electrical conductivity

Expt. 21: ACID- BASE TITRATION

Expt. 21: More Acid-base Titration

LAB PRACTICAL EXAM

Evaluation of Gas law constant (Special handout)

LAB FINAL WRITTEN EXAM