

**Topics in Biological Chemistry
CHMD79H3
LECTURE OUTLINE**

This document contains important course information and should be kept in a safe place where you can refer to it throughout the semester

Welcome to CHMD79H: Topics in Biological Chemistry

Prerequisites: Permission of the instructor. Normally recommended for individuals who have completed fifteen full credits, including at least two C-level Chemistry courses, and who are pursuing one of the Chemistry Programs.

Lectures: Thursdays 2-4 pm AA205 *Reading Week-no classes* Feb 18th to Feb 21st

Lecturer: Dr. Kagan Kerman (SW533)

Emails: kagan.kerman@utoronto.ca

Office Hours: Dr. Kerman: Mon 1:00-2:30pm (SW533)

Course Website: CHMD79 maintains a Blackboard web space which archives a variety of course-related information including: class announcements, lecture slides and notes if provided, contact information and links to some useful outside resources. In addition, class emails will regularly be sent via Blackboard. *In order for you to receive these emails, you must have a valid “utoronto.ca” email account registered with ROSI.*

To login, go to: <https://portal.utoronto.ca/webapps/portal/frameset.jsp>. Click on “log-in to the portal” at the top left. Login using your UTORid username and password (same as what’s used for your UTORmail). Under the “My Courses” box (top right), click on the CHMD79 link.

E-mail policy:

- Use University account
- If Yahoo or Hotmail used follow instructions below to prevent email ending up in junk mail:
 - put CHMD79 in the subject line followed by the reason for the email
 - use a greeting of some kind - NOT "Hey"
 - sign your first and last name
 - please include your student number after your name
- Student emails will be replied to within 48 hours (M-F) provided that the above protocol is used.

Method of Evaluation: The grading scheme for the course is shown in the table below:

Mid-term Test	25%	Mid-term test will be in class on February 27 th , 2014.
Final Exam	35%	Entire course work, including assignment/quiz questions and oral presentations
Weekly in-class quizzes	10%	10 minute closed-book quizzes reviewing material from lectures
Assignment-1	10%	Each student will prepare 10 questions That may be asked in the mid-term exam. These questions can be in a variety of formats: True/False, multiple choice, short answer, matching, etc. Submission deadline: Feb 14th
Assignment-2	10%	Each student will prepare 10 questions that may be asked in the final exam. These questions can be in a variety of formats: True/False, multiple choice, short answer, matching, etc. At least 5 questions should be about their Nobel prize topic. Submission deadline: March 28th
Oral Presentation (10%)	10%	Students will prepare a 15 minute oral presentation on their approved Nobel-prize winning topic from nobelprize.org More details to be given in lectures. Students will present as a team of 2. They will email their choice of Nobel prize topic by Feb 3rd

Online Grades:

Individual grades will be posted on the Blackboard Gradebook as they become available. Please check these periodically to make sure that the posted grades match your own records. Any discrepancy should be reported immediately to the instructors.

No calculators, models, pagers, cell phones or other aids will be allowed during any quizzes, lecture test or exam, unless announced previously.

Persons who miss a test or exam are expected to contact Dr. Kerman immediately. The exact date of the mid-term test is determined as February 27th, 2014. Students who miss the term test will be assigned a mark of zero for the test, unless they can document a compelling reason for missing it. Documentation, for approval, **must be given within one week** (e.g. Doctor's note - which should say that you were seen on the day in question, and that in the Doctor's opinion you were unable to write a test that day). If the documentation is insufficient, you may be required to obtain further, signed, paperwork. Those presenting a valid, documented reason for absence, in writing, within this time frame, will be allowed to be excused OR to write a deferred exam, AT THE INSTRUCTOR'S DISCRETION.

Please note that if you miss the Final Exam, you must petition the Registrar's Office to write a make-up exam in the next formal exam period. Check the UTSC Calendar for instructions and deadlines.

There is no individual textbook assigned for the course and students should rely on course notes, literature articles, and lectures for the material covered. The following is a list of suggested texts you may use for extra reading on covered topics:

Recommended texts:

From *Concepts and Models in Bioinorganic Chemistry*

Edited by Heinz-Bernhard Kraatz & Nils Metzler-Nolte (Publisher: Wiley)

Chapter 2: **Medicinal Inorganic Chemistry**, page 25-44

Chapter 3: **The Chemical Toxicology of Metals and Metalloids**, page 47-59

From *Biological Inorganic Chemistry*

Edited by Bertini, Gray, Stiefel and Valentine (Publisher: University Science Books)

Chapter 3: **Metal ions and proteins: Binding, stability, and folding**, page 31-41

Chapter 7: **Metals in Medicine**, page 95-135

Tutorial 1: **Cell biology, Biochemistry and Evolution**, page 657-694

Tutorial 2: **Fundamental of Coordination Chemistry**, page 695-712

From *Biological Inorganic Chemistry*

Edited by R. R. Crichton (Publisher: Elsevier)

Chapter 18: **Metals in Brain and Their Role in Various Neurodegenerative Diseases**, page 297-320

Chapter 20: **Metals in Medicine and the Environment**, page 339-352

The following is a tentative list of topics that will be covered throughout the semester. The topics may change so students should refer to lecture notes provided for content of the course.

Topics:

Jan 9: Introduction

Jan 16: Periodic Table and Biological Chemistry

Jan 23: Medicinal Bioinorganic Chemistry-1: Au, Li, Pt, Fe, Cu

Jan 30: Medicinal Bioinorganic Chemistry-2: Radiopharmaceuticals

Feb 6: Biological Chemistry of selected metals: Na, K, Mg, Ca, Zn

Feb 13: Biological Chemistry of selected metals: Fe, Mn, Cu, Ni, Co (We will draw the names of the pairs to determine the order of presentations in the end of this class!)

Feb 20: Reading Week ☺

Feb 27: Mid-Term

March 6: Toxicology of Metals & Metals in Brain

March 13: Oral presentations-1 (5 pairs, from 2 pm to 4 pm)

March 20: Oral presentations-2 (6 pairs, from 2 pm to 5 pm)

March 27: Oral presentations-3 (6 pairs, from 2 pm to 5 pm)

AccessAbility: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach us and/or the AccessAbility Services Office as soon as possible. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

Cell Phones: During lectures, please turn off your cell phones to avoid disruption of the class. If circumstances warrant use of your cell phone and you must receive an emergency call, please inform the instructor in advance at the beginning of the session, and excuse yourself from class to receive the call.

Academic Calendar: Further information about academic regulations and course withdrawal deadlines can be found in the UTSC Calendar. You are encouraged to read this material.

Centre for Teaching and Learning: If you need assistance with effective writing skills, study skills, exam preparation, note taking, or time management, free workshops and advice are available from the Center for Teaching and Learning, which can be reached at: http://www.utsc.utoronto.ca/~ctl/Student_Support/index.html

Research Help: University of Toronto Scarborough Library: Staff at the University of Toronto Scarborough Library will be happy to help you find the resources you need for your assignments, and learn the research skills you will need for success at university.

Research help is available by phone, e-mail, chat, or in-person in the Library. For more information, please see the Library's Research Help page http://guides.library.utoronto.ca/utsc_help

Need in-depth assistance? Contact your Subject Librarian, Sarah Forbes-
<http://guides.library.utoronto.ca/profile/sforbes>

Computer Use: Ethical use of University computers is expected at the University of Toronto Scarborough. Guidelines are set out in the UTSC calendar. It is expected that the equipment and/or resources accessed in the UTSC library and the computer labs are to be used for academic research, assignments, and course activities only.

Academic Integrity: Honesty and fairness are considered fundamental to the University's mission, and, as a result, all those who violate those principles are dealt with as if they were damaging the integrity of the University itself. When students are suspected of cheating or a similar academic offence, they are typically surprised at how formally and seriously the matter is dealt with - and how severe the consequences can be if it is determined that cheating did occur. The University of Toronto treats cases of cheating and plagiarism very seriously.

Examples of offences for which you will be penalized include (but are not limited to):

- Using any unauthorized aids on an exam or test (e.g., "cheat sheets")
- Representing someone else's work or words as your own - plagiarism (see web document "How not to plagiarize" available online at <http://www.utoronto.ca/writing/plagsep.html>)
- Falsifying documents or grades
- Purchasing an essay
- Submitting someone else's work as your own
- Submitting the same essay or report in more than one course (without permission)
- Looking at someone else's answers during an exam or test
- Impersonating another person at an exam or test or having someone else impersonate you
- Making up sources or facts for an essay or report.

As a student it is your responsibility to ensure the integrity of your work and to understand what constitutes an academic offence. If you have any concerns that you may be crossing the line, please, read from the website <http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>

and always consult your instructor. Your instructor can explain, for example, the nuances of plagiarism and how to use secondary sources appropriately; he or she will also tell you what kinds of aids - calculators, dictionaries, etc. - are permitted in a test or exam. Ignorance of the rules does not excuse cheating or plagiarism. Students agree that by taking this course all required papers may be subject to submission for textual similarity review to **Turnitin.com** for the detection of plagiarism. All submitted papers will be included as source documents in the

Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. The terms that apply to the University's use of the **Turnitin.com** service are described on the **Turnitin.com** web site.

This information is taken from the brochure, "*Academic Integrity*" and website, part of a series of UT publications to help students understand the University's rules and decision making structures. For copies, visit the Office of the Registrar at UTSC. All of the policies and procedures surrounding academic offences are dealt with in one policy: "*The Code of Behaviour on Academic Matters*". The full text is located in the back of the UTSC Calendar.