

Chemistry 2211a Course Outline

Sept – Dec 2024

“Inorganic Elements in Life”

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This is a meeting by email or arrange at the end of each lecture. There is also usually time at the end of each lecture for a meeting.

Note: This Course Outline is subject to change. This revision dated 2024 Aug 01-28-abc.

NOTE: no

The lecture component will introduce students to the fundamental concepts of bioinorganic chemistry, with an emphasis on the roles of metals in the biological world. Lecture attendances mandatory and attendance may be taken. Missing important announcements given at lectures cannot be used as the basis for an appeal. This course is delivered in-person. The midterm test, poster assessment and final exam will be in-person.

After taking this course you will be able to assess the importance of metal ions in Nature. You will be able to assess news reports and your own reading about the importance of metals in your own life and the lives of your family members and friends. You will be able to address the value of essential metals in your diet, toxic metals to avoid, and metals that play a role therapeutically in drugs you might take in your future.

Overall you will be able to begin to understand the role metals play in a healthy life of all organisms.

The poster component will allow students, in groups of two, to research and then present a scientific poster on a topic chosen from a list provided by the course instructor. Each group will be assessed through "interviews" during the last two weeks of the term. Students will also visit, and learn from, other students' posters during those two weeks. Poster guidelines will be provided at a later date. You will learn to assess complex data and describe it in both writing on the poster and in person in your interview. These are aspects of your future career that will be very useful. The poster assignment is a critical part of this course.

The final exam will be cumulative except specifically that will be omitted - the exact syllabus will be provided via the web site page.

Anticipated Lecture Topics (subject to change and available time)

Topic	Description
A	Introduction to Bioinorganic Chemistry – this is a major review of the whole course and will provide an invaluable review resource before the final exam. Note this is a lengthy unit and you will need to prepare by reading the text before each lecture. You will find that the lecture style will be different in many aspects to other courses and you will want to become familiar with and adapt to this style.
B	Essential Inorganic Chemistry: orbital/electronic configurations, HSAB theory, ligands, coordination complexes, equilibrium/stability constants
C	Essential Biochemistry: amino acids and their acid-base properties, protein structure, cells, common biological ligands Projected end of lecture material for the midterm exam (subject to change –will be confirmed in the lectures before the midterm exam)
D	Catalysis: zinc, cobalt
E	Photosynthesis: magnesium
F	Toxicity of Selected Elements
G	Introduction to Metals in Medicine

All course material will be posted to OWL <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 ext. 83800.

Lecture Information (no specific tutorials or labs; but there will be poster assessment in the last 3 weeks of the term outside class time – TBA)

Section	Day	Time and Room	Instructor	Office	Email

If you wish to meet with me, please send an email for an appointment using only your Western email address (@uwo.ca) and include *chem 2211a* in the subject line (ESSENTIAL!) or arrange to meet with me after one of the classes. I have no

the course is offered and the course mark will be

The website for Registrarial Services is <https://www.registrar.uwo.ca>

In accordance with policy <http://www.uwo.ca/its/identity/activate-nonstudent.html>, the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at the official university address is attended to in a timely manner.

Support Services

Please visit the Science & Basic Medical Sciences Academic Ombudsman webpage for information on add/drop courses, academic considerations for absences, appeals, examinations, and many other academic related matters:
<https://www.uwo.ca/sci/counselling/>

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact

Midterm and Presentation-Group Project = Poster (Designated by the instructor as the one assessment that always requires documentation when requesting Academic Consideration)
These always requiring documentation

Evaluation Scheme for Missed Assessments

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Computer-marked multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Support Services

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to