

Chemistry 2211a Course Outline 2017–2018

Inorganic Elements in Life

Instructor Martin Stillman

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Course Website www.instruct.uwo.ca/chemistry/2211a

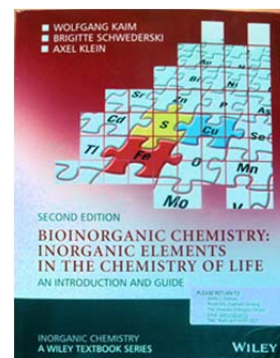
The missing of critical information due to failure to check the website or read your @uwo.ca email cannot be used as a basis for appeal. NOTE: This is not OWL!

Revision: 2017 Sep 8 r17-e

Also please follow "like" www.facebook.com/chemistryatwestern

Course Materials

See the 1st Intro unit on the web site for others that are in the library. Best is the new 2nd edition of Kaim, Schwederski & Klein (KS&K)- "Bioinorganic Chemistry: Inorganic elements in the chemistry of life" in the book store ISSN: 1939-5175



Course Components

Chemistry 2211a has four components: lecture, poster, a midterm exam and a final exam.

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 attendance is mandatory** and attendance may be taken.

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 talents.

The final exam will be cumulative except specific units that will be omitted - the exact syllabus will be provided.

Anticipated Lecture Topics

Topic	Description
1	Introduction to Bioinorganic Chemistry
2	Essential Inorganic Chemistry: orbitals, electronic configurations, HSAB theory, ligands, coordination complexes, equilibrium/stability constants
3	Essential Biochemistry: amino acids and their acid-base properties, protein structure, cells, common biological ligands
4	Methods for Studying Metal-Containing Molecules: separation, spectroscopy
5	Photosynthesis: magnesium
6	Catalysis: zinc, cobalt, iron
7	Introduction to Metals in Medicine
8	Toxicity of Selected Elements

Lecture Information

Section	Time and Room	Instructor	Office	Email
001	MWF 9:30–10:30, KB 203	Dr. Martin Stillman	ChB 064	Martin.stillman@uwo.ca

If you wish to meet with me, please send an email for an appointment **using only your Western email address** and include **Chem 2211a** in the subject line (**ESSENTIAL!**)

Important Dates

Event	Time and Room	Building
1st class	Friday, Sept. 8th. MWF 9:30–10:30	KB 203
Lectures cancelled	Friday 6 th October	
Last lecture	Friday, 8 th Dec	
Last day to tell prof Stillman about Mid-Term exam conflicts or issues	Sept. 30 th	
Mid term Exam	Wednesday, 1st November, 9:30-10:20 CLASS TIME Note- there is no make-up because this is class time.	KB 203

Poster Topics posted for selection (teams of 2 work on each topic)	Friday October 20 th	ON A DOODLE PAGE – url to be sent to you via OWL on Oct 20 th at 12 noon.
Poster topic and teams finalized	Monday 23 rd October – at 9:30 (that is during the lecture)	
Posters must be up	Before noon Monday 20 th November	Lower Ground corridor in ChB (ChB 064-051)
	(must be selected by Nov. 20 th at noon)	..in person in the corridor – outside class time
Poster assessment	Nov 22 nd – Dec 1 st Note: assessment (30 mins) is outside class time between 8:30 am and 7:00 pm	interview time to be selected from DOODLE timetable

Evaluation Components

The overall course grade, out of 100, will be calculated as listed below. Listed next to the respective components are their maximum contributions toward the course grade.

Component	Notes	Normal Value	Missed Midterm
Midterm Test	Wednesday, 1 st November, 2017 9:30 – 10:20 CLASS TIME	30	--
Poster	Weighted average of individual and group marks Following in-corridor oral assessment	25	30
Final Exam	Cumulative, scheduled by the Registrar, 3 hours	45	70

In order to obtain credit for the course, all of the following requirements must be met:

1. Obtain a minimum of 50% on the Poster component (12.5 out of 25 or, in the case of a missed Midterm Test, 15 out of 30).
2. Obtain a minimum *weighted average* of 50% on the Midterm Test and the Final Exam. That is, the Midterm Test mark out of 30, plus the Final Exam mark out of 45, must be greater than or equal to 37.5 out of 75. In the case of a missed Midterm Test, a minimum of 50% (35 out of 70) on the Final Exam must be obtained.
3. Obtain a minimum of 50 out of 100 on the overall course grade. Students who meet this requirement, but fail to meet one or more of the above requirements, will receive a course grade no greater than 40 out of 100.

None of the components will be “dropped” and it is not possible to have the components reweighted unless they were legitimately missed.

The only calculator that may be used on tests and exams is the Sharp EL-510R(B). All other brands and models will be confiscated. Aside from the calculator, **no other electronics (phones, iPods, etc.) may be in your possession during tests and exams, even for timekeeping purposes.**

There is no Periodic Table provided for either mid-term or final exam. You will be required to memorize the key metals and non-metals that impact bioinorganic chemistry. Prof Stillman will be very clear on what to memorize.

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 website: <http://www.uwo.ca/univsec/handbook/appeals/scholoff.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.

Missed Course Components

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or supporting documentation to your Dean's Office as soon as possible. For further information please consult the university's medical illness policy at http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf.

A student requiring academic accommodation due to illness must use the Student Medical Certificate (https://studentservices.uwo.ca/secure/medical_document.pdf) when visiting an off-campus medical facility.

Students seeking academic accommodations based on medical (physical or mental) illness should begin by contacting the Academic Counsellors of their home faculty. Please visit the following link for policy on Accommodation for Illness:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

Missed Midterm Test or Final Exam

There is no make-up midterm test. If the Dean's Office has approved your circumstances, the value of the midterm test will be shifted to the poster component and to the Final Exam as described in the table shown on the previous page.

If you miss the Final Exam, contact your Dean's Office as soon as possible. They will assess your eligibility to write the Special Exam (SPC).

Mandatory Notice from the Registrar

Unless you have either the prerequisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites. The prerequisite for this class is Chemistry 1301a and 1302b, or 1100a and 1200b, or the former 1050, 1020, or 023. Grade 12 or first-year university biology is also highly recommended. Antirequisites are Chemistry 2271a and the former 271a and 251. The website of the Office of the Registrar is <http://www.registrar.uwo.ca>.

Accessibility

Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 if you have questions regarding accommodation.

Student Development Centre

Students are encouraged to make use of the free, study-skills courses and other services, including learning-skills counselling, provided by the Student Development Centre, <http://www.sdc.uwo.ca>.

"Students who are in emotional/mental distress should refer to Mental Health@Western

<http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help."