CHEM/ENCH 312 Transition Metal Chemistry Fall 2019 - Course Syllabus

LECTURES: [redacted]

Note: The lectures begin on [redacted] **There are no lectures on Monday October 14th (Thanksgiving) to Friday October 18th (Fall Break).**

Instructor 1: Kevin Stamplecoskie
Office: Chernoff 505
Lab: Chernoff 435
Instructor Contact Information: Phone: 613-533-2649
E-mail: kevin.stamplecoskie@queensu.ca

Office Hours: No fixed office hours. Drop by at any time or contact us by e-mail to make an appointment at a specific time.

TUTORIALS: There is a tutorial each F[redacted] The tutorials will consist of a ~30 minute lecture (slides posted on onQ), as well as a short quiz on tutorial material.

Tutorial TA: Michael Lewis
E-mail: MPL1@Queensu.ca

TEXTBOOK: Inorganic Chemistry (3rd, 4th, or 5th edition) by Housecroft and Sharpe (used in the previous year in CHEM/ENCH 211). The 3rd edition of the textbook may also be used.

COURSE onQ SITE: A common onQ site has been created for CHEM 312 and ENCH 312 which contains the lecture notes, tutorial notes, assignments and solutions, tutorial quiz solutions, old exams and solutions, as well as links to useful supplementary readings, etc. The onQ site (log in with your NetID and password) can be found at: http://onq.queensu.ca

Course Goals and Learning Objectives:

To successfully complete CHEM 312 / ENCH 312 students will demonstrate their ability to:

1. Name transition metal complexes and draw structures based on the formulae, including determining the oxidation state of the metal, given a set of common coordinated ligands.
2. Interpret electronic spectra of transition metal complexes in terms of the relationships between energy and intensities of the transitions present in the spectrum and the nature of the metal and the coordinated ligands.
3. Predict the electronic and spin configurations, magnetic properties and reactivity of transition metal ions and their complexes based on the type of metal, its oxidation state and the nature of the coordinated ligands.
4. Describe the basic roles of transition metal ions and their complexes in biological systems.

Grading Scheme:

Assignments (4, roughly one every two weeks)	20%
Tutorial Quizzes (10, one each tutorial except weeks 6 and 12)	10%
Midterm Examination (50 minutes)	20%
Final Examination (3 hours, December)	50%

Grading Method:

All components of this course will receive numerical marks. The final grade you receive for the course will be derived by converting your final total numerical course percentage mark to a letter grade according to Queen's Official Grade Conversion Scale:

***Queen's Official Grade Conversion Scale* Grade**	**Numerical Course Mark (Range)**
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Late Policy

For assignments, a 10% (of total marks available) penalty per weekday (Monday to Friday) will be applied to late assignments (see also Academic Consideration section below).

Calculator Policy

There is no need for a calculator on the quizzes, and midterm and final exams, and they are not permitted on these occasions. You are welcome to use a calculator for the assignments.

Statement on Academic Integrity

Queen's University is dedicated to creating a scholarly community free to explore a range of ideas, to build and advance knowledge, and to share the ideas and knowledge that emerge from a range of intellectual pursuits. Queen's students, faculty, administrators and staff therefore all have responsibilities for supporting and upholding the fundamental values of academic integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility and by the quality of courage. These values and qualities are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values

expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University.

The following statements from "The Fundamental Values of Academic Integrity" (2nd edition), developed by the International Center for Academic Integrity (ICAI), contextualize these values and qualities:

1. **Honesty** Academic communities of integrity advance the quest for truth and knowledge through intellectual and personal honesty in learning, teaching, research, and service.
2. **Trust** Academic communities of integrity both foster and rely upon climates of mutual trust. Climates of trust encourage and support the free exchange of ideas which in turn allows scholarly inquiry to reach its fullest potential.
3. **Fairness** Academic communities of integrity establish clear and transparent expectations, standards, and practices to support fairness in the interactions of students, faculty, and administrators.
4. **Respect** Academic communities of integrity value the interactive, cooperative, participatory nature of learning. They honor, value, and consider diverse opinions and ideas.
5. **Responsibility** Academic communities of integrity rest upon foundations of personal accountability coupled with the willingness of individuals and groups to lead by example, uphold mutually agreed-upon standards, and take action when they encounter wrongdoing.
6. **Courage** To develop and sustain communities of integrity, it takes more than simply believing in the fundamental values. Translating the values from talking points into action -- standing up for them in the face of pressure and adversity — requires determination, commitment, and courage.

Students are responsible for familiarizing themselves with and adhering to the Senate regulations concerning academic integrity, along with Faculty or School specific information. Departures from academic integrity include, but are not limited to, plagiarism, use of unauthorized materials, facilitation, forgery and falsification. Actions which contravene the regulation on academic integrity carry sanctions that can range from a warning, to loss of grades on an assignment, to failure of a course, to requirement to withdraw from the university.

Syllabus Statements for Generative Artificial Intelligence (AI) Tools:

Using generative AI writing tools such as ChatGPT in your submitted work is not permitted in this class. This type of use constitutes a Departure from Academic Integrity.
Original work, completed wholly by you, is expected to be submitted in this course. The use of an artificial intelligence tool like ChatGPT is not permitted.

Academic Considerations for Students in Extenuating Circumstances:

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances. For more information, please see the Senate Policy on Academic Consideration for Students in Extenuating Circumstances.

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. For more information, undergraduate students in the Faculty of Arts and Sciences should consult the Faculty's webpage on Academic Consideration in Extenuating Circumstances and submit a request via the Academic Consideration Request Portal.

Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their instructor and/or course coordinator as soon as possible once academic consideration has been granted. Any delay in contact may limit the options available for academic consideration.

For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, please see the Faculty of Arts and Science's Academic Consideration website.
If you need to request academic consideration for this course, you will be required to provide the name and email address of the instructor. Please use the following:

Instructors names: Kevin Stamplecoskie
Instructors email addresses: kevin.stamplecoskie@queensu.ca

Copyright of Course Material:
Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale or other means of dissemination, without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.