CHEM/ENCH 312 Transition Metal Chemistry Fall 2021 - Course Syllabus

LECTURES: **Microsoft Teams (Link)**
Tuesday 9:30 am – 10:30 am
Thursday 8:30 – 9:30 am
Friday 10:30 – 11:30 am
How to Download and Use Microsoft Teams:
https://www.queensu.ca/its/microsoft-office-365/teams

Note: The lectures begin on Tuesday, September 7th. There are no tutorials or lectures from October 11th (Thanksgiving) - October 15thth (Fall Break), inclusive.

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

Office Hours: At each lecture timeslot there will be reserved time for questions on Microsoft Teams.

TUTORIALS: There are two tutorials each Monday from 8:30 – 9:30 am and 12:30 – 1:30 pm that will also be held virtually by Microsoft Teams. The tutorials will often consist of a short, topical lecture that is aimed at assisting you with the graded assignments of this course.

Tutorial TA: Graham Beaton (room: CHE 435)
Phone: 613-533-6000 ext. 74660
E-mail: 16gb17@queensu.ca

TEXTBOOK: Inorganic Chemistry (5th edition) by Housecroft and Sharpe (used in the previous year in CHEM/ENCH 211). The 3rd and 4th editions 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

Copyright of Course Materials:
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.

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. Understand and describe the physical properties of transition metal complexes and their effect on reactivity and/or catalytic activity.

Grading Scheme:

Assignments (9, roughly one every week)

Assignments:	**Due:**	**%**
Assignment 1	Sept. 24th, 2021	10 %
Assignment 2	Oct. 1st, 2021	10 %
Assignment 3	Oct. 8th, 2021	10 %
Reading week	Oct. 11-15th, 2021	nada
Assignment 4	Oct. 22nd, 2021	10 %
Assignment 5	Oct. 29th, 2021	10 %
Assignment 6	Nov. 5th, 2021	10 %
Assignment 7	Nov. 12th, 2021	10 %
Assignment 8	Nov. 19th, 2021	10 %
Assignment 9	Dec. 3rd, 2021	20 %
Total:		100 %

*Note: Each assignment is intended to take no more than 2 days to complete. The assignments will be posted one week before they are due. This allows for accommodations to be incorporated into all assignments. No additional accommodations will be required.

Tutorials — no graded items

These will have small lecture type components to help you with the material that week (especially related to the assignments) and plenty of time to ask questions.

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 Average (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 **20% (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
The following statement on academic integrity builds on a definition approved by Senate and is designed to make students aware of the importance of the concept and the potential consequences of departing from the core values of academic integrity. It is highly recommended that this statement be included on all course syllabi. Instructors may also consider including this statement with each assignment.

Academic Integrity is constituted by the six core fundamental values of honesty, trust, fairness, respect, responsibility and courage (see www.academicintegrity.org). These values 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 (see the Senate Report on Principles and Priorities http://www.queensu.ca/secretariat/policies/senate/report-principles-and-priorities).
Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1 http://www.queensu.ca/artsci/academic-calendars/regulations/academic-

regulations/regulation-1), on the Arts and Science website (see http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity), and from the instructor of this course.

Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Academic Considerations for Students in Extenuating Circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time, not to exceed three months. Students receiving academic consideration must meet all essential requirements of a course. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances was approved at Senate in April, 2017 (see http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senateandtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf) 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. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the portal where a request can be submitted at: http://www.queensu.ca/artsci/accommodations. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

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:

Notice of Recording

Synchronous (live) classes will be delivered in this course through a video conferencing platform supported by the University [MS Teams, Zoom]. Steps have been taken by the University to configure these platforms in a secure manner. Classes will be recorded with video and audio (and in some cases transcription) and will be made available to students in the course for the duration of the term. The recordings may capture your name, image or voice through the video and audio recordings. By attending these live classes, you are consenting to the collection of this information for the purposes of administering the class and associated coursework. If you are concerned about the collection of your name and other personal information in the class, please contact the course instructor to identify possible alternatives.

To learn more about how your personal information is collected, used and disclosed by Queen's University, please see the general Notice of Collection, Use and Disclosure of Personal Information.

Technology

Students should be encouraged when possible to work with the most recent versions of software including web browsers, Java, Flash and Adobe Reader.

Web Browsers
onQ performs best when using the most recent version of the web browsers, Chrome or Firefox. Safari and Edge are strongly discouraged as these web browsers are known to cause issues with onQ.

Internet Speed
While wired internet connection is encouraged, we recognize that students may be relying on a wireless connection. A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended. To test your internet speed, https://www.speedtest.net/

For technology support ranging from setting up your device, issues with onQ to installing software, contact ITS Support Centre https://www.queensu.ca/its/itsc