

Division of Natural Science

<http://natsci.info.yorku.ca/>

Course Outline

NATS 1830, Section A, Mysteries of Everyday Materials  
Fall- Winter , 2017-2018  
Tues/Thursdays, 1-2.30 pm, SLH A

Course Instructor(s) and Contact Information

Raji Iyer  
Chemistry Building- CB 448  
416-736-2100 x22954

Course mailbox: [ns1830@yorku.ca](mailto:ns1830@yorku.ca)

Course website: <https://moodle.yorku.ca>

Office hours: Tuesdays 11-12 pm

**Email Policies & Etiquette**

- Emails to the course mailbox should always be sent from a yorku.ca account. Emails from other accounts (hotmail, gmail, yahoo, etc.) may be marked as spam and may never reach the course mailbox.
- When composing emails to the course mailbox, always be sure to include your full name and student ID. Failure to include this information may result in a delayed reply.
- All emails are read and responded to by a Teaching Assistant (TA). If you need to contact the Course Instructor about a confidential matter, enter PERSONAL for the subject line. Your email will be forwarded to the Course Instructor's email address. If you prefer, you can wait until you receive a reply from the Course Instructor before providing any details.
- The course mailbox is monitored by the Course Instructor to ensure the accuracy of information as well as to ensure that respectful and courteous communication is being maintained between students and TAs.
- Emails will typically be responded to by the next business day. Emails marked as PERSONAL may occasionally take an additional business day, depending on when the email is forwarded to the Course Instructor.
- Please refrain from using URGENT in email subject lines. All emails are responded to in the order of when they are received.

**NOTE:** Before sending an email to the course mailbox, please take a moment to refer to the Course Outline, as the Course Outline contains the answers to most questions that students have. By checking the Course Outline first, you're likely to get a faster answer!

## Course Description

We live in a material world. To understand the matter that makes up this world around us, we need to appreciate and recognize that Chemistry- the study of matter is at the heart of it all. Our daily lifestyle - tapping into energy, food stuffs consumed, our clothing, medicines, our environmental concerns all have their connections to chemistry. Indeed, from the moment you begin your day with that toothpaste, to travelling in your car, to the clothes you wear, your food that you consume, your smart phone that you use you will reckon with the magic and wonder that is “Chemistry”. Ever wondered about that universal compound “water”? How does a battery work? Why does nothing stick to Teflon? The answers to these and many mysteries of daily life lie in “Chemistry –the Central Science”. Conversion of raw materials into valuable products requires knowledge of chemistry. We understand how life is carbon-based and computers are silicon-based. Indeed, chemistry is ubiquitous and all pervading. Learn how chemistry has evolved through the years leaving its long lasting impact stretched out across the fore-finger of time. Through interactive lecture, in-class discussions and activities, we will journey through the chemical world and discover the power of chemistry and how the chemical structure of matter governs its reactivity and properties.

This course will involve a combination of lecture, interactive exercise using inquiry, case studies and short video clips to enhance the learning process. Reinforcement of material via class discussions/presentations, report writing , formal tests and online homework will be the modes of assessment.

A more complete course syllabus will be made available on Moodle. No previous background in chemistry (or any science) is required in order to be successful in this course.

## Course Learning Outcomes

The goal of this course is to introduce students to an understanding of the scientific process and scientific thought and how we visualize chemistry in our daily life, the connection between structure of chemical molecules, their properties and the connection between the macroscopic world to happenings at the molecular level. Application of chemistry in our daily life will be presented in an ongoing manner throughout the course via case studies and examples illustrating chemical concepts. Students will be able to apply these concepts to common applications in daily life and to make decisions regarding the most appropriate materials for a given purpose and the role of chemistry plays in our lives.

Upon successful completion of this course, students should be able to:

- Describe the chemical structure of a given substance or material, both verbally (written and oral) and visually (with pictures, 3D models, etc.).
- Classify substances, materials and properties into appropriate categories.
- Identify relevant properties and materials for a given application.
- Explain or describe the connection of chemistry and its relevance to society
- Communicate effectively a clear and scientific understanding of chemical issues
- Apply key chemical concepts to make predictions about the structure and/or properties of a substance or material.
- Gain a critical appreciation by evaluating media reports on chemical science.
- Work effectively in groups to achieve learning goals.

## Evaluation

The final grade for the course will be based on the following items weighted as indicated:

Online Quizzes	8%	Biweekly
Case Studies	8%	September 28, January 25
Mid-Term	20%	December last day of class
Quizzes (4 x 6%)	24%	October 19, Nov 16, Feb 22, March 15
Report	10 %	Due January 18
Final	30%	Final exam period

Note that “In order to be fair and consistent to the entire class, individual grades are not negotiable and “extra credit” assignments are not provided at any point during or after the course. Please contact the instructor about a grade only if there is a clear error (calculation, clerical, etc.) within two weeks of the grade being made available to you.” No extra credit or assignments or artificial grade increases may be negotiated.

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.).

Note: Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles. See The Senate Grading Scheme and Feedback Policy at <http://www.yorku.ca/secretariat/legislation/senate/gradfeed.htm>

NOTE: University regulations require course evaluation schemes are fixed at start of term. Hence there are no opportunities for extra credit assignments or grade “bumping”. This is ensure fairness to all students and equal opportunity to succeed.

## Course Materials

### Required Text:

- Foundations of College Chemistry, Hein, Arena, Willard, Heller and Snyder, York University Custom Edition, Fifteenth Edition, John Wiley & Sons Inc., 2016. ISBN 978-1-119-33275-6

Available at the York Book Store.

### Recommended Readings:

1. Visualizing Everyday Chemistry, Douglas P. Heller & Carl Snyder, John Wiley & Sons, Inc, 2016
2. Chemistry in Context: Applying Chemistry to Society; A Project of the American Chemical Society, 8<sup>th</sup> edition, McGraw Hill Education, 2015

### Laboratory/Tutorial

This course **does not** have a laboratory or tutorial component.

### Course Content and Format

This course spans two semesters. It consists of two 1.5 hour lectures per week. Assessment of online homework via Wiley Plus will be conducted biweekly. Lectures will be interactive, involving problem-solving, video clips and case studies. There will be two tests, two quizzes and a report. Quizzes will be multiple choice/objective nature ( Fill in blanks or matching).

Mid term and final exam will be a combination of short answers, problems & multiple choice.

Communication of important information pertaining to the course will made be through the course announcements link in Moodle.

### Math Content

The math in this course does not exceed a grade 10 level. Mathematical concepts are restricted to simple arithmetic, numerical comparisons, understanding graphs, logarithm calculations and basic statistical concepts. Math will be done during in-class exercises, where students can obtain help from the Course Instructor or TAs.

### **Questions and Concerns**

Questions and concerns should be directed to the Course Instructor either during class time or weekly office hours. You can also email your questions to the course mailbox ([ns1830a@yorku.ca](mailto:ns1830a@yorku.ca)), where they will typically be responded to by a TA by the next business day, or forwarded to the Course Instructor if they are of a personal nature. Before sending an email, be sure to read the **Email Policies & Etiquette** section (above) to minimize delays in the reply.

### **Missed Deadlines**

All in-class quizzes and in-class assignments are turned in during class time. In-class work will not be accepted for marking outside of the class in which they are assigned.

### **Missed Term Test**

If a term test is missed due to illness, you must email a clear photo or scan of an APS (Attending Physician's Statement; available at <http://www.registrar.yorku.ca/pdf/attending-physicians-statement.pdf>). The APS must be sent to the course mailbox within 48 hours of the missed test.

Missed Quizzes and Exams: Students with a valid reason for missing a quiz, such as illness, compassionate grounds, etc., should have supporting documentation validating their absence. (e.g., doctor's letter) and may request exemption from the Course Director. If the exemption is granted the missed component will be added to the final examination. No make up tests or make- Quizzes!  
There will be one deferred exam scheduled at the same time for all students who miss a midterm or final exam.

### **Conduct during Assessments**

- **In-class quizzes:** In-class quizzes will start promptly at 1.10 pm. During in-class quizzes, all notes, aids and electronic devices must be placed under your chair, and all electronic devices must be turned off . Leaving the classroom is not permitted during this time unless absolutely necessary.
- **In-class assignments:** While completing in-class activities, students are allowed to work in groups and to access their notes or any other resources (unless otherwise indicated by the Course Instructor). Discussion is encouraged and students are welcome to ask for help from the TAs or the Course Instructor.

**NOTE:** Activities such as gaming, texting or social networking have no place in our classroom – they are disruptive and disrespectful to the Course Instructor as well as to other students. To help you to fully engage in the in-class activities (which is likely to result in a higher grade), you should turn off all sources of distracting notifications.

### **Classroom Etiquette**

In order to maintain a comfortable, non-disruptive and enjoyable learning environment, it is imperative that students adhere to the following simple rules:

- Cell phones, pagers, and other noise-making devices must be disabled in volume.
- There should be no talking among students when the Course Instructor is giving class-wide instructions. While in-class activities are meant to be fun and informal, discussion should always be conducted using an “indoor voice”. When working in groups, students are required to be courteous of each other at all times.

### **Grade Reappraisals**

At the end of the course, students will have the opportunity to request a reassessment of any assignments which they feel were marked in error and are preventing them from achieving the next highest letter grade. Such queries may be addressed to the Course Director via email.

### **Copyright and Intellectual Property**

Most of the images shown during class or in the online lectures are protected by copyright law, which allows educators to share short excerpts of copyright material for educational purposes. However, it is illegal for students to share or distribute copyright materials. Students who violate copyright law are at risk of being sued by the owners of the material. Some examples of illegal distribution include:

Sharing photographs of slide presentations, either online or in the classroom.

Copying the lecture videos and posting them on a web site

Posting photographs or screen captures of the lecture videos on a website

Printing out photographs or screen captures of the lecture videos and making the printouts available for distribution

The best way to ensure that you are not in violation of copyright law is to use the course material as it was intended – namely, watch the videos at their existing locations and do not download or copy them. If you come across an image or diagram that you'd like to share with someone outside of the class, you can access the image from its original location, which is provided on the slide containing the image.



**Important Sessional Dates**

Sessional start and end dates, drop deadlines, withdrawal dates and holidays are listed at the Office of the Registrar’s website at <http://www.registrar.yorku.ca/enrol/dates/>.

**Academic Honesty and Integrity**

Academic honesty requires that persons do not falsely claim credit for the ideas, writing or other intellectual property of others, either by presenting such works as their own or through impersonation. Similarly, academic honesty requires that persons do not cheat (attempt to gain an improper advantage in an academic evaluation), nor attempt or actually alter, suppress, falsify or fabricate any research data or results, official academic record, application or document. Finally, academic honesty requires that persons do not aid or abet others to commit an offence of academic dishonesty, including intentional acts to disrupt academic activities. Suspected breaches of academic honesty will be investigated and charges shall be laid if reasonable and probable grounds exist.

During assessments (eg, quizzes and tests), all unauthorized technology and materials must be placed under the student’s chair and should not be accessed at any point during the assessment. Failure to comply with this directive may be considered a break of academic honesty.

Please familiarize yourself with the full Senate Policy on Academic Honesty, found at <http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>.

Please also familiarize yourself with the SPARK Academic Honesty tutorial found at <https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>.

**Academic Accommodation for Students with Disabilities**

York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs.

The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses.

Please familiarize yourself with the full Senate Policy on Academic Accommodations for Students with Disabilities, found at <http://secretariat-policies.info.yorku.ca/policies/academic-accommodation-for-students-with-disabilities-policy/>.

**NOTE:** Students should submit accommodation letters from Counseling and Disability Services (CDS) to the course instructor within the first two weeks of the course or as soon as issued.

Counseling and Disability Services - <http://cds.info.yorku.ca/>  
York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

### **Religious Observance Accommodation**

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Information on religious observance accommodations can be found at <https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs>.

**NOTE:** A student registered with CDS, and choosing to write their quizzes and tests in the Alternate Exam Centre, is responsible for making the appropriate writing arrangements within the timeframes outlined by the Alternate Exam Centre.

Alternate Exam Centre - <http://altexams.students.yorku.ca/>

**NOTE:** Students who have an academic conflict as a result of a religious observance, at any point in the term, should make the instructor aware of the conflict at least **three weeks** prior to the date of the conflict.

### **Student Conduct in Academic Situations**

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect and to refrain from actions disruptive to such a relationship. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. York's policy and procedures regarding disruptive and/or harassing behaviour by students in academic situations can be found at (<http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/>).

### **Student Conduct in Online Forums**

When and if making use of a course's online forum, students are required to maintain courteous and respectful communication. Recognize that the Moodle platform is an electronic version of a regular classroom. As such, the University's Student Code of Conduct continues to apply (<http://www.yorku.ca/oscr/pdfs/CodeofRightsandResponsibilities.pdf>). Violation of the Student Code of Conduct will result in immediate loss of access to Moodle, and any further applicable consequences in accordance with the Code.

## Division of Natural Science Resources

### **NATS-AID** (<http://natsci.info.yorku.ca/nats-aid/>)

Free peer tutoring for students enrolled in Natural Science Courses.

### **M-AID in NATS (Math Aid)** (<http://natsci.info.yorku.ca/m-aid-in-nats/>)

Free one-on-one math help for students enrolled in Natural Science Courses (TA tutors)

## Other Resources

### **Learning Commons** (<http://www.library.yorku.ca/cms/learning-commons/>)

The Learning Commons brings together key supports for your learning, including writing, research, learning skills and career services.

### **goSAFE** (<http://www.yorku.ca/goSAFE/>)

goSAFE is a complimentary service provided to the York Community. At the Keele campus, goSAFE has two routes: North Route & South Route which will safely transport community members by vehicle from one specified hub to another on campus. goSAFE operates seven days a week, all year round, including University closures (with the exception at Glendon during the Christmas holiday closure).

Call the goSAFE office at 416-736-5454 or extension 55454 during hours of operation. Please give your name, location and destination.

### **Mental Health & Wellness at York University**

(<http://mhw.info.yorku.ca/resources/resources-at-york/students/>)

This service provides a variety of resources available to support mental health and wellness

### **Good2Talk** (<http://www.good2talk.ca/>)

24 hour Helpline for post-secondary students

1-866-925-5454