NANO*1000
Introduction to Nanoscience
Fall 2017 Course Outline

Instructor:
Dan Thomas, Department of Chemistry, SCIE 2504, x53961

Lectures: Mon, Wed, Fri. 8:30 - 9:20 in MACK 227

Textbook

We will not be using a textbook, but will be referring to your other science course textbooks as well as resources in the library and on the web.

Course Material

This course is designed to be an introduction to the field of nanoscience, to establish a educational community, and to aid all of you in your transition to the university learning environment. It is also the objective of the course to demonstrate the connection between nanoscience the other sciences and mathematics. The hope is that the interdisciplinarity of nanoscience will create a context for the study and learning of all scientific disciplines.

We also hope that you will find the learning environment to be unique and stimulating and provide you with learning skills and perspectives that will help you throughout your university career and on into a lifetime of learning.

Professional and Academic Integrity

You are entering a career as a scientist. The success of modern science demands that everyone approach their studies and research with complete integrity. No falsifying of data. No claiming as your own the work of another. A scientist of integrity begins with a science student of integrity. The University of Guelph is committed to helping you develop your professional integrity. As such, you are asked to pursue your studies with complete integrity. We will investigate what this means and help you to see how to achieve this now and throughout your career. The university has developed a site to help you understand academic integrity and how to apply it in your studies. You can find that material here. www.academicintegrity.uoguelph.ca

Class Preparedness

Bring pen, paper, calculator, lap-top computer to classes. We want to be using these a lot because you will often be working in small groups. Learning is all about participation. We are going to try to give you many opportunities to be engaged in your education. Please come every time to class and come prepared to be an active participant.

Learning Resources for Students

Here is a collection of resources, services, and technologies designed to help make the transition to university learning smooth and successful. Visit the library's website to get help with studying, writing, and learning how to use the library to research your subjects of interest. Get Assistance!

Tutoring at Guelph (TAG)

The university sponsors an online registry to help connects students seeking tutoring help in a specific subject area with other students who want to offer that help. If you are looking for a tutor, this is the site to go to. Find or Become a tutor

Free Resources

But before spending money on a tutor, be sure to check out the various free resources that have been made available. Look here Some Free Help

Course Content

The course has three major aspects to it:

(1) Peer instruction through POGIL (Process Oriented Guided Inquiry Learning). Here you will be working in class in small groups (about 4) to learn together about the science and issues related to nanoscience and nanotechnology. Each day you will connect to CourseLink (the university's course management system, also known as Desire to Learn or D2L) and work together addressing a variety of ideas.

(2) We will have 10 guest speakers who are working in the area of nanoscience. They will come on five Fridays (2 at a time) and speak to you about their personal journey that brought them to nanoscience and life as a scientist. You will need to take a few notes and write a paragraph about how their experiences and activities are influencing your own perspective on your future education and career.

(3) You will select a nanoscience topic on which to write a 1500 word essay describing these things to an educated layperson. We will discuss how to find, read, and analyze scientific papers and how to incorporate their findings into your work in a manner that preserves the integrity of the scientific communication process. Your papers will all be submitted electronically and reviewed by myself and your peers in a double-blind manner. You will be able to take the reviewers comments and edit your paper before final submission. You will all be reviewing three peer's papers and your comments will also be evaluated by me for grades.

Below is a calendar and a table of various due dates.

Semester at a Glance Fall 2017

		Mon	Tues	Wed	Thurs	Fri
Sept	0	4	5	6 Meet the Majors	7	8 First Class
	1	11 POGIL	12	13 POGIL Choose guest speaker to interview and introduce.	14	15 Using EXCEL
	2	18 POGIL	19	20 POGIL	21	22 Guest Lecture #1
	3	25 Response #1 Due POGIL	26	27 POGIL	28	29 Anatomy of a Paper
Oct	4	2 Strategic Search Strategies	3	4 POGIL Select topic for paper	5	6 Guest Lecture #2
	5	9 Thanksgiving Break	10	11 Academic Writing and Integrity Response #2 Due	12	13 POGIL
	6	16 POGIL	17	18 POGIL	19	20 Guest Lecture #3
	7	23 Response #3 Due POGIL	24	25 POGIL	26	27 POGIL
Nov	8	30 POGIL	31	1 POGIL	2	3 Guest Lecture #4
	9	6 Response #4 Due POGIL	7	8 Performing Peer Review	9	10 Manuscript 1st draft due POGIL
	10	13 POGIL	14	15 POGIL	16	17 Guest Lecture #5
	11	20 Response #5 Due POGIL	21	22 Peer Reviews Due POGIL		24 POGIL
Dec	12	27 POGIL	28	29 POGIL	30	1 Thanksgiving make-up. Last Class Day Final Manuscript Due
	13	4 Exams Begin	5	6	7	8
	14	11	12	13	14	15 End of Exams

Course Evaluation:

Four Academic Modules 60% (8 x 7.5%)

Assignment	Date	Topic	Value
Quiz 1 and 2	various dates	Water Purification	2 x 7.5%
Quiz 3 and 4	various dates	Solar Photovoltaics	2 x 7.5%
Quiz 5 and 6	various dates	Integrated Circuits	2 x 7.5%
Quiz 7 and 8	various dates	TBA	2 x 7.5%

Guest Lecturer Module 10%

Assignment	Due Date	Topic	Value
Response Paper #1	Monday, Sept. 25 at 11:59 P.M.	Guest Lecture Session 1	2%
Response Paper #2	Monday, Oct. 11 at 11:59 P.M.	Guest Lecture Session 2	2%
Response Paper #3	Monday, Oct. 23 at 11:59 P.M.	Guest Lecture Session 3	2%
Response Paper #4	Monday, Nov. 6 at 11:59 P.M.	Guest Lecture Session 4	2%
Response Paper #5	Monday, Nov. 20 at 11:59 P.M.	Guest Lecture Session 5	2%

E-Journal Project 30%

Assignment	Due Date	Topic	Value
Paper for e-Journal	Wednesday, Nov. 20 at 11:59 P.M.	Peer Review	7.5%
Paper for e-Journal	Friday, Nov. 29 at 11:59 P.M.	Content and Expression	15%
Paper for e-Journal		Citations and References	7.5%

UNIVERSITY POLICIES

E-mail Communication
As per university regulations, all students are required to check their <mail.uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

When You Cannot Meet a Course Requirement
When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

Drop Date
The last date to drop one-semester courses, without academic penalty, is Friday, March 10. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar.

Copies of out-of-class assignments
Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Accessibility
The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 53244 or see the website: SAS

Academic Misconduct
The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an ac-

tion on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.