



UNIVERSITY OF CALGARY  
 FACULTY OF SCIENCE  
 NANOSCIENCE PROGRAM  
 COURSE OUTLINE

1. **Course:** NANS 511, Integration of Nanotechnology and Biology for Medical Applications -- Winter 2018

*Lecture 01:* (MW, 18:00-19:15 in SA107)

Instructor Name	Email	Phone	Office	Hours
Max Anikovskiy	m.anikovskiy@ucalgary.ca	(403) 220 3115	EEEL 237A	by appointment

*Course Site:*

D2L: NANS 511 L01-(Winter 2018)-Integration of Nanotechnology and Biology for Medical Applications

Nanoscience Program: Science A 229, 403 220-5341, chem.info@ucalgary.ca

Students must use their U of C account for all course correspondence.

2. **Prerequisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Nanoscience 401.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %
Midterm test (In class, March 7)	35
Presentations	20
Participation	5
Project presentation	15
Final paper	25

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows;

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum Percent Required	95	86	82	78	74	70	66	62	58	54	50

The Midterm Exam will be on **March 7th, 2018**

4. **Missed Components of Term Work:**

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.3](#) of the University Calendar

There is no deferred Midterm examination. In the event that a student misses the midterm or any course work due to illness then an official medical note will be required. Absences must be reported within 48 hrs. If a student misses the midterm for other reasons, then analogous documentation will be required. The course coordinator

will need to see the original documentation (not electronic copy) for review / decision and keep it (or a copy) for their records. The documentation must be provided to the course coordinator within 15 days of the date of the midterm in order for an excused absence to be considered. If an excused absence is approved, then the percentage weight of a legitimately missed midterm examination will be pro-rated among the remaining components of the course (see [Section E.3](#) of the University Calendar).

#### 5. **Scheduled out-of-class activities:**

There are no out-of-class activities scheduled for this course.

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

No class activities will be held outside of scheduled class hours.

#### 6. **Course Materials:**

Some course materials can be downloaded from D2L Nanoscience 511. No textbook is required for this course.

#### 7. **Examination Policy:**

Examinations will be closed book. Non-programmable calculators during examinations will be allowed.

Calculator Feature: the capability to perform calculations electronically on user-entered numerical data without the capability to employ pre-stored or user-entered formulae. This feature is provided by the most elementary calculator, permits the elementary arithmetic operations (addition, subtraction, multiplication and division) and possibly the trigonometric, hyperbolic, exponential and logarithmic operations.

Students should also read the Calendar, [Section G](#), on Examinations.

#### 8. **Approved Mandatory and Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course

#### 9. **Writing across the Curriculum Statement:**

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of those reports. See also Section [E.2](#) of the University Calendar.

#### 10. **Human studies statement:**

Students will not participate as subjects or researchers in human studies.

#### 11. **Reappraisal of Grades:**

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

1. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar
2. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

#### 12. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**

- a. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also

been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**

- b. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- c. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accomodations-for-students-with-disabilities\\_0.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Nanoscience Program, Dr. Farideh Jalilehvand by email [ahugchem@ucalgary.ca](mailto:ahugchem@ucalgary.ca) or phone (403) 220-5353. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question: <http://www.ucalgary.ca/pubs/calendar/current/e-4.html>

- d. **Safewalk:** Campus Security will escort individuals day or night ([www.ucalgary.ca/security/safewalk/](http://www.ucalgary.ca/security/safewalk/)). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- e. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see also [www.ucalgary.ca/legalservices/foip](http://www.ucalgary.ca/legalservices/foip).
- f. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca). SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca). Student Ombudsman, Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca).
- g. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- i. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see [www.ucalgary.ca/wellnesscentre](http://www.ucalgary.ca/wellnesscentre) or call [403-210-9355](tel:403-210-9355).

**Department Approval:**

Electronically Approved

**Date:** 2018-01-09 11:42

## **Course Outcomes**

1. describe major areas of application of nanoscience and nanotechnology in medicine
2. describe approaches to design and fabrication of nanobiosensors
3. explain how nanoscience improves imaging diagnostic techniques
4. interpret and communicate effectively published research in the field of nanobiomedicine
5. generate and communicate effectively research ideas in the field of nanobiomedicine
6. participate actively in a group by contributing to class discussions, generating research ideas, and writing a scientific text