



COURSE OUTLINE

1. **Course:** NANS 401, Design in Nanoscience - Winter 2023

Lecture 01 : TR 18:00 - 19:15 in SA 235

Instructor	Email	Phone	Office	Hours
Dr Simon Trudel	trudels@ucalgary.ca	403 210-7078	SB 417	by appointment
Dr. Stephen Lane	stephen.lane@ucalgary.ca	403 220-2250	EEEL 544	By appointment

There is no textbook for this course.

Reading material will be provided on D2L.

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

In Person Delivery Details:

Classes and laboratories will be in-person, as scheduled.

Re-Entry Protocol for Labs and Classrooms:

To limit the spread of COVID-19 on campus, the University of Calgary has implemented safety measures to ensure the campus is a safe and welcoming space for students, faculty and staff. The most current safety information for campus can be found [here](#).

Course Site:

D2L: NANS 401 L01-(Winter 2021)-Design in Nanoscience

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

Instructors will respond to email inquiries about the course within 1 business day.

For all matters pertaining to the laboratories, contact the Lab Coordinator, Dr. Lane.

Equity Diversity & Inclusion:

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

2. **Requisites:**

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

Prerequisite(s):

Nanoscience 301.

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:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
Laboratories ¹	15%	Ongoing		
Quizzes ²	15%	Ongoing		
Assignments ³	10%	Ongoing		
Termtest ⁴	20%	Feb 16 2023 at 06:00 pm (75 Minutes)	in-person	In class
Term Paper ⁵	20%	Apr 11 2023		
Registrar Scheduled Final Exam	20%	Will be available when the final exam schedule is released by the Registrar	in person	Will be available when the final exam schedule is released by the Registrar

¹ The course includes 5 experiments. For each experiment a pre-lab quiz must be completed on D2L, and a short report submitted after the experiment. Each experiment is worth 3 points (1 for the pre-lab quiz, 2 for the report). Students MUST complete the pre-lab quiz before the start of their laboratory period. Failure to do so means the student will not be able to start the experiment, No extension will be provided, and if the student cannot complete the lab this will not be considered a valid excused absence / missed work, and a grade of 0 will be applied to the entire experiment.

² Quizzes are done in-class at the beginning of class, designed to be completed in 10 minutes. There will be 8 quizzes. Quizzes will tentatively occur on the following dates: Jan 17, Jan 24, Feb 2, Feb 9, Mar 14, Mar 23, Mar 30, and Apr 11th. While dates may vary by one class period, the number of quizzes is fixed. All Quizzes carry the same weight. Students will be given notice the lecture period before should the quiz be postponed (quizzes will not be moved up in the schedule).

³ All assignments are weighted equally. There will be 2 assignments. The first will be assigned Jan 31, due Feb 7. The second will be assigned Mar 28, due April 4.

⁴ In class

⁵ The term paper will consist of a research proposal, where a nanoscience-related project, commensurate with a NANS 502 capstone project, must be detailed. A grading rubric will be provided on D2L. At the start of every tranche of 24 hour being late, a 10% deduction shall be applied to the grade for the Term Paper. After 5 days, a grade of 0% shall be applied, unless prior arrangements are made with the course coordinator (Dr Trudel). The details of this assignment will be provided by end of February, giving at least 5 weeks to complete this Term Paper.

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.

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

This course will have a Registrar Scheduled Final exam that will be delivered in-person and on campus. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

Any missed component must be reported within 48 hours of the initial due date. Failure to do so will result in a

grade of 0 being assigned. Missed components will see their grades re-weighted to account for the missed component.

Deferred assessments (including term test) are not typically available, and are at the discretion of the instructor. The final exam is scheduled and accommodated by the registrar.

5. **Scheduled Out-of-Class Activities:**

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

6. **Course Materials:**

Supplementary reading material, including the lab manual, will be provided on D2L

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

7. **Examination Policy:**

The term test and final exams will be closed-book.

Quizzes must be conducted individually and meant to be closed book. Access to class notes, handouts, D2L and the internet are not permitted.

All examinations (including quizzes, term test, assignment, pre-lab quizzes and reports) must be completed individually.

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 the work. See also Section [E.2](#) of the University Calendar.

The quality of writing will be considered when assigning a grade in handed-in report. Where clarity or grammar are lacking, points may be deducted.

10. **Human Studies Statement:**

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

See also [Section E.5](#) of the University Calendar.

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.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business 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 submit the Reappraisal of Graded Term work [form](#) to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the

- b. **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. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Services:** For more information, see their [website](#) or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- d. **Student Ombuds Office:** A safe place for all students of the University of Calgary to discuss student related issues, interpersonal conflict, academic and non-academic concerns, and many other problems.
- e. **Student Union Information:** [SU contact](#), Email your SU Science Reps: science1@su.ucalgary.ca, science2@su.ucalgary.ca, science3@su.ucalgary.ca,
- f. **Academic Accommodation Policy:**

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Associate Head, Undergraduate by email ahugchem@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

- g. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
[Student Academic Misconduct Policy](#) and [Procedure](#)
[Faculty of Science Academic Misconduct Process](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- h. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed.

Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

- i. **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 [Legal Services](#) website.

- j. **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.

Course Outcomes:

- describe aspects of nanoparticle synthesis
- key methods of nanomaterials characterization
- describe applications of nanomaterials in bio-sensing
- familiarize with hands-on experimental methods of nanoparticle synthesis and characterization
- participate actively in a group by contributing to group discussions and writing a scientific proposal

Electronically Approved - Jan 04 2023 22:38

Department Approval