



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
NANOSCIENCE PROGRAM
COURSE SYLLABUS
FALL 2018

1. Course: Nanoscience 301, Introduction to Nanoscience and Nanotechnology

Lecture Sections:

L01: TuTh 6:00 pm - 7:15 pm, EEEL 161

Instructor	Office	Tel. No.	e-mail address	Office hours
Dr. Simon Trudel	SB 417	(403) 210-7078	trudels@ucalgary.ca	By appointment
Dr. Max Anikovskiy	EEEL 237A	(403) 220-3115	m.anikovskiy@ucalgary.ca	By appointment
Dr. Elmar Prenner	BI 145A	(403) 220-7632	eprenner@ucalgary.ca	By appointment

Desire 2 Learn (D2L) Nanoscience 301

Nanoscience Program Director's Office: SB 417, Tel. No.: (403) 210-7078, e-mail address: nans@ucalgary.ca

To avoid IT problems, it is recommended that the students use their U of C account for all course correspondence.

2. Course Description:

Lectures: Functional definitions of nanoscience and nanotechnology. Understanding/predicting the behaviour of nanomaterials. Investigation of nanomaterials whose properties depend on size. Exploration of a building up approach to design and fabrication of functional nanomaterials. Examination of applications of nanoscience and nanotechnology in society.

3. Topics Covered and Suggested Readings:

Week number	Dates	Topic
1	SEP 6	Scientific Method
2	SEP 11, 13	Scientific Method / Scientific Communication
3	SEP 18,20	Scientific Communication / Self-assembly: definition and energetics
4	SEP 25,27	Self-assembly: definition and energetics / Self-assembly 1
5	OCT 2, 4	Self-Assembly 2/3
6	OCT 9, 11	Self-Assembly 4 / Midterm exam
7	OCT 16, 18	Properties of materials at nanoscale
8	OCT 23, 25	Light-matter interactions

9	OCT 30, NOV 1	Intro to quantum / Qunatum confinement & PIAB
10	NOV 6, 8	Tunneling / Scanning tunneling microscopy (STM)
11	NOV 13, 15	TERM BREAK – NO CLASSES
12	NOV 20, 22	STM cont./Intro to Biosystems
13	NOV 27, 29	Drug carriers/Drug delivery routes
14	DEC 4, 6	Drug delivery routes-2/Nanotoxicolgoy

Term paper: first draft is due Nov 5, 2018; final submission is due Dec 7, 2018

Late submission of the draft will result in a loss of 2 participation marks; late submission of the term paper will result in a 10% mark deduction for each day that the submission is late and a loss of the full mark 3 days past the due date.

Program Director's Approval: Approved by Program Director Date: September 4, 2018