

NANO 250: Capstone / Practicum II
Syllabus, Policies, and Procedures; Spring 2017
Thursdays: 1:00 – 4:50 PM; ED 0843A

Instructor: Kristine Schroeder
Office: HSSR 2638D Telephone: (206) 934-7006
Office Hours: By Appointment
Email: kristine.schroeder@seattlecolleges.edu

Prerequisites: NANO 220 and CWE 101

COURSE DESCRIPTION

This is a unique course that gives students to opportunity to work in a high tech environment and learn skills that will be useful on the job. You will be given or find a sponsor who will help you determine the scope and objectives for your project. Your sponsor could be an outside company, the Washington Nanofabrication Facility (WNF) at the University of Washington, a lab at NSC/UW or at another academic institution. As soon as you can identify a project/sponsor you will work with them to compile a list of learning objectives to guide the project. There is a requirement to include written documentation in the learning objectives identified. The written material can take the form of a research paper or standard operating procedure (SOP) document(s) or a combination of the two depending on the nature of your project.

The group of students in NANO 250 is the heart of the nanotechnology program at North. Succeeding in your internships is a critical part of developing the skills you will need to make a career in nanotechnology. At the same time, the success of your project will also show other students in the class and people across the North community and beyond what can be done. For this reason, presentations and demonstrations on the progress of your project will be made throughout the quarter.

COURSE OBJECTIVES

- To make contacts in industry and academia and speak knowledgably with them about micro and nano technologies.
- To demonstrate proficiency in working in controlled environments (chemical, biological or cleanroom) and in techniques required for nano or micro technology applications.
- To document techniques, such as by writing standard operating procedures.
- To present results in and conclusions in a report format.

GRADING

Sponsor Evaluations and Graded Learning Objectives	35 %
Presentations	25 %
Internship/Resume Documents	20 %
Class Participation	10%
<u>Making Learning Visible</u>	<u>10 %</u>
Total	100 %

SPONSOR DOCUMENTS

To pass the course, you will be responsible for getting all of the following documents to me on time:

- **Nanotech Internship Training Agreement** (1:00pm on April 20st)
You should fill out your portion of this document before bringing it to meet with your sponsor. The sponsor should complete the form and then return to you. You should then return it to me as soon as possible.
- **Nanotech Internship Learning Objectives Agreement** (1:00pm on April 20st)
This document, filled out by you and your sponsor together, describes the work you will be responsible for performing this quarter and should be filled out and returned to me as soon as possible.
- **Nanotech Internship Work Logs** (1:00pm on May 4 and 1:00pm on June 15th)
You must spend an average of 12 hours per week doing independent lab work. You will fill out a time log to document your time in the lab.
- **Nanotech Internship Performance Evaluation AND Completed Sponsor-graded Internship Learning Objectives Agreement** (1:00pm on June 15th)
You will be graded by your sponsor based on how well you performed during the internship and met the learning objectives for the quarter. This will be worth 40% of your grade for the course.

If any of these documents (hard-copy) are not within my possession by 1:00pm on June 15th, you will not pass this course.

CLASS PARTICIPATION

We will meet on Thursdays as a group on campus this quarter. You **MUST** attend the ENTIRETY of every meeting of the class and anonymous peer feedback will be required for all class presentations; you will have points deducted from your participation grade if you miss either requirement. Make arrangements now to avoid scheduling conflicts. Please be sure to check Canvas regularly.

REPORTS and SOPs

Documentation of your project will be done through reports, presentations and/or SOPs. An SOP tells how to do an experiment or procedure and is essential to companies doing research, development and production. Lab notebooks are an important part of documenting what you do in the lab. Most companies will provide you with a notebook that they will retain as a record of what you accomplished.

As part of filling out the learning objectives document you, your sponsor and the instructor will determine the appropriate mix of reports and SOPs for your project.

At the end of the quarter you will turn in:

- A short (1-2 page) document summarizing your work
- An official resume (should include a list of your skill set / instruments you've been trained on)

Please make sure you set up an appointment with Meredith Bane in Career Services (meredith.bane@seattlecolleges.edu) about your resume before the end of the quarter. Having an updated technical resume ready to go is an important first step in the job search process.

ACADEMIC ETHICS

Do not cheat. Collaboration (involving **equal** sharing of workload and ideas) is essential (and encouraged!) for performing lab work. Every item turned in, however, is an evaluation of what each individual understands and must be an original work. I will use the policy outlined in the Student Conduct section of the Student Handbook if cheating issues arise.

Plagiarism is not acceptable and can result in receiving a score of zero on the assignment. If you have any doubts or confusion about what constitutes plagiarism, please talk to me before it becomes an issue.

MAKING LEARNING VISIBLE SYMPOSIUM

It is mandatory that you present at the North Seattle College Making Learning Visible Symposium. This will be an opportunity to practice your poster presentation skills. Your poster will focus on your internship or on a specific set of techniques or instruments relevant to your internship experience. The Making Learning Visible Symposium will be held from **9 am – 2pm on Thursday, June 1**. You must be present for at least **2 hours** of that time.

DISABILITY RESOURCES

If you need course adaptations because of a disability, please notify the instructor as soon as possible. You also may find resources through Disability Services CC 2346A; (206) 934-3697; ds@seattlecolleges.edu; www.northseattle.edu/services/disability

This is a tentative schedule and is subject to change. Updated April 28, 2017

Week	Date	Topic of the Day	Intern Presenters
1	April 6	Introduction to NANO 250 Lecture: Oral Presentations	
2	April 13	Lecture: Lab Safety Networking	
3	April 20	Aerospace and Engineering Career Fair	
4	April 27	Lecture/Activity: Scientific Papers and Posters	
5	May 4	Guest Speaker and Activity: Work Instruction/SOPs	
6	May 11	Lecture: Presenting Posters - Tips & Pitfalls Poster Design Work Session	
7	May 18	Guest Speaker: Social Branding, Networking, Resumes – Preparing for STEM Careers	
8	May 25	EnerG2 Lab Tour	
9	June 1	Making Learning Visible Symposium 9 am – 1 pm	
10	June 8		
11	June 15	Collect Documents	

Special Topics may include: Technical Writing, Professional Development Activity, Law (IP, tech transfer, patents, contracts, non-compete)