INFORMATION SHEET

Materials Science and Engineering Project

Lecture Hours: Two 50-minute introductory lectures during the first two weeks of classes and meetings with the instructors during the first eight weeks of the semester as required.

Instructors: Materials Engineering Certificate+ Program Team (Goldstein, Gungor, Hyers, Maroudas, Mountzias, Ramasubramaniam). Professor Maroudas will give the two introductory lectures; the entire team will be involved in meeting with the students and advising them with their project topics.

Room: 154A Goessmann Laboratory
Phone: 545-3617
E-mail: maroudas@ecs.umass.edu
Office hours: Flexible or by appointment
Objective

This one-credit course will provide senior undergraduate and first-year graduate students with substantial experience in conducting independent research on a focused topic in Materials Science and Engineering. The students will gain experience in searching the current scientific literature, preparing a technical report, and delivering a seminar to a professional audience while expanding their knowledge in and understanding of a relevant topic. The topics will be selected by the students from a list of technologically relevant research areas provided by the instructors.

Course Goals

1. To familiarize the students with significant, technologically relevant research areas in Materials Science and Engineering.
2. Experience in conducting independent research on a topic of interest in the engineering and science literature.
3. Experience in preparing professional technical reports and scientific manuscripts.
4. Experience in giving technical presentations to a professional audience.
5. Advancing the students’ knowledge and understanding of a technologically relevant topic in Materials Science and Engineering.

Course Outcomes

- Awareness of current technologically relevant research areas in Materials Science and Engineering.
- Accessing the current state of knowledge on a specific topic in the engineering and scientific literature.
- Ability to prepare detailed technical reports and scientific manuscripts on specific research topics.
- Ability to deliver effectively technical seminars to a professional audience.

Outcome Measurement and Assessment

- 1 comprehensive project report
- 1 30-minute research presentation

Grading

Project report (50%)
Research seminar (50%)