Course Outline

Proposed course name: Materials Electrochemistry and Corrosion Processes
Course number: 9594
Planned: Winter 2019

Instructor: David Shoesmith
Email & tel: dwshoesm@uwo.ca : 86366, 86154
Schedule: Tuesday and Thursday: 0830 to 1000

Target audience: Graduate students in Physical Chemistry and Chemical Engineering

Pre-requisites: Undergraduate level understanding of electrochemistry and aqueous solutions

Topics:
- Corrosion Thermodynamics
- A general description of corrosion reactions
- The electrochemical basis of corrosion kinetics
- Electrochemical techniques to study corrosion processes.
- Microscopic and spectroscopic techniques used to analyze corroded surfaces.
- Basic metallurgy
- Localized corrosion processes (pitting, crevice corrosion, intergranular corrosion ……)
- Corrosion Protection (if time allows)

Special:

Material: Course notes will be distributed

Practical requirements: None

Helpful reference material:

Evaluation: A sequence of assignments throughout the course.

The fine print - University guidelines on various issues:

The UWO Senate Academic Handbook has specified that the following points should be added to all course outlines:

A. Prerequisites:

B. Medical/Compassionate Excuses: Students missing work for valid medical or other reasons are governed by the regulations https://studentservices.uwo.ca/secure/index.cfm

C. Student Accessibility Services (SAS): Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment,
Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program. Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are encouraged to register with Student Accessibility Services, a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both SAS and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.

For more information, see [http://www.sdc.uwo.ca/ssd/](http://www.sdc.uwo.ca/ssd/)

**E. Academic Offences:** Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: [http://www.uwo.ca/univsec/handbook/appeals/scholastic discipline undergrad.pdf](http://www.uwo.ca/univsec/handbook/appeals/scholastic discipline undergrad.pdf)

**F. Plagiarism:** All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com ([http://www.turnitin.com](http://www.turnitin.com)).

**G. Support Services:** Support is available from the Registrar: [http://www.registrar.uwo.ca](http://www.registrar.uwo.ca), via the university students council ([http://westernusc.ca/services/](http://westernusc.ca/services/)) and at Student Development Services ([http://www.sdc.uwo.ca/](http://www.sdc.uwo.ca/)).

**H. Mental or Emotional Health:** Students who are in emotional/mental distress should refer to Mental Health@Western [http://www.uwo.ca/uwocom/mentalhealth/](http://www.uwo.ca/uwocom/mentalhealth/) for a complete list of options about how to obtain help.