



UNIVERSITY OF CALGARY

DEPARTMENT OF CHEMISTRY COURSE OUTLINE WINTER 2015

1. **Course:** Chemistry 701.21, Applications of Electrochemistry

Instructor: Viola Birss Office: ES656 Tel. No. 403-220-6432 e-mail address: birss@ucalgary.ca

2. **Prerequisites:** Permission of instructor

3. **Grading:** The University policy on grading and related matters is described sections [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Contributions to weekly and bi-monthly discussions:	20%
Assignments	20%
Review paper:	60%

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.6](#) of the University Calendar

5. **Course Materials:** Textbook chapters and papers will be made available to the student.

6. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**

- (a) **Academic Misconduct:** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: [Calendar entry on students with disabilities](#) and [Student Accessibility Services](#).
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, 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 also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 220-3911 Email: suvpaca@ucalgary.ca.
SU Faculty Rep. Phone: 220-3913 Email: sciencerep@su.ucalgary.ca; [Student Ombudsman](#)
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless

specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

- (h) At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Information on course: This course will focus primarily on reading appropriate textbooks and some literature papers and then producing a literature overview of several key applications of electrochemistry, including various types of corrosion, as well as some classes of fuel cells. The review will be expected to be built around fundamental electrochemistry concepts, including explanations of current/voltage relationships (reaction kinetics/mechanisms) and exhibiting a good understanding of concepts, such as electrode potentials, Pourbaix diagrams, galvanic effects, and spontaneous vs. electrolytic electrochemical cells. Regular meetings will be held to discuss course concepts and some assignments will be given to evaluate understanding of basic principles.

Department Approval: Approved by Department Head

Date: January 14 2015