



Chemistry 613
Fundamentals of Electrochemistry
Fall, 2018

Course Syllabus

LEC	DAYS	TIME	ROOM	INSTRUCTOR	OFFICE	EMAIL	OFFICE HOURS
L01	TR	12:30-1:45	ST061	Viola Birss	ES656	birss@ucalgary.ca	

1. Origin of single electrode potentials, measurement of potentials, reference electrodes, double layers, cell voltages, etc.
2. Current/voltage relationships and electrochemical measurements (cyclic voltammetry, electrochemical impedance spectroscopy, chronoamperometry/coulometry, rotating disc (and rotating ring-disc) electrodes, etc.)
 - (a) Activation Control (Butler-Volmer kinetics)
 - (b) Diffusion Control (reversible, irreversible, effect of convection)
 - (c) Surface Electrochemistry (monolayers, surface films/layers, etc)

4.0 Student In-Class talks

Department Approval: Approved by Department Head Approval Date: September 6, 2018