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Spring 2020

**CHEM 122-002: Fundamentals of Chemical Principles II
(Addendum for Remote Learning)**

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SYLLABUS AMENDMENT

Course: CHM122

Hours: T &TH 100 PM-2:20 PM

Office hours: Tuesdays 2:30 PM-3:30 PM

Instructor: Dr. Farah Rezae

This amendment includes additional information describing how we will continue your Chem 122 courses on-line. We hope that we switch back to normal operating mode before the end of the semester, but if not, we will complete the semester using these online procedures. Note that these procedures may be modified as needed as we all gain experience with this newem. The following procedures will start on Monday, March 23.

- 1) All NJIT students must have access to a computer, per: <https://ist.njit.edu/student-computers/>
- 2) Students log on to [Moodle](#) using their UCID and password to access lessons, participate in discussion forums, upload assignments, and take exams and quizzes. Students need to frequently check their email for updates from NJIT administration and their course.
- 3) All lectures, exams, homework and other work items are to be completed on the schedule in the original class syllabus, ie., classes/lectures/recitations/exams etc. w/ill be completed at the scheduled time.
- 4) Instructors will hold at least the same number of office hours per week as previously scheduled, and unless modified by the individual instructor, the office hours will be on the original schedule. Office hours will use conferencing software such as Webex as set up by the individual instructor.
- 5) Lectures will be given on the Webex platform. You will need to download this app to participate in the lectures. Webex can be downloaded from the NJIT software download site.
- 6) Exams will use the Respondus lockdown browser and WebCam : <http://www.respondus.com/lockdown/download.php?id=264548414> There is an instructional note describing how to set up and use Respondus accessed by a link in this section of Moodle.
- 7) Problem Worksheets will still be used and submitted electronically by scanning or by a picture of the completed homework.
 - o Worksheets will be completed by the student and submitted prior to the related lecture.
 - o Following the lecture, the same worksheet will be completed/corrected and re-submitted
- 8) Both the initial and final worksheet will be graded.
- 9) Moodle Homework will be completed on the original schedule unless modified by the instructor.
- 10) Additional or supplementary topical information may be made available in Moodle as Kaltura video podcasts.

New Class Schedule

CHM 122	OVERALL TOPIC	Topic of Video
17	Spontaneity, Entropy and Free Energy	review of 1st semester material (q, w, E, H)
		entropy - introduced
		entropy - applied (state changes, calculations)
		Gibbs Free energy - introduced
		Gibbs Free energy - 2 methods of calculation
		Gibbs Free energy - nonstandard conditions
18	Electrochemistry	review of 1st semester material (redox rxns)
		balancing redox rxns using H ₂ O, H ⁺ , OH ⁻
		Voltaic (Galvanic) Cells
		standard reduction potentials & predicting the spontaneous direction
		cell potentials, Gibbs Free Energy, K _{eq}
		nonstandard conditions - Nernst Eqn
		electrolysis
19	The Nucleus	radioactivity & types of nuclear reactions
		valley of stability, magic #s, decay series
		kinetics of decay & half-life
		Fission (mass defect, & nuclear binding energy) & Fusion