

ChEE 401a
Fall 2015
Koeffler 216
Wed: 11:00-11:50

Instructor: Don Gervasio, Harshbarger 105b, gervasio@email.arizona.edu,
621-4870 Office hours: TBD
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Course Description: Laboratory of environmental engineering operations. Specifically, students will perform 2 hands-on experiments and develop an Oral-Design-a-Lab. The hands-on experiments include:

Reactor – CSTRs or UV/peroxide oxidation
Reverse Osmosis

Course Objectives: Foster and develop rational thought processes as they pertain to: proficient and safe operation of chemical engineering process units; the analysis of data obtained from chemical process units; the exposition of technical information, particularly elements of expository writing; and teamwork.

Following completion of this course, students will demonstrate the ability to:

- Apply knowledge of mathematics, science and engineering
- Design and conduct experiments, as well as to analyze and interpret data
- Communicate effectively
- Understand the impact of engineering solutions in a global, economic, environmental, and societal context
- Use the techniques, skills, and modern engineering tools necessary for engineering practice

Course Prerequisites: ChEE 420

Course Website: D2L website for ChEE 401A

Lectures

Safety and Lab Tour – Harshbarger Rm 1
Tuesday 9/2 2 pm Tuesday Crew
Wednesday 9/3 2 pm Wednesday Crew

Intro/RO 8/26
Oral/Design Lab 9/2
Writing Reports 9/9
Reactor 9/16
Feedback on labs 10/23 etc.
Concept Review (subject to change) 10/16 etc.
Course Evaluation and ChEE 443 planning 12/2

Grades

3 Labs @ 30% Each – 90%

RO (20% pre-lab, 80% written)

Reactor (15% procedure pre-lab, 20% safety pre-lab, 65% written report)

Oral (20% indiv, 30% group, 40% written, 10% pre-lab)

Attendance/Participation – 10%

Oral Presentation Prelab DUE 9/30

9/9 – Risk Management Lab Safety – If you did not take ChEE 301a or b here – then you must complete the lab safety training and send me verification of completion. If this is not done, you will not be able to participate in lab.

Lab Protocol

- Long pants, closed toed shoes, and safety glasses **MUST** be worn in the laboratory at all times. If you are not dressed appropriately, you will not be allowed to participate in the laboratory experiment and you will receive 2 grades less than your laboratory partners (i.e. An A lab report will become a C for the individual). If you are late for lab or leave early, then you will receive one grade less than your partners.
- Hard hats are always worn in the “pit”. Lab coats are always worn in the “cage”. Safety glasses, coats, and hard hats are provided. All safety glasses must have side-shields. Contacts may not be worn with the Reactor experiments.
- All laboratory data sheets must be signed by the TA or instructor at the end of the laboratory period. All computer data must be sent to D2L within 24 hours of the laboratory experiment.
- Laboratory write ups are due 1 week after the laboratory experiment was completed. They are due at the beginning of the next laboratory class (i.e. 2 pm sharp). Laboratory reports and pre-labs will be penalized 5% per hour for being late. Requirements and rubric will be posted on D2L. All reports need to be submitted to D2L.
- Pre-labs are required for the RO (both weeks). If not complete, you may not begin the lab. These are to be submitted to D2L 24 hours before you start the lab so M at 2 pm or T at 2 pm. They will be checked for completeness at that time.
- Pre-lab for the Reactor lab is due 48 hours after the first time you attend lab (Thursday or Friday at 2 pm). It will be graded and returned prior to your second lab session. Submit to D2L
- Oral labs will be presented to a subset of the class. You are required to attend the entire session in which your group is presenting and part of your grade is based on you asking other groups questions.
- Attendance is expected in the lecture and will affect your participation grade.

Please refer to Syllabus-Part 2 for detailed information regarding plagiarism, student code of conduct, threatening behavior, SALT and important dates.

Changes to the Syllabus: The information contained in the course syllabus, other than the grade and absence policies may be subject to change with reasonable advanced notice as deemed appropriate by the instructor.