

CBEE 507 (1 Cr.) – Seminar
Fall Quarter 2015
School of Chemical, Biological, and Environmental Engineering
Oregon State University
2015.11.13
COURSE SYLLABUS

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Dates: 2015.09.24-2015.12.04
Time: M 1600-1750
Classroom: Gleeson 100

Course Description: (CRN: 20334) Graded P/N. This course is repeatable for a maximum of 3 credits.

Website: <https://oregonstate.instructure.com/>
(Please make sure you have access to the Oregon State Instructure website, since all course materials and announcements will be available there.)

Textbook: CBEE 2015-2016 Graduate Student Handbook; Oregon State University Graduate Student Success Guide.

http://oregonstate.edu/dept/grad_school/docs/student-success-guide.pdf

Grade Policy: P/N – a passing grade is contingent on completing the required tasks below.

Grading: Attendance is mandatory, and only one (1) absence will be allowed. I expect that you will be in class, every time. If you cannot be in class for some reason, I expect that you will notify me ahead of time (in person or via email) that you will not be in class on a certain date and give me some idea of the reason. Most valid excuses are known ahead of time, and in the rare instance that an emergency arises, I expect that you contact me after class to let me know why you were absent. As part of the participation portion of your grade, you are expected to be punctual and minimize disruptions. Cell-phones need to be off during class. Also, no use of laptops or other electronic devices for activity outside of its use in this class will be tolerated. A passing grade is contingent on completing the required tasks.

Course Overview & Objectives: This course is designed to provide incoming graduate students seeking a research based M.S. or Ph.D. with an orientation to the School of Chemical, Biological, and Environmental Engineering. Throughout the course, students will become familiar with the research and research opportunities available in CBEE. By the end of the term, students will identify and rank faculty with whom they are interested in working. In addition, students will learn useful skills including, but not limited to, reading scientific literature, using available tools for literature searching, organizing references, and managing citations within a document. By the end of the course, students will be able to do the following:

- Rotate through two research rotations (if applicable);
- Identify and rank three research opportunities they are most interested in pursuing for their graduate work (including project topic and faculty member);
- Develop a fellowship grant application and, if applicable, submit;
- Locate and complete paperwork required by the Graduate School (e.g., program of study, graduate committee, exam scheduling, etc.);
- Use available technology to perform searches of the scientific literature and the OSU library;
- Use software to organize and manage references and to insert and format citations in a document; and
- Identify and describe the key components of scientific journal articles.

Required Tasks (most of the information is copied from the Graduate Student Handbook):

- Attend every seminar.
- Complete (and presumably submit if eligible) a fellowship grant application.
 - 2015.10.05: Bring five (5) different research ideas to class for discussion.
 - 2015.10.12: Bring a draft research proposal on one (1) targeted research idea to class for peer review.
 - 2015.10.19: Bring a penultimate research proposal to class for peer review.
 - Submit your fellowship grant application – NSF GRFP Engineering: 2015.10.27
- Complete the research *Advisor Selection* process.
 - 2015.11.29: Submit a completed Advisor Selection Form to the Graduate Committee Chair (including a list of top three most preferred advisors).
- Complete *Ethics Training*.
- Complete *Safety Training*.
- Complete a preliminary *Program of Study*.

Advisor Selection: To file a graduate study program, a student must find a research advisor. The respective program Graduate Committee Chairperson will act as or appoint an advisor for all incoming graduate students until a major professor is selected. In conjunction with orientation activities, all research-active faculty will give short presentations about their research and a poster session. All MS/PHD students are required to register for CBEE 507 in the fall term. During this course, you will maintain two separate lab rotations with advisors of your preference. By the end of Fall term, thesis-based students will be paired with major professors on the basis of mutual interest and available projects/funding. The School cannot guarantee each student gets their top choice of advisor, but reasonable attempts will be made to arrive at workable matches.

The choice of a major professor should be given considerable thought, since you will have a close working relationship with this individual for the duration of your degree program, and close professional and personal contacts thereafter. You are expected to complete your degree program under your assigned advisor's supervision (unless exceptional circumstances prevent it). Your major professor will guide your research efforts to completion and oversee all aspects of your graduate studies. The student is also responsible for actively seeking information about individual research projects. Good sources of information are the professors themselves or their graduate students.

Make an initial appointment to see your advisor prior to registering. Your advisor will help you plan your schedule and make sure requirements are fulfilled. **You are, however, ultimately responsible for seeing that you have fulfilled all the requirements necessary for graduation.**

In addition to performing two laboratory rotations during the fall term of CBEE 507, students are encouraged to make individual appointments with faculty they are interested in working with. *Be sure to discuss financial support options with the faculty member when determining a proper fit and project.* Near the end of the Fall term, students will complete an Advisor Selection Form listing their top three choices for preferred advisors. The selection process will be finalized prior to the completion of Fall term.

The respective program Graduate Committee Chairperson will send a letter to each student to inform him/her of the results of this process. The student must sign the "letter of intent" to work with the specific advisor. A student is not allowed to change advisor after signing the letter, unless the student is placed under extraordinary circumstances. If a student needs to change his/her advisor because of funding reasons, the student must file a petition with the Graduate Committee. The Graduate Committee will make a decision on a case-by-case basis.

If a student fails in finding a research advisor, the student may seek for a research advisor outside the School of CBEE. However, any research project offered in a different program must be approved by the respective Graduate Committee within CBEE in order to obtain an advanced degree in chemical or environmental engineering. If no advisor is determined, the student may transfer degrees to a MEng (coursework only) course of study and complete the program without a project.

Ethics Training: As an OSU and CBEE graduate student you will be required to complete the Responsible Conduct or Research for Engineers course offered by the Collaborative Institutional Training Initiative (CITI). OSU has contracted with this organization to offer ethics training for all graduate researchers. To complete the ethics course, find the CITI home page at the following url, and register as a new user. You will need your OSU ID number and our campus address, which is 102 Gleeson Hall, Corvallis OR, 97331.

<https://www.citiprogram.org/default.asp?language=english>

Register for the Responsible Conduct for Research for Engineers course, which contains 14 modules with a quiz after most of the modules. Modules should take about 30 45 minutes to complete. When you complete the course, send your completion report to the School Operations Manager, and they will note the training in your graduate student file. You will also have to provide this information on your program of study form under the ethical research training box. Your Program of Study will be held from submission to the Graduate School until completion of this training.

If the student desires, GRAD 520 may be taken as a replacement to this requirement.

Safety Training: OSU's Environmental Health and Safety department has prepared 8 modules related to safety training for researchers working in laboratories. CBEE is committed to a safe work environment and is using these modules to facilitate safety training.

As a CBEE graduate student you will be required to watch, learn and reflect on these training videos. These videos can be found at the following url:

http://oregonstate.edu/ehs/training/lab_safety_training.

Below is a list of the videos of the videos, which total 97 minutes.

- Modules 1 and 2: Program Overview and Safety Concepts (37 minutes)
- Modules 3 and 4: Safety Equipment and Supplies (29 minutes)
- Modules 5 and 6: Chemical Use and Hazardous Waste (19 minutes)
- Modules 7 and 8: Emergency Response and Additional Information (12 minutes)

Over the Fall term watch each of these videos and prepare a summary of the important concepts and information in each video (four summaries total) using the template found in the Graduate Student Handbook to the Graduate Committee Chair. The chair of the graduate committee will review your summaries and note in your file when you have completed the training.

After you have completed the watching the four videos, acknowledge your training by completed the EH&S web acknowledgement form:

http://oregonstate.edu/ehs/training/lab_safety_training_acknowledgement

Program of Study: All students are required to complete a Program of Study outlining the courses that they will take to complete their degree requirements. The Program of Study is a contract between the student, the School, and the University (Graduate School). For the Masters Programs (MEng, MS), signatures are required by your major professor, your minor professor (if applicable), and the remaining members of your committee. In the case of Doctoral Program (Ph.D.), students must conduct a Program Meeting with all committee members, including the Graduate Council Representative (GCR), who must approve the Program of Study.

All students must then receive the signature of the Associate Head for Research and Graduate Training (Academic Unit Chair) prior to submitting the form to the Grad School. Students should refer to their respective degree for information regarding deadlines for submission: Master; Doctoral.

Prepared forms signed by the advisor must be submitted to the School Operations Manager to obtain the Associate Head for Research and Graduate Training's signature and be turned in to the Graduate School.

Visit the Grad School's "Forms" website for a blank form and instructions on how to complete the Program of Study. There is also an example for in the Appendices for your reference. You may need to reference the Graduate Catalog for further details.

http://oregonstate.edu/dept/grad_school/forms.php#program

****NOTE**** The preliminary Program of Study completed during the CBEE 507 seminar course is not a binding/final Program. It **does not** get turned in to the Graduate School. This is simply an exercise to introduce to the Program form, get you thinking about the courses you will take to complete your degree, and stress the importance of the Program form itself.

Tentative Course Outline (2015.11.13):

Date	Time	Topic	Presenter
2015.09.28	1600-1620	Introduction, Rotation Signup	Travis Walker
	1620-1720	Fellowship Overview: Financing Your Graduate Education	Fran Saveriano & Valery King
	1720-1750	Navigating Graduate School	Jeff Nason
2015.10.05	1600-1700	Fellowship Workshop	Joe Baio
	1700-1750	Literature Review*	Margaret Mellinger
2015.10.12	1600-1700	Peer Reviews	GSA
	1700-1750	Bibliographic Management [†]	Margaret Mellinger
2015.10.19	1600-1750	Peer Reviews	GSA
2015.10.26	1600-1750	A Life Cycle Approach to the Safe Development of Army Nanotechnologies	Jeffery Steevens [‡]
2015.11.02	1600-1750	HP inertial pump and path to low cost microfluidics	Alexander Govyadinov
2015.11.09	1600-1750	The importance of biomaterial surfaces	Marta Cerruti
2015.11.16	1600-1700	Ethics	Lewis Semprini
	1700-1750	Lab Safety	Karl Schilke & EH&S
2015.11.23	1600-1700	Post Grad School Job Hunt	Lynn Ekstedt, Phil Harding, & Skip Rochefort
	1700-1750	IT	Paul Montagne
2015.11.30	1600-1650	Techno-economic Analysis of Glucosamine and Lipid Fuel Production from Cyclotella and Experimental Study on Anaerobic Digestion of Lipid-extracted Algal Biomass	Xuwen Xiang (Kelly)

*Willamette East, Valley Library 3622

[†]Willamette East, Valley Library 3622[‡]Kearney 305