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WELCOME

Welcome to Oregon State University (OSU) and the School of Chemical, Biological, and Environmental Engineering (CBEE). This handbook is intended to help you get settled and answer some of the questions you might have as a new graduate student in our school. If, after reading the contents, you have unanswered questions, please feel free to ask for help. The staff, faculty, and fellow graduate students in the School are available and willing to help solve any issues as they arise. Additional information on deadlines, procedures, and requirements is provided by the current Oregon State University Graduate Catalog and Guide to Success which may be obtained from the Graduate School: http://oregonstate.edu/dept/grad_school/.

Graduate students in CBEE are responsible for complying with the rules of the University, the Graduate School, the College of Engineering (COE), and the School. In some instances, the requirements of the School are more restrictive than those of the Graduate School. In such cases, the School requirements specified in this document will apply.

The faculty hopes that your time at OSU will be rewarding, memorable, and fruitful.

Anita Hughes, Graduate Program Coordinator
Dr. Jeff Nason, Associate Professor and Associate School Head for Research and Graduate Training
BIOE/CHE/ENVE Committee Chairs (TBD). For questions contact Dr. Jeff Nason.
# Faculty & Staff Contacts

## Academic Faculty & Staff

<table>
<thead>
<tr>
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<tr>
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<tr>
<td>ENVE Graduate Cmte Chair</td>
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<td><a href="mailto:leanth@oregonstate.edu">leanth@oregonstate.edu</a></td>
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<td></td>
<td>CHE: Lucas Freiberg</td>
<td><a href="mailto:freiberl@oregonstate.edu">freiberl@oregonstate.edu</a></td>
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<tr>
<td></td>
<td>ENVE: Ashley Berninghaus</td>
<td><a href="mailto:berninga@oregonstate.edu">berninga@oregonstate.edu</a></td>
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<tr>
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<td>541-737-4881</td>
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<td>School Network Administrator</td>
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<td><a href="mailto:support@engr.oregonstate.edu">support@engr.oregonstate.edu</a></td>
<td>541-737-6516</td>
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GETTING SETTLED
The School of Chemical, Biological, and Environmental Engineering (CBEE) resides in Johnson Hall with satellite facilities in Gleeson, Graf, and Owen Halls.

GRADUATE ORIENTATION PROGRAM
CBEE will hold orientation sessions on September 18th and 19th. Orientation will draw attention to some of the major components of this manual and is required for all incoming students.

ONID ACCOUNTS
ONID is your OSU Network ID. Every student is assigned an ONID account. You must activate your ONID account to register for classes.

To activate your ONID account, go to http://onid.oregonstate.edu and choose “Sign Up For ONID” in the upper-left hand column.
ONID Email is the official communication link that the university uses to communicate with students.

Use your ONID username and password to access email, online course materials, grades, and financial accounts. Among the services you may access are:
ONID Email
Canvas
MyOSU
Google Apps for OSU
OSU's Wireless Networks
ResNet (campus dorm residents only)
Computing Labs
Interlibrary Loan

ONID Support
Support documentation and several video tutorials are posted at the Helpdocs website (http://oregonstate.edu/helpdocs/accounts/onid-osu-network-id).
Phone and email support for ONID is provided by the OSU Computer Helpdesk, 541-737-3474 (http://oregonstate.edu/is/tss/och/contact-get-help-osu-computer-helpdesk).

OSU ID CARD
All OSU students may obtain a student identification card.

Corvallis campus students must visit the ID Center in Memorial Union, 103, after registering for classes at OSU. Photo identification is required (state issued driver's license or ID, passport, or military ID). The OSU ID card is your official identification for using campus services, facilities (door access) and activities, and is valid as long as you are registered for classes. It is scanned at many locations to verify registration. Your OSU ID card is your meal card if you live in university housing.

MyCard is the online card office where students can submit a digital photo of themselves for their initial ID card, view their OSU ID card balance and past card transactions, add money to their OSU Card Cash
or Orange Rewards account, set up "Donors" (contributors other than themselves), and deactivate or reactivate their lost OSU ID card. OSU Card Cash and Orange Rewards is the campus debit account used with your ID card for copies at the library and purchasing food on campus. Card Cash and Orange Rewards are separate from your resident hall meal plan. You can add money to your OSU Card Cash or Orange Rewards at the ID Center or online at http://mycard.oregonstate.edu/. See this website for more information on Orange Rewards, a discount debit plan.

**BUILDING ACCESS**

**KEYS**
Graduate students are granted the authority to carry building and lab keys. All requests for keys must be supported by an academic advisor. Key forms may be picked up in the Main Office (JOHN 116) from the Office Coordinator. The forms must then be taken to the Key Shop where you must present your student ID. The Key Shop is located behind Kerr Administration Building, between McAlester Fieldhouse and the Facilities Shops. It is open Monday ~ Friday, 1100 – 1500.

The security of your keys is quite important for everyone’s safety. It is imperative that any loss of keys be reported immediately to the Main Office. You are requested to exercise the utmost care in the use of your keys. Under no circumstances should you lend your keys to other students or visitors.

**AFTER-HOURS PASSES**
Passes must be obtained from the proper personnel for each building. For Gleeson, Graf, and Johnson Halls, please see the Office Coordinator in the Johnson Main Office. For Owen Hall please see Julie Barlow in Civil and Construction Engineering.

Campus Security patrols all buildings periodically outside of building open hours. Anyone without an After-Hours Work Permit and valid photo ID will be required to leave the building. Office and laboratory doors and windows are to be kept closed and locked when not occupied. Security patrols will lock any open, vacant rooms. Do not let anyone into the building after hours. Individuals who are authorized to be in the building after hours are issued appropriate access codes and keys. Anyone abusing this system will have his/her After-Hours Work Permit revoked.

Passes change color at the beginning of each academic year. You must obtain a new pass each year or risk being escorted from the buildings.

**GRADUATE STUDENT OFFICES**
CBEE graduate student offices/desks are located in various locations of all three of the buildings that we occupy. The Director of Operations in conjunction with your research advisor assigns offices/desk space. Space is limited, therefore, not all students will be granted desk space nor guaranteed a computer. Students on graduate research appointments will be given preference (PhD priority), with
remaining students placed as space permits. For assignments, see the Director of Operations. Once placed, please do not change your desk space assignment without the Director’s approval.

**Cleaning the desk is the occupant’s responsibility.** Please maintain a clean work environment and leave the desk cleaner than when you arrived. Cleaning supplies are available if needed. You are also expected to help keep common areas and shared equipment in graduate student offices clean (e.g., microwaves, refrigerators, whiteboards, study tables, etc.). Grad desks in Johnson are open so the following rules apply.

1. All loose papers, books, documents, and combustible items must be removed from the desk space and locked in the provided locker and/or rolling tower when unoccupied. The desk top must be clear of all materials.
2. There will be no use of outside storage devices, such as cardboard boxes or other storage containers, in the graduate desk area.
3. Small appliances, such as mini fridges, coffee pots, microwaves, etc. are prohibited in the graduate desk areas. There is a kitchenette located on the 3rd floor for all grad students.
4. Rolling towers are to be kept in their designated areas and not removed.
5. The tops of lockers are to be clear of all materials, boxes, plants, etc.

If you have any questions please contact Elisha Brackett through email or by appointment.

**MAILBOXES**

Each graduate student is assigned a mailbox located in Johnson 116. U.S. mail is delivered directly to the Printing and Mailing Center where it is sorted and distributed to the remainder of campus. Campus mail arrives once daily at approximately 0900. U.P.S., FedEx, and other freight carriers deliver directly to Johnson 116 throughout the course of the day. Please check your mailbox regularly for mail, package notifications, returned homework, school circulars, and other information.

All packages are received in Johnson 116. An email notification will be sent alerting you to the arrival of a package. Office hours are 0800 – 1700, Monday-Friday.

Please be sure that all packages and correspondence are addressed properly. The correct address for all mailing or shipping to CBEE is the following:

<YOUR NAME OR YOUR MAJOR PROFESSOR>
CBEE or your major designation (Chemical Engineering, etc.)
105 SW 26th Street
116 Johnson Hall, Your Mailbox number
Oregon State University
Corvallis, OR 97331-2702

Mailboxes are set up for your use and are available to receive USPS items. Tampering in another person’s mailbox is the same as tampering with any standard mail receptacle and is a federal offense.
EMPLOYMENT/PAYROLL

NEW HIRES
If a student is offered employment either via hourly work or an assistantship, new hire paperwork must be completed in order to receive payment for your services. The following steps must be taken:

1. Supervisor must contact Director of Operations with job specifics, and
2. Student must report immediately to the Director of Operations to receive a new hire employment packet.

All employees must have a social security number in order to work. International students should report to the Director of Operations immediately to obtain instructions on applying for a social security number if you do not have one.

TIMESHEETS
Timesheets are found online at http://mytime.oregonstate.edu. Hourly students (e.g., graders, lab workers, etc.) must clock in/out for each shift. Timesheets are submitted on the 15th of each month. GRA/GTA appointments also have a timesheet. These timesheets are for recording sick leave taken or to record time when filling in for another GA who is sick. If there is no sick leave or fill in leave then you simply submit a blank timesheet that verifies just that. Please confirm with the Director of Operations if you are unsure about submitting your timesheet.

PAYCHECK
Payment is distributed on the last non-holiday business day of the month. Direct deposits are available and will take place on the same day. Paycheck stubs for direct deposit recipients are available via the Online Services portal. Payroll checks are distributed to the department via the daily mail delivery at approximately 0900. If you have opted for a paper check, it will be placed in your mailbox upon arrival.

HEALTH INSURANCE
All Graduate Assistants are required to carry health insurance. Insurance may be provided by the university at a low premium cost to you as bargained by the Graduate Student Union. University provided insurance may be waived as long as the student supplies documentation that the outside coverage is equal to or greater than the coverage provided by the University. For more information, enrollment forms, and premium rates, visit the Student Health Services website. Deadline for fall term signup is October 01.

For more information, please see http://studenthealth.oregonstate.edu/graduate-assistant.

Other student health and wellness resources on campus include:

- OSU Student Health Services (http://studenthealth.oregonstate.edu/, 541-737-9355)
- OSU Counseling & Psychological Services (http://oregonstate.edu/counsel/, 541-737-2131)

TELEPHONES

Long Distance Calls
An authorization code is required to make long distance telephone calls. You will be given a code by
your major professor, if you are expected to make such calls as part of your day-to-day research work. The authorization code is unique and is intended for use only by the person to whom it is assigned.

Authorization codes must be kept secure and not given to other people. Codes must not be used for personal calls or purposes other than those intended. Directions on how to make and charge personal calls are provided online via Network Services Telecom website:

http://oregonstate.edu/is/services/network-services/telecom.

**FAX MACHINE**
A fax machine (541-737-4600) is available for student or work-related purposes. Long distance numbers require an authorization code. The fax machine is located in Johnson 116. Please see the Main Office staff for assistance.

**XEROX, OFFICE SUPPLIES, & SCANNER**

The School provides copiers and document scanners, intended for research or teaching purposes only, in Gleeson 102 and Johnson 114. Anyone desiring to make personal copies will need to use resources available on the main floor of the Valley Library. Maintaining the cleanliness and organization of the copy room is important; please do your part.

Copies for class or official use must be approved by a faculty member, but generally, the class TA will make copies for class use. A copier code is required and can be supplied by the Instructor for whom copies are being made.

The scanner is the HP scan-to-PDF machine on the counter. It will scan papers through an automatic document feeder, or the lid can be lifted and papers or books set on the glass. This machine is pre-programmed with the local email address book and will allow you to send a PDF to the desired email address.

Office supplies are for the use of faculty and staff members only. A stapler and hole-punch are available in Johnson Hall inside the main office, room 116 for student use.

**COMPUTER USE**

Computer labs are available in most engineering buildings. They require an engineering account to log in. These computers maintain software for word processing, spreadsheet, and Internet connectivity applications. Options are available for remotely accessing research and other database or modeling software.

School computers are supplied on most graduate student office desks to allow you to perform your research activities and course work, and they should not be used for games or other personal uses during normal business hours (0800 - 1700, Monday – Friday). After hours personal use, within reason (as described by University policy), is allowed as long as others do not need the computers for their research or class activities. Computer use supporting funded research takes priority over use for non-funded research or personal activities. If you are assigned a desk without a computer, please contact your research advisor about acquiring a computer.
Do not copy ANY software onto the School’s computer hard disks without approval from the Network Administrator. Software licensing and disk space availability are two issues that must be considered. The installation of your own personal copies of software on the School’s machines without permission exposes the School to an unacceptable potential liability and therefore cannot be allowed. Please ask permission for the installation and use of your personal software if it is important to your research or coursework. Also, please do not copy any software from the School’s computers without permission. This action, again, violates software licensing agreements.

**COMPUTER USE POLICY**

All use of OSU computer systems must conform to the University’s Policy on Acceptable Use of University Computing Facilities, which is located at


OSU computer systems must not be used for any illegal activity, or for storage or distribution of copyrighted material (e.g., music, videos, e-books, etc.).

If you have any general questions about using University computers, please contact Jordan Jones in Johnson 112 (541-737-6516), or e-mail support@engr.orst.edu for assistance.

**PARKING AND SHUTTLES**

Except in the open or pay lots, all motor vehicles parked on campus from 0700 to 1700, Monday through Friday, must display a valid parking permit. On-street parking is available for up to 2 hours/day in the neighborhoods surrounding the OSU campus, and metered parking is available on Monroe St. (parking in these areas is enforced by Corvallis Police). All parking rules are enforced during posted hours, and citations will be given for unauthorized parking on or around campus.

For more information contact Parking Services at 541-737-2583, or visit their web site at

[http://transportation.oregonstate.edu/parking](http://transportation.oregonstate.edu/parking).

The OSU campus and surrounding areas are served by buses operated by the Corvallis Public Transit System ([http://www.corvallisoregon.gov/index.aspx?page=884](http://www.corvallisoregon.gov/index.aspx?page=884)). All bus service is free, and the buses generally run at 30 minute intervals during the working day from Monday-Saturday (no service on Sunday). The “Night Owl” runs at night (typically 2100 to 0230) Thursday-Saturday.

OSU offers a free campus shuttle service for the convenience of students, staff, and visitors. Beginning this September, the improved OSU Shuttle will be called the Beaver Bus. The name Beaver Bus was previously used for the late night service operated by Corvallis Transit System. That service will resume in October, under the name “Night Owl.” The OSU Beaver Bus will provide expanded shuttle services to transport people from outer parking areas to and around campus.

- **Extended hours of operation:** 0700 to 1900
- **Four buses** serving campus on **three routes** for 33 weeks per year with **5 to 14 minute service loops**
- **Live shuttle mobile apps tracking systems**
SMOKING POLICY

OSU’s Corvallis campus is smoke-free. This policy includes quads, parking lots, and all other foot space within the confines of campus. Please consult the map on the following webpage for the campus boundary

http://oregonstate.edu/smokefree/map.

SPECIAL SERVICES AT OSU

CAMPUSS RESOURCE GUIDE

The campus resource guide is a list of services available to students and faculty. For details, please visit http://gradschool.oregonstate.edu/graduate-student-success/graduate-student-resources.

OSU GRADUATE STUDENT ASSOCIATION

The CBEE Graduate Student Association is a registered student organization dedicated to improving graduate student life in the OSU School of Chemical, Biological, and Environmental Engineering. Group
activities and responsibilities include the planning of social events, administration of the graduate seminar series, representation on the faculty graduate committees, professional and social support structure for current, past, and future graduate students, and continued dedication to the overall improvement of the OSU CBEE Graduate Program. As a student led, student oriented group, active involvement and representation from all graduate students associated with the School is desired and encouraged.

http://stuorgs.oregonstate.edu/cbeegsa

**DISABILITY ACCESS SERVICES (DAS)**

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at [http://ds.oregonstate.edu](http://ds.oregonstate.edu). DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

**OFFICE OF EQUAL OPPORTUNITY AND ACCESS (EOA)**

Contact: Clay Simmons, JD, Interim Executive Director and Chief Compliance Officer 541-737-3389; EOA addresses concerns about bias, discrimination, discriminatory harassment, bullying, and retaliation. Additionally, the Executive Director is the university’s Title IX Coordinator and should be consulted on disclosures of any form of sexual harassment, including sexual/dating/domestic violence and stalking. For additional information, visit their website.

[http://eoa.oregonstate.edu](http://eoa.oregonstate.edu)

**COUNSELING & PSYCHOLOGICAL SERVICES (CAPS)**

Contact: 541-737-2131. You can email from the link below. Counseling and Psychological Services (CAPS) provides a variety of services to the OSU community to address the challenges and difficulties students face. These services are designed to help students understand themselves better, create and maintain satisfying relationships, improve their academic performance, and make healthy and satisfying career and life choices.

[http://counseling.oregonstate.edu/main/our-services](http://counseling.oregonstate.edu/main/our-services)

**CORVALLIS COMMUNITY RELATIONS (CCR)**

Contact: Jonathan Stoll, Director 541-737-8606; jonathan.stoll@oregonstate.edu CCR was established to enhance neighborhood livability and inspire shared responsibility to help foster a healthy, livable and inclusive Oregon State University – Corvallis community. The independence of living on one’s own can be liberating, but extremely challenging for students. CCR connects students with community resources that foster good neighborly behavior and educational tools to educate tenants of their rights and responsibilities.

[http://studentlife.oregonstate.edu/CCR](http://studentlife.oregonstate.edu/CCR)
CAMPUS EMERGENCIES

Contact: Oregon State Police/Public Safety 541-737-7000 or dial 911
If the behavior is placing someone in immediate risk or if a serious or threatening incident occurs in the classroom, academic building or on campus, Public Safety must be contacted immediately.
Several options exist for purchasing supplies for OSU. Please contact the School Accountant to help you get started.

**PURCHASING CARD (PCard)**
The PCard is a quick and convenient way for units to obtain many of the items needed for day-to-day operations. Contact the School Accountant (Lea Clayton, Johnson 116) to make purchases using the PCard.

PCards may be used **only** to purchase goods and some services for the institution. Such purchases must comply with OSU policies governing purchasing and credit card usage. A $4,999 dollar limit per transaction exists.

**Restrictions:** The following are prohibited uses of the card:

- Cash Advances
- Inter-Departmental Expenses
- Any Travel or Hosting Related Expense:
- Transportation Fares - e.g., airfares, bus fares, train fares, ferry, etc.
- Misc. Lodging Charges e.g., room service, movies, phone, laundry service, etc.
- Meals
- Food / Groceries
- Alcoholic Beverages
- Entertainment
- Weapons / Ammunition

See a total listing of prohibited transactions on the Business Affairs website at

[http://oregonstate.edu/fa/businessaffairs/accountspayable/visa_prohibited_uses](http://oregonstate.edu/fa/businessaffairs/accountspayable/visa_prohibited_uses)

**AUTO PAY VENDORS**
OSU has store accounts at various local businesses where OSU faculty and staff may charge business expenses. The monthly statement of all invoices from the vendor are processed by central Accounts Payable rather than by individual departments or schools.

Obtain Index and Activity codes from School Accountant before using a store account. Vendors will require OSU ID when making a purchase. Upon making a purchase, obtain an itemized receipt and forward to School Accountant.

Major participating vendors are Office Max, Office Depot, Grainger, VWR, Azumano Travel, Enterprise Car Rental, Robnett’s Hardware, Bi-Mart, and Corvallis Napa Auto Parts. For a current list of CBEE online vendors, see the appendix in the back.
**OSU INTERNAL SERVICE/SUPPLIES**

Below are OSU departments who provide supplies or services to other OSU departments and bill the receiving department. Check with your School Accountant before you purchase or make reservations for:

- OSU Book Store ([http://osubookstore.com](http://osubookstore.com)),
- Surplus Property ([http://surplus.oregonstate.edu/](http://surplus.oregonstate.edu/)),
- Chemistry Store ([http://chem.science.oregonstate.edu/chemistrystores](http://chem.science.oregonstate.edu/chemistrystores)),
- Printing and Mailing ([http://printmail.oregonstate.edu/](http://printmail.oregonstate.edu/)),
- OSU Motor Pool ([http://motorpool.oregonstate.edu](http://motorpool.oregonstate.edu)),
- Environmental Health & Safety/Hazardous Waste Pickup ([http://oregonstate.edu/ehs/](http://oregonstate.edu/ehs/)).

**DIRECT-BILL TO OSU**

Vendors send individual invoices to OSU departments for supplies or services purchased by authorized personnel for operations.

- Check with vendors to ensure they will bill OSU before ordering.
- Check with School Accountant for purchasing procedures.
- Make purchase and submit receipts/packing slips to School Accountant.
- School Accountant (Lea Clayton, Johnson 116) will process individual invoices for payment as they are received.

**PERSONAL REIMBURSEMENTS**

Use of a Departmental Procurement Card or OSU’s Auto Pay Vendors are the preferred methods for OSU business related purchases. If logistical reasons or extenuating circumstances occur that preclude the use of normal OSU purchasing processes or protocols, employees may (with approval from their manager) make small purchases (less than $100) with personal funds and then subsequently be reimbursed by OSU.

- Only purchases related to OSU business purposes will be reimbursed.
- Get itemized receipts and proof of payment; a personal credit card charge slip alone is NOT valid.
- Submit reimbursement request and backup documents to School Accountant (Lea Clayton, Johnson 116) for processing.
- All reimbursements must be submitted for payment within 60 days of incurring the cost or within 60 days after the conclusion of the travel/field-work during which the expenditure was made.

**Restrictions:**

- NOT for purchase of gift certificates
- NOT for test incentive payments
- NOT for incentive payments to Institutional Review Board (IRB) human subjects
- NOT for equipment rental
Purchases that have been made with personal funds will be reimbursed by OSU when the following documentation is provided:

- Documentation showing purchase and payment by the employee,
- Statement of University business purpose, including intended use.

**TRAVEL**

**TRAVEL PLANNING**
Check with your School Accountant (Lea Clayton, Johnson 116) **before any** travel.

**Conference Registration:**
Conference registration can be prepaid using the departmental procurement card. See your School Accountant for instructions. If registration is processed on a personal card, you will be able to claim reimbursement only **AFTER** completion of the trip.

**FOREIGN TRAVEL**
International travel on grant funding
This travel should be authorized through OSRAA (Office for Sponsored Research and Award Administration). Submit a Foreign Travel Authorization form to your School Accountant, (Lea Clayton, Johnson 116) prior to making travel plans.  
Foreign Travel Authorization Form

Restrictions apply to airfare, check with department accountant, and see Fly America Act.


**AIR TRAVEL**
The University recommends that airfare for university-related travel be booked through the contracted travel agency for direct billing to the university. Travel Agent contact information:
Azumano Travel: azcorvallis@ciazumano.com; 800-334-2929

**MILEAGE IN LIEU OF AIRFARE:**
See your School Accountant (Lea Clayton, Johnson 116) to verify whether specific trips are allowable using mileage in lieu of airfare. A quote for the airfare that would be purchased for the business trip is required. OSU will reimburse mileage up to the amount of the airfare and associated expenses that would have been paid for air travel.

**GROUND TRANSPORTATION**
Vehicle rental:
Cars can be rented through the University Motor Pool or billed through Enterprise or National. See your department accountant (Lea Clayton, Johnson 116) for billing instructions. Rental should be for economy or compact rate whenever possible.

Personal Vehicle:
Private vehicle mileage is reimbursed at the current published Business Affairs rate. As of 1/1/2017, the current rate is $0.535/mile.

**Parking:**
Employees are expected to utilize cost effective parking while in travel status. Parking at Portland airport is authorized up to the Economy Lot rate ($10/day).

**Meal Per Diem:**
Meals while in overnight travel status can be reimbursed at current per diem rates. Meal per diem varies by locality. Current rate by city and state can be viewed at the following link

http://oregonstate.edu/fa/businessaffairs/travel/tres/per_diem_us

On one day trips with no overnight stay, breakfast and/or dinner are reimbursable to the employee as a taxable benefit when their itinerary supports departure/return time as 2 hours prior to/after their regular work shift. Per diem rates may be used. *Lunch is not reimbursed on a one day trip unless it is a part of the meeting and the menu and cost are arranged by event organizers.*

**Lodging:**
Itemized receipts are required for lodging. Reimbursement can be approved up to the maximum per diem lodging amount. An exception for higher rates can be made for conference lodging with documentation showing conference lodging rate. Current rate by city and state can be viewed at the following link

http://oregonstate.edu/fa/businessaffairs/travel/tres/per_diem_us

**Travel Reimbursements**
The fillable Form can be found online here:

http://fa.oregonstate.edu/sites/fa.oregonstate.edu/files/bebc/documents/travel_reimbursement_2015.xlsx

Reimbursement of allowable expenses must be submitted within 60-days of conclusion of travel. These expenses include, but are not limited to, lodging, meal per diem, mileage, car rental, parking, and commercial ground transportation. For receipt requirements or more information, contact your School Accountant (Lea Clayton, Johnson 116).
A current listing of CBEE faculty and staff and their contact information can be found at:

http://cbee.oregonstate.edu/faculty-and-staff

Árnadóttir, Líney

Assistant Professor. Ph.D. Chemical Engineering (2007), University of Washington
Field of interest: surface interactions and catalysis through experimental techniques and Density Functional Theory-based calculations for renewable energy and sustainability; surface characterization of complex materials (thin films, biomaterials, corrosion surfaces) via surface analysis techniques (Time of Flight Secondary Ion Mass Spectrometry, X-ray Photoelectron Spectroscopy), and electronemistry for clean Hydrogen production and fuel cell applications.

AuYeung, Nick

Assistant Professor. Ph.D. Chemical Engineering (2011), Oregon State University
Field of interest: My research is focused on using sustainable energy in the conversion of readily available feed-stocks into fuels, fertilizers, or other useful products. I am very interested in doing these processes in a distributed, decentralized fashion, especially in emerging markets of developing regions. In particular, I am interested in applications of concentrated solar thermal energy such as thermochemical storage for dispatchable power generation.

Baio, Joe

Assistant Professor. Ph.D. Chemical Engineering (2011), University of Washington
Field of interest: Biomaterials Biomimetics Molecular self-assembly

Bothwell, Michelle

Associate Professor. Ph.D. Biological Engineering (1994), Cornell University
Fields of interest: Biointerfacial phenomena: preparation of interfacial coatings that will impart safe, efficacious function to implantable biomaterials; drug formulation and delivery strategies; and enzyme activity in the adsorbed state. Bioengineering ethics: professionalism; bioethics; and social ethics in engineering. Recruitment and retention of folks from traditionally underrepresented groups in engineering: K-12 outreach; and examination of difference, power and discrimination in engineering education and practice.

Chang, Chih-hung

Professor, Ph.D. Chemical Engineering (1999), University of Florida
Fields of interest: Electronic materials (Growth and Characterization), Integrated Micro-Chemical Systems, Thin Film Electronics, and Nanomaterials Processing.

Dolan, Mark

Associate Professor. Ph.D. Civil and Environmental Engineering (1996), Stanford University
Fields of interest: biological processes for the treatment of hazardous wastes, and on the fate and transport of organic contaminants in the environment. He specializes in aerobic and anaerobic microbial transformation of chlorinated solvents. He has been involved in a number of field demonstrations of aerobic cometabolic transformation of chlorinated solvents.
Feng, Zhenxing
Assistant Professor. PhD. Materials Science and Engineering (2011), Northwestern University
Fields of interest: Dr. Feng’s research has been focused in three main directions: energy storage, conversion and harvesting; catalysts for electrochemical and chemical reactions; and development and application of advanced synchrotron based X-ray techniques for in situ real time studies. Dr. Feng has been working on lithium-sulfur, lithium-ion and beyond lithium-ion (such as magnesium batteries, etc.) for storing electricity in chemical and electrochemical forms.

Fu, Elain
Assistant Professor Senior Research. Ph.D. Physics (1997), University of Maryland, College Park
Fields of interest: Research in the lab consists of three areas of focus: the investigation of molecular interactions and fluid transport in microfluidic systems, the development of tools and methods for use in high-performance microfluidic assays, and the implementation of microfluidic assays for clinically relevant analytes. An overall goal is to apply the work in the lab to global health applications in the areas of human disease diagnosis, veterinary medicine, environmental monitoring, and agriculture. In addition, a growing area of interest is undergraduate curriculum development using paper microfluidics.

Giers, Morgan
Assistant Professor of Bioengineering, Ph.D. Biomedical Engineering ( ), Arizona State University.
Primary Field of Interest: Applied visualization of transport phenomena in vivo.

Harper, Stacey
Associate Professor. Ph.D. Biological Sciences (2003), University of Nevada Las Vegas
Fields of interest: Novel approaches to predictive toxicology; assimilating and fusing information on nanomaterial-biological interactions to permit data mining, generate predictive knowledge and provide information to minimize toxicity; the relationships among currently disparate exposure, dose and toxicity data in animal systems (including humans) and the degree to which those relationships can accurately be extrapolated to other systems and exposure scenarios; novel tools to determine nanomaterial characteristics; biological activity and toxic potential of novel nanomaterials; as well as comparative physiology and toxicology.

Herman, Gregory
Professor. Ph.D. Physical Chemistry (1992), University of Hawaii-Manoa
Fields of interest: detailed mechanistic characterization of heterogeneous catalysts using surface science techniques; advance fabrication methods and designs for solid oxide fuel cells; development of green manufacturing processes for displays and solar cells; development and characterization of novel optical and electrical materials; and advancement of flexible electronic manufacturing methods and applications. Currently his research focuses on the development of sustainable technologies for the production of materials, energy, and water resources using catalytic processes. Prior to joining OSU he held research staff and postdoctoral positions at Sharp Laboratories of America, Hewlett-Packard Corp., Pacific Northwest National Laboratory, and the Naval Research Laboratory.

Higgins, Adam
Associate Professor. Ph.D. Bioengineering (2008) Georgia Institute of Technology
Fields of interest: Cell and tissue preservation technologies (cryopreservation, freeze drying, desiccation, hypothermic storage). Cell-based devices such as biosensors. Cell membrane permeability. Nucleation and crystal growth processes in multicomponent systems. Applications of microscale
fabrication technologies in biology and medicine (e.g., bio-MEMS).

**Jovanovic, Goran**  
*Distinguished Professor, Ph.D. Chemical Engineering (1979), Oregon State University*  
Fields of interest: microscale technologies started in the late eighties when his team developed a semiartificial pancreas, a technology based on the cell encapsulation technique. Currently his research is focused in two microscale technology areas: development of microscale chemical reactors and separators suitable for the development of microscale based chemical processes (NSF), and the development of microscale biosensors devices (DARPA). Dr. Jovanovic is, also, leading research projects in the development of “Zero gravity-compatible chemical processes for long space missions” (NASA) and “Environmental microreactors for in situ deployment” (INEEL).

**Kelly, Christine**  
*Associate Professor, Ph.D. Chemical Engineering (1997), University of Tennessee*  
Fields of interest: Biotechnology: Development of yeast and bacterial strains, through genetic engineering techniques, to produce valuable enzymes and products from waste biomass feed stocks. Optimization of cultivation conditions to achieve maximum product concentration. Effect of toxicants on wastewater treatment microbial communities. Teaching: regulation of drugs and medical devices, bioengineering design, and cell culture and tissue engineering applications.

**Koretsky, Milo**  
*Professor. Ph.D. Chemical Engineering (1991), University of California at Berkeley*  
Fields of interest: Electronic Materials Processing. Research interests in thin film materials processing, including plasma chemistry and physics, electronemical processes and semiconductor yield prediction. Teaching interests include integration of microelectronic unit operations into the ChE curriculum and thermodynamics. Dr. Koretsky also serves as the ChE advisor to the MECOP internship.

**Montfort, Devlin**  
*Assistant Professor. Ph.D. Civil Engineering (2011), Washington State University.*  
Field of interest: Engineering Education including Conceptual and Epistemological Undercurrents of Learning as a Process of Change

**Nason, Jeff**  
*Associate Professor, Associate Head for Graduate Programs. Ph.D. Civil Engineering (2006), University of Texas*  
Field of interest: Physical/chemical treatment processes, particle dynamics and removal during water and wastewater treatment; environmental fate and transport of engineered nanomaterials, aquatic chemistry, stormwater characterization and treatment.

**Navab-Daneshmand, Tala**  
*Assistant Professor. PhD. Environmental Engineering McGill University, Montreal*  
Field of interest: The inactivation, growth and persistence of bacterial pathogens in the environment and treatment processes. She investigates these problems with microbiology, molecular biology, process engineering and statistics.

**Radniecki, Tyler**  
*Assistant Professor. Ph.D. Environmental Engineering (2005), Yale University*  
Field of interest: Molecular characterization of biological processes in engineered treatment systems, risk assessment of emerging contaminants and water and energy sustainability through the anaerobic
treatment of wastewater. Current research projects include: characterizing the ecotoxicity of silver nanoparticles to nitrifying bacteria, assessing the ability of bacteria to develop antibiotic resistance after chronic exposure to environmental concentrations of pharmaceuticals, and enhanced methane production from the co-digestion of fats, oils and greases (FOG) in wastewater anaerobic digesters.

Rochefort, Skip  
*Associate Professor.* Ph.D. Chemical Engineering (1986), University of California at San Diego  
Field of interest: polymer engineering and science, with a focus over the last few years on biomaterials, and engineering education. He is Director of both OSU and College of Engineering Precollege Programs, is an OSU Honors College faculty,

Rorrer, Greg  
*Professor.* Ph.D. Chemical Engineering (1989), Michigan State University  
Field of interest: Biochemical Engineering, Bionanotechnology, and Biomass Conversion.

Schilke, Kate  
*Assistant Professor.* Ph.D. Chemical Engineering (2006), Oregon State University  
Field of interest: Development of peptide-based bioactive surface modifications for biomedical devices, and applications of immobilized biomolecules in microreactors and lab-on-chip devices.

Semprini, Lewis  
*Distinguished Professor.* Ph.D. Civil Engineering (1986), Stanford University  
Field of interest: biological processes for the treatment of hazardous wastes, and on the fate and transport of organic contaminants in the environment. He specializes in field, laboratory, and modeling studies of aerobic and anaerobic processes for treating chlorinated solvents. His research efforts aim at integrating the results of field, laboratory, and modeling studies in order to effectively apply the technology in the field. He also performs research using naturally occurring radon-222 as a subsurface tracer.

Simon, Cory  
*Assistant Professor.* Ph.D. Chemical and Biomolecular Engineering (2017), UC. Berkeley  
Research interests: modeling flexible/dynamic, porous materials that respond to guest molecules and external stimuli. Flexible constituents in porous crystals give rise to rich behaviors that can be exploited for engineering processes and may endow materials with enzyme-like specificity for the selective recognition and capture of molecules. Insights from modeling are highly valuable for learning how to harness these flexible materials for separations, chemical sensing, and drug delivery.

Sweeney, Jim  
*School Head and Professor, James and Shirley Kuse Chair in Chemical Engineering.* Ph.D. Biomedical Engineering – Case Western Reserve University, 1988  
Field of interest: Bio- and environmental sensors, bioelectricity, implanted medical devices, neuromuscular stimulation, and engineering education.

Wildenschild, Dorthe  
*Professor, Associate Dean for Graduate Programs.* Ph.D. Civil and Environmental Engineering (1996), Danish Technical University  
Field of interest: Physics and chemistry of flow and transport in porous media, generally applied to the subsurface environment. Her main focus is detailed and highly controlled experiments (addressing flow, mass transfer, microbial behavior, heat transfer, and acoustic and electrical properties) that can help us
evaluate new theory and numerical models. She believes that very accurate experiments are needed to
test theory and models alike, then uses numerical models to expand investigations beyond the
potential constraints of experiments. Recent projects involve the use of x-ray microtomography and
pore-scale modeling to evaluate pore-scale processes (interfacial characteristics, film formation, biofilm
behavior) in porous media in the presence of multiple phases.

Wood, Brian
Professor. Ph.D. Civil and Environmental Engineering (1999), University of California at Davis
Field of interest: description of mass, momentum, and energy transport in natural and engineered
multiscale systems. He also specializes in subsurface hydrology; bioremediation and bionemical
processes; water and wastewater treatment; and sustainable design and engineering. Brian Wood's
current research projects include: (1) Experimental and theoretical work examining the transport of
microorganisms in porous media from a multiscale perspective (NSF); (2) Theoretical work on the
fundamentals of describing reactive solute transport in highly heterogeneous porous media systems
(NSF); (3) Investigations of how biofilm structure affects solute transport and reactions in biofilm
porous media systems (DOE).
RESEARCH FACILITIES AT A GLANCE

The School of CBEE is housed primarily in Johnson and Gleeson Halls on the OSU campus. The School also maintains research and teaching laboratories in Graf Hall and Owen Hall on the OSU Campus and shares laboratory space at the Advanced Technology and Manufacturing Institute (ATAMI) on the Hewlett-Packard campus in Corvallis. Specific laboratories in CBEE are

- Biomass Conversion & Bioprocess Engineering Laboratories (Johnson Hall, Gleeson Hall)
- Biomaterials & Biointerfaces Laboratory (Johnson Hall)
- Cryopreservation Laboratory (Johnson Hall)
- Environmental Analytical Laboratory (Johnson Hall)
- Environmental Molecular Biology Laboratory (Johnson Hall)
- Microtechnology-based Chemical Processing Laboratories (ATAMI, Gleeson Hall)
- Process and Reaction Engineering group (PRE)
- Oregon Process Innovation Center (OPIC) for Solar Cell Manufacturing (ATAMI)
- Polymer Materials Processing & Characterization Laboratory (Gleeson Hall)
- Porous Media Flow Characterization Laboratories (Johnson Hall, Owen Hall)
- Subsurface Bioremediation Laboratories (Johnson Hall)
- Thin Film Materials Processing & Characterization Laboratories (Gleeson Hall, Graf Hall)
ACADEMICS

GENERAL INFORMATION

Graduate students are expected to read the academic policies governing graduate students listed on the University website, which include but are not limited to the Graduate Catalog on the Graduate School’s website and the Student Conduct Regulations. The information in this manual addresses only a few topics within those policies.

ACADEMIC PERFORMANCE

A grade-point average of 3.00 (a B average) is required: for all courses taken as a degree-seeking graduate student, and for courses included in the graduate degree or graduate certificate program of study. Grades below C (2.00) cannot be used on a graduate program of study. A grade-point average of 3.00 is required before the preliminary, final oral, or written exams may be undertaken.

GRADUATE ASSISTANTSHIPS

All graduate assistants are required to carry out the duties assigned by their faculty supervisor to justify their stipend.

University policy dictates that a graduate assistant (GRA/GTA) must be enrolled for no less than 12 credit hours in any term in which he or she is supported, except for summer term which requires a minimum of 3 credit hours.

Additionally, students who hold multiple jobs on campus may not work more than a total of 20 hours per week or 255 hours per term in total for all positions held while enrolled in at least 3 credits (6 during summer). Maintaining a GPA of 3.00 or better is required for continued financial support.

Students planning to take a short break (5 days or less) or be away from work must notify their supervisors in writing in advance of their plans. The plans must be approved by the supervisor.

REGISTRATION

Students register for courses online at the Student Online Services site accessed via MyOSU:

myosu.oregonstate.edu

For convenience, students should have their proposed schedule (including CRNs) prepared at the time of registration. An ONID login/password are required for registration. Students can sign up for an ONID account at

onid.oregonstate.edu.

MINIMUM REGISTRATION REQUIREMENTS

- **EVERY student must register for a minimum of 3 credits**, including
  - Any term in which a student enrolls,
The term in which a thesis or dissertation (MS or PhD) is defended or comprehensive oral exam (MEng) is taken; and

- Any term a student uses university space and facilities or faculty/staff time in support of their thesis or degree progress, regardless of the student’s location (on-campus or Ecampus). This includes summer term.
- GTAs / GRAs must register for at least 12 credits (Fall ~ Spring terms), while auditing a class or enrolling in Continuing Higher Education and other self-support programs may not be used to satisfy enrollment requirements for graduate assistant tuition remission.

- **Students receiving financial aid** must contact the Financial Aid Office for specific registration requirements each term. Students must notify Financial Aid if they plan to enroll less than full time.

Registration in thesis credits (CHE/ENVE 503/603) is typical once all required graduate courses are completed.

**FULL-TIME AND PART-TIME ENROLLMENT**

- Full-time status as a graduate student is defined as enrollment in 9 credits per term. The maximum load for a full-time graduate student is 16 credits. A student may exceed this limit only with the approval of the Graduate School. Students receiving approval to exceed 16 credits will be assessed a per-credit overload fee.

- Full-time status (i.e., a minimum of 9 credits per term) may be sufficient to qualify for purposes of veterans’ benefits, visa requirements, external fellowships, and federal financial aid.

- To assure full compliance with visa regulations, international students should consult with the Office of International Student Advising and Services (ISAS) for additional information about registration requirements.

**PREREQUISITE COURSEWORK REQUIREMENTS**

At a minimum, the following courses must be taken for each program prior to enrollment in the core graduate course curriculum. Your academic advisor should be consulted to ensure the proper pre- and co-requisite path is taken.

**Environmental Engineering**

Students without a B.S. degree in Environmental Engineering (or equivalent Engineering degree) must take the following courses in addition to the ENVE core:

Pre-requisite courses (completion required before taking graduate level ENVE core courses)

- Math through Differential Equations
- One year of General Chemistry
- One year of Physics
- CBEE 211 (3) Material Balances and Stoichiometry or CBEE 280 (6) Material and Energy Balances

Co-requisite courses

- ENVE 521 (4) Water and Wastewater Characterization**
- ENVE 522 (4) Environmental Engineering Design**
- ENVE 531 (4) Fate and Transport of Chemicals in Environmental Systems
- CE 547 (4) Water Resources Engineering I: Principles of Fluid Mechanics
**Note: credits earned for ENVE 521 and ENVE 522 will not be counted toward the 45 units needed for graduation.**

**Chemical Engineering**
Students with a B.S. degree in Chemistry or other non-chemical engineering undergraduate degree must take the following courses prior to enrolling in the CHE core:

Pre-requisite courses (completion required before taking CHE core courses)
- Chemistry including General, Organic, and Physical
- Math through Differential Equations
- One year of Physics
- CHE 331 (3) Transport Phenomena (Fluid Flow)
- CHE 312 (3) Chemical Engineering Thermodynamics
- CHE 332 (4) Transport Phenomena II (Heat Transfer)
- CHE 443 (4) Chemical Reaction Engineering

**TUITION BILLS**

Students are sent an email to their ONID email account when their statement is ready to view, and they can then view their eBill statement online at [http://mybill.oregonstate.edu](http://mybill.oregonstate.edu). All billing for currently enrolled students is processed electronically through eBill on the 5th of each month.

Unpaid balances as of the 1st of the month following the eBill statement are considered past due, and they will be assessed interest at the rate of 1% per month (12% APR). Students are financially responsible for all courses for which they register. Students are responsible for paying fees by the deadline even if they do not receive a bill.

Please direct any questions about tuition, fees, and financial aid to the Business Affairs Office.

**LEAVE OF ABSENCE**

You must fill out a [Leave of Absence form](#) and have it approved by the Graduate School (at least 15 business days prior to the start of the term) if you need to take off a term (Fall, Winter, or Spring) for any reason.

- You are limited to three leaves of absence during your program. Some students (e.g., military students called to duty) have more flexibility in the number of leaves allowed by the Graduate School.
- Doctoral degree students may apply for a maximum of three academic terms of regular on-leave status prior to advancement to candidacy, and they may apply for a maximum of three academic terms of on-leave status after advancement to candidacy. The time spent in approved on-leave status will be included in the maximum five years that may elapse between the preliminary oral examination and the final oral examination.
- Notify the Graduate Program Coordinator if you need to take a leave.
- You never need to fill out a leave form for summer term.
If you do NOT fill out a leave form, you will have to reapply (including paying the application fee) AND register for 3 graduate credits for each term of the unauthorized break in registration and register for at least 3 credits for the term you are readmitted, e.g., 6 credits for one missed term.

- For more information about the Graduate School’s policies,
  - See the Graduate Catalog under “Policies Governing All Graduate Programs,” OR
  - Contact the OSU Graduate School at 541-737-4881.

[http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1804](http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1804)

**SUMMER TERM**

Graduate Assistants on appointment during the summer term must register for a minimum of 3 credits. Thesis credits (CHE/ENVE 503/603) are typical. Please check with your advisor or the Graduate Programs Coordinator during Spring term to fully understand your summer status.

Registration for a minimum of 3 credits during summer term is required if you are defending your thesis during the summer.

Catalog policy regarding summer term registration is as follows:

“…all graduate students in graduate degree and certificate programs must register continuously for a minimum of 3 graduate credits until their degree or certificate is granted or until their status as a credential-seeking graduate student is terminated... Students must register for a minimum of 3 credits and pay fees if they will be using university resources (e.g., facilities, equipment, computing and library services, or faculty or staff time) during any given term, regardless of the student’s location.”

**DISMISSAL FROM GRADUATE SCHOOL**

All students must read the Student Conduct Regulations to be aware of actions that may lead to the dismissal process:

[http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38](http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38)

**BASIC REQUIREMENTS FOR ALL GRADUATE DEGREES**

**School Seminar:** All newly-enrolled MEng, MS and PhD graduate students are required to take the School seminar course CBEE 507, Professional Development section, for the first year (3 credits). This course is intended to develop your understanding of the profession, to introduce the research activities that take place in this School, and to develop professional skills including literature searching and citations, communication skills, ethics, and navigating graduate school. In year two and beyond, all enrolled MS/PHD students are required to register for CBEE 507, Presentation section, all terms (FWS).

**Graduate Minor:** OSU does not require graduate students in engineering to pursue a minor. However, if desired, a minor may be selected. The minor may be a recognized school minor, a recognized integrated minor, or a student-designed/committee-approved minor. Minors appear on your transcript but will not be listed on your diploma. Speak with your major professor for more details on minors.
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 from 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 Graduate Programs (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 Graduate Program Coordinator to obtain the Associate Head for Graduate Programs’ 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 compete the Program of Study. There is also an example for your reference in the Appendices. You may need to refer to 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 require signatures nor is it turned in to the Graduate School. This is simply an exercise to introduce you 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.

Advisor selection: To file an MS or PhD 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. MENG students are assigned an advisor by the Graduate Program Coordinator. During orientation, all research-active faculty will hold a poster session and give short presentations about their research. You will participate in two separate lab rotations with advisors of your preference. By the end of winter 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.

In addition to performing laboratory rotations, 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 rotation period, 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 winter 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. This agreement is binding except in extraordinary circumstances. If a student believes a change of advisor is warranted they are encouraged to talk with the Graduate Program Coordinator or the Associate Head for Graduate Programs. Other resources include the University Ombudsman (http://ombuds.oregonstate.edu/) and the Student Success Coordinator at the Graduate School (http://gradschool.oregonstate.edu/graduate-student-success/grad-student-success-center). The following resource may be helpful for students considering a change in advisors (http://www.unl.edu/mentoring/student-changing-mentors-or-advisors).

If a student fails to find a research advisor, the student may seek 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.

MEng students will be assigned an advisor by the Graduate Program Coordinator at the start of their first term in residence. All questions regarding the program and curriculum should be first directed to the assigned advisor. If the assigned advisor is unresponsive or the student has unanswered questions, they should consult the Graduate Program Coordinator or the respective program Graduate Committee Chair.

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.

**Ethics Training:** As an OSU and CBEE graduate student you are required to complete the Responsible Conduct of Research of 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 https://about.citiprogram.org/en/homepage. Register as a new user. You will need your OSU ID number and our campus address, which is 116 Johnson Hall, Corvallis OR, 97331. Select “Courses” and find the RCR course.

Register for the Responsible Conduct of Research for Engineers course, which contains 14 modules with a quiz after most of the modules. Modules should take about 30~45 minutes each to complete. When you complete the course, send your completion report to the Graduate Program Coordinator, and she will note the training in your graduate student file. You will also have to provide this information on your Program of Study form in the ethical research training box. Your Program of Study will not be submitted to the Graduate School until completion of this training.

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

**RESEARCH INTEGRITY**

Training in ethical research practices is an integral part of your graduate education and is required as part of the Program of Study. Further information concerning Research Integrity, including University policy, can be found at the following website:
Safety Training:  OSU’s Environmental Health and Safety department has prepared a training module on laboratory safety for researchers. CBEE is committed to a safe work environment. As a CBEE graduate student you are required to watch, learn and reflect on this training video. The video can be found at http://oregonstate.edu/ehs/training/lab_safety_training.

During fall term, watch the video and, using the template found in the Appendices, prepare a summary of important concepts. Submit to the Graduate Program Coordinator when complete. The Graduate Program Coordinator will review your summary and note in your file when you have completed the training.

After you have completed the watching the video, acknowledge your training by completing the EH&S web acknowledgement form at

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

Thesis Guide
The Graduate School’s website has a complete guide to the thesis paper and the University requirements associated with the thesis. Students are encouraged to review the site, listed below, before starting to write the thesis to ensure understanding of the formatting, procedures and deadlines.

http://oregonstate.edu/dept/grad_school/thesis.php

Note that the Graduate School takes the formatting, content, and other requirements for the thesis (and especially the “pretext pages”) very seriously. Failure to strictly adhere to these requirements may result in your thesis being rejected by the Graduate School.

Thesis Binding
The School (CBEE) requires one unbound, printed copy of each thesis, in the same format required in the Thesis Guide linked above, to be provided to the Main Office (Johnson 116) prior to your departure. If your advisor would like a hardbound copy, a second copy may be provided to the Main Office at the same time, and we will facilitate the binding. In this case, you must provide the index number that the faculty member wishes to charge for the binding services. Students wishing to bind a personal copy may bring a personal check made out to the following binding service at the time the thesis copies are submitted to the Main Office. Checks should be made payable to the following address. Low cost thesis printing is available through OSU Printing and Mailing Services, conveniently located in the Memorial Union. Check out their services at: http://printmail.oregonstate.edu/printing-services. This binding should not be submitted to the School.

Cyrano’s
361 SW 2nd Street
Corvallis, OR 97333
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Website: www.stpcyranos.com
E-mail: stpcyrano@hotmail.com
MASTERS DEGREE PROGRAMS

The School of Chemical, Biological, and Environmental Engineering is made up of three graduate programs: Chemical Engineering, Bioengineering and Environmental Engineering. The CBEE School offers the following types of Masters degrees:

- Master of Engineering (MEng)
- Master of Science (MS)

The CHE, BIOE and ENVE degrees require a minimum of 45 credits to graduate; each with a set of core course requirements totaling 23 and 22 credits respectively. Additional credits above 45 may be required depending on the educational background of the student. All students must complete a Program of Study form (see Graduate School website - http://gradschool.oregonstate.edu/) before completing 18 credits. All work must be completed within seven years, including transfer credits, course work, and the thesis / oral exam.

In addition to the formal requirements listed in the Graduate School Catalog (http://catalog.oregonstate.edu/), the CBEE School has policies listed below regarding the course of study for each Master’s degree.

As with all policy matters, students have the right to petition for deviation from school policies to the CBEE School Graduate Committee. Such petitions must be made in writing, indicating the policy deviation requested and the reason(s) for the request. The decisions of the School Graduate Committee are final.

Masters of Engineering (CHE, ENVE, BIOE)
The MEng degree option provides students the opportunity to pursue advanced-level study without the requirement for a research thesis. A comprehensive oral exam is taken in lieu of the thesis requirement. Core course requirements are the same as for the MS degree. These degrees are intended as terminal degrees, not as preparation for a doctorate, and will emphasize job-related knowledge and skills. Although not required, students wishing to pursue a PhD in the future are advised to pursue an MS degree, not the MEng.

Masters of Science (CHE, ENVE, BIOE)
A thesis in the major area is required for the MS degree, and the thesis format is bound by the rules of the Graduate School. Visit the Graduate School’s website @http://gradschool.oregonstate.edu/for details. Nine of the required 45 graded credit hours must be thesis credits; more thesis may be taken to fulfill GRA/GTA registration requirements, but only nine credits of thesis can appear on the program of study.

Minor Option (CHE, ENVE, BIOE)
A minor field of study is optional. If a minor is declared, however, the minor requirement specified by the Graduate School is 15 hours minimum (18 for doctoral). Master’s students are expected to take 15 hours or more of minor subject courses if the minor is “integrated”; i.e., it spans two or more schools. The CBEE School Graduate Committee may apply suitable courses to such an integrated minor requirement as long as the courses are not in your major area of concentration and they comprise less than one-half of the credits in the minor.
MASTER'S THESIS

The thesis demonstrates the student's mastery of professional knowledge in a particular subject area of his/her chosen field. It must present innovative research or a novel application of a known methodology to appropriate problems. A conscientious survey of pertinent literature is a prerequisite to an acceptable thesis. The research topic must be approved by the major professor, and the research title must be registered with the Graduate School.

Since the thesis results from a significant body of work, the student is encouraged to publish the results of the thesis in the open literature. The student cannot schedule a defense exam with the Graduate School until the major professor approves the thesis for distribution to all committee members. Once approved, the student must submit a copy of the thesis to each committee member and complete the Exam Scheduling Form with the Graduate School at least two weeks prior to the intended defense date. See your major professor for any other rules regarding thesis defense preparation requirements.

An MS candidate will be subjected to a final oral comprehensive examination, which includes a thesis research presentation and defense and questions on major, minor, and other pertinent academic subjects.

NON-THESIS COMPREHENSIVE ORAL EXAM (MENG STUDENTS)

The following guidelines are written to help the student prepare for the oral exam. In addition to these guidelines, all rules of the Graduate School pertaining to final Master's oral exams must be met.

1. The exam committee shall consist of the following:
   - the student's academic advisor;
   - one other CBEE faculty member; and
   - the student's minor professor, or if no minor is selected, committee member may be from graduate faculty at-large.

   *Note: No Graduate Council Representative is required for the MEng oral exam.*

2. You must contact members of the committee to arrange the date, time, and place of the exam. Then, schedule the exam with the Graduate School not less than two weeks before the examination using the Exam Scheduling Form. The exam should be scheduled for two hours.

3. The exam will consist of a 30 minute presentation prepared and delivered by the candidate that provides a meaningful evaluation and reflection on experiences gained in coursework completed toward the degree. The presentation will be followed by questions from the committee on the candidate’s presentation and knowledge gained from the candidate’s coursework. The 30 minute presentation should highlight the following items:
   - a. a statement of the candidate’s professional goals for obtaining the MEng degree;
   - b. an overview of how the MEng coursework, including both Major and Minor areas, provided the preparation needed to achieve the candidate’s professional goals;
c. a highlight of examples from class projects, homework, job search efforts, etc., that illustrate and elaborate on item b.

The MEng candidate must also provide a written two-page Reflection Statement that highlights items a-c above, to be turned in to the Committee no less than 24 hrs prior to the Final Exam.

THESIS DEFENSE COMMITTEES (MS STUDENTS)

1. The principal authority over a student's program resides with the student's Master's Committee. This committee is responsible for
   • assuring that University and School requirements are satisfied and
   • administering the final oral examination.

2. The Committee consists of at least 4 members:
   • the student's major professor;
   • one other CBEE faculty member;
   • the student's minor professor, or if no minor is selected, committee member may be from graduate faculty at-large; and
   • the Graduate Council Representative (GCR).

Note that the composition of a student’s Master’s Committee MUST be approved by the major professor.

3. The committee is originally formed, with approval from the major professor, at the student's invitation. The Graduate Council Representative is selected from a list generated by the online GCR list generation tool. The GCR is required to attend the final examination (thesis defense). Information on the role and duties of the GCR, and how to choose one, can be found at the following website.

http://oregonstate.edu/dept/grad_school/degreecommittee.php#council
PROCEDURES LEADING TO A MASTER'S DEGREE

Below is an outline of the steps required to obtain the Master’s degree. You should become familiar with the specific and detailed information contained in the Graduate School Catalog, as well as School requirements. Final oral exams must take place before the first day of the following term to be considered for the current term (late exams will require registration for 3 credits in the following term if not completed). See also the Master’s Degree Flowchart from the OSU Graduate School: [http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf](http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf)

<table>
<thead>
<tr>
<th>Check Box</th>
<th>Item #</th>
<th>Step</th>
<th>Timing</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Be assigned a major professor (by default it is the Grad Program Chair unless otherwise selected)</td>
<td>By the end of your first term</td>
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<tr>
<td>2</td>
<td>2</td>
<td>Start selection process to find two additional committee members</td>
<td>By the completion of second term</td>
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<tr>
<td>3</td>
<td>3</td>
<td>File a <a href="http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf">Masters Program of Study form</a></td>
<td>AT LEAST 1 term before your intended graduation term</td>
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<tr>
<td>4</td>
<td>4</td>
<td>Notify your major professor and committee of your intended graduation term</td>
<td>AT LEAST 1 term before your intended graduation term</td>
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<tr>
<td>6</td>
<td>6</td>
<td>Compare Program of Study form and transcripts for consistency</td>
<td>1 term before your intended graduation term</td>
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<tr>
<td>7</td>
<td>7</td>
<td>File <a href="http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf">Petition to Change Program form</a>, if needed</td>
<td>1 term before your intended graduation term</td>
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<tr>
<td>8</td>
<td>8</td>
<td>Review CBEE Graduate Learning Outcomes rubric used for evaluating final exams</td>
<td>1 term before your intended graduation term</td>
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<tr>
<td>9</td>
<td>9</td>
<td>Confirm submission of your approved Program of Study with Graduate School</td>
<td>15 weeks prior to final oral examination</td>
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<tr>
<td>10</td>
<td>10</td>
<td>File a <a href="http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf">Diploma Application</a></td>
<td>AT LEAST 2 weeks prior to final oral examination</td>
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<tr>
<td>11</td>
<td>11</td>
<td>Decide on a day and time (2 hours) with all Committee members</td>
<td>AT LEAST 2 weeks prior to final oral examination</td>
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<tr>
<td>12</td>
<td>12</td>
<td>Reserve a room with CBEE Office Coordinator</td>
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<tr>
<td>13</td>
<td>13</td>
<td>Fill out <a href="http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf">Exam Scheduling Form</a></td>
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<tr>
<td>14</td>
<td>14</td>
<td>Confirm final oral examination appointment with the Grad School (make sure it is on their calendar!)</td>
<td>1 week after submitting exam scheduling form</td>
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<tr>
<td>15</td>
<td>15</td>
<td>Remind (e-mail) Committee of the final oral examination</td>
<td>2 days prior to final oral examination</td>
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<tr>
<td>16</td>
<td>16</td>
<td>Distribute your 2 page reflective statement to the Committee</td>
<td>1 day prior to the final examination</td>
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<tr>
<td>17</td>
<td>17</td>
<td>Final oral examination</td>
<td></td>
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<tr>
<td>23</td>
<td>23</td>
<td>Complete <a href="http://gradschool.oregonstate.edu/sites/default/files/flowchart-masters.pdf">Graduate School Exit Survey</a></td>
<td>Print certificate, and take to Grad School in exchange for a gift!</td>
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<td>Check Box</td>
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<td>1</td>
<td>1</td>
<td>Choose a major professor and a general thesis topic</td>
<td>By the end of your second term</td>
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<td>2</td>
<td>2</td>
<td>Appoint Masters Committee with approval of your major professor</td>
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<td>3</td>
<td>3</td>
<td>Generate <a href="#">Grad Council Rep (GCR) list</a>; and contact those people until you find someone willing to serve as your GCR</td>
<td>By completion of second term</td>
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<tr>
<td>4</td>
<td>4</td>
<td>File a <a href="#">Masters Program of Study form</a></td>
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<td>5</td>
<td>5</td>
<td>Read the Thesis Guide on the Grad School’s website</td>
<td>Prior to starting your thesis</td>
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<tr>
<td>6</td>
<td>6</td>
<td>Notify your major professor and committee of your intended graduation term</td>
<td>AT LEAST 1 term before your intended graduation term</td>
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<tr>
<td>7</td>
<td>7</td>
<td>Compare Program form and transcripts for consistency</td>
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<tr>
<td>8</td>
<td>8</td>
<td>File <a href="#">Petition to Change Program form</a> if needed.</td>
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</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Confirm submission of your approved Program of Study with Graduate School</td>
<td>15 weeks prior to final oral examination</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>File a <a href="#">Diploma Application</a></td>
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<tr>
<td>11</td>
<td>11</td>
<td>Review CBEE <a href="#">Graduate Learning Outcomes</a> rubric used for evaluating final exams</td>
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<tr>
<td>12</td>
<td>12</td>
<td>Complete final draft of your thesis, and submit it to your major professor for review and approval</td>
<td>By the start of your last term</td>
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<td>13</td>
<td>13</td>
<td>Decide on a day and time (at least 2 hours) with all Committee members (faculty &amp; Grad Council Rep)</td>
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<td>14</td>
<td>14</td>
<td>Reserve a room with CBEE Office Coordinator</td>
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<tr>
<td>15</td>
<td>15</td>
<td>Fill out <a href="#">Exam Scheduling Form</a></td>
<td>AT LEAST 2 weeks prior to final oral examination</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>Submit thesis pretext pages to the Graduate School</td>
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<tr>
<td>17</td>
<td>17</td>
<td>Submit a final draft of the thesis to all committee members (with advisor’s approval)</td>
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<tr>
<td>18</td>
<td>18</td>
<td>Submit final oral examination appointment to Graduate Program Coordinator for announcement circulation</td>
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<tr>
<td>19</td>
<td>19</td>
<td>Remind (e-mail) Committee of the final oral examination</td>
<td>2 days prior to final oral examination</td>
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<tr>
<td>20</td>
<td>20</td>
<td>Final oral examination</td>
<td></td>
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<tr>
<td>21</td>
<td>21</td>
<td>Print <a href="#">Electronic Thesis and Dissertation Form</a>, obtain signature, and submit final thesis paperwork (See <a href="#">Submission Instructions</a>)</td>
<td>Within 6 weeks of the exam or by the last day of the current term, whichever is first; if you miss the deadline, you may be required to register for an additional 3 credits.</td>
</tr>
<tr>
<td>22</td>
<td>22</td>
<td>Print copy of thesis for School binding; submit to CBEE Office Coordinator.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>23</td>
<td>Complete <a href="#">Graduate School Exit Survey</a></td>
<td>Print certificate, and take to Grad School in exchange for a gift!</td>
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</tbody>
</table>

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[Grad Council Rep (GCR) list](#): A list of people who can serve as Graduate Council Representatives.

[Masters Program of Study form](#): A form used to submit your program of study to the Graduate School.

[Petition to Change Program form](#): A form used to request changes to your program of study.

[Diploma Application](#): A form used to request a diploma.

[Graduate Learning Outcomes](#): A rubric used to evaluate final exams.

[Exam Scheduling Form](#): A form used to schedule final exams.

[Electronic Thesis and Dissertation Form](#): A form used to submit final thesis paperwork to the Graduate School.

[Submission Instructions](#): Instructions for submitting your thesis.

[Graduate School Exit Survey](#): A survey used to evaluate your experience with the Graduate School.
CHE DOCTORAL DEGREE PROGRAM –

The School of Chemical, Biological, and Environmental Engineering offers a doctoral degree program in Chemical Engineering (CHE).

COURSE OF STUDY

The university requirements for the doctorate include the following:
1. at least 108 graduate credits beyond the bachelor’s degree;
2. at least 50% of the course work must be graduate stand-alone courses;
3. a presentation of an original dissertation for which a minimum of 36 credit hours of dissertation research (thesis course) has been accumulated;
4. a minimum of one year of residence, continuously, at OSU (i.e., three consecutive quarters as a full time student);
5. passing a preliminary oral examination in the major subject; and
6. successfully defend the dissertation in an oral presentation to a panel of experts.

For other regulations, see the OSU Graduate School Catalog.

In addition, school requirements include

1. passing an oral qualifying examination for candidacy (this examination is administered by the CBEE department and is distinct from the “oral” preliminary examination required by the Graduate School);
2. on assignment from the student’s doctoral committee, taking and passing (B average or higher) such courses as judged desirable by the doctoral committee for satisfactory progress in doctoral research;
3. Ph.D. degree student without an OSU M.S. degree in Chemical Engineering must take the following six CHE core courses:
   i. CBEE 507 (3) Grad Seminar: Professional Development (F,W,Sp - 3 credits)
   ii. CHE 514 (4) Fluid Flow
   iii. CHE 520 (4) Mass Transfer
   iv. CHE 525 (4) Chemical Engineering Analysis
   v. CHE 537 (4) Thermodynamics
   vi. CHE 540 (4) Chemical Reactors I; and
4. preparation and presentation of a written dissertation proposal: this paper will include a thorough literature review, outline of the proposed research project, and a description of the importance of the research with a perspective on the current state of the area of specialty. The presentation of this document will constitute the required Oral Preliminary Exam.

Doctoral Program

The student must be registered for a minimum of 3 credits for the term in which the program meeting is held. When the program is approved by the doctoral committee, the departmental chair, and the
dean of the Graduate School, it becomes the obligation of the student to complete the requirements as formulated. Changes in the program may be made by submitting a Petition for Change of Program form available in the Graduate School.

No more than 15 credits of blanket-numbered courses, other than thesis, may be included in the minimum 108-credit program.

Programs of Study must be filed before completing 2 terms for students with master’s degrees and before 5 terms for students without master’s degrees. Ideally, these meetings will be held before the completion of the students first academic year.

Students who wish to transfer credit must submit a Transfer Credit Request form before the end of their first year of study.

The final plan of study must be submitted to the Graduate School six weeks before the student’s oral preliminary examination.

**DOCTORAL COMMITTEES**

1. The principal authority over a student's program resides with the student's Doctoral Committee. This committee is responsible for
   • assuring that University and School requirements are satisfied,
   • monitoring student progress,
   • assigning and approving courses of study,
   • approving dissertation topics and paths-forward, and
   • administering preliminary and final oral examinations.

2. The committee consists of at least 5 members:
   • the student's major professor;
   • two other CBEE faculty members;
   • the student's minor professor, or if no minor is selected, committee member may be from graduate faculty at-large; and
   • one Graduate Council Representative (GCR).

   Note that the composition of a student’s Doctoral Committee MUST be approved by the major professor.

3. The committee is originally formed, with approval from the major professor, at the student's invitation. The Graduate Council Representative is selected from a list generated by the online GCR list generation tool. The GCR is a permanent member of the committee and must attend all committee meetings, including the preliminary program committee meeting, the oral preliminary exam, and the final examination (dissertation defense). Information on the GCR can be found at

   [http://oregonstate.edu/dept/grad_school/degreecommittee.php#council](http://oregonstate.edu/dept/grad_school/degreecommittee.php#council)

4. The Committee should be appointed after advisor selection is complete. The committee should
be formed during spring term of the first year.

MATRICULATION / CANDIDACY

1. Matriculation (first term of attendance) qualifies the student to
   a. select a general area of dissertation research, and
   b. identify a major professor.

2. After matriculation, the student must pass a qualifying examination (described below). This
   examination must be taken during spring break of the student’s first year.

QUALIFYING ORAL EXAMINATIONS FOR DOCTORAL STUDENTS

The CHE qualifying oral examination will take place during a student’s first year in the CHE Ph.D.
program. Students will receive assignments at the end of week 10 of winter quarter and the examination
will be scheduled to take place the first week of spring quarter.

Each student will receive a journal article from the current literature, chosen by their respective
research advisor. This examination is based on two equally important elements: (1) student critique of
that paper and (2) the depth of student understanding of the relevant fundamental science.
The examination consists of two parts, totaling forty minutes.

1. An oral presentation of the critique of the paper. Each student is expected to address four items in
   their individual presentation.
   a) The student is expected to present the scientific content in the article, providing critical
evaluation of the hypothesis, assumptions, methods, and conclusions of the authors.
   b) The student is expected to perform a literature survey relevant to the content of the article that
      allows them to place the assigned article into the context of work in the field.
   c) The student is expected to connect the content of the assigned article to basic core CHE course
      material.
   d) The student is expected to propose an extension of the core ideas or work to a future application
      in the field.

Student presentations will be strictly limited to 20 minutes. Students should practice their talk and use
of associated equipment so that you use this time efficiently. The critique need not be negative; you
may have an excellent paper to discuss. In your critique, you should demonstrate a depth of thinking
about the research strategy and the fundamental chemical, physical, and/or biological concepts that
govern the behavior of the system being studied.

2. A question and answer period consisting of questions pertaining to the research field or the specifics
   of the paper. The questions will probe your depth of thinking about the research strategy and the
   fundamental chemical, physical, and/or biological concepts that govern the behavior of the system
   being studied. This section of the exam should not exceed 60 minutes.

3. A two-page written summary of your critique that includes the four elements described in (1).

Preparation for the examination must represent your individual effort. However, you may have general
discussions with other students and are encouraged to practice your talk in front of other students, for
example, at a GSA-organized practice session. You should document any discussions that you have with
other students in the form of an “Acknowledgements Section” at the end of your presentation. Please
refrain from contacting the authors of your assigned paper and any faculty.

With respect to assessment, students will be scored on the following competences.

1) Ability to present the core scientific content in the assigned article.
2) Ability to think critically about hypothesis, assumptions, methods, and conclusions in the assigned article.
3) Ability to place the assigned article in the context of associated background literature.
4) Ability to connect content in the assigned article to relevant core material in your research area.
5) Ability to propose an extension of the core ideas and/or methods in the assigned article to a future application.
6) Ability to communicate an understanding of the core curriculum related to your research area in response to questions in the Q&A session.
7) Ability to communicate the requested content in a written summary.

If the student fails the examination, one additional attempt will be allowed.

**PRELIMINARY ORAL EXAMINATION**

Ph.D. candidates will present their proposed dissertation research to their committee as part of their preliminary exam. The preliminary examination consists of a written research proposal and an oral examination and should ideally take place in the student’s second year.

The written component of the preliminary exam is a document describing the student’s proposed research and a review of the supporting literature. The originality, scholarly quality, and the technical feasibility of the research proposal will be evaluated. This ‘report’ style document should contain an introduction, literature review, outline of major hypotheses, discussion of methods that will be used to test the hypotheses, preliminary findings up to the point of the exam, a summary, and a timeline indicating roughly when key elements of the research will be completed. Such a report would likely serve as a basis for the first several chapters of the Ph.D. candidate’s dissertation. The document is limited to ten single-spaced pages (excluding references) and is due to the committee one week before the oral examination.

The oral examination has two components: (i) a formal seminar in which the student presents his/her proposed research and a review of the literature supporting this plan and (ii) a student and committee discussion session that identifies strengths and weaknesses within the student’s preparation and proposal and includes an evaluation of the student’s basic understanding of chemical engineering and the minor area(s) (as well as all of the courses that the student has taken at OSU). The oral preliminary examination will be scheduled for a minimum of two hours with the formal seminar to take approximately 30 minutes (or an alternate length of time determined by the student’s major professor). All members of the committee are expected to participate in examining the student. No committee member should be allowed to monopolize the examination, and the student must be given an adequate and fair opportunity to respond to the questions.

Students should complete the preliminary exam by the end of the fall term of the student’s third year. At least one complete academic term must elapse between the time of the preliminary oral examination and the final oral examination. If more than five years elapse between these two examinations, the candidate will be required to take another preliminary oral examination.
FINAL ORAL EXAMINATIONS

After completion of or while concurrently registered for all work required by the program, the student must pass a final oral examination. The final oral examination must be scheduled in the Graduate School not less than two weeks prior to the date of the examination. The final oral examination information must be submitted to the Graduate Program Coordinator for announcement in the School of Chemical, Biological, and Environmental Engineering no less than two weeks prior to the examination date.

The thesis defense portion of the final oral examination is open to all interested persons. After the open portion of the exam, the examining committee excludes all other persons and continues with the examination of the candidate’s knowledge of his or her field and the evaluation of the candidate’s performance. The oral final examination should be scheduled for three hours with most exams lasting approximately 2-2.5 hr.

The student is expected to display a mastery of knowledge in his/her field and professional maturity as a Chemical Engineer. In the oral examination, the candidate is expected to defend the thesis and show a satisfactory knowledge of his or her field. If more than one negative vote is recorded by the examining committee, the candidate has failed the examination. Only one re-examination is permitted.

The final oral examination must be taken within five years after the oral preliminary examination. If more than five years elapse, the candidate is required to take another oral preliminary examination.

RE-EXAMINATION

The candidate is expected to defend their thesis during the final oral exam and show a satisfactory knowledge of his or her field. If more than one negative vote is recorded by the examining committee, the candidate has failed the examination. Only one re-examination is permitted.

DOCTORAL DISSERTATION

All Ph.D. candidates must submit a thesis embodying the results of research and presenting evidence of originality and ability in independent investigation. The thesis must constitute a valid contribution to knowledge in the field of study and must be based on the candidate’s own investigation, including one or more of the following elements:

- Contribution to theory,
- Development of new method for scientific investigation,
- Generation of new scientific data which clearly contribute to the development of sciences, and
- Development and/or novel implementation of a numerical model.

The thesis must reflect a mastery of the literature of the subject and be written in scientific format. The preparation of an acceptable thesis will require at least one full-time academic year. The booklet, Thesis Guide: Preparing a Thesis or Dissertation at OSU, is available electronically on the Web at http://gradschool.oregonstate.edu/success/thesis-guide.
The results from studies conducted using human subjects without obtaining Institutional Review Board approval shall not be used to satisfy master’s thesis or doctoral dissertation requirements. For more information, please send an email to irb@oregonstate.edu or visit the IRB website at http://oregonstate.edu/research/irb/.

When scheduling their final oral examinations, doctoral students are required to submit the pretext pages of their dissertations to the Graduate School at least two weeks prior to the final oral examination. Pretext pages include the abstract, copyright (optional), title page, approval page, acknowledgment page, contribution of authors, table of contents, list of figures, tables, appendices, dedication (optional), and preface (optional). It is expected that students will distribute examination copies of their thesis to all committee members, including the Graduate Council representative, sufficiently early to permit thorough review of the thesis prior to the student’s final oral examination.

Within six weeks after the final oral examination or before the first day of the following term, whichever comes first, students must upload one PDF copy of the thesis, without signatures, electronically to ScholarsArchive and submit the signed ETD submission approval form with a copy of the title page to the Graduate School. If final submission requirements are after the initial six-week period, the student may be subject to re-examination. Please refer to the Graduate School's website for complete details (http://gradschool.oregonstate.edu/success/thesis-guide).

Signatures on the ETD submission approval form can be electronic, signed, scanned and emailed or faxed. The thesis will not be accepted for graduate requirements until it has received the approval of the graduate dean, which the thesis editor will obtain.

Within **six weeks** of the final oral examination, one printed copy your thesis must be submitted to the School of CBEE main office for binding and archiving in the CBEE thesis library. See the section on **Thesis Binding**.

**ENVE DOCTORAL PROGRAM**

The School of Chemical, Biological, and Environmental Engineering offers Doctoral Degrees in the Environmental Engineering (ENVE)

The university requirements for the doctorate include the following:

1. at least 108 graduate credits beyond the bachelor’s degree;
2. at least 50% of the course work must be graduate stand-alone courses;
3. a presentation of an original dissertation for which a minimum of 36 credit hours of dissertation research (thesis course) has been accumulated;
4. a minimum of one year of residence, continuously, at OSU (i.e., three consecutive quarters as a full time student);
5. passing a preliminary oral examination in the major subject; and
6. successfully defending the dissertation in an oral presentation to a panel of experts.

For other regulations, see the OSU Graduate School Catalog.

In addition, school requirements include:
• A minimum of one full-time academic year of regular non-blanket course work (at least 36 credits) must be included on the doctoral program
• No more than 15 credits of blanket-numbered courses, other than thesis, may be included in the minimum 108-credit program

**Coursework completed as part of a Master’s degree (M.S. or M.Eng.) can be transferred for credit towards the doctoral degree with the consent of the student’s doctoral committee. Completion of the Transfer Credit Form is required.**

A Ph.D. degree student **without** an OSU M.S. degree in Environmental Engineering must take the following six ENVE core courses:

- CHE 525 (4) Chemical Engineering Analysis
- ENVE 532 (4) Aquatic Chemistry: Natural and Engineered Systems
- ENVE 535 (4) Physical and Chemical Processes for Hazardous Waste Treatment
- ENVE 536 (1) Aqueous Environmental Chemistry Laboratory
- ENVE 541 (4) Microbial Processes in Environmental Systems
- CBEE 507 (3) Grad Seminar: Professional Development (F,W,Sp – 3 credits))

A Ph.D. candidate without a B.S. degree in Environmental Engineering (or equivalent Engineering degree) must take the courses listed in the Prerequisite section of the manual in addition to the ENVE core.

There are five steps to be completed towards a Ph.D. degree:

1. Approval of graduate study program
2. Oral qualifying examination (in development – see below)
3. Preliminary examination
4. Final oral examination
5. Thesis submission

**DOCTORAL COMMITTEES**

1. The principal authority over a student's program resides with the student's Doctoral Committee. This committee is responsible for:
   • assuring that University and School requirements are satisfied;
   • monitoring student progress;
   • assigning and approving courses of study;
   • approving dissertation topics and paths-forward; and
   • administering preliminary and final oral examinations.

2. The committee consists of at least 5 members:
   • the student's major professor;
   • two other CBEE faculty members;
   • the student's minor professor, or if no minor is selected, committee member may be from graduate faculty at-large and
   • one Graduate Council Representative (GCR).
Note that the composition of a student’s Doctoral Committee MUST be approved by the major professor.

3. The committee is originally formed, with approval from the major professor, at the student's invitation. The Graduate Council Representative is selected from a list generated by the online GCR list generation tool. The GCR is a permanent member of the committee and must attend all committee meetings, including the preliminary program committee meeting, the oral preliminary exam, and the final examination (dissertation defense). Information on the GCR can be found at:

   http://oregonstate.edu/dept/grad_school/degereecommittee.php#council

4. The Committee should be appointed after successful completion of the qualifying exam (in development – see below).

MATRICULATION / CANDIDACY

1. Matriculation (first term of attendance) qualifies the student to:
   a. select a general area of dissertation research;
   b. identify a major professor

2. After matriculation, the student must pass a qualifying examination (in development – see below).

QUALIFYING EXAMINATION FOR DOCTORAL STUDENTS

The processes, procedures, structure, timing and requirements for the ENVE doctoral qualifying exam are currently in development. Once finalized, this section of the handbook will be updated and circulated to all ENVE graduate students.

PRELIMINARY EXAMINATIONS FOR DOCTORAL STUDENTS

There are two components to preliminary examinations completed as part of a Ph.D. degree in Environmental Engineering: (1) the Written Preliminary Examination, and (2) the Oral Preliminary Examination.

The written preliminary exam followed by an oral defense is intended to evaluate a Ph.D. student’s ability to utilize scientific literature, to think critically, to write creatively, to articulate ideas, and to demonstrate understanding of his/her specific field of study. The oral part of this examination will also evaluate the student's breath of knowledge in areas of broader focus, yet related to the area of research. Generally, the oral part of the exam will begin with a 30-45 minute presentation by the student, in which he/she presents her research, and thus, the content of the written report. This will be followed by a question and answer session in which the committee can address both the research itself and also more general knowledge. Preliminary exams should be scheduled for at least two hours.

WRITTEN PRELIMINARY EXAMINATION
The Written Preliminary Exam must be completed prior to the Oral Preliminary Exam. Candidates must write a proposal on their thesis topic and distribute it to their doctoral committee members at least one week prior to the date of the Oral Preliminary Exam.

Guidelines for the Written Research Proposal
This examination will also test the student's ability to develop, investigate, and defend their original research idea. The originality, scholarly quality, and the technical feasibility of the research proposal will be evaluated.

The format of the written research proposal required for the Preliminary Exam is as follows.
1. The report is intended to contain a summary of the student’s research, to demonstrate knowledge in the area of research, progress so far, expected results, and a timeline for completing the research and thus to graduation.
2. This ‘report’ style document should contain an introduction, literature review, outline of major hypotheses, discussion of methods that will be used to test the hypotheses, preliminary findings up to the point of the exam, a summary, and a timeline indicating roughly when key elements of the research will be completed. Such a report would likely serve as a basis for the first several chapters of the Ph.D. candidate’s dissertation.
3. The written research proposal is limited to fifteen single-spaced pages (including references, timeline, etc.)
4. While it is expected that the student will consult with and discuss the various elements of this proposal with their research advisor, the intent is that the writing and presentation are a primarily product of the student and that they are responsible for justifying and defending their proposed work.

ORAL PRELIMINARY EXAMINATION

The Oral Preliminary Examination is conducted by the student’s doctoral committee and should cover the student’s knowledge in his/her major and minor subjects. The examination consists of an oral defense of the proposal submitted in the Written Preliminary Examination on the candidate’s proposed research topic. However, no more than one-half of the time should be devoted to specific aspects of the thesis project. The first part of the examination (i.e., the presentation and defense of the student’s thesis proposal) is generally presented as a seminar to the student’s doctoral committee. This portion should last no longer than 30 to 45 minutes. The committee will then ask questions relating to the thesis proposal, the candidate's course work, or the student's research. All members of the doctoral committee, including the GCR, are expected and encouraged to participate in examining the student. No committee member should be allowed to monopolize the examination, and the student must be given an adequate and fair opportunity to respond to the questions. The exam scoring rubric can be found in the appendix.

The examination will be scheduled for at least two hours, and the examination date must be scheduled with the Graduate School at least one week in advance.

If more than one negative vote is recorded by the examining committee, the candidate will have failed the oral examination. Only one re-examination is permitted.

At least one complete academic term must elapse between the time of the Oral Preliminary
Examination and the Final Oral Examination. If more than five years elapse between these two examinations, the candidate must take another Oral Preliminary Examination.

**FINAL ORAL EXAMINATIONS**

After completion of or while concurrently registered for all work required by the program, the student must pass a final oral examination. The final oral examination must be scheduled with the Graduate School **not less than two weeks** prior to the date of the examination. The final oral examination information must submitted to the Graduate Program Coordinator for announcement in the School of Chemical, Biological, and Environmental Engineering **no less than two weeks** prior to the examination date.

The thesis defense portion of the final oral examination is open to all interested persons. After the open portion of the exam, the examining committee excludes all other persons and continues with the examination of the candidate’s knowledge of the field of study and the evaluation of the candidate’s performance. The oral final examination should be scheduled for **at least two hours**.

The student is expected to display a mastery of knowledge in his/her field and professional maturity as an Environmental Engineer. In the oral examination, the candidate is expected to defend the thesis and show a satisfactory knowledge of his or her field. If more than one negative vote is recorded by the examining committee, the candidate has failed the examination. Only one re-examination is permitted. The exam scoring rubric can be found in the appendix.

The final oral examination must be taken within five years after the oral preliminary examination. If more than five years elapse, the candidate is required to take another oral preliminary examination.

**RE-EXAMINATION**

The candidate is expected to defend their thesis during the final oral exam and show a satisfactory knowledge of his or her field. If more than one negative vote is recorded by the examining committee, the candidate has failed the examination. **Only one re-examination is permitted.**

**DOCTORAL DISSERTATION**

All Ph.D. candidates must submit a thesis embodying the results of research and presenting evidence of originality and ability in independent investigation. The thesis must constitute a valid contribution to knowledge in the field of study and must be based on the candidate’s own investigation, including one or more of the following elements:

- Contribution to theory,
- Development of new method for scientific investigation,
- Generation of new scientific data which clearly contribute to the development of sciences, and
- Development and/or novel implementation of a numerical model.

The thesis must reflect a mastery of the literature of the subject and be written in scientific format. The preparation of an acceptable thesis will require at least one full-time academic year. The booklet, Thesis Guide: Preparing a Thesis or Dissertation at OSU, is available electronically on the Web
The results from studies conducted using human subjects without obtaining Institutional Review Board approval shall not be used to satisfy master’s thesis or doctoral dissertation requirements. For more information, please send an email to irb@oregonstate.edu or visit the IRB website at http://oregonstate.edu/research/irb/.

When scheduling their final oral examinations, doctoral students are required to submit the pretext pages of their dissertations to the Graduate School at least two weeks prior to the final oral examination. Pretext pages include the abstract, copyright (optional), title page, approval page, acknowledgment page, contribution of authors, table of contents, list of figures, tables, appendices, dedication (optional), and preface (optional). It is expected that students will distribute examination copies of their thesis to all committee members, including the Graduate Council representative, sufficiently early to permit thorough review of the thesis prior to the student’s final oral examination.

Within six weeks after the final oral examination or before the first day of the following term, whichever comes first, upload one PDF copy of your thesis, without signatures, electronically to ScholarsArchive and submit the signed ETD submission approval form with a copy of the title page to the Graduate School. If final submission requirements are after the initial six-week period, the student may be subject to re-examination. Please refer to the Graduate School’s website for complete details (http://gradschool.oregonstate.edu/success/thesis-guide).

Signatures on the ETD submission approval form can be electronic, signed, scanned and emailed or faxed. The thesis will not be accepted for graduate requirements until it has received approval by the graduate dean, which the thesis editor will obtain.

Within six weeks of the final oral examination, one printed copy your thesis must be submitted to the School of CBEE main office for binding and archiving in the CBEE thesis library.

BIOE DOCTORAL PROGRAM

This section is under development. However, all Graduate School rules, procedures and policies for Masters and PhD students must be followed by BIOE students. See the Graduate Catalog for more information. http://catalog.oregonstate.edu/Default.aspx?section=Graduate&target=popup

PROCEDURES LEADING TO THE DOCTORAL DEGREE

Below is a brief list of the steps required to obtain the Ph.D. degree. You should also become familiar with the specific and detailed information contained in the Graduate School Catalog as well as School requirements.
<table>
<thead>
<tr>
<th>Check Box</th>
<th>Item #</th>
<th>Step</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identify a Major Professor</td>
<td>During second term</td>
<td></td>
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<tr>
<td>2</td>
<td>Establish general area of dissertation research</td>
<td>Spring Break, 1st Year (CHE) TBD (ENVE)</td>
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<tr>
<td>3</td>
<td>Take Oral Qualifying Exam</td>
<td>By the end of your first academic year (early spring term)</td>
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<tr>
<td>4</td>
<td>Generate Grad Council Rep (GCR) list and contact those people until you find someone willing to serve as your GCR</td>
<td>AT LEAST 2 weeks prior to preliminary oral examination</td>
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<tr>
<td>5</td>
<td>Schedule doctoral program meeting with all committee members; reserve a room with CBEE Office Coordinator</td>
<td>Throughout your degree progression (at least once a year)</td>
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<td>6</td>
<td>Doctoral program meeting: Print GCR Checklist and take to the meeting</td>
<td>Prior to starting your dissertation</td>
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<tr>
<td>7</td>
<td>File Doctoral Program of Study</td>
<td>Winter Term, Third Year</td>
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<tr>
<td>8</td>
<td>Schedule the Preliminary Oral Examination with your committee (one hour)</td>
<td>Winter Term, Third Year</td>
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<tr>
<td>9</td>
<td>Reserve a room in CBEE with the Office Coordinator for the Preliminary Oral Examination</td>
<td>1 term before your intended graduation term</td>
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<tr>
<td>10</td>
<td>Review copies of Preliminary Oral Examination scoring guide from Graduate School</td>
<td>Any Term, Fourth Year</td>
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<td>11</td>
<td>Complete and Submit Exam Scheduling Form</td>
<td>15 weeks prior to final oral examination</td>
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<tr>
<td>12</td>
<td>Complete preliminary oral examination</td>
<td>By the start of your last term</td>
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<tr>
<td>13</td>
<td>Hold regular meetings with your Committee to keep them updated on your progress</td>
<td>By the start of your last term</td>
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<tr>
<td>14</td>
<td>Read the Thesis Guide on the Grad School’s website</td>
<td>By the start of your last term</td>
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<tr>
<td>15</td>
<td>Present Project Poster at Graduate Visitation</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<tr>
<td>16</td>
<td>Compare Doctoral Program of Study form and transcripts for consistency</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<td>17</td>
<td>File Petition to Change Program form if needed.</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<tr>
<td>18</td>
<td>Present Research in Graduate Seminar (CBEE 507)</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<tr>
<td>19</td>
<td>File a Diploma Application</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<tr>
<td>20</td>
<td>Complete final draft of your dissertation and submit it to your major professor for review and approval</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<tr>
<td>21</td>
<td>Schedule the final oral examination w/your committee</td>
<td>BY THE START OF YOUR LAST TERM</td>
<td></td>
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<tr>
<td>22</td>
<td>Reserve a room with CBEE Office Coordinator</td>
<td>{[&quot;AT LEAST 2 weeks prior to final oral examination&quot;]}</td>
<td></td>
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<tr>
<td>23</td>
<td>Pick up copies of final oral examination scoring guide from Graduate School</td>
<td>BY THE START OF YOUR LAST TERM</td>
<td></td>
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<tr>
<td>24</td>
<td>Complete Exam Scheduling Form</td>
<td>BY THE START OF YOUR LAST TERM</td>
<td></td>
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<tr>
<td>25</td>
<td>Submit thesis pretext pages to the Graduate School</td>
<td>BY THE START OF YOUR LAST TERM</td>
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<td></td>
<td>Event Description</td>
<td>Deadline/Requirement</td>
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<tr>
<td>26</td>
<td>Submit a final draft dissertation to all committee members (with advisor’s approval)</td>
<td>1 week after submitting exam scheduling form</td>
<td></td>
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<tr>
<td>27</td>
<td>Confirm final oral examination appointment with the Grad School (make sure it’s on their calendar!)</td>
<td>AT LEAST 2 weeks prior to final oral examination</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Submit final oral examination appointment to Graduate Program Coordinator for announcement circulation</td>
<td>2 days prior to final oral examination</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Remind (e-mail) Committee of the final oral examination</td>
<td>NO EARLIER THAN 1 term after passing preliminary oral examination</td>
<td></td>
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<tr>
<td>30</td>
<td>Complete final oral examination</td>
<td>AT LEAST 2 weeks prior to final oral examination</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Submit final copies (See Submission Instructions)</td>
<td>Within 6 weeks of the exam or by the first day of the Next term, whichever is first; if you miss the deadline, you will be required to register for an additional 3 credits, no exceptions!</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Print copy of dissertation for School binding; submit to CBEE Office Coordinator.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Complete Graduate School Exit Survey</td>
<td>Print certificate and take to Grad School in exchange for a gift!</td>
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</tbody>
</table>

**NOTES ABOUT THE CHECKSHEET**

The **Doctoral Program of Study** form is located on the Graduate School’s website. You should work with your advisor to fill out the Program of Study form **before** you hold your doctoral program meeting because your committee needs to approve the Program of Study before you can submit it to the Graduate School.

The **Written Qualifying exam** for CHE students is offered only in the Spring term. Students who need to take the exam will be notified of the exam dates at the end of the preceding Winter term.

For various reasons, changes often occur in the classes that you plan to take and what you actually need to earn your degree. When you graduate, the Program of Study must be 100% accurate. You should compare the program on file with your transcripts, which can be viewed by logging into Student Online Services. Make corrections by filling out the **Petition to Change the Program of Study form** at least one term before you plan to defend. You do not have to revise the above form each time you deviate from your original program; however, you need to keep your committee informed of any and all changes, since they are the ones who must approve your Program.

Give yourself and your committee members a lot of time to **plan for the defense date**. Sometimes committee members will be on **sabbatical leave** during the term in which you plan to defend. You should check with your committee members about such leaves far in advance to better plan, especially if you need to change a committee member for any reason. Note that your GCR **must attend** all meetings and examinations during your degree program.

The **Diploma Application** must be filed no later than week two of the term in which you defend. However, completion of the form a term or two early is OK. If you need to change your end term after
you file a Diploma Application, simply fill out the application again.

When you confirm your defense exam date with the Graduate School, you are making sure your exam is on their calendar. If they are not aware of your defense date, even if you filled out all the paperwork, you will not be allowed to defend and will have to reschedule.
Appendices

Advisor Letter of Intent/MOU
Change of Degree Request – MS to PhD (Departmental)
Current CBE Online Vendors

CURRICULUM CHARTS
M.ENG. DEGREE CURRICULUM IN CHEMICAL ENGINEERING
M.ENG. DEGREE CURRICULUM IN CHEMICAL ENGINEERING, NON-CHE UG MAJORS
M.ENG. DEGREE CURRICULUM IN ENVIRONMENTAL ENGINEERING
M.ENG. DEGREE CURRICULUM IN ENVIRONMENTAL ENGINEERING FOR NON-ENVE MAJORS
M.S. DEGREE CURRICULUM IN CHEMICAL ENGINEERING
M.S. DEGREE CURRICULUM IN CHEMICAL ENGINEERING FOR NON-CHE UG MAJORS
M.S. DEGREE CURRICULUM IN ENVIRONMENTAL ENGINEERING
M.S. DEGREE CURRICULUM IN ENVIRONMENTAL ENGINEERING FOR NON-ENVE MAJORS
Ph.D. DEGREE CURRICULUM IN CHEMICAL ENGINEERING
Ph.D. DEGREE CURRICULUM IN CHEMICAL ENGINEERING, FOR NON-CHE UG MAJORS
Ph.D. DEGREE CURRICULUM IN ENVIRONMENTAL ENGINEERING
Ph.D. DEGREE CURRICULUM IN ENVIRONMENTAL ENGINEERING, FOR NON-ENVE UG MAJORS

Doctoral Deliverables Timeline
Electronic Thesis and Dissertation Submission Approval Form

Final Oral Exam Scoring Rubric
MENG Chemical Engineering
MENG Environmental Engineering
MS Chemical Engineering
MS Environmental Engineering
PHD Chemical Engineering
PHD Environmental Engineering

Graduate Learning Outcomes
Chemical Engineering
Environmental Engineering

Leave of Absence

Online Graduate Bios Information Form
PhD Program Meeting Checklist

Program of Study
Doctoral – Program of Study (Blank)
Masters Program of Study (Blank)

Safety Training Template
Transfer Credit Request
Oregon State University
School of Chemical, Biological and Environmental Engineering
Student/Advisor Memorandum of Understanding

_________________________________________ and _______________________________________
Advisor                                          Student:

The purpose of this Memorandum of Understanding is to clearly identify the Advisor/Student relationship for members of the graduate program in CBEE and to identify the initial expected source of funding (if any).

By filling and signing this form, the Student and Advisor parties agree to work together towards an MS / PhD (cross off one) degree by the Student.

At the time of signing, the Student is Self Funded / offered funding at _____ FTE from ________ (Source of Funds) starting on ________ (Starting Date) (cross off one). It is mutually understood that renewal of any offer of funding in future terms is at the discretion of the Advisor and contingent on availability of funds. The Advisor will discuss the funding situation with the Student in a timely fashion to enable the Student to make alternative financial arrangements as necessary.

_________________________________________  __________________________
Student Signature                                 Date

_________________________________________  __________________________
Advisor Signature                                Date
Appendix: Student and Advisor responsibilities

A healthy and fruitful relationship helps both the Advisor and the Student and forms the foundation of a career-long beneficial relationship. The set of general guidelines below explaining the expected responsibilities on both parts is intended to help establish such relationships.

Advisor(s) Responsibilities

- The Advisor will maintain a respectful and professional relationship with the Student.
- The Advisor is neither the Student's best friend, nor his opponent – the Advisor's responsibility is to help the Student be successful by providing opportunities and guidance in coursework selection and research. These opportunities include access to a clean, safe, and well-equipped work environment; opportunities for publications and professional presentations; and supplying accurate and objective references for potential employers.
- The Advisor will ensure that coursework and research are up to the high standards of graduate engineering education at OSU and that qualifying, preliminary, and/or final exams are fair. If there are concerns about the quality of the Student's coursework or research, the Advisor will step in to discuss possible options and remedies.
- The Advisor will give high-level direction research work but it is the Student's responsibility to conceive and implement the day-to-day tasks necessary to move the research forward.
- The Advisor does not have an obligation to provide funding to the Student but will strive to provide funding opportunities whenever possible.

Student Responsibilities

- The Student is expected to treat the Advisor with respect and address them formally, be respectful of other students, and help create a positive environment in the research group, the School and the University.
- It is the Student's responsibility to plan the program of study that meets the degree program and University requirements regarding number and types of credits needed for graduation with input from the Advisor. To achieve this, the Student should prepare a draft of the Program of Study (see http://oregonstate.edu/dept/grad_school/forms.php#program) by the end of the Student's first term working with the Advisor and discuss options. It is also the Student's responsibility to be aware of key dates and requirements for qualifying exams, program meetings, preliminary exams, and final exams.
- When research funding is offered the Advisor and Student will attempt to reconcile the research topic desires of the student with the needs of the funding source — generally, there is sufficient freedom to tailor the research toward the student's areas of interest. If the Student is unsatisfied with the research topic, it is the Student's responsibility to raise this concern with the Advisor. The Student always has the option of rejecting funding. However, once a commitment is made, the Student is expected to meet targets as deemed reasonable and agreed upon with the Advisor.
- It is the Student's responsibility to stay in contact with the Advisor and ensure the Advisor is current on research progress. For the purpose, the Student should take the initiative to schedule any meetings with the Advisor to discuss research questions or issues.
- The Student is expected to take ownership the research project and to bring energy, enthusiasm, and innovation to the project. In the end, the thesis must contain many of the Student's ideas and results interpretation. The time spent in the development of the research project should be in addition to any paid professional commitments contracted by the Student (e.g., beyond a GRA or GTA offer, if any).
CBEE Graduate Program  
Degree Change from MS to PHD Form

Submit this form along with a personal statement to Anita Hughes (Anita.Hughes@OregonState.edu) to apply to change your current M.S. degree program to a Ph.D. degree program in Chemical or Environmental Engineering.

1. Date:

2. Name:

3. Current Degree Program (Circle one): Chemical Engineering       Environmental Engineering

4. Prospective Ph.D. Advisor:

   I agree to accept this student as my advisee for his/her Ph.D. program, and will provide a letter of recommendation to the graduate committee.

Plan for student support (circle one):

The student is currently self-funded. I am offering the student financial support this or next term.

I am not offering the student financial support at this time.

________________________________________  ________________________________  
Prospective Advisor Printed Name                      Signature

5. I have attached my one-page personal statement describing why I want to change my degree program and why I think I will be successful.

________________________________________  
Student                      Signature
<table>
<thead>
<tr>
<th>Current CBEE Online Vendors</th>
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<tbody>
<tr>
<td><strong>1st masking tape</strong></td>
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<tr>
<td><strong>abebooks.com</strong></td>
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<td><strong>aceglass</strong></td>
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<td><strong>adafruit</strong></td>
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<td><strong>Applied.com</strong></td>
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<td><strong>Arduino</strong></td>
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<td><strong>ATCC</strong></td>
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<td><strong>Avanti polar lipids</strong></td>
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<td><strong>Boating store.com</strong></td>
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<td><strong>Bruker AFM</strong></td>
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<td><strong>budget sensors</strong></td>
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<td><strong>Cole-Parmer</strong></td>
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<td><strong>Danger den</strong></td>
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<td>Fidelity</td>
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<td>Fisher Scientific</td>
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## M.Eng. Degree Curriculum in Chemical Engineering for Chem Engr majors

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<th>Winter</th>
<th>Spring</th>
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<td>CBEE 507</td>
<td>CBEE 507</td>
<td>CBEE 507</td>
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<td>Grad Seminar Prof. Dev</td>
<td>Grad Seminar Prof. Dev</td>
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<tr>
<td></td>
<td>1 cr</td>
<td>1 cr</td>
<td>1 cr</td>
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<td></td>
<td>CHE 525</td>
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<td>CHE Analysis</td>
<td>Grad Reaction</td>
<td>Grad Mass Transfer</td>
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<td>4 cr</td>
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<td></td>
<td>Grad Engineering</td>
<td>CHE 514</td>
<td>CHE 537</td>
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<td>Specific</td>
<td>3-4 cr</td>
<td>Grad Fluid Flow</td>
<td>Grad Thermo</td>
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<td>4 cr</td>
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<td>Grad Minor or</td>
<td>Grad Engineering</td>
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<td>3-4 cr</td>
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<td>Specific</td>
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<td>TOTAL</td>
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</table>

### Notes:
- CHE Core (23 cr): CHE 507, CHE 514, CHE 520, CHE 525, CHE 537, CHE 540
- CBEE 507 Seminar is required for all 3 terms.
- Engineering Specific (9 cr): Any graduate level course offered by the College of Engineering. 2 additional seminar credits can be used towards these credits.
- Grad Minor/Elective (15 cr): Any graduate-level course, typically 4-5 courses. These are the most flexible credits. A minor requires 15 credits.
- ** Slash course 443/543. Cannot be taken for graduate credit.
### M.Eng. Degree Curriculum in Chemical Engineering for non-chemical engineering majors.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CHE 525 CHE Analysis 4 cr</td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CHE 540 Grad Reaction Engineering 4 cr</td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CHE 537 Grad Thermo 4 cr</td>
</tr>
<tr>
<td>CHE 331 UG Fluids** 3 cr</td>
<td>CHE 312 UG Thermo** 3 cr</td>
</tr>
<tr>
<td>CHE 332 UG Transport II (Heat Trans) 4 cr</td>
<td>Grad Minor Elective 3-4 cr</td>
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<tr>
<td>Grad Minor Elective 3-4 cr</td>
<td>Grad Minor Elective 3-4 cr</td>
</tr>
<tr>
<td>TOTAL 12</td>
<td>TOTAL 12</td>
</tr>
</tbody>
</table>

#### Notes:
- **CHE Core (21 cr):** CBEE 507, CHE 514, CHE 520, CHE 525, CHE 537, CHE 540
- **CBEE 507 Seminar:** Professional Development is required for all 3 terms.
- **Engineering Specific (9 cr):** Any graduate level course offered by the College of Engineering.
- **Grad Minor/Elective (15 cr):** Any graduate-level course, typically 4-5 courses, These are your most flexible credits.
- A minor requires 15 credits.
- **** Slash course 443/543. **** Cannot be taken for graduate credit.
**M.Eng. Degree Curriculum** in Environmental Engineering for EnvE majors

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
</tr>
<tr>
<td></td>
<td>ENVE 532 Aqueous Chem 4 cr</td>
<td>ENVE 541 Microbial Proc in Env. Syst. 4 cr</td>
<td>ENVE 535 Phys &amp; Chem Proc for ENVE 4 cr</td>
</tr>
<tr>
<td></td>
<td>ENVE 536 Aq Chem Lab 1 cr</td>
<td>ENVE 531 Transp &amp; Fate Organic Chem or Gen Engr Elect 3-4 cr</td>
<td>ENVE 556 Sust. Water Res. Engr or Gen Engr Elect 3-4 credits</td>
</tr>
<tr>
<td></td>
<td>CHE 525 CHE Analysis 4 cr</td>
<td>Grad Engineering Specific 3-4 cr</td>
<td>Grad Engineering Specific 3-4 cr</td>
</tr>
<tr>
<td></td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
</tr>
</tbody>
</table>

| TOTAL | 15-17 | 15-17 | 15-18 |

**Notes:**
- **ENVE Core (20 cr):** CBEE 507(3), CHE 525(4), ENVE 532(4), ENVE 536(1) ENVE 535(4)ENVE 541(4)
- CBEE 507 Seminar: Professional Development is required for all 3 terms.
- Gen Engineering, 10 credits: **Take 1 of ENVE 525, ENVE 556 or ENVE 531.**
- Grad Minor/Elective (15 cr): Any graduate-level course, typically 4-5 courses, These are your most flexible credits. A minor requires 15 credits.
- ** Slash course 443/543. Cannot be taken for graduate credit.**
M.Eng. Degree Curriculum in Environmental Engineering for non-environmental engineering majors.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
</tr>
<tr>
<td>ENVE 521 Water &amp; Wastewater Char. 4 cr</td>
<td>ENVE 522 Env Engr Design 4 cr</td>
</tr>
<tr>
<td>CE 547 Water Res. Engr I: Fluid Mech 4 cr</td>
<td>ENVE 531 Fate &amp; Transport of Chem in Env. Syst 4 cr</td>
</tr>
<tr>
<td>ENVE 532 Aqueous Chem 4 cr</td>
<td>ENVE 541 Microbial Proc in Env. Syst. 4 cr</td>
</tr>
<tr>
<td>ENVE 536 Aq Chem Lab 1 cr</td>
<td></td>
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<td><strong>TOTAL</strong></td>
<td>14</td>
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</table>

Notes:
- ENVE Core (20 cr): CHE 507, CHE 525, ENVE 532 (4), ENVE 536 (1), ENVE 535 (4) ENVE 541(4)
- CBEE 507 Seminar, Professional Development, is required for all 3 terms
- Gen Engineering, 10 credits: Take 1 of ENVE 525, ENVE 556 or ENVE 531.
- ENVE 521 and 522 do not count toward the 45 credits required for graduation
- Grad Minor/Elective (15 cr): Any graduate-level course, typically 4-5 courses. A minor requires 15 credits
- ** Slash course 443/543. Cannot be taken for graduate credit.
### M.S. Degree Curriculum in Chemical Engineering

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
</tr>
<tr>
<td>CHE 525 CHE Analysis 4 cr</td>
<td>CHE 540 Grad React. Engr 4 cr</td>
</tr>
<tr>
<td>Grad Minor or Elective 3-4 cr</td>
<td>CHE 514 Grad Fluid Flow 4 cr</td>
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<tr>
<td>Grad Minor or Elective 3-4 cr</td>
<td>CHE 537 Grad Thermo 4 cr</td>
</tr>
<tr>
<td><strong>Winter</strong></td>
<td><strong>Winter</strong></td>
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<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CHE 520 Grad Mass Transfer 4 cr</td>
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<tr>
<td>CHE 503 MS Thesis Variable 1-12 cr</td>
<td>CHE 537 Grad Thermo 4 cr</td>
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<td>Grad Minor or Elective 3-4 cr</td>
<td>CHE 503 MS Thesis Variable 1-12 cr</td>
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<td><strong>Spring</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Present. 1 cr</td>
<td>CHE 503 MS Thesis Variable 1-12 cr</td>
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<tr>
<td>CBEE 507 Grad Seminar Present. 1 cr</td>
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<tr>
<td>CBEE 507 Grad Seminar Present. 1 cr</td>
<td>CHE 503 MS Thesis Variable 1-12 cr</td>
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</table>

**Notes:**
- CHE Core (23 cr): CHE 507 (3), CHE 514 (4), CHE 520 (4), CHE 525 (4), CHE 537 (4), CHE 540 (4)
- CBEE 507 Professional Development Seminar is required for all 3 terms. Students are requested to enroll in CBEE 507 Presentation seminar.
- M.S. Thesis (9 cr): variable credits, thesis credits can go over 9 units total to meet GTA/GRA requirements
- Graduate Minor/Elective (15 cr): Any graduate-level course, typically 4-5 courses. These are the most flexible credits. 15 credits are required for a minor.
- Year 2: completion time is dependent upon intensity of project.
- 45 Total Credits required
### M.S. Degree Curriculum in Chemical Engineering for non-chemical engineering majors

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
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<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
</tr>
<tr>
<td>CHE 331 UG Fluids** 3 cr</td>
<td>CHE 312 UG Thermo** 3 cr</td>
</tr>
<tr>
<td>CHE 443 UG Reaction Engineering** 4 cr</td>
<td>CHE 332 UG Transport II (Heat Trans)** 4 cr</td>
</tr>
<tr>
<td>Grad Minor or Elective 3-4 cr</td>
<td>CHE 514 Grad Fluid Flow 4 cr</td>
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</tbody>
</table>

**Notes:**
- CHE Core (23 cr): CHE 507, CHE 514, CHE 520, CHE 525, CHE 537, CHE 540
- CBEE 507 Seminar, Professional Development, is required for all 3 terms. Students are requested to enroll in CBEE 507 Presentations seminar.
- M.S. Thesis (9 cr): variable credits, thesis credits can go over 9 units total to meet GTA/GRA requirements
- Grad Minor/Elective (15 cr): Any graduate-level course, typically 4-5 courses. These are your most flexible credits.
- A Minor requires 15 credits.
- Prerequisites for Graduate Core (14 cr): CHE 312, CHE 331, CHE 332 (or CHE 333 offered Spring term), CHE 443
- ** Slash course 443/543 and 3XX courses cannot be taken for graduate credit.
- 45 total credits required
### M.S. Degree Curriculum In Environmental Engineering

<table>
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<th>Year 2</th>
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<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
<td><strong>Fall</strong></td>
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<tr>
<td>CBEE 507</td>
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<td>CBEE 507</td>
<td>Grad Seminar</td>
<td>CBEE 507</td>
</tr>
<tr>
<td>CHE 525</td>
<td>CHE Analysis</td>
<td>ENVE 541</td>
<td>ENVE 535</td>
<td>ENVE 503</td>
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<td>ENVE 532</td>
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<td>Grad Engineering</td>
<td>Grad Engineering</td>
<td>Grad Minor or Elective</td>
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<td>Specific 3-4 cr</td>
<td>Elective 3-4 cr</td>
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</table>

**Notes:**
- **ENVE Core (20 cr):** CHE 507 (3), CHE 525 (4), ENVE 532 (4), ENVE 536 (1), ENVE 535 (4) ENVE 541(4)
- CBEE 507 Seminar, Professional Development, is required for all 3 terms. Students are requested to enroll in CBEE 507, Presentations.
- M.S. Thesis (9 cr): variable credits, thesis credits can go over 9 units total to meet GTA/GRA requirements
- Graduate Electives/Minor (15 cr): Any graduate-level course, typically 4-5 courses. These are your most flexible credits. A minor consists of 15 credits. 45 credits total required
- Year 2: completion time is dependent upon intensity of project
### M.S. Degree Curriculum in Environmental Engineering for non-environmental engineering majors.

<table>
<thead>
<tr>
<th>Year 1</th>
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<tbody>
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<td>CBEE 507</td>
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<td>Grad Seminar</td>
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<td>Prof. Dev.</td>
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<tr>
<td>1 cr</td>
<td>1 cr</td>
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<td><strong>Winter</strong></td>
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<td>Grad Seminar</td>
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<td>Prof. Dev.</td>
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<tr>
<td>1 cr</td>
<td>1 cr</td>
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<td><strong>Spring</strong></td>
<td><strong>Spring</strong></td>
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<td>CBEE 507</td>
<td>CBEE 507</td>
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<tr>
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<td>Grad Seminar</td>
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<td>Presentations</td>
<td>Presentations</td>
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<td>1 cr</td>
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<td><strong>Fall</strong></td>
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<tr>
<td>ENVE 521</td>
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<td>Water &amp; Wastewater Char.</td>
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<td><strong>Winter</strong></td>
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<td>CHE 525</td>
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<td>4 cr</td>
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<td><strong>Spring</strong></td>
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<td><strong>Fall</strong></td>
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<tr>
<td>CE 547</td>
<td>ENVE 532</td>
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<td><strong>Winter</strong></td>
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<td>CE 547</td>
<td>ENVE 531</td>
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<td>Water Res. Engr I: Fluid Mech</td>
<td>Fate &amp; Transport of Chem in Env. Syst</td>
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<td>4 cr</td>
<td>4 cr</td>
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<td><strong>Spring</strong></td>
<td><strong>Spring</strong></td>
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<tr>
<td>ENVE 556</td>
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<td>3-4 cr</td>
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<td><strong>Fall</strong></td>
<td><strong>Fall</strong></td>
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<tr>
<td>ENVE 536</td>
<td>ENVE 503</td>
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<td>Aq Chem Lab</td>
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<td>1-12 cr</td>
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**TOTAL**

<table>
<thead>
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<th>Year 1</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

**Notes:**
- **ENVE Core (20 cr):** CHE 507 (3), CHE 525 (4), ENVE 532 (4), ENVE 536 (1), ENVE 535 (4) ENVE 541(4)
- CHE 507 Seminar, Professional Development, is required for all 3 terms. Students are requested to enroll for CBEE 507 Seminar, Presentations.
- **M.S. Thesis (9 cr):** variable credits, thesis credits can go over 9 units total to meet GTA/GRA requirements
- **Grad Minor/Elective (15 cr):** Any graduate-level course, typically 4-5 courses, These are your most flexible credits.
- A minor requires 15 credits.
**PhD. Degree Curriculum in Chemical Engineering**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Present. 1 cr</td>
</tr>
<tr>
<td>CHE 525 CHE Analysis 4 cr</td>
<td>CHE 540 Grad Reaction Eng 4 cr</td>
<td>CHE 520 Grad Mass Transfer 4 cr</td>
</tr>
<tr>
<td>Grad Minor or Elective 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
</tr>
<tr>
<td><strong>TOTAL</strong> 12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

**Notes:**
- **CHE Core (21 cr):** CHE 507, CHE 514, CHE 520, CHE 525, CHE 537, CHE 540
- CBEE 507 Seminar is required for all 3 terms. Students are requested to enroll in CBEE 507, Seminar, Presentations, each term.
- **Ph.D. Thesis (36 cr):** variable credits, thesis credits can go over 36 units total to meet GTA/GRA requirements
- **Graduate Elective (15 cr):** Any graduate-level course, typically 4-5 courses, These are the most flexible credits.
- **Year 3-6:** completion time is dependent upon intensity of project and credits are based on funding/coursework
- **108 Total Credits required**
**PhD. Degree Curriculum** in Chemical Engineering for those without Chem Engr undergraduate degrees

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Present. 1 cr</td>
</tr>
<tr>
<td>CHE 331 UG Fluids** 3 cr</td>
<td>CHE 312 UG Thermo** 3 cr</td>
<td>CHE 520 Grad Mass Transfer 4 cr</td>
</tr>
<tr>
<td>CHE 443 UG Reaction Engr** 4 cr</td>
<td>CHE 332 UG Transport II (Heat Trans)** 4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

**Notes:**

- **CHE Core (21 cr):** CHE 507, CHE 514, CHE 520, CHE 525, CHE 537, CHE 540
- **CHE 507 Seminar is required for all 3 terms. Students are requested to take CBEE 507, Presentations, each term.**
- **Ph.D. Thesis (36 cr):** variable credits, thesis credits can go over 36 units total to meet GTA/GRA requirements
- **Grad Minor/Elective (15 cr):** Any graduate-level course, typically 4-5 courses. These are your most flexible credits.
- **Prerequisites for Graduate Core (14 cr):** CHE 312, CHE 331, CHE 332 (or CHE 333 offered Spring term), CHE 443
- **These courses do not count toward the 108 required graduate credits.**
- **Total credits required: 108**
### PhD. Degree Curriculum in Environmental Engineering

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBEE 507 Grad Seminar Prof. Dev. 1 cr</td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>CHE 525 CHE Analysis 4 cr</td>
<td>ENVE 541 Microbial Proc in Env. Syst. 4 cr</td>
<td>ENVE 535 Phys &amp; Chem Proc for ENVE 4 cr</td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>ENVE 532 Aqueous Chem 4 cr</td>
<td>ENVE 531 Transp &amp; Fate Organic Chem or Gen Engr Elect 3-4 cr</td>
<td>Grad Engr Specific 3-4 cr</td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>ENVE 536 Aq Chem Lab 1 cr</td>
<td>Grad Engr Specific 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Winter</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>Grad Minor or Elective 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12-14</td>
<td>12</td>
</tr>
</tbody>
</table>

### Notes:
- **ENVE Core (20 cr):** CHE 507, CHE 525, ENVE 532 (4), ENVE 536 (1), ENVE 535 (4) ENVE 541(4)
- CHE 507 Seminar is required for all 3 terms. Students are requested to take CBEE 507, Presentations each term.
- PhD. Thesis (36 cr): variable credits, thesis credits can go over 36 units total to meet GTA/GRA requirements.
- Graduate Minor (15 cr): Any graduate-level course, typically 4-5 courses, These are your most flexible credits.
- Year 3-6: completion time is dependent upon intensity of project.
- 108 Total credits required.
Ph.D. Degree Curriculum in Environmental Engineering for non-environmental engineering majors.

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3-6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
<td>Spring</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
<td>Spring</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
<td>Spring</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
<td>Spring</td>
</tr>
<tr>
<td>CBE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBE 507 Grad Seminar Prof. Dev. 1 cr</td>
<td>CBE 507 Grad Seminar Prof. Dev. Present. 1 cr</td>
<td>CBE 507 Grad Seminar Present. 1 cr</td>
</tr>
<tr>
<td>ENVE 521 Water &amp; Wastewater Char. 4 cr</td>
<td>ENVE 522 Env Engr Design 4 cr</td>
<td>ENVE 535 Phys &amp; Chem Proc for ENVE 4 cr</td>
<td>CHE 525 CHE Analysis 4 cr</td>
</tr>
<tr>
<td>CE 547 Water Res. Engr I: Fluid Mech 4 cr</td>
<td>ENVE 531 Fate &amp; Transport of Chem in Env. Syst 4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>ENVE 603 PhD Thesis Variable 1-12 cr</td>
</tr>
<tr>
<td>ENVE 532 Aqueous Chem 4 cr</td>
<td>ENVE 541 Microbial Proc in Environ. Syst. 4 cr</td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>ENVE 603 PhD Thesis 4-5 cr.</td>
</tr>
<tr>
<td>ENVE 536 Aq Chem Lab 1 cr</td>
<td>ENVE 603 PhD Thesis 4-5 cr.</td>
<td>Grad Minor or Elective 3-4 cr</td>
<td>ENVE 603 PhD Thesis Variable 1-12 cr</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

Notes:
- ENVE Core (20 cr): CHE 507, CHE 525, ENVE 532 (4), ENVE 536 (1), ENVE 535 (4) ENVE 541(4)
- CBE 507 Seminar, Prof. Development, is required for all 3 terms. CBEE 507 Seminar, Presentations, is requested each term.
- Ph.D. Thesis (36 cr): variable credits, thesis credits can go over 36 units total to meet GTA/GRA requirements
- Grad Minor/Elective (15 cr): Any graduate-level course, typically 4-5 courses. These are your most flexible credits. A minor requires 15 credits.
- 108 Total credits required
# Doctoral Deliverables Timeline

**Oregon State University**  
School of Chemical, Biological, and Environmental Engineering  
**Ph.D. Timeline**  
Version 04-10-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Term</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Fall</td>
<td>Attend Graduate Orientation</td>
</tr>
<tr>
<td>1st</td>
<td>Winter</td>
<td>Complete Rotations</td>
</tr>
<tr>
<td>1st</td>
<td>Winter</td>
<td>Complete Major Professor Selections</td>
</tr>
<tr>
<td>1st</td>
<td>Spring Break</td>
<td>Complete Qualification Exam (CHE Only)</td>
</tr>
<tr>
<td>1st</td>
<td>Spring</td>
<td>Submit Program of Study</td>
</tr>
<tr>
<td>TBD</td>
<td>TBD</td>
<td>Complete Qualification Exam (ENVE Only)</td>
</tr>
<tr>
<td>2nd</td>
<td>Spring</td>
<td>Complete Oral Preliminary Exam</td>
</tr>
<tr>
<td>3rd</td>
<td>Winter</td>
<td>Present Poster at Graduate Open House</td>
</tr>
<tr>
<td>4th</td>
<td></td>
<td>Present research in Graduate Seminar (CBEE 507)</td>
</tr>
<tr>
<td>5th+</td>
<td></td>
<td>Defend thesis</td>
</tr>
</tbody>
</table>
Electronic Thesis and Dissertation Submission Approval Form

Student Name: __________________________  ID: __________
  (Last)  (First)  (Middle)

Major: __________________________  Degree Name: ______________

Thesis or Dissertation Title: __________________________

ETD Release Options: Placing your thesis or dissertation in ScholarsArchive@OSU provides the greatest opportunity for your research to make an impact because it’s openly available to anyone in the world with an Internet connection. If, for some reason (patent or proprietary concerns), you need to restrict access only to the OSU community for a limited period, please indicate below

Check one of the Following:

☐ Provide open and immediate digital access to ScholarsArchive
☐ Delay digital access of my work via the World Wide Web but still available with OSU community
☐ Complete restricted access for patent rights

☐ 6 months ☐ 1 year ☐ 2 years

Review and Acceptance of Thesis or Dissertation:

I certify that the version I submitted to ScholarsArchive is the same as that approved by my Major Professor. I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature authorized release of my thesis to any reader upon request.

Student Signature: __________________________  Date ______________

I have reviewed the final electronic version of the above-mentioned document and determined that it is an accurate representation of the document reviewed and accepted by the committee.

Major Professor Name: __________________________

Approval signature: __________________________  Date ______________

Co-Major Professor Name: __________________________

Approval Signature: __________________________

Head/Chair/Director/Dean of Majors Program Name: __________________________

Signature: __________________________  Date ______________

Dean of the Graduate School: Jennifer Brown

Signature: __________________________  Date ______________
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Ability to Synthesize Technical Literature Knowledge in Chemical Engineering</strong></td>
<td>Process description is patently incorrect; the associated literature review belies a summative approach, with information presented in a disconnected, disjointed manner and not clearly tied to the process described; widely known technical references clearly missing or cites references not germane to the topic at hand.</td>
<td>Process description is accurate but unclear or otherwise flawed; the associated literature information is organized by themes that are related; ideas are explored as the presentation attempts to take an expert approach. However, some themes may be disconnected; some references known to experts in the field may be missing.</td>
<td>Process description is accurate and clearly described; the associated literature information is clearly synthesized into themes; presentation demonstrates an expert approach by illustrating the relationship between themes, concepts, and ideas reported in the literature, and links these themes to the focus of the process reviewed; references are complete.</td>
</tr>
<tr>
<td><strong>4b. Quality of Oral Communication</strong></td>
<td>Disorganized presentation with low original content; Excessively poor communication skills; Answers to questions show weakness in depth of knowledge in subject matter and/or poor critical thinking skills.</td>
<td>Adequately organized presentation where concepts flow logically; Adequate communication skills; Answers show adequate knowledge in subject area and adequate critical thinking skills.</td>
<td>Highly engaging conference quality presentation; Excellent communication skills; Answers show superior knowledge in subject area and well developed critical thinking skills.</td>
</tr>
</tbody>
</table>

During the examination process I did not perceive any lapses in ethical performance and/or reporting of research: __________

_Examination committee: Please use the reverse of this form for written commentary as needed._
ATTACHMENT 2
Scoring Guide (Rubric) for Graduate Learning Outcome Assessment
MEEng FINAL ORAL EXAM in ENVIRONMENTAL ENGINEERING

Candidate Name: ___________________________ Date: ___________________________
Title of Examination Document: _____________________________________________
Name and Signature of the Examining Committee Member: ________________________

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Does Not Pass Exam</th>
<th>Satisfactory</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ability to Synthesize Technical Literature Knowledge in Environmental Engineering</td>
<td>Process description is patently incorrect; the associated literature review belies a summative approach, with information presented in a disconnected, disjointed manner and not clearly tied to the process described; widely known technical references clearly missing or cites, references not germane to the topic at hand.</td>
<td>Process description is accurate but unclear or otherwise flawed; the associated literature information is organized by themes that are related; Ideas are explored as the presentation attempts to take an expert approach. However, some themes may be disconnected; some references known to experts in the field may be missing.</td>
<td>Process description is accurate and clearly described; the associated literature information is clearly synthesized into themes; presentation demonstrates an expert approach by illustrating the relationship between themes, concepts, and ideas reported in the literature, and links these themes to the focus of the process reviewed; references are complete.</td>
</tr>
<tr>
<td>4b. Quality of Oral Communication</td>
<td>Disorganized presentation with low original content; Excessively poor communication skills; Answers to questions show weakness in depth of knowledge in subject matter and/or poor critical thinking skills.</td>
<td>Adequately organized presentation where concepts flow logically; Adequate communication skills; Answers show adequate knowledge in subject area and adequate critical thinking skills.</td>
<td>Highly engaging conference quality presentation; Excellent communication skills; Answers show superior knowledge in subject area and well developed critical thinking skills.</td>
</tr>
</tbody>
</table>

During the examination process I did not perceive any lapses in ethical performance and/or reporting of research:
Signature of Examiner: ___________________________
Examiner: Please use the reverse of this form for written commentary as needed.
### Final Oral Exam Scoring Rubric – MS Chemical Engineering

**Scoring Guide (Rubric) for Graduate Learning Outcome Assessment**  
**M.S. THESIS and FINAL ORAL EXAM in CHEMICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1a. Research Hypothesis and Objectives</strong></td>
<td>Research problem not clearly stated, or statement not carefully considered and hypothesis driven; Research plan to investigate solution to the defined problem is not fully considered; Measurable technical outcomes not described.</td>
<td>Research problem clearly stated and hypotheses behind research activities identified; Research plan to investigate solution to the defined problem adequately considered; Measurable technical outcomes described.</td>
<td>Research problem fully considered and hypotheses behind all research questions clearly articulated with broader impacts in the field identified; Research plan to investigate solution to the defined problem fully considered; Measurable technical outcomes described and significance of likely measurements discussed.</td>
</tr>
<tr>
<td><strong>1b. Literature Review</strong></td>
<td>The review belies a summative approach, with information presented in a disconnected, disjointed manner and not clearly tied to the research; widely known technical references clearly missing or cites references not germane to the topic at hand.</td>
<td>The information is organized by themes that are related; ideas are explored as the writing attempts to take an expert approach. However, some themes may be disconnected; some references known to experts in the field may be missing.</td>
<td>The information is clearly synthesized into themes. The writing demonstrates an expert approach by illustrating the relationship between themes, concepts, and ideas reported in the literature, and links these themes to the focus of the research. References are complete.</td>
</tr>
<tr>
<td><strong>2. Ability to Demonstrate a Creative Solution to the Problem</strong></td>
<td>Proposed concept is well known, previously described in technical literature, or is impossible/logical.</td>
<td>Proposed work is original and possible but derivative/incremental in nature.</td>
<td>Proposed work is original, practical and demonstrates a novel approach.</td>
</tr>
<tr>
<td><strong>4a. Quality of Written Communication</strong></td>
<td>Writing style is immature. Profuse grammatical and spelling errors; poor sentence construction and/or poor document structuring make it laborious to read.</td>
<td>Writing style is academic and flows by presenting information in a concise manner. There are only minor grammatical and spelling errors.</td>
<td>Writing style is scholarly and flows naturally, presenting information in a clear and precise manner. Voice is active and devoid of bias. No grammar or spelling errors.</td>
</tr>
<tr>
<td><strong>4b. Quality of Oral Communication</strong></td>
<td>Disorganized presentation with low original content; Excessively poor communication skills; Answers to questions show weakness in depth of knowledge in subject matter and/or poor critical thinking skills.</td>
<td>Adequately organized presentation where concepts flow logically; Adequate communication skills; Answers show adequate knowledge in subject area and adequate critical thinking skills.</td>
<td>Highly engaging conference quality presentation; Excellent communication skills; Answers show superior knowledge in subject area and well developed critical thinking skills.</td>
</tr>
</tbody>
</table>

During the examination process I did not perceive any lapses in ethical performance and/or reporting of research: ___________________________.

**Examiner:** Please use the reverse of this form for written commentary as needed.
### ATTACHMENT 2

**Scoring Guide (Rubric) for Graduate Learning Outcome Assessment**

**MS THESIS and FINAL ORAL EXAM in ENVIRONMENTAL ENGINEERING**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1a. Research Hypothesis and Objectives</strong></td>
<td>Research problem not clearly stated, or statement not carefully considered and hypothesis driving research plan to investigate solution to the defined problem is not fully considered; Measurable technical outcomes not described.</td>
<td>Research problem clearly stated and hypotheses behind research activities identified; Research plan to investigate solution to the defined problem adequately considered; Measurable technical outcomes described.</td>
<td>Research problem fully considered and hypotheses behind all research questions clearly articulated with broader impacts in the field identified; Research plan to investigate solution to the defined problem fully considered; Measurable technical outcomes described and significance of likely measurements discussed.</td>
</tr>
<tr>
<td><strong>1b. Literature Review</strong></td>
<td>The review belies a summative approach, with information presented in a disconnected, disjointed manner and not clearly tied to the research; widely known technical references clearly missing or cites references not germane to the topic at hand.</td>
<td>The information is organized by themes that are related; Ideas are explored as the writing attempts to take an expert approach. However, some themes may be disconnected; some references known to experts in the field may be missing.</td>
<td>The information is clearly synthesized into themes. The writing demonstrates an expert approach by illustrating the relationship between themes, concepts, and ideas reported in the literature, and links these themes to the focus of the research. References are complete.</td>
</tr>
<tr>
<td><strong>2. Ability to Demonstrate a Creative Solution to the Problem</strong></td>
<td>Proposed concept is well known, previously described in technical literature, or is impossible/ illogical.</td>
<td>Proposed work is original and possible but derivative/incremental in nature.</td>
<td>Proposed work is original, practical and demonstrates a novel approach.</td>
</tr>
<tr>
<td><strong>4a. Quality of Written Communication</strong></td>
<td>Writing style is immature. Profuse grammatical errors, poor sentence construction and/or poor document structuring make it laborious to read.</td>
<td>Writing style is academic and flows by presenting information in a concise manner. There are only minor grammatical and spelling errors.</td>
<td>Writing style is scholarly and flows naturally, presenting information in a clear and precise manner. Voice is active and devoid of bias. No grammar or spelling errors.</td>
</tr>
<tr>
<td><strong>4b. Quality of Oral Communication</strong></td>
<td>Disorganized presentation with low original content; Excessively poor communication skills; Answers to questions show weakness in depth of knowledge in subject matter and/or poor critical thinking skills.</td>
<td>Adequately organized presentation where concepts flow logically. Adequate communication skills; Answers show adequate knowledge in subject area and adequate critical thinking skills.</td>
<td>Highly engaging conference quality presentation; Excellent communication skills; Answers show superior knowledge in subject area and well developed critical thinking skills.</td>
</tr>
</tbody>
</table>

During the examination process I did not perceive any lapses in ethical performance and/or reporting of research:

Signature of Examiner: ____________________________

*Examiner: Please use the reverse of this form for written commentary as needed.*
### Final Oral Exam Scoring Rubric – PHD Chemical Engineering

**Scoring Guide (Rubric) for Graduate Learning Outcome Assessment**  
**Ph.D. THESIS and FINAL ORAL EXAM in CHEMICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1a. Research Hypothesis and Objectives</strong></td>
<td>Research problem not clearly stated, or statement not carefully considered and hypothesis driven; Research plan to investigate solution to the defined problem is not fully considered; Measurable technical outcomes not described.</td>
<td>Research problem clearly stated and hypotheses behind research activities identified; Research plan to investigate solution to the defined problem adequately considered; Measurable technical outcomes described.</td>
<td>Research problem fully considered and hypotheses behind all research questions clearly enunciated with broader impacts in the field identified; Research plan to investigate solution to the defined problem fully considered; Measurable technical outcomes described and significance of likely measurements discussed.</td>
</tr>
<tr>
<td><strong>1b. Literature Review</strong></td>
<td>The review belies a summative approach, with information presented in a disconnected, disjointed manner and not clearly tied to the research; widely known technical references clearly missing or cites references not germane to the topic at hand.</td>
<td>The information is organized by themes that are related; Ideas are explored as the writing attempts to take an expert approach. However, some themes may be disconnected; some references known to experts in the field may be missing.</td>
<td>The information is clearly synthesized into themes. The writing demonstrates an expert approach by illustrating the relationship between themes, concepts, and ideas reported in the literature, and links these themes to the focus of the research. References are complete.</td>
</tr>
<tr>
<td><strong>2. Ability to Demonstrate a Creative Solution to the Problem</strong></td>
<td>Proposed concept is well known, previously described in technical literature, or is impossible/illegal.</td>
<td>Proposed work is original and possible but derivative/incremental in nature.</td>
<td>Proposed work is original, practical and demonstrates a novel approach.</td>
</tr>
<tr>
<td><strong>3. Application of Science and Engineering Fundamentals</strong></td>
<td>Science/Engineering principles underlying Research Hypothesis and Objectives not clearly identified. Lack of awareness of assumptions and limitations.</td>
<td>Science/Engineering principles underlying Research Hypothesis and Objectives identified and discussed. Major assumptions clearly stated.</td>
<td>Science/Engineering principles underlying Research Hypothesis and Objectives identified and discussed. Major assumptions clearly stated; as appropriate math models and approaches developed.</td>
</tr>
<tr>
<td><strong>4a. Quality of Written Communication</strong></td>
<td>Writing style is immature. Profuse grammatical errors, poor sentence construction and/or poor document structuring make it laborious to read.</td>
<td>Writing style is academic and flows by presenting information in a concise manner. There are only minor grammatical and spelling errors.</td>
<td>Writing style is scholarly and flows naturally, presenting information in a clear and precise manner. Voice is active and devoid of bias. No grammar or spelling errors.</td>
</tr>
<tr>
<td><strong>4b. Quality of Oral Communication</strong></td>
<td>Disorganized presentation with low original content; Excessively poor communication skills; Answers to questions show weakness in depth of knowledge in subject matter and/or poor critical thinking skills.</td>
<td>Adequately organized presentation where concepts flow logically; Adequate communication skills; Answers show adequate knowledge in subject area and adequate critical thinking skills.</td>
<td>Highly engaging conference quality presentation; Excellent communication skills; Answers show superior knowledge in subject area and well developed critical thinking skills.</td>
</tr>
</tbody>
</table>

**During the examination process I did not perceive any lapses in ethical performance and/or reporting of research:**

*Examiner: Please use the reverse of this form for written commentary as needed.*
ATTACHMENT 3
Scoring Guide (Rubric) for Graduate Learning Outcome Assessment
PhD PRELIMINARY or FINAL ORAL EXAM in ENVIRONMENTAL ENGINEERING

Type of Examination (please circle one): PRELIMINARY ORAL EXAM  FINAL ORAL EXAM

Candidate Name: __________________________ Date: __________________________

Title of Examination Document: ____________________________________________

Name and Signature of the Examining Committee Member: ______________________

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Does Not Pass Exam</th>
<th>Passes Exam</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsatisfactory</td>
<td>Satisfactory</td>
<td>Exemplary</td>
</tr>
<tr>
<td>1a. Research Hypothesis and Objectives</td>
<td>Research problem not clearly stated, or statement not carefully considered and hypothesis driven; Research plan to investigate solution to the defined problem is not fully considered; measurable technical outcomes not described</td>
<td>Research problem clearly stated and hypotheses behind research activities identified; Research plan to investigate solution to the defined problem adequately considered; measurable technical outcomes described</td>
<td>Research problem fully considered and hypotheses behind all research questions clearly enunciated with broader impacts in the field identified; Research plan to investigate solution to the defined problem fully considered; measurable technical outcomes described and significance of likely measurements discussed</td>
</tr>
<tr>
<td>1b. Literature Review</td>
<td>Disorganized and too brief to adequately explore the topic; widely known technical references clearly missing or not germane to the topic at hand</td>
<td>Logically crafted and adequately explores the topic; some references known to experts in the field may be missing,</td>
<td>Fully explores the topic and illustrates the state of the knowledge in the field, may be missing an obscure reference or two</td>
</tr>
<tr>
<td>2. Ability to Demonstrate a Creative Solution to the Problem</td>
<td>Proposed concept is well known to be described in technical literature or is impossible/absurd</td>
<td>Proposed work is original and possible but derivative/incremental in nature</td>
<td>Proposed work is original, practical and high-risk/high-payoff</td>
</tr>
<tr>
<td>3. Application of Science and Engineering Fundamentals</td>
<td>Science/Engineering principles underlying Research Hypothesis and Objectives not clearly discussed</td>
<td>Science/Engineering principles underlying Research Hypothesis and Objectives discussed</td>
<td>Science/Engineering principles underlying Research Hypothesis and Objectives discussed; as appropriate math models and associated predictions developed</td>
</tr>
<tr>
<td>4a. Quality of Written Communication</td>
<td>Profuse grammatical errors, poor sentence construction and/or poor document structuring makes it impossible to read through</td>
<td>Adequate document structure, grammar and writing enables adequate understanding of the material presented</td>
<td>Near publication quality, great reading with minor flaws</td>
</tr>
<tr>
<td>4b. Quality of Oral Communication</td>
<td>Disorganized presentation with low real content; Excessively poor communication skills; Answers to questions show weakness in depth of knowledge in subject matter and/or poor critical thinking skills</td>
<td>Adequately organized presentation where concepts flow logically; Adequate communication skills; Answers show adequate knowledge in subject area and adequate critical thinking skills</td>
<td>Highly engaging conference quality presentation; Excellent communication skills; Answers show superior knowledge in subject area and well developed critical thinking skills</td>
</tr>
</tbody>
</table>

During the examination process I did not perceive any lapses in ethical performance and/or reporting of research:

Signature of Examiner: __________________________

Examiner: Please use the reverse of this form for written commentary as needed.
## Evaluated Graduate Learning Objectives/Outcomes for PhD, MS, and MEng Programs

**Chemical Engineering, College of Engineering**

<table>
<thead>
<tr>
<th><strong>PhD Outcomes</strong></th>
<th><strong>MS Outcomes</strong></th>
<th><strong>MEng Outcomes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome 1: Demonstration of Scholarship</strong>&lt;br&gt;The student will be able to identify and conduct original research resulting in a significant contribution to knowledge in the fields spanned by Chemical, Biological and Environmental Engineering. (CBEE) and to effectively communicate this work to a technically literate audience.&lt;br&gt;This will be assessed using the PhD Qualifier Examination, PhD Thesis and Final Oral Examination (“Defense”).</td>
<td><strong>Outcome 1: Demonstration of Scholarship</strong>&lt;br&gt;The student will be able to conduct original research and assemble a creative new body of work in the fields spanned by CBEE and to effectively communicate this work to a technically literate audience.&lt;br&gt;This will be assessed using the MS Thesis and Final Oral Examination.</td>
<td><strong>Outcome 1: Demonstration of Scholarship</strong>&lt;br&gt;The student will be able to assemble a presentation synthesizing aspects of core knowledge in the fields spanned by CBEE and to effectively communicate this work to a technically literate audience.&lt;br&gt;This will be assessed using the MEng Final Oral Examination.</td>
</tr>
<tr>
<td><strong>Outcome 2: Mastery of Subject Material</strong>&lt;br&gt;The student will be able to think critically, creatively and to address technical problems in CBEE.&lt;br&gt;This will be assessed through satisfactory completion of the graduate program of study.</td>
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<td><strong>Outcome 3: Ethical Conduct</strong>&lt;br&gt;Students will be educated in ethical and responsible conduct in research and professional activities.&lt;br&gt;This will be assessed through satisfactory completion of the graduate seminar (CBEE507).</td>
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<td>M.S. Outcomes</td>
<td>M.Eng. Outcomes</td>
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</tr>
</tbody>
</table>
Leave of Absence

Student Name: [Student Name]

Date: [Date]

Reason: [Reason]

Planned Leave of Absence (check items below)

☐ Regular Leave of Absence
☐ Medical Leave
☐ Parental Leave
☐ Other

REMEMBER: For information on CMT**, use the online form for期間在外事假 (CMT) Request.

*Check one:

☐ Consent
☐ Non-consent

Remainder

Signature of Leave Time Request

Regular Leave

☐ Approved
☐ Denied

Planned Leave

☐ Approved
☐ Denied

Purpose of Leave/Time Request

Remainder

Signature of Principal/Chief of Program Director

Purpose of Leave/Time Request
Online Graduate Bios Information Form

Graduate Student Information Sheet
The information on this sheet will be collected and displayed for visitors to the “Graduate Student” page on the cbee.engr.oregonstate.edu website.

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
</tr>
</thead>
</table>

Degree Sought
☐ Masters
☐ Ph.D.
☐ Masters of Engineering

Classification
☐ GRA
☐ GTA
☐ Other: _______________

Contact Info (e-mail, desk location, etc.)
___________________________________________________________________________________

Degrees and Institutions (i.e. Oregon State Univ., B.S. Physics, 2010)
___________________________________________________________________________________
___________________________________________________________________________________

MINI BIO:
Research Interests/Areas of Expertise
___________________________________________________________________________________
___________________________________________________________________________________

Recent Publications and/or Conference Presentations
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

Personal Interests and Activities
___________________________________________________________________________________
___________________________________________________________________________________

Additional Information
We can add a résumé, short or long CVs, any links to personal webpages, etc. Please write down anything you would like added to your profile below...
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

Signature

By signing above you consent to release the information contained on this sheet for the sole purpose of creating a profile for you on the Oregon State University Chemical Engineering graduate student webpage.
DOCTORAL PROGRAM MEETING CHECKLIST FOR GRADUATE COUNCIL REPRESENTATIVE

Student’s Name ___________________ Major __________________

GENERAL INFORMATION

The major professor chairs this meeting.

The student should have devised a draft program, usually with help from the major professor. The student should furnish copies of this program to all committee members at the meeting.

The student (or major professor) is responsible for providing for committee use a copy of transcripts containing all completed courses that will be transferred to the program. Courses to be transferred must be graduate level courses with A or B (or equivalent) grades. Courses taken before the completion of a four-year baccalaureate degree (or equivalent) must have been officially reserved for graduate credit. Courses used on a master’s degree can be transferred to a doctorate. Graduate courses taken at OSU while the student was a graduate non-degree student or a postbaccalaureate student, or courses reserved for graduate credit while an undergraduate or postbaccalaureate student, are considered transfer courses. If the transfer credit is from a foreign university, the student must provide an English translation of the transcript with the courses to be transferred clearly indicated.

CHECKLIST

1. _____ Is the meeting being held at the scheduled time?

2. _____ Are all committee members present?

3. _____ Are all the necessary transcripts available for committee use?

4. _____ Does the program show at least three years of full-time graduate work beyond the baccalaureate degree (i.e., a minimum of 108 credits)?

5. _____ Does the program show at least 36 credits devoted to the Ph.D. thesis (24 credits for the Ed.D. thesis)?
6. _____ Does the program contain at least one full-time academic year of regular non-blanket course work (i.e., a minimum of 36 credits)?

7. _____ Does the program guarantee that the following residence requirement will be met? 1.) A minimum of 36 graduate Oregon State University credits, and 2.) At least three terms of full-time graduate academic work (at least 9 credits/term) on site at the Corvallis campus or at an off-campus site approved by the Graduate School.

8. _____ Does each declared minor contain at least 18 credits (15 credits for an Integrated Minor)?

9. _____ Does the program contain not more than 15 credits of blanket-numbered courses, other than thesis? (Excess blanket-numbered courses are allowed to the extent that the program exceeds 108 credits.)

10. _____ Does the program guarantee that all departmental requirements will be fulfilled?

11. _____ Does the program include a plan for the student to be informed/trained as to what is required to conduct scholarly activities in an ethical manner? For examples of such plans, see PhD assessment requirements at http://oregonstate.edu/dept/grad_school/assessment.php.

12. _____ Do all transfer courses appear to fit the above-mentioned guidelines for transfer courses?

13. _____ Are all transfer courses clearly identified as such?

14. _____ Is the program meeting being held early enough in the student’s academic career to permit the committee to contribute meaningful input to the program?

15. Other comments?

Please sign

Graduate Council Representative Date

Please Return this Form Promptly to the Graduate School after the Meeting.
Doctoral – Program of Study

Oregon State University
Graduate School

DOCTORAL

Last Name (Family)  First Name  Middle Init.  (Former)
Day Phone #  ID#  Email Address

Degrees Held
University  Major  Degree  Date
University  Major  Degree  Date

Academic Unit  First Minor □ or Option □
Major  Second Minor □ or Option □
(please check one)

Transfer Symbol  Title of Major Courses  Course  Dept.  No.  Cr.  Gr.

Transfer Symbol  Title of First Minor or Option Courses  Course  Dept.  No.  Cr.  Gr.
Transfer Symbol  Title of Second Minor or Option Courses  Course  Dept.  No.  Cr.  Gr.

If additional lines are needed, use a second form

Total

Transfer courses indicated above:

Transfer Symbol  University
T1
T2
T3
T4

Total

SUPPORTIVE REQUISITES

Foreign Language requirements vary among academic units.

Languages

Doctoral students are expected to "be able to conduct scholarly or professional activities in an ethical manner". Indicate the training you have completed or will complete to meet this learning outcome. See page 2 of this form for more information.

Ethical Research Training

SFM ONLY (MF, MS & PhD): See SFM Advising Guide

Communication Training

Revised August 2015

*Mark courses that will be graduate standalone with the letter "G" in this column.
The program of study will be audited to determine if it is accurate and it meets the minimum requirements for this degree as established by the OSU Faculty Senate. Please be sure that the following items are correct:

1. Student name, phone, ID number, email address, degree held, year awarded, and institution from which it was received.
2. The academic unit, major, minor and option, if applicable, are indicated. Please run an unofficial copy of your OSU transcript to attach to this form.
3. The program of study satisfies the residence requirement. That is, (1) a minimum of 36 credits on the form are courses taken at OSU after admission as a regular, degree-seeking graduate student and (2) a minimum of three terms of full-time graduate academic work (at least 9 credits/term) will be spent on site at the Corvallis campus or at an off-campus site approved by the Graduate School. Transfer courses as defined above are not counted toward this residence requirement.
4. The maximum number of blanket numbered credits is 15 on a 108 credit degree program.
5. A transfer symbol is indicated for each transfer course (T1 for the first university, T2 for the second, etc.)
6. Transfer courses must have been approved by your major advisor and minor advisor if they are in the minor field. All transfer courses must be either:
   a. Graduate courses taken at OSU while enrolled as a non-degree, undergraduate, or post baccalaureate student and not used to satisfy undergraduate degree requirements.
   b. Graduate courses taken at OSU in a prior graduate degree program and falling within the limits of transfer credit accepted from one OSU graduate degree to a second OSU graduate degree (refer to current graduate catalog); or
   c. Stand-alone graduate courses taken at other accredited universities but not used to satisfy the requirements for a bachelor’s degree or international equivalent.
7. All courses listed as transfer courses must comply with policies:
   a. be graded B, B+, A-, A, or A+ (no P/N, S/U, credit/no credit graded courses will be allowed), and
   b. not have been used on a previous doctoral degree,
   c. grades of "B" (3.00) or better have been earned, and
   d. must not include thesis credits.
8. For each standalone graduate course a G is entered in the G column.
9. Each course in the major and minor has a title, abbreviated if necessary, a department code, a course number, number of credits and a grade, if the course has been completed.
10. Grades of non-transfer courses listed on this program will be either C or above, or P, or R for research.
11. The total number of credits at the 4XX/5XX level is entered. And the number of 5XX or 6XX credits is entered.
12. No more than 50% of the credits are slash courses (the 5XX component of a 4XX/5XX course). To determine if a course is a slash course examine the OSU course catalog for the term that you took 5XX course. If there is a 4xx course with the same title during the same term, then this is a slash course.
13. A minimum of 36 credits of XXX603 Thesis is entered.
14. Your plan includes training in the conduct of scholarly activities in an ethical manner. See http://gradschool.oregonstate.edu/faculty/program-assessment.
15. Your total number of credits must be at least 108. (Your major may require more credits—check with them.)
16. Your major professor and at least one other member of your committee must be members of the Graduate Faculty in your major. Your minor professor, if you have a minor, must be a Graduate Faculty member in your minor. All other committee members must be members of the OSU graduate faculty with authority to serve on doctoral advisory committees.
17. The program of study must be signed by the student, the student’s committee members, and the academic unit chair.
<table>
<thead>
<tr>
<th>Title</th>
<th>Signature</th>
<th>Date</th>
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<tr>
<td>Student's Signature</td>
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<tr>
<td>APPROVED - Major Professor</td>
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<td>APPROVED - Chair, Academic Unit</td>
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<td>Typewritten Name</td>
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<td>APPROVED - First Minor Professor</td>
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<td>APPROVED - Second Minor Professor</td>
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<td>APPROVED - Graduate Council Representative</td>
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<td>Typewritten Name</td>
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<td>APPROVED - Committee Member</td>
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<td>APPROVED - Committee Member (if no minor)</td>
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Return this program of study to:

Graduate School  
300 Kerr Administration Building  
Corvallis, OR 97331-2121  
Graduate_School@oregonstate.edu  
541-737-4881

Revised August 2015
Masters Program of Study

**Graduate School**

**Masters**

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<th>MFA</th>
<th>MPP</th>
<th>MS</th>
<th>MMP</th>
<th>MHP</th>
<th>PSM</th>
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<th>First Name</th>
<th>Middle Initial</th>
<th>(Former)</th>
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<th>Email Address</th>
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<tr>
<th>Degree Now Held</th>
<th>When/Where Received</th>
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**Academic Unit**

**Major**

**Minor** or Option

**CAPSTONE**

**Thesis (6-12 credits)**

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<tr>
<td>Dept.</td>
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**SUPPORTIVE REQUISITES**

MA ONLY: Foreign language requirements vary among academic units.

**Languages**

Master’s students are expected to “be able to conduct scholarly or professional activities in an ethical manner.” Indicate the training you have completed or will complete to meet this learning outcome. See page 2 of this form for more information.

**Ethical Research Training**

**SFM ONLY (MF, MS & PhD):** See SFM Advising Guide

**Communication Training**

- Total Major Hours
- Total First Minor or Option Hours
- Total Blanket Hour Credits
- Total 4XX6XX Program Credits
- Total Graduate Standalone Credits
- TOTAL CREDITS ON PROGRAM (d=+)

*Mark courses that will be graduate standalone with the letter “G” in this column.*

Revised August 2015
The program of study will be audited to determine if it is accurate and it meets the minimum requirements for this degree as established by the OSU Faculty Senate. Please be sure that the following items are correct:

1. The correct degree is indicated in the first row. Please refer to and attach an unofficial copy of your transcript.
2. Student name, phone, ID number, email address, degree held, year the degree was awarded, and institution from which it was received are filled in.
3. The academic units, majors, and thesis or non-thesis are indicated.
4. If your degree includes a thesis, the program of study must include from 6 to 12 credits of XXX503 Thesis, where XXX is the course code of your major. If both majors require a thesis, an approximately equal amount of thesis is taken in each major. The thesis can be directed by one person qualified in both majors or by co-major professors (one in each major). If one major requires a thesis and the other does not, the major requiring a thesis should list 6-12 credits of XXX503 and the major that does not require a thesis may list up to 6 credits of XXX501 or XXX506.
5. If your degree is non-thesis, the program of study must include 3 to 6 credits of project such as XXX501 or XXX506. If both majors offer a non-thesis option, each may list 3 to 6 credits of XXX 501 or XXX506.
6. The maximum number of blanket numbered credits is 24 on a 60 credit degree program or 9 on a 45 credit degree program.
7. A transfer symbol is indicated for each transfer course (T1 for the first university, T2 for the second, etc.)
8. Transfer courses have been approved by your major advisor and minor advisor if they are in the minor field.
All transfer courses must be either:
   a. Graduate courses taken at OSU while enrolled as a non-degree, undergraduate, or post baccalaureate student and not used to satisfy undergraduate degree requirements;
   b. Graduate courses taken at OSU in a prior graduate degree program and falling within the limits of transfer credit accepted from one OSU graduate degree to a second OSU graduate degree (refer to current graduate catalog);
   c. Stand-alone graduate courses taken at other accredited universities but not used to satisfy requirements for a bachelor's, master's, or doctoral degree or international equivalents.
9. All courses listed as transfer courses must comply with policies:
   a. be graded B, B+, A-, A, or A+ (no P/N, S/U, credit/no credit graded courses will be allowed), and
   b. not have been used on a previous master's or doctoral degree, and
   c. grades of "B" (3.00) or better have been earned.
10. Thirty (30) credits must be taken at OSU after having been admitted as a regular, degree-seeking graduate student. (Transfer courses, as defined above, cannot be counted toward this residence requirement.)
11. For each standalone graduate course a G is entered in the G column.
12. Each course in the major and minor has a title, abbreviated if necessary, a department code, a course number, number of credits and a grade, if the course has been completed.
13. Grades of non-transfer courses listed on this program will be either C or above, or P, or R for research.
14. The total number of credits at the 4XX/5XX level is entered and the number of 5XX or 6XX credits is entered.
15. No more than 50% of the credits are slash courses (the 5XX component of a 4XX/5XX course). To determine if a course is a slash course examine the OSU course catalog for the term that you took 5XX course. If there is a 4xx course with the same title during the same term, then this is a slash course.
16. Your plan includes training in the conduct of scholarly or professional activities in an ethical manner. This could be a course offered by your degree program, GRAD 520, RCR training modules, training in research groups, etc. For more information on the requirement, see http://oregonstate.edu/dept/grad_school/assessment.php.
17. Your total number of credits must be at least 45. (Your major/track may require more credits—check with them.)
18. All work toward this degree will be completed within seven (7) years. This includes transfer credits, all course work, all examinations, and final library copies of thesis, if applicable.
19. Your major professor(s) must belong to the Graduate Faculty in your majors. Your minor professor, if you have a minor, must be a Graduate Faculty member in your minor.
20. Committee Requirements:
   a. MA, MBE, MCoun, Meng, MFA, MHP, MMP, MS, MocE, MPP, PSM: Non-Thesis: The examining committee consists of three members of the graduate faculty-two in the major field and one in the minor field if a minor is included. When a minor is not included, the third member may be from the graduate faculty at large. Thesis: The examining committee consists of at least four members of the graduate faculty.
faculty-two in the major field, one in the minor field if a minor is included, and a Graduate Council representative. When a minor is not included, the fourth member may be from the graduate faculty at large.

b. **EdM:** Individual committees are usually not established for students in these programs. Each student will need to identify a Graduate Faculty member from the major department and Graduate Faculty member representing the minor department if a minor is declared.

c. **MF:** Two members of the Graduate Faculty from the major department; one member of the Graduate Faculty from the minor if a minor is declared, otherwise another member of the Graduate Faculty; and a Graduate Council Representative if a thesis is involved. The major professor is one of the two members representing the major department.

21. The program of study must be signed by the student, all committee members, and the academic unit chair.

<table>
<thead>
<tr>
<th>Role</th>
<th>Signature</th>
<th>Date</th>
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<tr>
<td>Student's Signature</td>
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<tr>
<td>APPROVED - Major Professor</td>
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<td>APPROVED - Chair, Academic Unit</td>
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<td>APPROVED - Minor Professor</td>
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<td>APPROVED - Graduate Council</td>
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<td>APPROVED - Committee Member</td>
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<td>APPROVED - Graduate School</td>
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</tbody>
</table>

Return this program of study to the:
Graduate School
300 Kerr Administration Building
Corvallis, OR 97331-2121
GraduateSchool@oregonstate.edu
541-737-4881
CBEE Graduate Student EH&S Lab Safety Training

Student Name:
Date:
Student ID #:

Video title:
Written summary of the important concepts and information in this video:
<table>
<thead>
<tr>
<th>Transfer School</th>
<th>University</th>
<th>Transfer Course Titles</th>
<th>Course</th>
<th>Cr.</th>
<th>Gr.</th>
<th>El.</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

Cr. = credits earned  
Gr. = course grade  
El. = Eligible to be used on a graduate program of study (Graduate School decision).
GENERAL INSTRUCTIONS FOR COMPLETING THE REQUEST TO DETERMINE ELIGIBILITY FOR TRANSFER CREDIT

This form is to be used to determine if the courses listed above meet the university's requirements to transfer courses. The Graduate School will review the request and determine if the courses are eligible to be transferred to your OSU graduate program.

1. Fill in your names and previous name, of any.
2. Fill in (a) a day telephone phone number, (b) your student ID number, and (c) your email address.
3. Fill in (a) the most recent or highest degree you hold (e.g. B.S. botany, M.S. chemistry), (b) the year you received the degree and (c) from what institution you received it.
4. Indicate your major. (This must be one of the majors listed in the university catalog at this URL: http://catalog.oregonstate.edu/ChapterDetail.aspx?key=46#Section842).
5. Indicate the academic unit of your major. This is found in the same row as your major at the above URL.
6. Indicate the name of each institution on a separate line in the box titled "Transfer courses indicated:" Then mark each transferred course with the appropriate transfer symbol (T1, T2, T3, T4).
7. Fill in course titles, numbers, credit hours, and grades as they appear on your official transcripts. List only courses that your program will endorse for use on a graduate program of study.
8. Do not list undergraduate courses even if your prior university allowed them to be used to meet degree requirements.
9. For transfer credits to a master's degree, do not list courses that will be older than 7 years at the time of degree completion.
10. Official transcripts (for all courses to be transferred from other institutions) must be on file in the Graduate School Office BEFORE your program can be approved. When requesting transcripts from another institution, ask that they be sent directly to the Graduate School Office. Only graduate level courses with a grade of a 3.0 (B) or better are transferable. To convert semester hours to quarter hours: multiply semester hours by 1.5. See additional information under "Transferred Credit" in the Graduate Catalog (http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1802).
11. Obtain the signatures of your major professor and graduate program director. Then submit the request for transfer credit to the Graduate School.

Copies of your transfer credit audit form will be sent to you, your major department, and major professor c/o your major department. Please contact your department for your copy.

If you have any questions, please call 541-737-4881 (Graduate School).

Rev. 11.05.10
Transfer Credit Information from the catalog (http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1802)

Students who wish to transfer graduate credits from other schools must provide transcripts for courses already completed to the Graduate School prior to the submission of a study program. If a student undertakes a transfer course after his or her study program has been approved, the student must provide the Graduate School with a transcript of this course prior to the final examination. The Graduate School does not assume responsibility for obtaining transcripts from other institutions.

Courses to be transferred must be graduate level, taken after the completion of a four-year baccalaureate degree (or equivalent), with grades of "B" (3.00) or better. Courses delivered off-campus or by electronic means must satisfy the OSU guidelines for the electronic delivery of courses. It is the responsibility of the student wishing to transfer the course to provide the necessary documentation to satisfy the OSU guidelines. Traditional extension and correspondence courses with no live or real-time interaction with the instructor are not transferable.

Graduate courses may be transferred if:

1. the work is appropriate to and will be placed on the student's graduate certificate or degree program;
2. the transfer is approved by the student's committee (for degree-seeking students), by the major program or department, and by the Graduate School;
3. grades of "B" (3.00) or better have been earned.

If the transfer credit is from a foreign university, the student must provide copies of the original transcript and an English translation of the transcript, with the courses to be transferred clearly indicated. Grades and credits for the courses must be clearly identified. In some countries, the first university degree, which OSU considers to be equivalent to a baccalaureate degree, may take five years or more to complete. All of the course work toward such a degree is considered a requirement for the first university degree, and hence none of it can be transferred to a graduate certificate or graduate degree at OSU.

Students may not transfer courses graded on a nonstandard basis (e.g., Pass/No Pass, Credit/No Credit, Satisfactory/Unsatisfactory) to their graduate certificate or degree programs unless it can be verified from the registrar of the university offering the course that the grade is equivalent to a "B" (3.00) or better.

Graduate courses to be transferred to an OSU master's degree must not have been used to satisfy the requirements for a master's degree (or equivalent) or a doctoral degree from another institution.

Graduate courses to be transferred from an OSU master's degree to a second OSU master's degree must meet the following three requirements:

1. Credits used to satisfy the residency requirements of one master's degree may not be used to satisfy the residency requirements of another master's degree.
2. Students who earn two master's degrees at Oregon State University must complete all degree requirements for each degree. This requires filing separate programs of study forms for each degree, filing separate commencement applications for each degree, completing separate projects or theses for each degree, scheduling separate final oral examinations for each degree, and passing final oral examinations for each degree.
3. Such credit will be granted only for graded course work earned at Oregon State University and completed with a grade of "B" or higher.

Up to 15 graduate credits may be transferred toward a 45-credit master's degree. Up to 6 graduate credits may be transferred toward an 18-credit graduate certificate.

Graduate courses to be transferred to a doctoral degree program can be courses that were used to satisfy the graduate course requirements for a graduate certificate or a master's degree (or equivalent). Selected 700-level courses that have been deemed equivalent to graduate-level learning may be used on doctoral programs of study upon approval of the student's graduate committee. There is no limit on transfer credit toward the doctoral degree as long as the doctoral residence requirement is satisfied.

Credits earned in fulfillment of a graduate certificate program may be applied to a graduate degree, so long as they meet the appropriate standards for use in the degree and the criteria for transfer credit as defined herein. Courses completed for a degree program may likewise be applied toward a certificate program.

Graduate courses taken at OSU while the student was a graduate nondegree-seeking student, a postbaccalaureate student, or a professional degree seeking student (PharmD or DVM), and courses reserved for graduate credit while the student was an undergraduate or postbaccalaureate student are considered transfer courses.