

DEPARTMENT OF
ENVIRONMENTAL HEALTH SCIENCES



Doctoral Student
Handbook

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Introduction

The goal of the Department of Environmental Health Sciences is to promote human health through a healthy environment. Human health is profoundly shaped by our environment. The research and educational activities of the Department's faculty and students range from studying the impact of biological, chemical, and physical hazards on human health to understanding how human activities impact the environment. Our graduates are scientists and professionals capable of identifying and measuring agents of environmental concern; evaluating the health, environmental, and all other impacts of such agents; developing means for their effective management; and evaluating alternative policies directed at improving and protecting environments. This training is accomplished through degree programs which offer specialized study in selected academic areas of environmental health sciences such as air quality, environmental biology, environmental chemistry, environmental management/policy, industrial hygiene, toxicology, and water quality. Graduates of the department have pursued careers in both the private and public sectors as researchers, educators, managers, policymakers, and practitioners.

Scope & Objectives:

The field of EHS is undergoing rapid evolution due to rising public and policy awareness of the importance and impact of the environment on health, as well as to the impacts of humans on the environment. With disasters such as Hurricane Katrina and the Gulf Oil Spill, there is greater need for scientists and professionals who understand the implications of these outcomes on the environment and human health. The department offers both professional (M.P.H.) and research-oriented degrees (M.S. and Ph.D.). Academic areas of specialization for the M.S. and Ph.D. degrees include air quality, environmental biology, environmental chemistry, environmental assessment; environmental management/policy, industrial hygiene, toxicology, and water quality. In addition, the Environmental Health Sciences Department and the Department of Urban Planning offer a concurrent plan of study (M.P.H./M.U.R.P.) providing an integrated curriculum for students interested in interdisciplinary training on the public health consequences of urban planning. There is also an interdepartmental degree program (IDP) that is housed in the EHS department: the [Molecular Toxicology Program](#) (Ph.D.).

The Environmental Health Sciences Department houses a number of organizations including: the UCLA Center for Occupational and Environmental Health (COEH), the Southern California Education and Research Center (ERC), and the Sustainable Technology and Policy Program (STPP).

Admissions Requirements:

Applicants should meet the University requirement of a Bachelor's Degree with a minimum 3.0 grade point average (B) and satisfactory performance on the Graduate Record Exam (GRE) taken within the last five years. There is no minimum combined score requirement for the GRE. Foreign students must have a satisfactory TOEFL score, taken within the last three years. MCAT or DAT scores are accepted only for applicants already holding MD or DDS degrees. In addition to the [University's minimum requirements](#) and those listed above, all applicants are expected to submit the departmental application through the [UCLA Graduate Division](#) and the Schools of Public Health Application Service ([SOPHAS](#)).

Additional admissions requirements for the MS, MPH, & PhD degrees in Environmental Health Sciences are as follows:

Desired Qualifications: In addition to meeting the [University's minimum requirements](#), students should have a bachelor's (or master's) degree in public health, environmental health, life sciences, physical sciences, engineering, environmental science, or a related field.

Applicants with non-science majors who meet the following course work requirements will be considered for admission:

Course Work:

- 1 university-level course or equivalent in Calculus, Linear Algebra, or Statistics
- 1 university-level course in Chemistry or equivalent
- 1 university-level course in Biology or equivalent

Students who do not have the prerequisites at the time of application may take equivalent courses at UCLA in their first year.

Prospective doctoral students should contact faculty doing research in their field of interest before applying to the doctoral program.

Industrial Hygiene Admissions Requirements:

Applicants who have completed one undergraduate course each in Chemistry, Biology, and Calculus (or equivalent) or have an undergraduate degree in environmental science, engineering or equivalent are encouraged to apply for the Industrial Hygiene (IH) program. This is an area of specialization within the Environmental Health Sciences program. The M.S. and M.P.H. programs in IH are fully accredited by the Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET/ASAC), <http://www.abet.org>, the only such IH program in California. Applicants who are admitted and who are US citizens or holders of Green Cards qualify for fees and stipend support from the NIOSH Southern California Education and Research Center. For questions about the Industrial Hygiene program and curriculum, please contact the IH Director, Professor Shane Que Hee at squehee@ucla.edu.

MURP/MPH: Applicants must apply and be admitted to both the M.P.H and MURP programs. Further details regarding coursework and program structure may be obtained from the

admissions office or graduate adviser in either the department of [Urban Planning](#) or the department of [Environmental Health Sciences](#).

How to Apply: Detailed information on the application process and procedures can be found at: <http://ph.ucla.edu/prospective-students>.

All application materials for the School's graduate programs are available online for electronic submission at <https://grad.ucla.edu/admissions/> and at www.sophas.org. Students are admitted in the Fall Quarter only.

Transferring into the Doctoral Program: Current master's students who are interested in pursuing a doctoral degree may submit a blue petition to transfer into the doctoral program after their first year in residence. The student must have at least a 3.5 GPA and must identify a faculty member who is willing to serve as their advisor. An updated statement of purpose must be submitted along with the blue petition. Admission into the doctoral program is not guaranteed.

Standards and Procedures for Graduate Study at UCLA:

General regulations concerning graduate courses, standards of scholarship, disqualifications, appeals, leaves of absence, normal progress toward degree, withdrawals and other matters can be found at: <http://www.gdnet.ucla.edu/gasaa/library/spintro.htm> The site also provides detailed information and sets forth general policies regarding completion of degree requirements, master's and doctoral committees, examinations and foreign language requirement.

Laboratory Safety Training:

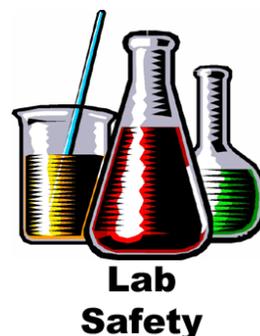
Training requirements depend on the nature of work being done. Employees, students, and supervisors/Principal Investigators (PIs) should select training courses based on the types of hazards that may be encountered. Everyone must be properly trained before beginning their work, given new assignments, or when new hazards are introduced.

All laboratory personnel who work with or around hazardous materials are required to take the Laboratory Safety Fundamental Concepts class offered by EH&S, plus additional classes specific to the hazards of their laboratory. This requirement also applies to visiting and/or part-time researchers.

Laboratory safety training from other institutions or universities does not substitute for UCLA lab safety training. The conduct of the research must meet the current UCLA regulations relative to human subjects, animal experimentation, radioactivity, and chemicals/physical/biological hazards as appropriate.

Interdisciplinary research is encouraged.

For more information or to enroll in a laboratory safety training course, visit the Environmental, Health & Safety website: www.ehs.ucla.edu.



Doctoral Degree Program Requirements:

Doctor of Philosophy in Environmental Health Sciences (Ph.D.):

The Ph.D. in Environmental Health Sciences is an advanced research degree that emphasizes depth of knowledge and original research skills. The dissertation must demonstrate ability for independent and original scholarly investigation. Students may choose to concentrate on any field of environmental health sciences. Such areas of academic focus may include: air quality; environmental biology; environmental chemistry; environmental health practice and policy; industrial hygiene; toxicology; or water quality. Interdisciplinary research is encouraged.

The doctoral program encompasses the following major elements:

- Course work in the major field under direction of the Guidance Committee
- Written qualifying examinations, including proposals related to the dissertation, under direction of the Guidance Committee
- Oral Qualifying Examination on the proposal for the dissertation (advancement to candidacy) under direction of the Doctoral Committee
- Dissertation
- Oral defense of the dissertation under the direction of the Doctoral Committee. (This is a public examination.)

Time-to-Degree:

The normal time from initial enrollment to advancement to candidacy is six to nine quarters (two to three calendar years); from advancement to candidacy to filing of dissertation, the normal time is six to nine quarters (two to three calendar years).

Foreign Language Requirement:

There is no foreign language requirement for the PhD.

Teaching Experience:

Teaching experience is recommended, but not required for the doctoral degree.

Course Requirements:

Students select a course of study upon consultation with their Advisor and guidance committee. Proficiency in biostatistics/statistics is also required. Each specific letter grade required course can be waived if the equivalent has been successfully taken previously with a grade of B or better.

EHS required courses include:

- EHS 100: Introduction to Environmental Health (Fall, Spring) **OR**
- EHS C200A (Fall) & C200B (Winter): Foundations of Environmental Health Sciences
- EHS 296: Research Topics in EHS (required for each quarter in residence)
- EHS 411: Environmental Health Sciences Seminar: (Fall/Winter). One quarter each year is required
- EHS M414: Effective Oral Presentation (Fall)
- One full course (4 units or more at the 100 or 200 level) in Epidemiology

- Public Health course: Students who have not previously taken and passed a course in Public Health at the undergraduate or graduate level are required to complete one of the following:
 1. Public Health 150: Contemporary Health Issues
 2. Health Policy & Management M242: Determinants of Health
 3. Attend 6 FSPH Grand Rounds presentations over the course of 2 years and submit a report for each seminar attended. Students must consult with the Department's Student Affairs Officer, prior to attending the first presentation, if they choose this option

Major Fields or Sub-Disciplines:

Students may choose to concentrate on any field of environmental health sciences. Such areas of academic focus may include: air quality; environmental biology; environmental chemistry; environmental health practice and policy; industrial hygiene; toxicology; or water quality. Interdisciplinary research is also recommended.

Advising:

Each student must meet with their Faculty Advisor on a regular basis. Student and advisor together agree upon a study list for each academic quarter; any subsequent alterations must be approved both by the advisor and the Guidance Committee. .

Students are advised by the following faculty:

- *The advisor* and later *the doctoral committee chair*, who assists the student to develop his or her particular career interests and who supervises the student's course work, preparation for examinations, proposals and dissertation.
- *The Guidance Committee*, who assists the student to develop his or her particular career interests, who supervise the student's course work, assists the student in defining his or her interests, and who evaluate the Written Qualifying Examination.
- *The Doctoral Committee*, who evaluate the student during the oral examination, dissertation defense, and any associated documents.

These committees are chosen by the student in consultation with his or her advisor, and must be approved by the Department Chair. A student's advisor may, but will not necessarily, become chair of the dissertation committee, if research interests and activities are compatible.

These persons and committees also evaluate the student's progress, making decisions regarding the quality of his or her scholarly work.

Formation of the Doctoral Guidance Committee:

A Guidance Committee consists of an Advisor plus at least one other Department Academic Senate member. It must be formed within three months of student arrival in the Department if the student chooses this option on arrival. In any case, it must be formed within three quarters of arrival.

The Guidance Committee prepares the student for the Doctoral Written Comprehensive Qualifying Examination process. A Guidance Committee must meet formally with the student to review student progress at least once each year.

PhD students can formally nominate their Guidance Committee by submitting [PhD- Form 1](#) to the EHS Student Affairs Officer.

Once the student has passed the Written Qualifying Exam, Advancement to Candidacy is signaled by officially nominating the Doctoral Committee.



Written Doctoral Qualifying Exam:

The aim of the Written Doctoral Qualifying Examination is to verify that the candidate has state-of-the-art knowledge about the general areas of the major field (intended research and its relationships to environmental health sciences and to public health).

The student must complete the minimum course requirements to the satisfaction of the Advisor and Guidance Committee before taking the Examination. The Guidance Committee administers and evaluates the Examination. The Examination process is initiated by the student with the consent of the Guidance Committee. The student enrolls in EHS 597 Preparation for Master's Comprehensive or Doctoral Qualifying Examination (2-8 units) and works with the Guidance Committee to select a date for the Examination.

Nomination of Ph.D. Doctoral Committee:

A doctoral committee, consisting of at least four faculty members, is nominated when students are ready to take the University Oral Qualifying Examination. The University's minimum standards for Doctoral Committee constitution are as follows:

1. All doctoral committees require a minimum of four members among whom a minimum of three members must hold current UCLA Academic Senate faculty appointments limited to Professor (any rank), Professor or Associate Professor Emeritus, Professor in Residence (any rank), or Acting Professor or Acting Associate Professor. Two of the three doctoral committee members from UCLA must hold the rank of professor or associate professor (regular or in-residence series).
2. One of the three UCLA members may be an Adjunct Professor (any rank) or Professor of Clinical X (any rank) who is certified and approved by the Committee on Degree Programs (CDP).
3. The Chair always must hold a current Academic Senate faculty appointment at UCLA in the same department or interdepartmental program as the student.
4. Each program or department may set additional requirements above the UCLA minimum standards in their Program Requirements regarding:

- UCLA members (e.g., all three must hail from the home department, two out of three from the same discipline as the student, etc.)
 - Parameters for service as a Co-Chair
 - Minimum academic credentials of an additional member
5. Only one committee member may hold an Academic Senate faculty appointment or its academic equivalent at another accredited university or college (UC or non-UC) without need of an exception from the Graduate Division.
 6. All committee members read, approve, and certify the dissertation. Under unusual circumstances, a department or interdepartmental program may petition the Committee on Degree Programs via the Graduate Division for an exception that would allow three committee members (including the Chair and at least one other UCLA member) to serve as certifying members in lieu of the full committee. An approved exception would apply to all doctoral committees of graduate students in that department or interdepartmental program for a period of up to ten years.
 7. All committee members must certify that the fairness, equity, and academic integrity of the oral qualifying examination and the final oral examination (dissertation defense) have been preserved by the doctoral committee.
 8. Only one committee member (never the Chair or Co-Chair) may participate remotely in an oral qualifying examination or final oral examination (defense of the dissertation). Remote participation must be a matter of necessity rather than convenience. The student must petition the committee chair in advance of the examination to allow one member to participate remotely; the committee Chair must provide written approval to the student ahead of the examination. The technology required for remote participation must allow for the participant to see/be seen by and hear/be heard by all committee members and have access to visual materials simultaneously. Although no exception petition will be required for one committee member participating remotely, the department/program must notify the Graduate Division of the remote participation within 14 business days of the examination. Under rare circumstances, the department or inter-departmental program Chair may petition the Graduate Division for an exception to allow a second member (not the Chair or Co-Chairs) to participate remotely in a doctoral oral qualifying examination or a final oral examination (defense of the dissertation). [Effective 2015 Fall]

In addition to the university's minimum standards for the nomination of the Doctoral Committee, the Environmental Health Science Department will require the following:

1. One of the four doctoral committee members must hold an appointment at UCLA in an outside department. Students may petition to request that Faculty with joint appointments in EHS be considered as outside members.

2. At least one of the four doctoral committee members must be a Faculty member from the EHS Department.

Oral Doctoral Qualifying Exam:

On successful completion of the written Qualifying Examination, the doctoral committee is named to administer the Oral Qualifying Examination.

The exam focuses on the proposal for the dissertation. It also includes the following as appropriate: theory and background research relevant to the proposed research beyond that reviewed in the proposal; methodological and analytic considerations pertinent to the proposed research, irrespective of whether these issues have been covered in the proposal; and feasibility. The proposed research must make an original contribution to the field.

The exam is administered by the student's doctoral committee. The student presents a brief overview of the research, describing its significance, the contribution that the work will make to the field, the methods to be used to collect and analyze data, and the expected strengths and limitations of the work. This presentation is followed by an extended question-and-answer period. The exam typically lasts two hours and the student usually presents their intended focus area in the first 50 minutes.

All committee members *must* be present; there are no exceptions to this rule. The examination is evaluated on a Pass/Fail basis; at least three members of the committee must approve the proposal. It may be repeated once if a majority of the committee so recommends. Only the student and committee members may attend this examination.

Advancement to Candidacy:

Advancing to candidacy is also a requirement for those in the Ph.D. and Dr.P.H. programs. All doctoral students must fill out forms 1 and 2 before officially nominating their doctoral committees. Doctoral students should not schedule a date for the proposal until the official doctoral committee has been approved by Graduate Division (it takes 5 to 10 working days for approval once the nomination is submitted).

Final Oral Examination (Defense of Dissertation):

A final oral examination is required of all candidates. The Oral Defense of Thesis presentation (40 minutes) is required to be scheduled as part of the EHS 411 seminar series, unless exceptional circumstances exist. You must contact the EHS Department SAO at least one quarter in advance to be added to the 411 schedule for the following quarter.



For detailed information on how to prepare and file your dissertation, visit:

<http://www.gdnet.ucla.edu/gasaa/etd/index.html>.

Required Forms and Timing for Doctoral Students:

Action	Form to File With Student Affairs Officer	When to File Form
Nominate Guidance Committee	PhD Form 1 (see Department SAO)	Before second year of doctoral program (within first three quarters)
Report on Written Qualifying Exam & Completion of Course Requirements	PhD Form 2 (see Department SAO)	After completion of exam
Nomination of Doctoral Committee	<u>Nomination of Doctoral Committee</u>	Submit to SAO a minimum of 4 weeks before oral exam
Report on Oral Qualifying Exam & Advancement to Candidacy	See Department SAO	Request from SAO at least 2 weeks prior to exam. Submitted by SAO to Grad Division after completion of exam
Report on Final Oral Examination	See Department SAO	Request from SAO at least 2 weeks prior to defense.
File Dissertation	See Department SAO	By last week of May/first week of June to participate in Commencement. See SAO for exact date.

PhD Competencies: Upon graduation, a student with a Ph.D. degree in Environmental Health Sciences should be able to do the following:

<i>Environmental Health Sciences PhD Competencies</i>	
<i>Access, critique, and interpret environmental health studies</i>	<ul style="list-style-type: none"> • Judge, critique and interpret reports of individual environmental health studies; evaluate strengths and limitations of environmental health reports
<i>Design a research study</i>	<ul style="list-style-type: none"> • Formulate a research question and determine the appropriate study aims, objectives, study design and hypothesis to address

<p><i>Design a research study</i></p>	<p>the research question</p> <ul style="list-style-type: none"> • Develop and assess appropriate data collection instruments (e.g., questionnaires, physical exam, lab assays, etc.) and evaluate the use of questionnaires and measurement instruments in collection of data to maintain internal validity • Write a scientific proposal including developing specific aims and appropriate background and describing methods in needed detail • Plan and implement quality assurance and quality control procedures for data collection in different study designs
<p><i>Analyze data</i></p>	<ul style="list-style-type: none"> • Apply advanced informatics techniques in the description of public health characteristics and in public health research and evaluation • Identify issues needing consultation with a biostatistician
<p><i>Interpret data</i></p>	<ul style="list-style-type: none"> • Apply scientific and statistical reasoning and methods to address, analyze, and solve problems in public health • Deduce environmental and public health implications of research results and propose subsequent studies • Make appropriate policy recommendations on the basis of research results and interpretation
<p><i>Communicate effectively with wide variety of colleagues and stakeholders</i></p>	<ul style="list-style-type: none"> • Gauge the cultural background, knowledge base and skills of an audience to appropriately customize communications for the target audience • Organize and make oral presentations to professionals ranging from brief scientific presentations of research findings to longer presentations • Write a publishable manuscript • Promote collegiality in interdisciplinary teams • Demonstrate leadership in interdisciplinary teams, including project management, negotiation and conflict resolution
<p><i>Ethics and safety</i></p>	<ul style="list-style-type: none"> • Understand the norms and principles of research ethics and demonstrate an ability to incorporate those principles into study designs, programs of data management and quality assurance • Prepare an application to an Institutional Review Board, Institutional Biosafety Committee and/or Animal Care and Use Committee • Be able to resolve ethical dilemmas in designing and conducting research • Develop procedures to assure confidentiality if working with human subjects • Develop appropriate SOPs for safe laboratory and research practices as part of an integrated approach to safety • Train undergraduate and master's students in safe laboratory practices

<p><i>Relevance and applications of Environmental Research to Public Health</i></p>	<ul style="list-style-type: none"> • Identify environmental health problems requiring additional investigation and research • Identify existing knowledge gaps amenable to clarification through environmental health research
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Student Services/Advising:

- *Environmental Health Sciences Department:* Rebecca Greenberg and Azadeh Terceman are the Student Affairs Officers for the Department. Azadeh Terceman is also the MPH student Internship Coordinator. Their contact information is as follows:

Rebecca Greenberg
Office: 56-085 CHS
Phone: (310) 206-1619
Email: rgreenberg@ph.ucla.edu

Azadeh Terceman
Office: 56-085 CHS
Email: aterceman@ph.ucla.edu

- *The Environmental Health Sciences Department's Faculty Graduate Advisor is:* Dr. Yifang Zhu. Students may meet with her to discuss confidential issues.
- *The Fielding School of Public Health Student Affairs Office* provides oversight and guidance of school-wide and departmental graduate program affairs, including admissions processing, degree processing, class scheduling, funding, orientation and graduation preparations, and general counseling to prospective, new and continuing students.

Location: A1-269 CHS
Hours: Monday-Friday from 10am-3pm
Phone Number: (310) 825-5524

Official Materials from the University:

You will receive many documents from the University stating deadlines, offering opportunities, etc. It is your responsibility to observe the deadlines, and take any action that is required. This is especially important for work-study, financial aid, traineeships, filing deadlines, etc. For the most current deadlines, go to the online schedule and calendar at <http://www.registrar.ucla.edu/calendar/>.

Registration:

Registration consists of paying fees and enrolling in classes.

1. Registration fees and other University charges are due the 20th of each month. BAR (Billing and Receivable) accounts can be viewed through www.my.ucla.edu.
2. Enrollment in classes is completed via MyUCLA at www.my.ucla.edu.

Students must complete both processes by the established deadlines to be officially registered and enrolled for the term. Graduate students must be either registered & enrolled or on an official leave of absence every term until their degrees are awarded. As an exception, certain graduate students may be eligible to pay the filing fee (see below). Failure to register or be on an official leave of absence for any term constitutes withdrawal from UCLA.

Paying Fees:

Your registration fees (and non-resident tuition, if applicable) are due via your BAR account by September 20 (Fall quarter), December 20 (Winter quarter) and March 20 (Spring quarter). Credit card payments may be made online using MyUCLA online. If registration fees are not paid in full by the payment deadline, a \$50 late registration fee is assessed and classes are dropped in accordance with the drop class deadline. If you enroll in classes and pay registration fees after Friday of the second week of classes, both the \$50 late registration fee and a \$50 late Study List fee are assessed.

Details on fee payment, enrollment procedures, and deadlines are in the Schedule of Classes at <http://www.registrar.ucla.edu/schedule/>.

Miscellaneous Fees: For information on miscellaneous fee charges, such as BruinCard replacement, collection fees, late changes to courses/study lists, etc., visit: <http://www.registrar.ucla.edu/fees/miscfee.htm>.

eBill

BAR accounts are administered electronically (eBill) through MyUCLA. Monthly financial activity is displayed for the current month as well as past account activity for the last 24 months. MyUCLA also includes a link to the [Student Accounts website](#) where students can find important communications from the University regarding registration and University policies.

Enrollment/ MyUCLA:

Students enroll in classes through MyUCLA, which is accessed at <http://www.my.ucla.edu>. MyUCLA gives students real-time access to their University academic, personal and financial records. Enrollment-related tasks, such as adding, dropping, or exchanging classes, signing onto the wait list for a class, checking waitlist status, or changing the grading basis for a class can also be done through MyUCLA.

Enrollment Deadlines:

The deadlines are always on Friday of the following weeks of every quarter:

Week 2: Enrollment in all coursework.

Week 3: Fee charged for course changes, such as adding courses, dropping courses, and changing the grading basis for courses.

Week 10: Additional fee charged for adds, drops and grading basis changes.

After week 10: Requesting retroactive adds or drops to any courses after week 10 is a long and complicated procedure with NO guarantee of approval.

Study List:

UCLA refers to your class schedule as a “study list”. All UCLA students are required to have a “study list on file”, which mean that you must be enrolled in at least one unit by the end of the 2nd week of classes. Any student who is not enrolled in at least one unit by the end of the 2nd week of classes will be assessed a \$50 late study list fee when they attempt to enroll. Please be aware that this fee will be charged even if you paid the \$50 late registration fee. After the 2nd week of classes, your student record will be “locked” out of enrollment, and you will have to (1) go to the Student Affairs Office to pick up a form, (2) get written instructors’ permission to enroll in each class at this late date and (3) submit the from, in person, to the Registrar’s Office in Murphy Hall. You will not be able to process any enrollment activities until your student record is unlocked. You can go to [MyUCLA](#) online to view your study list. Note: you can print your study list to provide proof of enrollment in class. You should check your study list each quarter to make sure that you are enrolled in classes.

Normal Progress/Full-time Graduate Program:

A normal load is 12 units per quarter; a minimum of 8 and maximum of 17.5 units are permitted. Students can request permission to take additional units by filing a blue petition. Students are directed by the department to enroll full time whenever possible. Academic student employees (ASEs) and graduate student researchers (GSRs) are required to be registered and enrolled in at least twelve quarter units throughout their appointments. Those assistants who take a leave of absence or withdraw terminate their appointments. Course 375 for teaching assistants, and independent studies at the 500-level for graduate student researchers, may be included in reaching the eight or twelve-unit load. Graduate students holding special fellowships must be enrolled in at least twelve units, both before and after advancement to candidacy. The twelve units required per quarter may include, among others, courses in the 500 series (individual study or research).

Filing Fee:

If a student has completed, while registered, all requirements for a degree except the filing of the thesis or dissertation and/or the final examination (master’s comprehensive or doctoral final oral examination), the student may be eligible to pay a Filing Fee during the quarter in which the degree is to be awarded, instead of registering. For detailed information on the filing fee policies and to access the Filing Fee application, visit:

<https://grad.ucla.edu/academics/graduate-study/filing-fee-application/>.

Students may only pay the filing fee one time.

Leave of Absence:

Continuing graduate students in good academic standing (3.0 GPA or above) who have completed at least one quarter of academic residence at UCLA, may petition to take a leave of absence. The leave must be approved by the student's home Department and the Graduate Division. Graduate students are allowed a maximum of three quarters of official leave of absence.

Federal policy governing students on F-1 and J-1 visas restricts leaves of absence to certain conditions. Therefore, the Dashew Center for International Students and Scholars, in consultation with the Graduate Division, individually evaluates each international graduate student request for a leave of absence to determine that it meets federal (and University) eligibility criteria.

Students on approved leave of absence are not permitted to use faculty time or make use of University facilities for more than 12 hours since their last registration and are not eligible for apprentice personnel employment or other services normally available to registered students. There is no need to apply for readmission, since the approved leave is for readmission to a specific term. The Registrar's Office notifies students about registration information for the returning term.

To petition for a leave of absence, students must fill out a "[Leave of Absence Request](#)" form, obtain the appropriate signatures, and submit it to the FSPH Student Affairs Office. For more details on the University's Leave of Absence policy, visit:

<http://www.gdnet.ucla.edu/gasaa/library/loa.htm>

Establishing California Residency (US Citizens & Permanent Residents only):

Domestic students who are not California residents will need to establish residency to avoid assessment of nonresident tuition. In order to establish residency, certain requirements must be met. Please refer to the Registrar's web page: (<http://www.registrar.ucla.edu/Fees-Residence/Residence-Requirements>) or call the Residence Deputy at (310) 825-3447 for complete details on establishing California Residency. This is very important. Otherwise, you may have to pay non-resident tuition during your second year.

Data sheet:

The Fielding School of Public Health requires that a data sheet is completed quarterly. The FSPH Student Affairs Office will send reminders out regarding this. Failure to complete this in a timely manner may result in an academic hold being placed on your record.

Transfer of Credit:

Through petition, courses completed in graduate status on other UC campuses may apply to master's programs at UCLA, provided they were not used toward a previous degree. Such courses may fulfill up to one-half of the total course requirement, one-half of the graduate course requirement, and one-third of the academic residence requirement.

A maximum of two courses completed with a minimum grade of 'B' in graduate status at institutions other than UC may apply to UCLA master's programs. Two courses would be the

equivalent of eight quarter units or five semester units. They may not fulfill the minimum five graduate- course requirement or the academic residence requirement. The approval of the Graduate Division and the student's major department is required on a petition for transfer of credit.

Courses taken for any other degree previously awarded at UCLA or another institution, and courses taken before the award of the Bachelor's degree may not be applied toward a graduate degree at UCLA. Correspondence courses are not applicable to graduate degrees.

Grading:

UCLA grades for graduate students are A, B, C, F, and I. Grade point averages are computed on the basis of 4 points for an "A", 3 points for a "B", 2 points for a "C", and 0 points for an "F". Only courses in which a grade of C- or better is received may be applied toward the requirements for a master's degree.

Once an Incomplete (I) grade is assigned, it remains on the transcript along with the passing grade students may later receive for the course. The instructor may assign the "I" grade when work is of passing quality but is incomplete for a good cause (such as illness or other serious problem). It is the student's responsibility to discuss with the instructor the possibility of receiving an "I" grade as opposed to a nonpassing grade.

If an "I" grade is assigned, students may receive unit credit and grade points by satisfactorily completing the coursework as specified by the instructor. Students should not reenroll in the course; if they do, it is recorded twice on the transcript. If the work is not completed by the end of the next full term in residence, the "I" grade lapses to an F, NP, or U as appropriate.

Academic Probation:

A graduate student may be disqualified from continuing in the graduate program for a variety of reasons. The most common is failure to maintain the minimum cumulative grade point average (3.0) required by the Academic Senate to remain in good standing (note that some programs require a higher grade point average). Other examples include failure of examinations, lack of progress toward the degree, poor performance in core courses, etc. Probationary students (those with cumulative grade point averages below 3.0) are subject to immediate dismissal upon the recommendation of their department. Check the [Standards and Procedures for Graduate Study](#) at UCLA for more information.

English as a Second Language Placement Exam (ESLPE):

The ESLPE (English as a Second Language Placement Examination) is required of all entering UCLA graduate students whose first language is not English and who have not otherwise satisfied the ESL requirement. The "Graduate Admissions Checklist" that comes with the acceptance letter gives a link to information on whether a student needs to take the exam or contains a paragraph instructing the student to take the exam. For more information, visit: <http://www.internationalcenter.ucla.edu/home/handbook/181/226/eslpe>.

Test of Oral Proficiency (TOP):

Students who plan to work as a teaching assistant (TA) at UCLA and are non-US citizens must pass the TOP before working as a TA in any department at UCLA. All non-citizens are considered international students. This includes permanent residents. However, international students who have earned a bachelor's degree from a U.S. university are exempt from taking the TOP. If you believe that you should receive an exemption from taking the TOP for any other reason (e.g., native speaker of English), please contact your home departmental Student Affairs Officer/Academic Advisor directly to request an exception from the Graduate Division. For more information, visit: <http://www.oid.ucla.edu/training/top>.

Course Waivers:

Any departmental required courses may be waived by course instructor consent if the student either has taken a similar course or can pass a waiver examination. Requests for waiver examinations for any other courses are considered on a case-by-case basis, and in consultation with the course instructor and the student's advisor. A student who passes a waiver examination waives *only* the course requirement, *not* the unit requirement, so they will need to take additional elective courses to make up the units.

- [2016/17 FSPH Waiver Exam Information/Schedule](#)

Student Complaints and Academic Grievances:

A grade may be appealed, on any reasonable grounds, to the instructor, the chair of the department, and the dean of the school or division.

If the student believes that the instructor has violated the Faculty Code of Conduct by assigning the grade on any basis other than academic grounds, the matter should first be taken up with the instructor. If the matter is not resolved, the student may go for counsel to the Office of Ombuds Services or may follow the procedures for the formal filing of charges. If a charge is sustained by the Academic Senate Committees on Charges and on Privilege and Tenure, an ad hoc committee is appointed within two weeks to review the disputed grade, and any warranted change is made within four weeks.

Academic Dishonesty:

Some students may incorrectly assume that academic dishonesty is a minor infraction. It is a serious matter that must be dealt with by instructors aggressively. For more information, visit our university's Academic Dishonesty website:

<http://www.oid.ucla.edu/programs/facultydev/teachersguide/academicdishonesty>

Ordering Transcripts:

Official academic and verification transcripts can be ordered by mail, in person or online through [MyUCLA](#). For more information on ordering transcripts, visit:

<http://www.registrar.ucla.edu/forms/>.

Change of Name or Address:

[UCLA Legal Name Change or Correction form](#) and submit it with the required supporting documentation to the Registrar's Office Student Services. All name changes are recorded on the transcript. If students change their address, they should update their address through [MyUCLA](#).

Financial Support and Funding:

The UCLA Graduate Division offers funding opportunities for both incoming and continuing graduate students. Prospective students may apply for Graduate Division funding by completing the fellowship section of the online graduate admissions application before the December 1 deadline. Need-based student loans and work-study awards are available through the UCLA Financial Aid office.

The Environmental Health Sciences Department has a limited amount of funds available for incoming and continuing students. The allocation of these awards is based on academic standing (GPA) and/or financial need. Factors considered are GPA, campus employment, outside employment and fellowships.

The Fielding School of Public Health also has a limited number of interest-based fellowships and scholarships for incoming and continuing masters and doctoral students.

Formal announcements and fellowship applications for the School and Department funding opportunities are sent out to students via email upon availability throughout the academic school year.

Academic Apprentice Personnel:

“Academic apprentice personnel” are academic student employees (Readers, Tutors, and Teaching Assistants) and Graduate Student Researchers (GSRs). These apprenticeships are intended to provide qualified students with relevant training experience for academic and academic-related careers in teaching and research and to augment limited resources from within the University for graduate student support. As a matter of University policy, academic apprentice personnel are considered primarily as students being professionally trained, and graduate student status takes precedence over University employment.

Many students obtain part time academic personnel positions as Special Readers, Teaching Assistants or Graduate Student Researchers with faculty either at the Fielding School of Public Health or elsewhere on campus. Students who are appointed to academic personnel positions for at least 25% time and enrolled in a minimum of 12 units may be eligible to receive fee remissions.

Please refer to the [Academic Apprentice Personnel Manual](#) or the following site for detailed information on employment opportunities, policies and benefits, including fee remissions: <https://grad.ucla.edu/funding/working-at-ucla/>.

Working over 50% time:

Graduate Students must have approval from the Department to work over 50% time. Students will need to coordinate with the Department Student Affairs Officer to file the appropriate paperwork. A letter of support from the Faculty Advisor is required to work over 65% time. Approval from the Graduate Division is required to work over 75% time.

****It is the student's responsibility to inform the Department of any campus positions that they have accepted and any funding that they are receiving. You must provide this information to the Department's Student Affairs Officer****

Please click on links below for specific information:

- [Support for Continuing Students](#)
Brochure & application forms.
- [ASE Appointment Opportunities](#)
Anticipated student employee openings & union agreement.
- [Summer Research Mentorship](#)
Summer support for doctoral students in the humanities & social sciences.
- [Funding Opportunities](#)
Extramural support, online funding databases, & proposal consultants.
- [Graduate Work-Study Program](#)
Support for academic research projects.
- [Bruin Direct Deposit](#)
Authorization form for direct deposit of stipend payments.
- [Tax Information & Forms](#)
UCLA tax information and forms for fellowship recipients.



Student Life & Resources:

2016-17 Academic Calendar:

Fall Quarter 2016

Quarter begins	Monday, September 19
Instruction begins	Thursday, September 22

Study List deadline (becomes official)	Friday, October 7
Veterans Day holiday	Friday, November 11
Thanksgiving holiday	Thursday-Friday, November 24-25
Instruction ends	Friday, December 2
Common final exams	Saturday-Sunday, December 3-4
Final examinations	Monday-Friday, December 5-9
Quarter ends	Friday, December 9
Christmas holiday	Thursday-Friday, December 23; Monday, December 26
New Year's holiday	Thursday-Friday, December 30; Monday, January 2
Winter campus closure (tentative)	December 27-29

Winter Quarter 2017

Quarter begins	Wednesday, January 4
Instruction begins	Monday, January 9
Study List deadline (becomes official)	Friday, January 20
Martin Luther King, Jr, holiday	Monday, January 16
Presidents' Day holiday	Monday, February 20
Instruction ends	Friday, March 17
Common final exams	Saturday-Sunday, March 18-19
Final examinations	Monday-Friday, March 20-24
Quarter ends	Friday, March 24

Spring Quarter 2017

Quarter begins	Wednesday, March 29
Cesar Chavez holiday	Friday, March 31
Instruction begins	Monday, April 3
Study List deadline (becomes official)	Friday, April 14
Memorial Day holiday	Monday, May 29
Instruction ends	Friday, June 9
Common final exams	Saturday-Sunday, June 10-11
Final examinations	Monday-Friday, June 12-16
Quarter ends	Friday, June 16

BruinCard (Student ID):

[BruinCard](#) is the official campus identification for UCLA, and is required for all students, faculty, and staff. Your BruinCard also serves as your library card, recreation card, door access card, and much, much more! (www.bruincard.ucla.edu)

MyUCLA:

MyUCLA is a customized portal web page where students can access real-time class schedules, grades, campus appointments, traffic and weather information, check their UCLA e-mail account and link to campus events and resources.

www.my.ucla.edu

International Students:

Federal regulations governing policy and procedure of visa issuance and maintenance for international students and scholars make it especially important for these individuals to maintain contact with international student and scholar counselors and advisers following their arrival on campus. UCLA students, postdoctoral fellows, and visiting scholars from abroad are encouraged to visit the UCLA Dashew Center for International Students and Scholars

(<http://www.internationalcenter.ucla.edu>). The Dashew Center for International Students and Scholars provides a mandatory orientation program that helps international students and scholars pursue their goals while at UCLA.

The Dashew Center also provides specialized services, counseling, and programs for all international students and scholars, from the time of their arrival to their departure. They offer services such as orientation for new students, help in locating affordable housing, English conversation classes, programs for the families of international scholars, assistance with questions regarding immigration issues, employment, financial aid, tax matters, and cultural adjustment, as well as a number of other topics.

Student Mailboxes:

Each student has their own mailbox in the EHS Student Room (56-081). This is to be used for educational and University purposes only.



Student Lockers:

Lockers are available for EHS students in the EHS Student Room (56-081). They are assigned on a first come, first served basis. Students will need to provide their own combination lock and must give the Department's Student Affairs Officer the combination number (for emergency use only). Students are prohibited to store food in their lockers.

Graduate Writing Center:

The Graduate Writing Center offers free writing consultation to graduate and professional school students at all levels and in all disciplines, as well as writing workshops on a variety of topics. Meet with a trained and experienced writing consultant to work on writing issues ranging from style and argumentation to grammar and syntax. The graduate writing consultants will work with you to develop your writing confidence and your writing skills. <http://gsrc.ucla.edu/gwc/>

Additional Writing Resources for FSPH Students:

Strong communication skills, including the ability to write clearly and concisely for different audiences, are essential tools for all public health professionals. Click [here](#) for a list of writing resources for FSPH Graduate Students and PH/EHS Minors

Arthur Ashe Student Health and Wellness Center:

All registered graduate students may use the Arthur Ashe Student Health and Wellness Center, an outpatient clinic geared to the special needs of students at UCLA. The Ashe Center offers a full range of clinical and support services, most of which are prepaid by student registration fees. The clinical staff is comprised of highly qualified doctors, nurse practitioners, and nurses. For more information, visit: <http://www.studenthealth.ucla.edu>

Medical Insurance Requirement:

Health Insurance is mandatory for all UCLA registered students and a condition of enrollment. The UC Student Health Insurance Plan (UC SHIP) is a comprehensive medical insurance program offered to UCLA students. All registered students are automatically enrolled in UC SHIP. Students who have comparable insurance and do not want to keep UC SHIP as dual coverage, must submit a request to waive enrollment by the specified deadline. For more information, visit: <http://www.studenthealth.ucla.edu/CustPages/Insurance.aspx>

UCLA Counseling and Psychological Services:

CAPS professionals provide a safe, confidential place to discuss concerns or problems interfering with personal growth and academic achievement. They offer a range of counseling and clinical services designed to meet students' varied mental health needs throughout the year. For more information, visit: <http://www.counseling.ucla.edu/>.

FSPH Career Services Office:

The mission of the Career Services Office is to facilitate the career development process for Fielding School of Public Health students through individual counseling sessions, workshops, employer presentations, career fairs and online job postings. For more information, visit their website at: <http://ph.ucla.edu/current-students/career-development> or contact:

Kristy J. Sherrer
Career Services Office
UCLA Fielding School of Public Health
Box 951772
Los Angeles, CA 90095-1772
Phone: 310-826-1020
Fax: 310-825-1056
ksherrer@ph.ucla.edu

EHS Career Services:

The EHS Department provides the following career services:

- Dr. Shane Que Hee: Careers related to Industrial Hygiene and Environmental Chemistry
- MPH Internship Coordinator: Internship placement, resume critiques, mock interviews, career guidance.

UCLA Career Center:

The UCLA Career Center provides a wide range of programs and services exclusively for UCLA students. Your academic studies are based upon the career you want to develop, so discussing options when you arrive will give you the edge in the competitive job market. The Career Center provides services such as: individual career counseling, workshops, and online resume critique. For more information, visit: <http://career.ucla.edu>.

Bruin OnLine (BOL):

Bruin OnLine (BOL) is a collection of services that provides UCLA students, faculty, and staff with e-mail, web hosting services, network connectivity (including wireless), and free software and support. For more information, visit: www.bol.ucla.edu

Walk-in Consulting: Kerckhoff Hall, Suite 124

Telephone Technical Support: (310) 267-HELP (4357)

BruinTech:

The purpose of [BruinTech](#) is to help faculty, students, and staff navigate the diversity of UCLA information technology (IT) services and organizations. The web site reflects the dynamic nature of IT on campus by spotlighting current views and events.

Borrowing a CLICC Laptop:

The Campus Library Instructional Computing Commons (CLICC) offers technology and support for UCLA students, faculty, and staff. CLICC provides services such as laptop lending, printing, study room reservations, projector loans, video kits, computer stations, and a wide variety of instructional software. For more information, visit: <http://www.library.ucla.edu/powell/clicc-laptop-lending-powell-library>.

Center for Accessible Education (CAE)

The Center for Accessible Education (CAE) is designed to meet the unique educational needs of regularly enrolled UCLA students with documented permanent and temporary disabilities.

The Center for Accessible Education is committed to adding value to the UCLA community by

- Facilitating access to services that contribute to positive student outcomes
- Fostering an atmosphere of shared responsibility in providing accommodations
- Promoting an atmosphere of respect and inclusion

The philosophy and mission of the program is to encourage independence, assist students in realizing their academic potential, and to facilitate the elimination of programmatic and attitudinal barriers. For more information, visit: <http://www.cae.ucla.edu/>

2016-17 EHS Schedule of Classes:

This schedule is subject to change. Please visit the on-line Schedule of Classes for the most up to date course offerings: <http://www.registrar.ucla.edu/schedule/schedulehome.aspx>

EHS Course Descriptions:

100. Introduction to Environmental Health (4 units)

Lecture, three hours; discussion, one hour. Preparation: one course each in chemistry and biology. Introduction to environmental health, including coverage of sanitary principles and chronic and acute health effects of environmental contaminants. P/NP or letter grading.

101. Fundamentals of Chemistry in Environmental Health (2 units)

Seminar, one hour; discussion, one hour. Designed for undergraduate students in Public Health minor or master's and doctoral students in Fielding School of Public Health. Ideal for students who feel that their background in chemistry is not strong enough and are planning to take course 100, C200A, C200B, or 200C or are concurrently enrolled in one of those courses. Interactive seminar with focus on critical concepts in chemistry that students need for core environmental health sciences courses. P/NP, S/U, or letter grading.

C125. Atmospheric Transport and Transformations of Airborne Chemicals (4 units)

Lecture, four hours. Preparation: one year of calculus, one course each in physics, organic chemistry, and physical chemistry. Designed for science, engineering, and public health students. Role of regional or long-range transport, and atmospheric lifetimes and fates of airborne chemicals in phenomena such as photochemical smog, acid deposition, stratospheric ozone depletion, accumulation of greenhouse gases, and regional and global distribution of volatile toxic compounds. Concurrently scheduled with course C225. P/NP or letter grading.

C135. Environmental Policy for Science and Engineering (4 units)

Lecture, four hours. Limited to senior undergraduate and graduate students. Examination of theoretical underpinnings of several major types of regulatory policy, as well as practical issues involved in implementing and enforcing each. Exploration of selection and impact of regulatory forms from variety of disciplines and viewpoints. Focus on traditional command and control regulation (including self-executing performance standards and permitting), market-based regulation (such as emissions trading), remediation, and emerging regulatory approaches such as management-based regulation and alternatives assessment. Issues of compliance and enforcement. Concurrently scheduled with course C235. P/NP or letter grading.

C140. Fundamentals of Toxicology (4 units)

Lecture, four hours. Preparation: one course each in biology, organic chemistry, and biochemistry. Essential aspects of toxicology, with emphasis on human species. Absorption, distribution, excretion, biotransformation, as well as basic toxicologic processes and organ systems. Concurrently scheduled with course C240. Letter grading.

C152D. Properties and Measurement of Airborne Particles (4 units)

Lecture, four hours. Preparation: one year each of chemistry, physics, and calculus. Basic theory and application of aerosol science to environmental health, including properties, behavior, sampling, and measurement of aerosols and quantitative problems. Concurrently scheduled with course C252D. P/NP or letter grading.

C157. Risk Assessment and Standard Setting (4 units)

Seminar, four hours. Requisites: course C140, Epidemiology 100. Designed to provide students with opportunity to review scientific basis for association of selected occupational and environmental exposures with disease. Special emphasis on critical evaluations of literature.

Attention specifically to interface of science and regulatory standards. Concurrently scheduled with course C257. P/NP or letter grading.

C164. Fate and Transport of Organic Chemicals in Aquatic Environment (4 units)

Lecture, four hours. Recommended requisites: Chemistry 14A and 14B, or 20A and 20B. Evaluation of how and where and in what form and concentration organic pollutants are distributed in aquatic environments. Study of mass transport mechanisms moving organic chemicals between phases, biological degradation and accumulation, and chemical reactions. Effect of humic substances on these processes. Concurrently scheduled with course C264. P/NP or letter grading.

M166. Environmental Microbiology (4 units)

(Same as Civil Engineering M166.) Lecture, four hours; discussion, two hours; outside study, six hours. Recommended requisite: Civil Engineering 153. Microbial cell and its metabolic capabilities, microbial genetics and its potentials, growth of microbes and kinetics of growth, microbial ecology and diversity, microbiology of wastewater treatment, probing of microbes, public health microbiology, pathogen control. Letter grading.

M166L. Environmental Microbiology and Biotechnology Laboratory (1 unit)

(Same as Civil Engineering M166L.) Laboratory, two hours; outside study, two hours. Corequisite: course M166. General laboratory practice within environmental microbiology, sampling of environmental samples, classical and modern molecular techniques for enumeration of microbes from environmental samples, techniques for determination of microbial activity in environmental samples, laboratory setups for studying environmental biotechnology. Letter grading.

C185A. Foundations of Environmental Health Sciences (6 units)

Lecture, six hours. Preparation: one year of undergraduate biology and chemistry. Introduction to field of environmental health sciences designed for students pursuing M.S. degrees. Examination of series of topics relevant to science of environmental health (e.g., population, agriculture/food, microbiology, energy, climate change, water, waste, air) by introducing scientific basis from ecological perspective and describing how topics relate to health on biochemical and molecular basis. Emphasis on scientific aspects of field, with focus on critique of primary literature and quantitative approaches for examination of topics to provide skills that are critical to perform research. Concurrently scheduled with course C200A. Letter grading.

C185B. Foundations of Environmental Health Sciences for Public Health Professionals (6 units)

Lecture, six hours. Preparation: one year of undergraduate biology and chemistry. Introduction to field of environmental health sciences designed for students pursuing M.P.H. degree in Environmental Health Sciences. Examination of series of topics that cover scientific principles of field, as well as translation of science to environmental health practice. Topics include physical, chemical, and biological hazards, as well as risk assessment and communication. Acquisition of skills important for public health professionals, such as application of scientific information to real-world problems and ability to communicate effectively with different stakeholders. Concurrently scheduled with course C200B. Letter grading.

C185C. Foundations of Environmental Health Sciences (6 units)

Lecture, six hours. Preparation: one year of undergraduate biology and chemistry. Introduction to field of environmental health sciences designed for students pursuing M.P.H. degree in Environmental Health Sciences. Examination of series of topics that cover scientific principles of field, as well as translation of science to environmental health practice. Topics include physical,

chemical, and biological hazards, as well as risk assessment and communication. Acquisition of skills important for public health professionals, such as application of scientific information to real-world problems and ability to communicate effectively with different stakeholders.

Concurrently scheduled with course C200B. Letter grading.

197. Individual Studies in Environmental Health Sciences (2 to 4 units)

Tutorial, four hours. Limited to juniors/seniors. Individual intensive study, with scheduled meetings to be arranged between faculty member and student. Assigned reading and tangible evidence of mastery of subject matter required. May be repeated for credit. Individual contract required. P/NP or letter grading.

C200A. Foundations of Environmental Health Sciences (6 units)

Lecture, six hours. Preparation: one year of undergraduate biology and chemistry. Introduction to field of environmental health sciences designed for students pursuing M.S. degrees. Examination of series of topics relevant to science of environmental health (e.g., population, agriculture/food, microbiology, energy, climate change, water, waste, air) by introducing scientific basis from ecological perspective and describing how topics relate to health on biochemical and molecular basis. Emphasis on scientific aspects of field, with focus on critique of primary literature and quantitative approaches for examination of topics to provide skills that are critical to perform research. Concurrently scheduled with course C185A. Letter grading.

C200B. Foundations of Environmental Health Sciences for Public Health Professionals (6 units)

Lecture, six hours. Preparation: one year of undergraduate biology and chemistry. Introduction to field of environmental health sciences designed for students pursuing M.P.H. degree in Environmental Health Sciences. Examination of series of topics that cover scientific principles of field, as well as translation of science to environmental health practice. Topics include physical, chemical, and biological hazards, as well as risk assessment and communication. Acquisition of skills important for public health professionals, such as application of scientific information to real-world problems and ability to communicate effectively with different stakeholders. Concurrently scheduled with course C185B. Letter grading.

C200C. Foundations of Environmental Health Sciences (6 units)

Lecture, four hours; group project, two hours. Enforced prerequisite: course C200A or C200B. Multidisciplinary aspects of environmental health sciences in context of public health for environmental health majors. Concurrently scheduled with course C185C. Letter grading.

201. Seminar: Health Effects of Environmental Contaminants (2 units)

Seminar, two hours. Requisites: courses C200A, C200B. Emphasis on health effects of air, water, environmental pollutants on man and review of research literature. May be repeated for credit. S/U or letter grading.

202. Seminar: Environmental Chemistry (2)

Seminar, one hour. Requisites: courses C200A, C200B, 410A, 410B. Environmental chemistry aspects of environmental health sciences through multimedia analyses and biological and microbiological analyses. May be repeated for credit. Letter grading.

Seminar, one hour. Requisites: courses C200A, C200B, 410A, 410B. Environmental chemistry aspects of environmental health sciences through multimedia analyses and biological and microbiological analyses. May be repeated for credit. Letter grading.

203. Seminar: Ecotoxicology (2 units)

Seminar, two hours. Discussion of various topics in ecotoxicology. Topics vary from term to term and include aspects of environmental chemistry, toxicology, and ecology. May be repeated for credit. S/U grading.

204. Seminar: Exposure Assessment (2 units)

Seminar, two hours. Discussion of various topics in exposure assessment. Topics vary by term and include aspects of population activity, microenvironments, types of monitoring (outdoor, indoor, personal, biomarkers), and multimedia sources of exposure. S/U grading.

205. Environmental Health Sciences Doctoral Seminar (2 units)

Seminar, two hours. Limited to environmental health sciences doctoral students. Presentation of current research of environmental health sciences doctoral students. May be repeated for credit. S/U grading.

206. Seminar: Applied Coastal Ecology (2 units)

Seminar, two hours. Discussion of various topics in applied coastal ecology. Topics vary by term and include wetland ecology, restoration ecology, and ecology and management of coastal watersheds. May be repeated for credit. S/U grading.

207. Introduction to Geographic Information Systems (4 units)

Lecture, two hours; laboratory, two hours. Introduction to geographic information systems (GIS), including use of GIS software, mapping, geocoding, and data analysis. S/U or letter grading.

Lecture, two hours; laboratory, two hours. Introduction to geographic information systems (GIS), including use of GIS software, mapping, geocoding, and data analysis. S/U or letter grading.

208. Built Environment and Health (4 units)

Lecture, three hours; discussion, one hour. Limited to public health and urban planning graduate students. Interdisciplinary course on built environment and health and breaking down silos. U.S. and other developed, as well as developing, countries are facing increasingly lethal and costly epidemics of acute and chronic diseases related to land use and built environment decisions. While hazards presented by air and water pollution are well recognized for acute, infectious, and toxicological illnesses, there is increasing recognition of hazards presented by building and community designs that fail to recognize human health. Land use and built environment decisions impact every age group and social and racial minority. Impacts range from very acute (motor vehicle trauma) to long term (obesity, cancer, heart disease). Decisions have as their bases economic, financial, insurance, housing, and other factors. Analysis of each factor and related disease endpoints. S/U or letter grading.

209. Practical Applications in Environmental Health Sciences (2 units)

Lecture, two hours. Enforced requisites: courses C200A, C200B. Description of many leading environmental and occupational health problems that environmental health practitioners face today, conducted as series of lectures, assignments, hands-on field exercises, and group projects, to help students develop skills necessary to integrate concepts across disciplines in field of environmental health. May satisfy some requirements needed to qualify for Registered Environmental Health Specialist (REHS) certification. S/U or letter grading.

M211. Epidemiologic Methods in Violent Injury (4 units)

(Same as Epidemiology M252.) Lecture, four hours. Requisites: Epidemiology 200A, 200B, and 200C (or 100). Description and critical evaluation of epidemiologic methods in approaches to understanding incidence risk factors and prevention strategies of violence and violence-related injury. Letter grading.

212. Applied Ecology (4 units)

Lecture, four hours. Preparation: one ecology course. Application of ecological theory and principles to solve environmental problems, including conservation biology, assessment of environmental impacts, and restoration ecology and mitigation of environmental impacts. Letter grading.

213. Seminar: Practical Aspects of Biosafety and Biosecurity (2 units)

Seminar/discussion, two hours. Preparation: one year of introductory biology. Recommended requisite: Microbiology 101 or 102. Designed for environmental health sciences graduate students and students in UCLA Biosafety Training Program. Interactive seminar with focus on critical concepts in and practical aspects of biosafety, biosecurity, risk assessment, and risk management that are needed for individuals wishing to serve as interns in UCLA biosafety program and/or become biosafety professionals. S/U or letter grading.

214. Children's Environmental Health: Prenatal and Postnatal (4 units)

Lecture, four hours. Preparation: one year each of chemistry and biology. Examination of how environmental exposures to chemical, physical, and biological agents during period of maturation (from fertilization to adulthood) cause pathophysiological perturbations in homeostasis at any stage during life. Letter grading.

215. Fundamentals of Health Impact Assessment (4 units)

Seminar, four hours. Provides students with sound understanding of health impact assessment (HIA) practice, its rationale and underlying principles, and opportunities to develop and apply HIA skills in work with public agencies and community-based organizations. Focus on problem solving around case-study HIAs and student experiences working on HIA-related projects. S/U or letter grading.

C225. Atmospheric Transport and Transformations of Airborne Chemicals (4 units)

Lecture, four hours. Preparation: one year of calculus, one course each in physics, organic chemistry, and physical chemistry. Designed for science, engineering, and public health students. Role of regional or long-range transport, and atmospheric lifetimes and fates of airborne chemicals in phenomena such as photochemical smog, acid deposition, stratospheric ozone depletion, accumulation of greenhouse gases, and regional and global distribution of volatile toxic compounds. Concurrently scheduled with course C125. S/U or letter grading.

M229. Epidemiology of Foodborne Illnesses (4 units)

(Same as Epidemiology M229.) Lecture, four hours. Requisites: Biostatistics 100A, Epidemiology 200A, 200B, and 200C (or 100). Food poisoning is significant cause of morbidity and mortality in both developing and developed world. Examination of etiologic agents of food poisoning and factors specific to foods that allow them to become agents of disease transmission. S/U or letter grading.

230A. Interdisciplinary Occupational Health Practice (2 units)

Seminar, one hour; fieldwork, one hour. Multidisciplinary nature of occupational health practice featured and explored in these varied-activity courses, including material related to recognition, prevention, surveillance, and management of work-related health problems that occupational health and safety researchers and professionals encounter in various work environments. Lectures, seminars, field exercises, workshops, clinical case conferences, and group assignments combined to help students develop skills necessary to integrate and communicate relevant approaches to occupational hazard detection and control, work-related injury and illness surveillance, and disease and disability prevention from different disciplines in field of occupational health and safety. S/U grading.

230B. Interdisciplinary Occupational Health Practice (2 units)

Seminar, one hour; fieldwork, one hour. Multidisciplinary nature of occupational health practice featured and explored in these varied-activity courses, including material related to recognition, prevention, surveillance, and management of work-related health problems that occupational health and safety researchers and professionals encounter in various work environments. Lectures, seminars, field exercises, workshops, clinical case conferences, and group assignments combined to help students develop skills necessary to integrate and communicate relevant approaches to occupational hazard detection and control, work-related injury and illness surveillance, and disease and disability prevention from different disciplines in field of occupational health and safety. S/U grading.

230C. Interdisciplinary Occupational Health Practice (2 units)

Seminar, one hour; fieldwork, one hour. Multidisciplinary nature of occupational health practice featured and explored in these varied-activity courses, including material related to recognition, prevention, surveillance, and management of work-related health problems that occupational health and safety researchers and professionals encounter in various work environments. Lectures, seminars, field exercises, workshops, clinical case conferences, and group assignments combined to help students develop skills necessary to integrate and communicate relevant approaches to occupational hazard detection and control, work-related injury and illness surveillance, and disease and disability prevention from different disciplines in field of occupational health and safety. S/U grading.

C235. Environmental Policy for Science and Engineering (4 units)

Lecture, four hours. Limited to senior undergraduate and graduate students. Examination of theoretical underpinnings of several major types of regulatory policy, as well as practical issues involved in implementing and enforcing each. Exploration of selection and impact of regulatory forms from variety of disciplines and viewpoints. Focus on traditional command and control regulation (including self-executing performance standards and permitting), market-based regulation (such as emissions trading), remediation, and emerging regulatory approaches such as management-based regulation and alternatives assessment. Issues of compliance and enforcement. Concurrently scheduled with course C135. Letter grading.

C240. Fundamentals of Toxicology (4 units)

Lecture, four hours. Preparation: one course each in biology, organic chemistry, and biochemistry. Essential aspects of toxicology, with emphasis on human species. Absorption, distribution, excretion, biotransformation, as well as basic toxicologic processes and organ systems. Concurrently scheduled with course C140. Letter grading.

M241. Advanced Concepts in Gene-Environment Interactions (4 units)

(Same as Molecular Toxicology M247.) Lecture, three hours; discussion, one hour. Comprehensive and practical examination of emerging science of gene-environment interaction. Discussion of primary components of field, including role of metabolic pathways in modifying environmental responses and importance of environmental influences in human disease. Exploration of selected hot topics in field, such as importance of epigenetics and of microbiome. S/U or letter grading.

M242. Toxicodynamics (2 units)

(Same as Molecular Toxicology M242.) Lecture, one hour; discussion, one hour. Preparation: undergraduate biology and chemistry courses. Requisite: course C240. Examination of recent literature on mechanisms of toxicity or toxicodynamics. Student presentation of papers selected by instructor on various aspects of toxic mechanisms, including free radical mechanisms,

mechanisms of cell death, metal toxicity/ion homeostasis, intracellular pH and calcium regulation, stress and adaptive pathways, DNA repair/mutagenesis, carcinogenesis, and teratogenesis. Discussion of various papers. S/U or letter grading.

C252D. Properties and Measurement of Airborne Particles (4 units)

Lecture, four hours. Preparation: one year each of chemistry, physics, and calculus. Basic theory and application of aerosol science to environmental health, including properties, behavior, sampling, and measurement of aerosols and quantitative problems. Concurrently scheduled with course C152D. S/U or letter grading.

252E. Identification and Measurement of Gases and Vapors (4 units)

Lecture, three hours; discussion, one hour; outside study, two hours. Preparation: one year each of chemistry, physics, and calculus. Theoretical and practical aspects of industrial hygiene sampling and measurement of gases and vapors. Letter grading.

252F. Industrial Hygiene Measurements Laboratory (3 units)

Laboratory, three hours. Corequisites: courses C252D, 252E. Limited to industrial hygiene majors. Laboratory methods for sampling, measurement, and analysis of gases, vapors, and aerosols found in occupational environment. S/U or letter grading.

Laboratory, three hours. Corequisites: courses C252D, 252E. Limited to industrial hygiene majors. Laboratory methods for sampling, measurement, and analysis of gases, vapors, and aerosols found in occupational environment. S/U or letter grading.

252G. Industrial and Environmental Hygiene Assessment (4 units)

Lecture, one hour; discussion, two hours; laboratory, two hours; outside study, four hours. Requisites: courses C200A, C200B, C252D, 252E, 252F. Environmental and industrial hygiene sampling strategies and assessment via walk-through surveys, lectures, group discussion, actual field measurements, laboratory calibrations, and analyses and reports, with emphasis on chemical, physical, and ergonomic hazards. Letter grading.

253. Physical Agents in Work Environment (2 to 4 units)

Lecture, two hours; laboratory, two hours. Preparation: one year of physics. Physics, measurement methods, health effects, and control methods for radiation (ionizing and nonionizing), noise, and thermal stress in workplace environment. S/U or letter grading.

255. Control of Airborne Contaminants in Industry (4 units)

Lecture, two hours; laboratory, two hours. Preparation: one year of physics. Requisite: course C252D. Principles and applications of control technology to industrial environments, including general and local exhaust ventilation, air cleaning equipment, and respiratory protection. S/U or letter grading.

256. Biological and Health Surveillance Monitoring in Occupational/Env. Health (4 units)

Lecture, three hours; discussion, one hour; assignments, three hours. Principles and applications of biological monitoring and health surveillance to assess occupational and environmental exposures to organic and inorganic chemicals and physical factors. Letter grading.

C257. Risk Assessment and Standard Setting (4 units)

Seminar, four hours. Requisites: courses C240, 251, Epidemiology 100. Designed to provide students with opportunity to review scientific basis for association of selected occupational and environmental exposures with disease. Special emphasis on critical evaluations of literature. Attention specifically to interface of science and regulatory standards. Concurrently scheduled with course C157. S/U or letter grading.

258. Identification and Analysis of Hazardous Wastes (4 units)

Lecture, three hours; discussion, one hour; laboratory, one hour; one field trip. Requisites: course

252E, Biostatistics 100A. Designed to define, identify, label, and quantify hazardous wastes and how workers should be protected. Provides critical understanding of all analytical aspects of hazardous wastes, health aspects, and regulation and practice of handling hazardous wastes. Letter grading.

259A. Occupational Safety and Ergonomics (4 units)

Lecture, four hours. Overview of most frequent and severe occupational injuries and illnesses, their distribution, causes, analysis methods, and control approaches, including low back pain, falls, machine exposures, upper extremity musculoskeletal disorders, fleet safety, and selected ergonomics topics. Letter grading.

259B. Workplace Safety (2 units)

Lecture, two hours. Introduction to broad range of topics in workplace safety through lectures on safety hazards, their classification, metrics, control philosophy, and control methods. Specific topics include traditional safety rubrics, such as fall hazards, machine safety, and fire hazards. Introduction to concepts of safety culture and philosophy. Review and presentation of peer-reviewed articles on topics relevant to course material. Letter grading.

M260. Occupational Epidemiology (4 units)

(Same as Epidemiology M261.) Lecture, three hours. Requisites: Epidemiology 100; for Epidemiology majors, Epidemiology 200A, 200B, 200C. Methodological considerations, approaches, and limitations in epidemiological studies of occupational groups and environments. S/U or letter grading.

261. Chemical Behavior of Aquatic Systems (4 units)

Lecture, three hours. Requisites: courses C200A, C200B, Chemistry 20A, 20B, Mathematics 3A. Chemistry of ocean waters, rivers, groundwaters, and water treatment systems. Topics include thermodynamics of natural waters, acids and bases, carbon dioxide cycle, solubility reactions, oxidation and reduction, plus applied problems. Letter grading.

C264. Fate and Transport of Organic Chemicals in Aquatic Environment (4 units)

Lecture, four hours. Preparation: bachelor's degree in science, engineering, geophysics, chemistry, biology, or public health. Evaluation of how and where and in what form and concentration organic pollutants are distributed in aquatic environments. Study of mass transport mechanisms moving organic chemicals between phases, biological degradation and accumulation, and chemical reactions. Effect of humic substances on these processes. Concurrently scheduled with course C164. S/U or letter grading.

M270. Work and Health (4 units)

(Same as Community Health Sciences M278.) Lecture, three hours; practicum, one hour. Recommended preparation: graduate-level methods/statistics course, basic epidemiology. Designed for graduate students. Exploration of impact of work on physical and psychological health in context of newly emerging discipline. Focus on psychosocial models, measurement (including hands-on experience), contextual factors (gender, ethnicity, social class), and how work stressors can be ameliorated. S/U or letter grading.

296A. Research Topics in Environmental Health Sciences: Coastal Ecological Processes and Problems (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature

296B. Research Topics in Environmental Health Sciences: Teratogenesis (2 units)

Research group meeting, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Research group meeting, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296C. Research Topics in Environmental Health Sciences: Toxicology and Environmental Health Policy (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296G. Research Topics in Environmental Health Sciences: Advances in Aerosol Technology (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296H. Research Topics in Environmental Health Sciences: Occupational and Environmental Exposure Assessment (2 units)

Research group meeting, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Research group meeting, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296I. Research Topics in Environmental Health Sciences: Industrial and Environmental Hygiene (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296J. Research Topics in Environmental Health Sciences: Germ Cell Cytogenetic/Genetic Biomarkers (2 units)

Research group meeting, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Research group meeting, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296K. Research Topics in Environmental Health Sciences: Aquatic Chemistry (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research

296L. Research Topics in Environmental Health Sciences: Water Science and Health (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296M. Research Topics in Environmental Health Sciences: Experimental and Modeling Studies of Atmospheric Pollution (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

296N. Research Topics in Environmental Health Sciences: Genetic Toxicology (2 units)

Seminar, two hours. Advanced study and analysis of current topics in environmental health sciences. Discussion of current research and literature in research specialty of faculty member teaching course. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units)

Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at UCLA. May be repeated for credit. S/U grading.

400. Field Studies in Environmental Health Sciences (4 units)

Fieldwork, to be arranged. Field observation and studies in selected community environmental health organizations. Students must file field placement and program training documentation on form available from Student Affairs Office. May not be applied toward M.S. minimum course requirement; 4 units may be applied toward 62-unit minimum total required for M.P.H. degree. Letter grading.

401. Environmental Measurements (4 units)

Lecture, two hours; laboratory, four hours. Requisites: courses C200A, C200B, Chemistry 20A, 30AL. Instrumental methods for laboratory and field applications to assess quantity of environmental pollutants in air, food, and water, and to assess degree of exposure to such factors as noise and radiation. Letter grading.

410A. Instrumental Methods in Environmental Sciences (4 units)

Lecture, four hours; discussion, two hours; other, two hours. Preparation: one year each of physics, chemistry, and biology. Theory and principles of instrumental methods through lectures and group discussions. Letter grading.

Lecture, four hours; discussion, two hours; other, two hours. Preparation: one year each of physics, chemistry, and biology. Theory and principles of instrumental methods through lectures and group discussions. Letter grading.

410B. Instrumental Methods Laboratory in Environmental Health Sciences (4 units)

Lecture, one hour; discussion, one hour; laboratory, four hours; other, two hours. Preparation: one year each of physics, chemistry, and mathematics. Requisites: courses C200A, C200B.

Laboratory techniques and instrumentation used in preparation and analysis of biological, environmental, and occupational samples. Letter grading.

411. Environmental Health Sciences Seminar (2 units)

Seminar, two hours. Required of graduate environmental health sciences students for one term each year. Current topics in environmental health in science, policy, and leadership. Speakers who are leading thinkers at interface of health and environment address important subjects of environmental health. May be repeated for credit. S/U grading.

M412. Effective Technical Writing (2 units)

(Same as Environment M412.) Seminar, two hours. Essentials of grammar, punctuation, syntax, organization, and format needed to produce well-written journal articles, research reports, memoranda, letters, and résumés. Development of technical writing skills using critique, exercises, and examples. S/U grading.

M413. Advanced Technical Writing (2 units)

(Same as Environment M413.) Seminar, two hours. Development of advanced technical writing skills, with exercises focused on preparation of manuscripts for publication in peer-reviewed journal. S/U grading.

M414. Effective Oral Presentation (2 units)

(Same as Environment M414.) Seminar, two hours. Introduction to oral presentations. Development of oral presentation skills, including content structure, visual aids, delivery, and audience interaction. S/U grading.

(Same as Environment M414.) Seminar, two hours. Introduction to oral presentations.

Development of oral presentation skills, including content structure,

M415. Advanced Oral Presentation (2 units)

(Same as Environment M415.) Seminar, two hours. Development of advanced oral presentation skills. Preparation for oral qualifying examination. S/U grading.

454. Health Hazards of Industrial Processes (4 units)

Lecture, two hours; field trips, four hours. Requisite: course 255. Industrial processes and operations and occupational health hazards that arise from them. Letter grading.

Lecture, two hours; field trips, four hours. Requisite: course 255. Industrial processes and operations and occupational health hazards that arise from them. Letter grading.

461. Water Quality and Health (4 units)

Lecture, three hours; discussion, one hour. Requisites: courses C200A, C200B, 401. Introduction to water quality, with coverage of hydrology, water chemistry, and various chemical contaminants that may affect human health. Various treatment methods and health implications. S/U or letter grading.

M471. Improving Worker Health: Social Movements, Policy Debates, and Public Health (4 units)

(Same as Community Health Sciences CM470 and Urban Planning M470.) Lecture, three hours; fieldwork, two hours. Examination of intersection between work, health, and environment, analysis of social causes of health disparities, investigation of historical trends and social movements, interpretation of current policy debates, and development of innovative interventions. S/U or letter grading.

495. Teacher Preparation in Environmental Health Sciences (2 units)

Seminar, two hours. Preparation: 18 units of cognate courses in area of specialization. May not be applied toward master's degree minimum total course requirement. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research (2 to 8 units)

Tutorial, to be arranged. Limited to graduate students. Individual guided studies under direct faculty supervision. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit. S/U or letter grading.

Tutorial, to be arranged. Limited to graduate students. Individual guided studies under direct faculty supervision. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement. May be repeated for credit. S/U or letter grading.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations (2 to 8 units)

Tutorial, to be arranged. Limited to graduate students. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

Tutorial, to be arranged. Limited to graduate students. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

598. Master's Thesis Research (2 to 10 units)

Tutorial, four hours. Only 4 units may be applied toward M.P.H. and M.S. minimum total course requirement; may not be applied toward minimum graduate course requirement. May be repeated for credit. S/U grading.

599. Doctoral Dissertation Research (2 to 10 units)

Tutorial, four hours. May not be applied toward any degree course requirements. May be repeated for credit. S/U grading.

EHS Faculty & Research Interests:**Professors:****Richard (Rich) Ambrose, Ph.D.**

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