

**ENVIRONMENTAL SCIENCES AND HEALTH
GRADUATE PROGRAM, UNIVERSITY OF NEVADA,
RENO**

GRADUATE HANDBOOK



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INTRODUCTION

Welcome to the Environmental Sciences and Health (ES&H) Graduate Program, University of Nevada, Reno. We are delighted that you have joined our unique group of graduate students, faculty, and researchers who share a deep concern for the development and application of interdisciplinary approaches to the stewardship of natural resources. This handbook was prepared to provide guidance to students and faculty as students advanced through the program. Here you will find information to understand the requirements, expectations and opportunities associated with both the specific graduate program and Graduate School. This handbook is not an official document of the University. Students are advised to refer to the University of Nevada, Reno General Catalog as well as the University of Nevada, Reno Graduate School web site for complete information on policies of the University and specific requirements for graduate degrees.

We hope that you will read through this handbook and keep it as a reference to help answer question you may have during your stay at University of Nevada, Reno.

We will be working each year to update and revise the handbook; therefore, feedback is welcome from graduate students and faculty to improve the handbook's usefulness.

PROGRAM DESCRIPTION

About the Program

The ES&H Graduate Program consists of approximately 50 faculty members and over 50 graduate students. The faculty represent a board spectrum of research, teaching interest and departments at the University of Nevada, Reno as well as several scientists from the Desert Research Institute (DRI) and faculty from other local educational and research institutes.

The Doctor of Philosophy (PhD) graduate degree program of ES&H helps student to think critically and independently; comprehend the processes of science and effectively apply scientific principles and professional procedures; attain proficiency in the current knowledge in the respective fields; develop competence in technical skills and tools required in their disciplines;

1. Program Description

Mission Statement

The mission of the UNR Environmental Sciences and Health graduate program (ES&H) is to provide training to scientists in the following disciplines: environmental chemistry; environmental toxicology; and ecological toxicology. Environmental chemistry focuses on measurements and environmental processes affecting chemicals in the environment. Environmental toxicology focuses on the biochemical and cellular toxicology, with a special

emphasis placed on the impact of contaminants on humans. Ecological toxicology combines the disciplines of wildlife toxicology and conservation biology with the goal of understanding how contaminants affect populations and ecosystems. The program works under the premise that students must have a strong environmental sciences core curriculum and be flexible for students so that they may draw upon the interdisciplinary knowledge base of program's faculty members. This flexible permits the student an opportunity to design a curriculum to meet his or her interest and professional goals.

Program/student learning outcomes (SLOs)

- Understanding the theoretical and experimental basis for the study of contaminants in the environment and their effects on humans and ecosystems.
- Student Learning Outcomes
- Knowledge of the design and use of field instrumentation, computer models, data analysis and laboratory procedures for environmental chemistry and toxicology research and monitoring.
- Ability to explain ideas and results through written, numerical, graphical, spoken, and computer-based forms of communication.
- Ability of the ES&H program to respond to changing interdisciplinary needs of students.

Contact information for the program director

Stanley T. Omaye, Director and Professor, Environmental Sciences and Health Graduate Program

ANVS Department, Mail Stop 202
University of Nevada, Reno 89557

Tel: 775-784-6447

Email: omaye@unr.edu

2. Degree requirements

Doctoral Degree

Doctoral are required to complete a minimum of 72 graduate credits, 48 of which must result from coursework.

- At least 30 credits must be taken at the 700 level: These credits may not include dissertation credits nor credits obtained during undergraduate study.
- Up to 18 credits of 700 level course work from a master's degree program may be applied to this requirement: No more than 24 credits of course work (with grades of B or better) from a master's degree program, or previous post baccalaureate graduate studies program, may be allocated toward the doctoral degree. Exception is for students who hold a MPH degree from UNR or accredited institution, 32 credits of course work of B or better may be allocated toward the doctoral degree.
- Candidates for the Ph.D. degree must register for at least 24 dissertation credits and must submit a satisfactory dissertation to the examining committee:
 1. A maximum of 24 credits must come from dissertation work;
 2. Any exception to the minimum 24 dissertation credits requires the advance written approval of the program director and the graduate dean

All requirements for the Doctoral program, excluding prerequisite graduate course work or master's degrees, must be completed within a period of eight years

Degree	Total Credits	700 Level	600 Level	Thesis Credits
Doctoral	72	30	18	24

The Environmental Sciences program course requirements have been selected with a minimum number of required courses to allow the student an opportunity to design a curriculum to meet each student's disciplinary interests and professional aspirations.

Prerequisite Courses

Degree in a related science, including calculus and chemistry, and additional coursework in organic chemistry, biology and physics. Other courses accepted at the discretion of the Director.

Committee Membership

For a **doctoral degree**, at the completion of twelve graduate credits, the student selects a committee chair and the student and chair arrange the appointment of the remaining four members of the committee. All committee members must be listed on the [Graduate Faculty](#). The committee and the director of the Environmental Sciences program supervise the student's course of study and examinations.

In addition to the committee chair, at least two members will be from the student's major department, at least one will be from a department in a field related to the student's major, and at least one will be a Graduate School representative from the graduate faculty. Students may request the appointment of a committee member from the faculty of another university or from a relevant discipline or profession, provided the prospective member has achieved a record of distinction. Formal approval of the student's advisory/examining committee is made by the Graduate Dean.

Required Courses

All students must have one graduate course in statistics, and attend the NRES 790 Environmental Sciences seminar or other appropriate seminar (4 for Ph.D.). With regards to transfer credits for doctoral students who have completed a M.S. program, a maximum of 24 credits of course work from a completed master's degree program or previous post-baccalaureate graduate studies program or 32 credits from an accredited MPH Program may be applied toward the doctoral degree. All students must take 4 of the 12 courses listed below, unless a student's advisor and committee members recommend substitutions that correspond with a specific research focus.

Course Number	Course Title	# of Credits
ATM 612	Introduction to Air Pollution	3
BIOL 620	Aquatic Ecology	3
CEE 658	Introduction to Environmental Chemistry	3
NRES 632	Advanced Environmental Toxicology	3
NRES 682	Small Watershed Hydrology	4
NRES 746	Advanced Analysis Methods in Natural Resources	1-3
NRES 765	Biogeochemical Cycles	3
PUBH 673	Epidemiology	3
NRES 633	Environmental Chemicals: Fate and Transport	3
CHS 725	Health and the Environment	3
NUTR 624	Food and Nutritional Toxicology	3
ATMS 613	Introduction to Synoptic Meteorology	3

Additional Course Requirements

In addition to the Core Courses listed above, all ES&H students must take:

Course Number	Course Title	# of Credits
##Seminar	Seminar	4 total
###799	Dissertation (Ph.D.)	24

Suggested Elective Courses		
CHS 780	Biostatistics in Public Health	3
CHS 753	Health Informatics	3
CEE 653	Environmental Microbiology	3
ATMS 747	Atmospheric Chemistry	3
NUTR 735	Micronutrients	3
BCH 600	Introductory Biochemistry	3

Note on Elective Courses

Each student's program of study is based on the disciplinary track she/he has chosen. Elective courses may be selected from a variety of departments, including but not limited to:

- Atmospheric Sciences (ATMS)
- Biochemistry (BCH)
- Chemistry (CHEM)
- Civil and Environmental Engineering (CEE)
- Environmental Resource Science (ERS)
- Nutrition (NUTR)

Upon admission to the Environmental Sciences Program and prior to beginning classes, each student and faculty advisor will design the academic course work for the first year. By the conclusion of the first year, the student's advisory committee will collaborate on the rest of the program of study. The Ph.D. student's program of study must include at least 72.

Comprehensive Examination for Admission to Doctoral Candidacy

Written Examination:

The *written* examination is a general examination on environmental science and health. The student's committee develops the written questions, which are in the general area of the student's courses and program. The examination has 5-7 questions. For purposes of consistency, the program director will need to approve each written exam at least one week prior to the exam being given to the student.

The exam will be given during an 8-hour period and proctored by the student's committee chair. It will be a closed book exam.

The following provide examples of how the exams could be structured.

- A student studying phosphorus, sediment and Lake Tahoe might be expected to understand spectroscopic methods, sorption processes, impacts of nutrients on watersheds, soil chemistry and the basis for regulatory actions regarding nutrients.
- A student studying gas exchange in plants might be expected to know atmospheric measurement processes, plant physiology, soil-plant relationships, and, global changing issues and impacts.
- A student focused on public health might be expected to know epidemiology, toxicology, biochemistry and environmental contaminants that affect human health.

Oral Examination:

The oral examination is focused on the student’s knowledge of the specific area of research, and involves presentation of **no more than 13 research slides** followed by questions. The committee questions are generally in the specific area of research and designed to determine how well the student understands their own research and their ability to conduct research.

Master Degree

M.S. students are required to complete a thesis (Plan A) including at least 30 credits of acceptable graduate courses.

- At least 18 credits in the program must be at the 700 level, and include six thesis units
- At least 21 credits must be earned in on-campus courses at the university.
- As many as three credits of satisfactory/unsatisfactory (S/U) grade, including transfer are acceptable
- Any transfer of credits from another institution must be recommended in the program of study by the advisory/examining committee and must be officially accepted by the Office of Admissions and Records
- As many as nine graduate credits completed prior to admission to graduate standing may be applied toward the master's degree

All requirements for the master's degree must be satisfied within the period of six years immediately preceding the granting of the degree

Degree	Total Credits	700 Level	600 Level	Thesis Credits
Masters	30	18	12	6

Required Courses

All students must have one graduate course in statistics, and attend the NRES 790 Environmental Sciences seminar, or other appropriate seminar (3 credits for completion of a Master's degree. M.S.

students must have 18 700-level credits (6 of which are the thesis) and 12 600-level credits to complete the program. All students must take 4 of the 12 courses listed below, unless a student's advisor and committee members recommend substitutions that correspond with a specific research focus.

Course Number	Course Title	# of Credits
ATM 612	Introduction to Air Pollution	3
BIOL 620	Aquatic Ecology	3
CEE 658	Introduction to Environmental Chemistry	3
NRES 632	Advanced Environmental Toxicology	3
NRES 682	Small Watershed Hydrology	4
NRES 746	Advanced Analysis Methods in Natural Resources	1-3
NRES 765	Biogeochemical Cycles	3
PUBH 673	Epidemiology	3
NRES 633	Environmental Chemicals: Fate and Transport	3
CHS 725	Health and the Environment	3
NUTR 624	Food and Nutritional Toxicology	3
ATMS 613	Introduction to Synoptic Meteorology	3

Additional Course Requirements

In addition to the Core Courses listed above, all ES students must take:

Course Number	Course Title	# of Credits
NRES 790, NUTR 726, other appropriate seminar	Seminar	3
##797	Thesis (MS)	6

Suggested Elective Courses

Course Number	Course Title	# of Credits
CHS 780	Biostatistics in Public Health	3
CHS 753	Health Informatics	3
CEE 653	Environmental Microbiology	3
ATMS 747	Atmospheric Chemistry	3
NUTR 735	Micronutrients	3
BCH 600	Introductory Biochemistry	3

Elective Courses

Each student's program of study is based on the disciplinary track she/he has chosen. Elective courses may be selected from a variety of departments, including but not limited to:

- Atmospheric Sciences (ATMS)
- Biochemistry (BCH)
- Chemistry (CHEM)
- Civil Engineering (CE)
- Environmental Resource Science (ERS)
- Nutrition (NUTR)
-

Graduate School Academic Requirements:

All graduate students must maintain a cumulative graduate GPA of 3.0. If their GPA drops below 3.0 they are either placed on probation or dismissed. Undergraduate courses will not count towards graduate GPA.

Probation: students whose cumulative graduate GPA is .1 to .6 points below that needed for a 3.0 GPA are put on probation. Students are placed on academic probation for one semester. If they fail to raise their cumulative GPA to 3.0 by the end of one semester, they are dismissed from their graduate program. Thesis, dissertation, S/U graded credits, and transfer credits have **no** impact on a student's GPA.

Dismissal: students whose cumulative graduate GPA is .7 or more grade points below that needed for a 3.0 GPA are dismissed. Dismissed students are no longer in a graduate program but may take graduate-level courses as a Grad Special. Students wishing to complete their degree must obtain approval to take graduate-level courses, raise their graduate GPA to at least 3.0 and then re-apply to a graduate program. Any courses taken to raise their GPA will be included in the graduate special/ transfer credit limitation (9 credits for master's degrees).

3. Transfer credits

These are credits transferred from another institution. Credits completed at UNR in another program or as a graduate special do not need to be transferred. Transfer credit is requested on the Graduate Credit Transfer Evaluation Request form available on Graduate School website <http://www.unr.edu/Documents/graduate-school/GraduateCreditTransferEvaluationRequest.pdf>. and must be signed by the student, major advisor, and graduate director. Transfer credits applied to a master's program must comply with the time limitation on master's work (6 years). Thus, if a student took a course five years prior to admission, they would have to complete the degree within one year for the course to apply to the degree. Credits from a completed master's degree will be exempt from the 8-year time limitation for those students earning a doctoral degree.

4. Timeline for degree completion

Overall time to completion of the Master degree is two years and for the PhD, 3 years beyond the completion of the Master degree.

- Declaration of Advisor/Major Advisor/Committee Chair - <http://www.unr.edu/grad/forms/delcaration-of-advisor>
 - For master's students, completed form must be submitted to Graduate School by the end of the student's second semester
 - For doctoral completed form must be submitted to Graduate School by the end of the student's third semester
- Program of Study - <http://www.unr.edu/Documents/graduate-school/program-of-study.pdf>
 - For master's students, completed form must be submitted to Graduate School by the end of the student's third semester
 - For doctoral students, completed form must be submitted to Graduate School by the end of the student's fourth semester
- (Doctoral Programs only) Doctoral degree admission to candidacy - <http://www.unr.edu/Documents/graduate-school/17doctoral-degree-admission-to-candidacy.pdf>
 - For doctoral students who completed all requirements except for the dissertation
- Graduation Application - <http://www.unr.edu/grad/forms/graduation-application>
 - Must be submitted to the graduate school several weeks in advance. Check website for exact dates
- Notice of completion – completed form should be submitted after all requirements have been met.
 - Master's - <http://www.unr.edu/Documents/graduate-school/notice-of-completion-master-degree.pdf>
 - Doctoral - <http://www.unr.edu/Documents/graduate-school/notice-of-completion-doctoral-degree.pdf>
- Exit Survey - <http://www.unr.edu/grad/forms/exit-survey>

Master's degrees: All course work must be completed within six years preceding the awarding of the degree. **Doctoral degrees:** All course work must be completed within eight years preceding the awarding of the degree. Credits transferred into doctoral degree from a completed master's degree are exempt from this eight-year limit.

5. Dissertation or Thesis Requirements

Thesis requirements (and/or non-thesis option)

Describe here the format for the thesis, and other program specific requirements. Include relevant non-thesis option information here as well.

Graduate School forms and resources related to thesis and dissertations:

- Doctoral Dissertation Filing Guidelines - <http://www.unr.edu/grad/forms/dissertation-filing-guidelines>

- Masters Thesis Filing Guidelines - <http://www.unr.edu/grad/forms/thesis-filing-guidelines>
- (Doctoral students only) Dissertation Title Form - <http://www.unr.edu/grad/graduation-and-deadlines/dissertation-title-form>

Please also include that once all requirements have been met, students need to submit a Final Review Approval and Notice of Completion form in order to graduate.

- Final Review Approval – Obtain sign-off from advisory committee chair
 - Master’s - <http://www.unr.edu/Documents/graduate-school/thesis-final-review-approval-form.pdf>
 - Doctoral - <http://www.unr.edu/Documents/graduate-school/dissertation-final-review-approval-form.pdf>
- Notice of completion – completed form should be submitted after all requirements have been met.
 - Master’s - <http://www.unr.edu/Documents/graduate-school/notice-of-completion-master-degree.pdf>
 - Doctoral - <http://www.unr.edu/Documents/graduate-school/notice-of-completion-doctoral-degree.pdf>

6. Graduate Assistantships

Include information on availability and policy for graduate teaching and research assistantships, along with requirements.

All graduate students holding an assistantship (teaching GTA or GRA) are considered Nevada residents for tuition purposes. Non-resident tuition is only waived for the duration of the assistantship. To be eligible for an assistantship, students must be admitted to a degree-granting program and be in good academic standing. The student must have an overall GPA of at least 3.0 and must be continuously enrolled in at least 6 graduate level credits (600-700) throughout the duration of the assistantship.

State-funded assistantships (GTA/GRA) may be held for a maximum of: three (3) years for master’s degree students and five (5) years for doctoral degree students.

Please also include links to the most updated information on graduate assistantship in the graduate school website:

General information: <http://www.unr.edu/grad/funding/graduate-assistantships>

Graduate Assistantship handbook: http://www.unr.edu/Documents/administration-finance/hr/hr-graduate/GA_handbook.pdf

7. Health insurance

All domestic degree seeking graduate students, who are enrolled in six or more credits (regardless of the course level) in a semester, will be automatically enrolled and billed for the University sponsored health insurance for each term they are eligible (fall & spring/summer). If a student has other comparable coverage and would like to waive out of the student health insurance, it is the student's responsibility to complete the [University online waiver form](#) prior to the deadline. If approved, a health insurance waiver is good for the current academic year only. A new waiver must be submitted each academic year. All international graduate students are required to carry student health insurance, and the cost will be automatically added to your student account. Any international graduate students with insurance questions must contact the [Office of International Students and Scholars \(OISS\)](#) directly. <http://www.unr.edu/grad/health-insurance>

8. Leave of Absence

Continuous Enrollment: To maintain “good standing” all graduate students are required to enroll in a minimum of three (3) graduate credits each fall and spring semester until they graduate. International students may be required to enroll in nine graduate credits each fall and spring semester depending on the requirements of their visa. All students holding assistantships (whether teaching or research assistantships) are required to enroll in a minimum of six (6) graduate credits each semester they hold the assistantship.

Leave of Absence: Students in good standing may request a leave of absence by completing a leave of absence form available on the Graduate School website (http://www.unr.edu/Documents/graduate-school/leaveofabsencer_9.23.pdf) during which time they are not required to maintain continuous registration. Usually, a leave of absence is approved for one or two semesters. The leave of absence request may be extended by the student filing an additional leave of absence form. Students applying for a leave of absence should not have any “incomplete” grades which could be changed to “F” and have a detrimental impact on their cumulative GPA. Requests for leave of absences must be received by the Graduate School no later than the last day of enrollment for the semester the leave is to begin.

Reinstatement: When a student has been absent for one semester or more without an approved leave of absence, he or she may request reinstatement via the Reinstatement form (available on the Graduate School website http://www.unr.edu/Documents/graduate-school/noticereinstatementgraduatestanding_9.23.pdf). This form allows the program the option to recommend the student be re-admitted to their graduate program based on their previous admission OR require the student to re-apply for admission which would require students to submit a new application for admission and pay the application fee. The Notice of Reinstatement to Graduate Standing must be received by the Graduate School no later than the last day of enrollment for the semester the reinstatement is to begin.

9. Graduate Student Association

The [Graduate Student Association \(GSA\)](http://www.unr.edu/gsa/) represents all graduate students and promotes the welfare and interests of the graduate students at the University of Nevada, Reno. The GSA works closely with appropriate university administrative offices, including the Graduate School and Student Services and reports to the President of the University. The GSA government functions through the Council of Representatives, Executive Council and established committees. <http://www.unr.edu/gsa/>

10. Graduate School Forms

Please refer to www.unr.edu/grad/forms for all forms available at The Graduate School.