

WELCOME TO THE SCHOOL OF NATURAL RESOURCES

This handbook is designed to answer questions you may have while you proceed through your degree program. It highlights items specific to the School of Natural Resources and complements materials on the Graduate College website: <http://grad.arizona.edu>. There are many resources available to you, including your major professor and advisory committee, the Academic Coordinator, the staff and faculty of the School, and your peers.

The University of Arizona is a major land-grant university consistently ranked among the top public universities for education and for total research and development spending. It is the only Research I university in Arizona and 1 of 4 public or private Research I universities in the Intermountain and Rocky Mountain regions. The Plant Materials Center, Santa Rita Experimental Range, Beaver Creek Watershed, Saguaro National Park, Coronado National Forest, and Buenos Aires National Wildlife Refuge offer a range of types of vegetation, soils, geological formations, and environments for conducting research on natural or modified ecosystems in the Southwest.

The School of Natural Resources consists of 4 administrative programs, Landscape Studies, Rangeland and Forest Resources, Watershed Resources, and Wildlife and Fisheries Resources. Each of these programs, headed by a Program Chair, has educational, research, and service responsibilities. The School deliberately avoided a department structure to encourage and facilitate inter-program affiliations and interdisciplinary teaching and research efforts.

Research is directed towards understanding natural resource systems and how to manage these systems in response to increasing demands placed on them. We develop management alternatives that combine the application of resource science with political, economic, social, and legal knowledge. Research by faculty and graduate students has helped increase rangeland productivity, reduce livestock/wildlife conflicts, increase forest and rangeland water yields, protect the state's wildlife and recreation resources, and improve systems for analysis of and public participation in natural resources decision-making.

Welcome to the fray!



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IMPORTANT CONTACTS

School Director

Dr. Lisa Graumlich
BSE 325A, 621-7257
lisag@ag.arizona.edu

Assistant Director for Academic Programs

Dr. Bill Matter
BSE 319, 621-7280
wmatter@ag.arizona.edu

Academic Coordinator: Provides help with the logistics of your graduate program

Cheryl Craddock
BSE 323, 621-7260
ccraddoc@email.arizona.edu

Program Chairs (sign as 'department head' on your various and sundry forms)

Rangeland and Forest Resources

Dr. George Ruyle
BSE 302, 621-1384
gruyle@ag.arizona.edu

Watershed Resources

Dr. Joe Hiller
BSE 207, 621-7621
jghiller@ag.arizona.edu

Natural Resources Studies

Dr. Mitch McClaran
BSE 112, 621-1673
mcclaran@email.arizona.edu

Wildlife and Fisheries Resources

Dr. Bill Mannan
BSE 201, 621-7283
mannan@ag.arizona.edu

School Support Staff: They can help with administrative details, billings, reserving vehicles, answer lots of questions, serve as confidantes, etc. Everyone is in the main office: BSE 325.

Anne Hartley (point of contact!)
621-7255
hartleya@ag.arizona.edu

Barbara Gibson
621-7264
bgibson@ag.arizona.edu

Jane Matter
621-7257
jmatter@Ag.arizona.edu

Carol Yde
621-1959
carolyde@ag.arizona.edu

Money People: Personnel, travel, grants, payroll, purchasing, funding management—you name it, these guys take care of it.

Cecily Westphal
Business Manager, Senior
BSE 325G, 621-7261
cecily@ag.arizona.edu

Dee Simons
Payroll
BSE 325G, 621-5211
giggy@ag.arizona.edu

Computing Support: Can help with networking, technical, and computing support, or at least point you in the right direction. For general help, email: help@nexus.srn.arizona.edu.

Andy Honaman
BSE 203A, 621-5517
amh@srnr.arizona.edu



FIRST THINGS FIRST

If you've just arrived on campus, let's get some details out of the way.

1. Enroll in Classes

Work with your advisor to pick classes for your first semester. You can register using the on-line system WebReg available through Student Link (you will need a PIN—check with Graduate Admissions if you don't have one). You can get to the Schedule of Classes and Student Link from the UA's home page (www.arizona.edu).

If you are unable to register, it may be because Campus Health doesn't have your complete immunization record. Check with them or with Cheryl Craddock to determine if registration holds might be on your account.

2. Get your ID

Once you're enrolled, you need a Cat Card (our clever name for UA ID cards). You'll go to the Student Union to the Cat Card office to get this taken care of.

3. Get your Keys and an Office

Once you have an ID, you can get keys to the building, and office space if it is available (check with Cheryl). There is a cash deposit for each key issued. See Anne Hartley in the main office (BSE 325) to get this started.

4. Check on the Money

Your advisor should be submitting paperwork to Cecily or Dee regarding what kind of funding you have (if any). If you were awarded an assistantship, see Dee to fill out your assistantship contract. If you have questions about funding, please work with Cecily or Dee and your major advisor.

5. Add Yourself to the Website

Go to www.ag.arizona.edu/snr/grad.html and add your biographical information to the School website.

6. Get a University Email Account

You can get more emails than you can shake a stick at.

You are *required* to have a University account: go to <https://account.arizona.edu/> and navigate the labyrinthine instructions.

You may also have an email account through the College of Agriculture and Life Sciences (CALs): go to <http://ag.arizona.edu/agnet/email/>

7. Talk to Cheryl Craddock

Come see Cheryl in BSE 323 to update your contact information, subscribe to the graduate student listserv, and make sure you are set for the coming semester.



GETTING INFORMATION

It is useful to stay in the information loop to make sure you hear about job and funding opportunities, professional societies and clubs, professional meetings, academic policies, seminars, and other miscellaneous details. Here's how to do it.

Listserv

We have a grad student listserv. If Cheryl hasn't already added you, please subscribe to this listserv by sending an email to:

listserv@listserv.arizona.edu

In the body of the message type

Subscribe snrgrad FirstName LastName

With no other text. Well, substitute *your* name for FirstName LastName!

Cheryl posts messages about once a week. To post to the listserv, send a message to her for forwarding to all SNR graduate students.

Major Professor

Your major professor can help you not only with your research program, but also with professional development, opportunities for experience, guidance on course selection, and procedural details.

Graduate Student Forum

There is a weekly (roughly) Graduate Student Forum where you can socialize and interact with peers about graduate student issues and research. Signs are posted and you'll hear about it on the listserv.

Committee Service

There are a number of School committees with a graduate student representative, including strategic planning, curriculum, and student awards committees. It is a great way to provide grad student input into School business, and to ensure grad students hear about issues that affect them. Contact Cheryl about volunteering to serve on a committee.

Bulletin Boards

Information is posted on bulletin boards throughout BioScience East. There are many job postings (temporary, part-time, and full-time) as well as seminar and defense announcements. Easels on each floor announce special events. Read them!



FINANCIAL ASSISTANCE

The bursar's office assesses out-of-state tuition and registration fees. See <http://www.bursar.arizona.edu> for current rates.

Assistantship/Associateship

Students are required to enroll for a minimum of 10 hours of graduate credit during the term(s) in which they are supported by a graduate assistantship/associateship. Audited courses *do not* satisfy this requirement. You must maintain a 3.0 cumulative GPA. Assistantships include health insurance, a partial remission of a part of in-state tuition, and a waiver of non-resident tuition.

Special Note for Teaching Assistantship/Associateships

All new teaching assistants are required to participate in GATO (Graduate Assistants in Teaching Orientation). International students are required to have: (a) a TOEFL score of 550 (written) or 213 (computer) or higher or a degree from a US institution and a TSE with a score of 50 or a SPEAK score of 230 or higher, or (b) be a citizen of an English-speaking country.

Graduate Tuition and Registration Scholarships

Each spring, the Graduate College allocates a lump sum to the School to distribute as tuition and fees scholarships (they can ONLY be used for this purpose, and ONLY for fall or spring, not summer, sessions). The application process is announced each spring.

Thesis/Dissertation Waivers

Students who have completed their academic program and have only writing and the defense to complete may be eligible for a thesis/dissertation waiver, which waives out-of-state tuition. If you think this applies to you, please contact Cheryl Craddock.

School Wages

Opportunities are available for graduate students to earn hourly wages for work on specific research projects or School Programs. Interested students should contact their major professor. Occasionally job notices are posted on SNR bulletin boards.

College of Agriculture and Life Sciences Scholarships

Applications for various CALS scholarships, including several scholarships earmarked for SNR students, can be obtained online at <http://cals.arizona.edu> or by contacting:
College of Agriculture and Life Sciences
Office of Academic Programs
Room 201, Forbes Bldg.

Travel:

Limited funds are available from the Graduate and Professional Student Council. See <http://www.gpsc.arizona.edu/sections>.

Office of Student Financial Aid (203 Administration Building)

Students interested in any financial program administered by the Office of Student Financial Aid must complete a SAFE (Student Assistance Financial Evaluation) application, which requires a small fee. Students are notified of the financial need for which they qualify within about 8 weeks.



INFORMATION FOR MASTER'S STUDENTS

During your first semester, prepare for and have a committee meeting

At your first committee meeting, you typically review your plan of study and research proposal.

Committee Membership

Masters committees must be composed of 3 members. If you have 2 UA, tenure track faculty, then you can have as many non-tenure track or outside members as you want, but if you want fewer than 2 UA tenure-track faculty, you must petition the Graduate College. You must also submit a "Special Committee Member Request" for all non-tenure track committee members. The chair of the committee must be tenure-track. Adjunct professors cannot chair a committee but can *co-chair*.

Plan of Study

The Plan of Study Form (grad.arizona.edu/Current_Students) outlines courses you will use towards completion of your degree requirements. The Graduate College will charge you \$35 for processing this paperwork.

- Courses must be graduate (500-level +) courses, at least half of which must be assigned letter grades (A, B, C. . .).
- Transfer credit cannot account for more than 20% of the minimum units required for your degree. Attach an 'evaluation of transfer credit form (grad.arizona.edu/Current_Students).
- Do NOT list course work deficiencies; they don't count towards your degree.
- DO list your thesis units.
- Get all signatures (except Graduate College) and turn Plan in to Cheryl.
- If your work requires approval from Human Subjects or IACUC, include a copy of your approval letter.

For students in *Natural Resource Studies*, you will complete a School-generated form (available in BSE 325D) to be approved prior submitting the Graduate College form.

Unit requirements

Program	Total Units	Max Thesis Units
Fisheries Conservation & Management	30	1-10
Rangeland Ecology & Management	30	5
Natural Resource Studies	36	6
Watershed Management	30	5
Wildlife Conservation & Management	30	1-10

Start your proposal

Your primary goal as a graduate student is to conduct scholarly research. To that end, you will need to have an approved proposal for that research. Although your research may be part of a larger project and a funding proposal may already exist, you should write your own proposal to indicate your understanding of the work and distinguish it from the larger project.

During your final semester

Complete your thesis

Preparation of the thesis is your responsibility. You are expected to publish your research, and are encouraged to submit papers for publication within one year of completing your degree. This task becomes more difficult the longer it is delayed, if you



do not meet this obligation, your major professor may assume the publication responsibility.

The Graduate College has prepared a Manual of Theses and Dissertations to guide the physical format of your thesis:

www.grad.arizona.edu/Current_Students/Manuals

It is your responsibility to see that your thesis conforms in all respects to the requirements.

Final Defense

Your defense is composed of two parts—a 30 to 40-minute public presentation with time for questions, followed by a closed-door defense of your work before your committee. Room reservations may be made with Anne Hartley in BSE 325. Examinations are a maximum of 3 hours in length.

If you fail the final examination you may, upon recommendation of your advisory committee and approval of the Graduate College, be granted a second examination after at least 4 months. The outcome of the second examination is final.

Following your final examination, submit the “Master’s/Specialist Completion of Degree Requirements Form (grad.arizona.edu/Current_Students) to Cheryl.

Deadlines to complete for each semester can be found on the Graduate College website (grad.arizona.edu/Current_Students).

Turn in your thesis

You must turn in one unbound copy of your master’s thesis to the School. Should you choose to have your thesis microfilmed/archived, you must submit a copy electronically (www.grad.arizona.edu/Current_Students/Manuals) to the Graduate College and pay the microfilming/archiving costs—\$90 (but subject to change).

The School will pay to bind one thesis for the School library. Additional bound copies may be ordered for \$16-18/copy. If you want multiple copies, it is easiest to print out multiple copies of your thesis. Often, your advisor can use an account number to pay for additional copying and binding. Work with Anne Hartley to arrange for bound copies.

Copyrighting theses

Student may choose to copyright their theses. You are responsible for meeting these costs (\$65; subject to change).

Clear all fees with the Bursar’s office

An outstanding balance with the University of Arizona means you won’t get your diploma.



INFORMATION FOR PHD STUDENTS

During your first year, prepare for and have a committee meeting

At your first committee meeting, you typically review your plan of study and research proposal.

Select Your Committee

PhD Committees consist of at least 4 people: 3 from the major and 1 from the minor or 2 from the major and 2 from the minor. Of the 4, 3 must be regular, tenure-track faculty. The fourth (or additional members) may come from outside the University (this requires a "request for special committee member" form for the individual, who must also provide us with a copy of their CV). If you choose to have more than one "outside" person on your committee, you and your advisor must submit a petition to the Graduate College.

We strongly encourage students have 3 faculty from the major and 1 from the minor, noting that some minor departments require 2 faculty members serve on the minor committee.

The chair of the committee must be a tenure-track faculty member. Adjunct professors can co-chair a committee, but cannot be the sole chair. A faculty member cannot simultaneously serve as a major and minor committee member.

If, for some reason, you select more than 4 members for your committee, remember, only 1 negative vote is required for a student to fail comprehensive and final examinations.

Start your proposal

Your primary goal as a graduate student is to conduct scholarly research. To that end, you will need to have an approved proposal for that research. Although your research may be part of a larger project and a funding proposal may already exist, you should write your own proposal to indicate your understanding of the work and distinguish it from the larger project.

Plan of Study

The Plan of Study Form (grad.arizona.edu/Current_Students) outlines courses you will use towards completion of degree requirements. The Graduate College will charge you \$35 for processing this paperwork.

- You must complete 36 units of coursework in the major, at least 9 units in the minor, and 18 units of dissertation.
- 23 units must have a letter grade.
- Up to 33 units of transfer course work is acceptable. Attach an "evaluation of transfer credit form" (grad.arizona.edu/Current_Students).
- Courses listed must be graduate (500-level +) courses, at least half of which must be assigned letter grades (A, B, C. . .).
- You may NOT list course work deficiencies; they don't count toward your degree.
- Do NOT include dissertation units; the Graduate College tallies those separately.
- If your work requires approval from Human Subjects or IACUC, include a copy of your approval letter.

Students in Natural Resource Studies have 66 units of course work required. These must also be outlined in a School-generated plan of study form (available from Cheryl), and must be approved prior to submitting the Graduate College form. The form indicates how courses in the major must be structured to highlight interdisciplinary study that is the hallmark of this option.



Required Minor

All PhD students must complete a minor. Students in the Natural Resources Studies emphasis must declare a minor *outside* of the School. Candidates in all other emphases can minor within the School.

Course work for the minor depends on the requirements outlined by the minor department or program, but will be at least 9 units. For minors in Natural Resources Studies; 12 units of course work (6 units from two different prefixes within the School) must be approved by your minor committee.

When you are done with course work

Written and Oral Comprehensive Exams

PhD students are required to take a written and oral comprehensive exam prior to advancement to degree candidacy. These exams determine your subject matter competency in major and minor fields of study. Talk to your advisory committee and peers for guidance on how best to prepare.

First the writtens

You are required to pass your written exam prior to the oral comprehensive exam. The written exam generally takes place over 1 week, but the time can vary depending on the program and committee.

Then the orals

The Application for Oral Comprehensive Examination (grad.arizona.edu/Current_Students) should be submitted to the Graduate College 7 working days before the oral exam.

The oral comprehensive exam will be scheduled no later than 3 months prior to your final defense. You should expect to be questioned further on subjects covered in the written exam and on any areas of the major and minor fields. The exam is to last between 2 and 3 hours.

No students will be permitted a second attempt to pass the oral comprehensive exam except upon recommendation of the examining committee, School, and Graduate College.

Advancement to Candidacy

After you have passed written and oral comprehensive exams, submit the Advancement to Candidacy form (grad.arizona.edu/Current_Students) to the Graduate College Degree Certification Office. The advisory committee that signs your Advancement to Candidacy form is committed to participating in your final defense. When you submit this form, your bursar's account will be charged \$35 in candidacy fees and \$100 for archiving (microfilming) your dissertation.

During your final semester

Complete your dissertation

Preparation of the dissertation is your responsibility. You are expected to publish your research, and are encouraged to submit your papers for publication within one year after completing your degree. This task becomes more difficult the longer it is delayed; if you do not meet this obligation, your major professor may assume responsibility for publication. The Graduate College has prepared a Manual of Theses and Dissertations to guide the physical format of your dissertation:

www.grad.arizona.edu/Current_Students/Manuals.



You must follow this format.

Announcement of Final Defense

When you have finished, or nearly finished, your dissertation, you may announce your final defense (if approved by your advisor) by submitting an Announcement of Oral Defense Examination form (grad.arizona.edu/Current_Students) to the Graduate Degree Certification Office at least 7 working days before the exam. You must also send an email to Cheryl announcing your defense, 1 week in advance.

Final Defense

After you have satisfied all degree requirements and your committee has approved the penultimate draft of your dissertation, it will be time to defend. You will give a professional, 30 to 40-minute seminar, open to the public, followed by a brief question and answer session. Then all but you and your committee are asked to leave, and the remainder of the oral defense takes place privately (~2-3 hours).

Your major professor will bring your Notice of Completion of Oral Defense Exam form, a copy of your plan of study, and change of grade forms (if required) to your defense.

You will take the penultimate draft and 3-typed Approval Pages to the oral defense examination. The Approval Pages must be obtained from the Graduate Degree Certification Office.

Your major professor will return the Notice of Completion of Oral Defense Examination, Program of Study, and grade-change forms to the Degree Certification Office immediately after the exam. The dissertation director need not sign on the dissertation director line at this time, although he/she should sign as a committee member, indicating that the exam was passed.

Turn in your dissertation

PhD students must submit an electronic copy of their dissertation to the Graduate College (grad.arizona.edu/Current_Students/Manuals).

Please submit an electronic copy of your abstract to Cheryl for inclusion on the School website.

You must submit one unbound copy to the School to be bound. The School will pay to bind 1 thesis for the School library. Additional bound copies may be ordered for \$16-18/copy. Often, your advisor can use an account number to pay for additional copying and binding. Work with Anne Hartley to arrange for bound copies.

Copyrighting your dissertation

You are responsible for copywriting costs (\$65; subject to change).

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MISCELLANEOUS DETAILS

Other Policies

Continuous Enrollment Policy

Students admitted to a Master's degree program must register each fall and spring for a minimum of 3 graduate units from original matriculation until all degree requirements are met. Students on assistantships must enroll in at least 10 units during the semesters during which they receive support.

Students admitted to a doctoral program must register each fall and spring for a minimum of 3 graduate units. When all coursework, written and oral comprehensive exams, and 18 dissertation units are completed, doctoral students may register for a minimum of 1 unit each semester until final copies of the dissertation are submitted to the Graduate Degree Certification Office. Students on associateships must take at least 10 units.

Unless excused by an official Leave of Absence, all students are subject to the Continuous Enrollment Policy. If you fail to maintain continuous enrollment, you will be required to apply for readmission, pay the Graduate College application fee, and pay all overdue tuition and fees, including cumulative late penalties. No tuition waivers will be applied retroactively.

Time Limit on Coursework

All work for the M.S. must be completed within a 6-year period.

All work for the PhD must be completed within 5 years of passing your Oral Comprehensive Exam.

Office Space

Office space may be available in your major professor's lab, in "the bullpen" (BSE 128), the basement carrels, BSE 313, or in the 6th Street Annex.

Priorities for space/desk assignments are as follows:

- Funded PhD students
- Funded MS students
- Unfunded PhD students
- Unfunded MS students

If you are interested in office space, check with Cheryl in BSE 325D

Computing Facilities

The School of Natural Resources has developed extensive computing facilities.

OCF: Open Computing Facility

The Open Computing Facility is in BSE 326. This facility is for students of the School, not having access to personal computers, to engage in uncompleted course work, read email, and other pedestrian computer activities. The OCF is NOT an open CCIT lab nor is it to be used for research work. The computers are available on a first-come first-served basis. Students are assigned accounts by virtue of registration in computing-bases courses, or by the lab support staff.

RCF: Research Computing Facility

The Research Computing Facility housed in ART (Advanced Resource Technology) BSE 203, is a GIS (Geographic Information Systems) service center for research projects. The facility houses both Windows and Solaris platforms; data input devices (scanners, digitizer);



as well as a large format plotter. Students are assigned accounts by the support staff only. There is a fee of \$15/hour to use the lab.

ART: Advanced Resource Technology Group (ag.arizona.edu/art/)

The Advanced Resource Technology Group (ART) was formed in 1988 to provide leadership in such areas as GIS institutional development, GIS environmental database design and development, application of cartographic and spatial analysis for agriculture, natural resources, and rural development. Besides using traditional remote sensing and GIS techniques, researchers at ART are developing the next generation of GIS-based modeling and simulation tools including artificial intelligence, intelligent visualization, synthetic environments, and semantic-based data access. The ART Group provides the primary focus for research and extension in cartographic and spatial analysis for the College of Agriculture and Life Sciences, but also encourages and facilitates cooperation among faculty with similar expertise and interests campus-wide. ART helps with GIS hardware and software selection, provides advice and training on GIS database development and analysis, and offers technical review of proposals. Furthermore, as an integral component of research and extension, ART faculty promote and assist in the development of GIS instructional resources and curriculum for the benefit of the college, university, and the State of Arizona.

Mail

School of Natural Resources
University of Arizona
Biological Sciences East 325 OR 1311 E. 4th St. (for Fed Ex)
Tucson, AZ 85721

Office Equipment

Xerox machines, fax machines, and typewriter are available on a limited basis in the program offices. Check in the main office for availability, and your faculty advisor for a project specific code for copying.

Parking Permits

Contact Parking and Transportation for a parking permit (parking.arizona.edu/) or buy a bike.

Purchasing and Supplies

Before making any purchases on a grant, you will need to make sure you have an account number and an object code for the item to be purchased. See your program secretary or Anne Hartley for assistance on purchasing.

If you have purchased items and wish to be reimbursed, make sure to save your receipts. Work with the folks in the main office to get reimbursed.

Vehicles

Details on the paperwork that needs to be processed through Motor Pool can be obtained from the main office (with approval of your major professor).

