University of Idaho
College of Graduate Studies

Department of Psychology and Communication

Human Factors M.S. and Ph.D.

Graduate Student Handbook

Welcome to graduate studies in psychology at the University of Idaho! As a graduate student, you were carefully selected from among other excellent applicants. The department is committed to building a strong and diverse graduate program. We admit highly qualified students whose interests fit well with the training that we offer. We intend to offer you whatever support we can toward the completion of your degree. We want your training with us to be productive and a time of exciting growth and discovery. Our handbook provides the requirements and process for completing the MS and PhD.

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Introduction

Congratulations on your acceptance into our graduate program. We offer master's (MS) and doctoral (PhD) degrees in experimental psychology with an emphasis in human factors psychology. To earn the master's degree, students must complete 30 credits and either a thesis or the comprehensive exam. To earn the doctoral degree, students must complete 78 credits (52 or more at the 500-level or above), a master's thesis or equivalent master's-level project in the field of experimental psychology, a preliminary examination, and a doctoral dissertation. The MS program includes both on-campus and online/distance students, while all our PhD students are required to be on campus.

The Department of Psychology and Communication and the Human Factors faculty are invested in your success as you pursue your graduate degree. This handbook is meant to provide you with a broad overview of the program and resources to help you get as much as you can out of your graduate education. It is impossible to cover every eventuality, and we strongly encourage you to contact us if you have any questions or concerns during your time at the University of Idaho. We look forward to working with you in the coming years as you undertake the challenging and rewarding experience of earning your graduate degree!

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Program Overview

The Human Factors Program admits both MS and PhD students. The first two years of the program involve similar coursework for both MS and PhD students. Most MS students will be non-thesis students and will be required to take a comprehensive exam in their last semester and present a portfolio of their work to demonstrate master's level competence to earn their degree. PhD students are expected to propose and defend a master's thesis (or complete a master's level project) prior to taking the preliminary exam to seek doctoral candidacy. After PhD students pass their preliminary exams, they are eligible to propose their dissertation. All students are expected to be *deeply engaged* in the topics that comprise human factors through both course work and research conducted with faculty.

General Degree Information

The program is designed to be flexible in meeting the needs of students with specific interests in different aspects of human factors and experimental psychology. The one constant among the many possible variations is that your program of classes and study plan must meet the Graduate College Degree Requirements.

College of Graduate Studies requirements for a master's degree:

- 30 credit hours of which 18 or more are 500-level classes, with remaining hours comprised of 400-500 level classes within psychology or 300-500 level classes outside of psychology
    - a maximum of 9 credits of 300-level courses outside the department -- 300-level courses in psychology do not count toward your degree
- A cumulative GPA of 3.0 or above
- Successful completion of thesis or non-thesis (portfolio submission and comprehensive exam) requirements. Credit in course 500 (Master's Research and Thesis) cannot be counted toward a non-thesis master's degree. Although no limit is imposed on the number of credits that may be earned in course 500 for degrees with thesis, only a maximum of 10 credits in course 500 in the major of the degree can be used to fulfill master's degree requirements. Up to five credits of course 599 (Non-thesis Research) are allowed to count towards a non-thesis master's degree.

College of Graduate Studies Requirements for a doctoral degree:

- 78 credit hours, of which 52 or more are at the 500 level or above
- A maximum of 45 credits of PSYC 600 and 5 credits of PSYC 599 (Non-thesis Research) may be used toward the degree.
- At least 33 credits must be earned in courses other than 600
- At least 39 of the 78 credits must be earned at the University of Idaho
- Cumulative GPA of 3.0 or above

- A master's thesis or equivalent master's-level work[1]
- Preliminary Examination
- Dissertation

[1] The equivalency of master's level work will be determined by the faculty of the department prior to approval. In most cases, a thesis will be required and only in rare circumstances would substantive work in the field of human factors be deemed appropriate to qualify a student to sit for the preliminary exam.

Curriculum

The following classes form the "core" of the required graduate course work (consult your advisor regarding the order in which you should take the courses).

Psyc 444 Sensation & Perception* -- fundamental processes and variables in sensory, perceptual, and cognitive experiences of humans. Prereq: Psyc 218 or permission.

Psyc 446 Engineering Psychology -- application of principles of experimental psychology to analysis of interaction of the human operator with machine systems and work environments; emphasis on psychological aspects of human performance. Prereq: Psyc 218 or Stat 301 or permission.

Psyc 509 Human Factors in Engineering Design – application of psychological principles to engineering and design; the design process; display and control design; workstation layout and system integration; environmental factors; safety; and mental workload.

Psyc 512 Research Methods – philosophy of research, types of design, data analysis, research report. Prereq: Psyc 218 or equivalent, or permission

Psyc 513 Advanced Research Methods – types of research designs and data analyses; application of principles of design and analysis to real-world problems; and use of computer packages for data analysis. Prereq: Permission.

Psyc 552 Ergonomics & Biomechanics – principles of anthropometry, biomechanics, and work physiology applied to workplace.

Psyc 561 Human-Computer Interaction -- overview of human-computer interaction (HCI) topics, including user models, dialog, display design, usability, software development, groupware, and multimedia. Recommended preparation: Psyc 446.

Psyc 562 Advanced Human Factors (capstone class) -- review of topics and theories germane to human factors such as performance measurement systems, design specifications, research issues, controls and displays, human reliability, and illumination. Prereq: Psyc 446, and Psyc 513 or Stat 401; or permission.

*If you have taken equivalent classes as part of an undergraduate curriculum, you may petition the faculty to waive these requirements. Additional electives can then be used to fill in the credits.

Additional Courses

Psychology 500 **Master's Research and Thesis**

The number of credits, up to 10, to be used toward your degree will be determined by your major professor. Before signing up for thesis credits, discuss with your major professor the number of credits you should take and when to take them.

Once you start taking thesis credits, you must keep taking thesis credits until you are finished. For example, if you start taking thesis credits in the summer after your first year, you will need to take thesis credits every semester that you are enrolled in the program after that until you complete your degree.

Psychology 600 **Doctoral Research and Dissertation**

The number of credits, up to 45, to be used toward your degree will be determined by your major professor. Before signing up for dissertation credits, discuss with your major professor the number of credits you should take and when to take them.

Once you start taking dissertation credits, you must keep taking dissertation credits until you are finished. For example, if you start taking dissertation credits in the summer after your first year, you will need to take dissertation credits every semester that you are enrolled in the program after that until you complete your degree.

Psychology 502 **Directed Study**

These credits are designed to allow you to study a topic in more depth. You need to find a faculty member who is willing to supervise your directed study. Your major professor determines the number of directed study credits that can apply to your degree.

Psychology 596 **Comprehensive Exam**

Capstone integration and comprehensive examination of material in psychology master's degree program.

Psychology 598 **Internship**

If you have an internship, you can sign up for internship credits. You are not required to take internship credits if you have an internship. Consult with your major professor to determine if you should get an internship and if you should register for internship credits. Your major professor determines the number of internship credits that can apply to your degree.

Students are responsible for obtaining internships. If interested in an internship, talk to the faculty about possible opportunities. In addition,

check with the Career Center and the Human Factors and Ergonomics Society (HFES) for listings.

Psychology 599 **Non-thesis Master's Research**
These are research credits. If you are working with a faculty member on their research, you will usually sign up for these credits. You must get instructor permission to register for these credits. A maximum of 5 credits can count toward your degree (you can take more than 5 credits, but any credits over 5 will not count toward the 30-credit requirement for your degree).

When attempting to register for courses, you may receive a message that you lack the prerequisites. The system does not recognize that you may have met the prerequisites by taking similar a similar course at a different university. Contact the instructor directly to ask if they will let you into the course.

Course Plans for On-Campus Students

A full-time graduate student is enrolled in 9 credits. Here is a typical course plan for a student pursuing a thesis:

Fall (first year)	Spring (first year)
Psyc 512 Research Methods	Psyc 513 Advanced Research Methods
Psyc 509 HF in Engineering Design	Psyc 561 Human Computer Interaction
Psyc 446 Engineering Psychology	Psyc 552 Ergonomics & Biomechanics

Fall (second year)	Spring (second year)
Psyc 500 Thesis (3 cr.)	Psyc 500 Thesis (3 cr.)
Psyc 444 Sensation & Perception	Psyc 562 Advanced Human Factors
Elective	Elective

Here is a typical course plan for a full-time student (9 credits) pursuing the non-thesis (comprehensive exam) option:

Fall (first year)	Spring (first year)
Psyc 512 Research Methods	Psyc 513 Advanced Research Methods
Psyc 509 HF in Engineering Design	Psyc 561 Human Computer Interaction
Psyc 446 Engineering Psychology	Psyc 552 Ergonomics & Biomechanics

Fall (second year)	Spring (second year)
Psyc 444 Sensation & Perception	Psyc 562 Advanced Human Factors
Elective	Psyc 596 Comprehensive Exam (1 cr.)
Elective	Elective
	Elective

Course Plans for Distance (Online) Students

A typical course plan for a distance student attending full-time (9 credits):

Fall (first year)	Spring (first year)
Psyc 512 Research Methods	Psyc 513 Advanced Research Methods
Psyc 509 HF in Engineering Design	Psyc 561 Human Computer Interaction
Psyc 446 Engineering Psychology	Psyc 552 Ergonomics & Biomechanics

Fall (second year)	Spring (second year)
Psyc 444 Sensation & Perception	Psyc 562 Advanced Human Factors
Elective	Psyc 596 Comprehensive Exam (1 cr.)
Elective	

A typical course plan for a distance student attending part-time (6 credits):

Fall (first year)	Spring (first year)
Psyc 512 Research Methods	Psyc 513 Advanced Research Methods
Psyc 509 HF in Engineering Design	Psyc 552 Ergonomics & Biomechanics

Fall (second year)	Spring (second year)
Psyc 444 Sensation & Perception	Psyc 561 Human-Computer Interaction
Psyc 446 Engineering Psychology	Elective

Fall (third year)	Spring (third year)
Elective	Psyc 562 Advanced Human Factors
	Psyc 596 Comprehensive Exam (1 cr.)

Electives

Here is a non-comprehensive list of possible electives. Some of these courses are only offered in person. There are online courses offered by Industrial Technology (INDT) and Adult and Organizational Learning (AOLL) that may be of interest. Consult with your major professor to identify the appropriate courses for your interests and career plans.

Art

Art 370 **Advanced Interaction Design (3 cr.)**
Advanced interaction design projects. Individual and small team design projects. Emphasis on team dynamics, project analysis and description, development and production. Focus on interactive information design projects, project management and production. Readings and assigned writings focus on current design industry

issues, practices, trends, and methodologies. Prereq: Art 271-272 or permission.

Art 491 **Information Design (3 cr.)**
Project-based course in theory and practice of the design of information and information visualization for use in research, teaching, and outreach. Interdisciplinary teams of students, faculty and staff will develop and produce systems that communicate complex ideas with clarity, precision, and efficiency, using the most appropriate presentation tools. Prereq: Junior standing.

Engineering

BE 441/541 **Instrumentation and Measurements (3 cr.)**
Sensing elements, signal conditioning, data output and control. Additional projects/assignments required for graduate credit. Two lectures and one 3-hr lab a wk. Recommended Preparation: BE 462.

Psychology

Psyc 416/516 **Industrial/Organizational Psychology (3 cr.)**
Application of psychological principles to the study of work behavior; includes topics such as personnel selection, performance appraisal, training, work motivation, teams, leadership, and job attitudes. Additional work required for graduate credit.

Psyc 425 **Psychology of action (3 cr.)**
What are the underlying psychological and neurological processes that enable us to translate our intentions into action, and that prevent us from doing things as well as we would like? Understanding action control is fundamental for rehabilitation, training, design of usable devices, and insight into the functioning of the nervous system as a whole. Topics include perceptual-motor integration, skill acquisition, and planning and generation of simple and complex movements.

Psyc 430 **Tests and Measurements (3 cr.)**
Review of the major principles of test development including test construction and methods for determining test validity and reliability, some of the currently used scales, and study of scaling methods such as Thurstone scales, Likert scales, and semantic differentials. Recommended preparation: Stat 251.

Psyc 440 **Psychology of Judgment and Decision Making (3 cr.)**
This course is an introduction to the psychological study of judgment and decision-making. By examining both laboratory and real-world research, we will learn how people (both laypersons and experts) actually make decisions and judgments and how various biases and heuristics can influence their judgments and decisions.

Psyc 526 **Cognitive Neuroscience (3 cr.)**
Examine research in human and animal cognition and its neurological basis. Material covered will include the study of normal cognitive processes in humans with noninvasive behavioral and physiological techniques (e.g., reaction times, fMRI, EEG), the study of brain-injured patients, behavioral and neurophysiological research in animals, and the comparative analyses of cognitive processes across organisms. Computational approaches toward cognitive and neural processing will also be addressed. A selection of the following topics will be covered: perception, object recognition, attention, memory, spatial cognition, motor control, language, executive control, and development. Recommended preparation: Psyc 325/525.

Psyc 541 **Human Relations in the Workplace (3 cr.)**
Overview of the general theory and methods of organizational effectiveness; focus on how individual or group behavior is affected by the organizational environment; includes topics such as work motivation, leadership, teams, culture/climate, and job attitudes. Additional assignments/projects required for graduate credit. Prereq: Psyc 101.

Psyc 545 **Group Dynamics (3 cr.)**
This course will cover the empirical research regarding group dynamics, including topics of leadership, cohesion, team building, statistical analyses of group level data, problem solving, group mood, group creativity, transactive memory, information processing, and other small group processes. Additional projects/assignments required for graduate credit. Prereq: Psyc 101 and Psyc 218.

<u>Statistics</u>

Stat 431 **Statistical Analysis (3 cr.)**
Concepts and methods of statistical research including multiple regression, contingency tables and chi-square, experimental design, analysis of variance, multiple comparisons, and analysis of covariance. Prereq: Stat 251, 271, or 301.

Psychology at Washington State University (WSU):

Psyc WS565 Physiological Psychology (3 cr.)
Neuroanatomical, neurochemical, and other biological causes of human and animal behavior.

Psyc WS566 Behavioral Pharmacology (3 cr.)
Survey of drugs which affect brain function with emphasis on animal models and clinical applications.

Psyc WS567 Behavioral Neuroscience (3 cr.)
Advanced topics in neurochemistry, neuropsychology, and neuroanatomy, as they relate to behavior.

Psyc WS568 Sensory Bases of Behavior (3 cr.)
Sensory and physiological aspects of vision, audition, and other senses.

Psyc WS569 Foundations of Neuropsychology (3 cr.)
Foundation in brain/behavior relationships and neuropathological syndromes; preparation for advanced training in neuropsychological assessment.

Study Plans

The study plan specifies the courses you must take to complete your degree. The study plan must meet the requirements for a master's degree in psychology (e.g., at least 30 credits; 18 of the 30 credits must be at the 500-level or above). For general requirements of the College of Graduate Studies, visit the website for the Office of the Registrar (Catalogs) and click on the catalog that corresponds to the year you were admitted to the master's program.

The courses that make up your study plan will be decided based on discussions between you and your major professor. **You should submit your study plan by the *end of your first year of enrollment*.** Note that you can always make changes to the study plan prior to graduation (with approval of your major professor).

You will enter your study plan online. Information on how to enter your study plan is located on the website for Graduate Forms.

Research Expectations & Internships

On-campus graduate students are expected to be actively involved in research activities. Early in your first semester, you should talk to faculty about their research interests and find a faculty member to work with. Working in a faculty member's lab will familiarize you with a research area and help you formulate a topic for your thesis (if you are doing a thesis) or other major projects (if you are doing a portfolio).

Active participation in student research presentations (brown bag) is strongly encouraged for PhD students and recommended for MS students.

Internships are not required as part of the program but are highly encouraged. Students may choose to go on an internship to learn new skills and bolster their resume.

MS PROGRAM

In addition to completing all coursework on their committee-approved study plan, students earn a master's degree either by successfully proposing and defending a master's thesis or by passing a comprehensive exam and preparing a portfolio.

MS Thesis Option

The thesis is a research project carried out by the student and directed by the student's major professor. Students interested in pursuing a master's thesis should meet with the HF faculty to discuss research interests and determine an appropriate fit.

Thesis Committee

The thesis committee consists of three faculty members, the chair/major professor and two other faculty members. The major professor and at least one of the other committee members must be on the graduate faculty. The major professor and student select the committee members.

College of Graduate Studies Policy: Thesis Credits

Credit in course 500 (Research and Thesis) cannot be counted toward a non-thesis master's degree. Although no limit is imposed on the number of credits that may be earned in course 500 (Master's Research and Thesis) for degrees with thesis, only a maximum of 10 credits in course 500 in the major of the degree can be used to fulfill master's degree requirements (a lower limit may be set by the program). Up to five credits of course number 599 are allowed to count towards a non-thesis master's degree; however, if a thesis option exists for the program, no more credits of 599 are allowed toward the non-thesis master's degree than half the number of credits allowed for course number 500 toward the department's master's degree.

College of Graduate Studies Policy: Appointment of Major Professor and Committee for All Degree Seeking Graduate Students

All degree-seeking graduate students should select a major professor as soon as possible following enrollment in the program. For non-thesis master's students, it is suggested this be done no later than the end of the first semester. For thesis master's students and doctoral students, it is suggested this be done no later than the end of the second semester. The major professor must be a member of the UI Graduate Faculty.

The committee is recommended by the major professor and the student and approved by the graduate program unit's administrator and the dean of the College of Graduate Studies. At least one-half of the members of the committee must be members of the UI Graduate Faculty. A faculty member may not serve on a committee for a student who is seeking a degree higher than the faculty member has attained.

Periodically, a qualified person with a particular expertise who is not a member of the University of Idaho's graduate faculty is requested to serve on a student's committee on a one-time appointment. The person must have written approval from the dean of the College of Graduate Studies in advance of the individual's committee participation. In this case, the person would not have to meet the rules of appointment and would be considered an outside member to the committee. Should the person be recommended for multiple committees, they would need to be approved as an affiliate faculty member and, therefore, would then be considered a member of the department recommending affiliate membership and would serve as an inside member on that unit's student's committees. It is the intent of the Graduate Council that this privilege be used sparingly and only when the situation indicates its necessity.

Thesis Proposal

The thesis proposal refers to the introduction, methods, and proposed analyses of a research project (the exact format may differ across faculty members; consult with your major professor regarding what they expect the proposal to include). The proposal should be in the format specified by the College of Graduate Studies. The thesis proposal typically requires numerous drafts before it is ready. It is highly recommended that you consider visiting the writing center for assistance. Your major professor will tell you when the proposal is ready to be presented at the thesis proposal meeting.

A formal thesis proposal meeting is not required by the College of Graduate Studies. However, it is common practice in our department to hold a thesis proposal meeting, as it provides an opportunity for students to get feedback from their committee regarding the project. This allows for changes to be made prior to collecting the data and, thus, greatly enhances the likelihood of successfully defending a thesis.

Thesis Defense

The thesis defense meeting occurs after completing your thesis project. Your thesis will consist of an introduction, methods, results, and discussion. When your major professor is satisfied with your paper, you will be given permission to schedule your thesis defense. You will distribute final copies of your thesis and find a two-hour block of time and a room on campus where everyone can meet. It is customary to give committee members two weeks to review your thesis before the meeting is held.

Before your defense meeting (a minimum of 10 business days before the meeting), you will need to get the signatures of your major professor and all committee members on the "Request to Proceed with Final Defense" found under Graduate Forms. Submit this form to the College of Graduate Studies at least 10 days prior to the defense and they will issue you a "Final Defense Report," which goes to your major professor.

Timeline to Complete a Thesis

- 1st Semester (Fall) - learn about faculty research programs and begin work in a research lab (typically for Psyc 599 or Psyc 502 credit; occasionally as a paid research assistant). This will provide you with experience in research techniques and introduce you to faculty research interests. Find a major professor and prepare your study plan.
- 2nd Semester (Spring) - continue gaining pre-thesis research experience, work with your major professor to determine your thesis topic and begin drafting your thesis proposal.
- Summer-session - continue gaining pre-thesis research experience and working on proposal.
- 3rd Semester (Fall) - finish and defend your thesis proposal. Aim to have a completed first draft of your proposal to your advisor by the end of September and to defend the proposal by November. Start data collection by mid-November.
- 4th Semester (Spring) - Finish data collection and analysis by the end of February, complete thesis by the end of March, defend thesis in April.

MS Comprehensive Exam/Portfolio Option

Students in the non-thesis option take the comprehensive exam during their final semester[2]. To do so, the student must register for PSYC 596: Comprehensive Exam (1 credit). The exam comprises two parts. To pass the exam, you must pass BOTH parts:

- a 100-item multiple-choice/true-false question test, and
- a portfolio of relevant work in human-factors.

Test questions are structured around content areas for the Board of Certification of Professional Ergonomics and cover elements from all core courses taken in the master's program:

- Psyc 444 Sensation & Perception
- Psyc 446 Engineering Psychology
- Psyc 512 Research Methods
- Psyc 513 Advanced Research Methods
- Psyc 509 Human Factors in Engineering Design
- Psyc 552 Ergonomics & Biomechanics
- Psyc 561 Human-Computer Interaction
- Psyc 562 Advanced Human Factors

The purpose of the exam is to show competency in the field of human factors psychology, expressed through general knowledge of the field as well as practical application of this knowledge to real-world problems or academic research projects. While the test portion of the exam measures broad, relevant knowledge of the field, the portfolio component of the exam is expected to demonstrate analytical, creative, or applied activity of the student beyond the acquisition of relevant knowledge through coursework.

Individual students can emphasize different types of activity through their portfolio. In general, the portfolio will contain several of the following:

- Significant projects related to the courses a student has taken (e.g., a main design project in courses like Human Factors in Engineering Design, Human-Computer Interaction, or Advanced Human Factors), modified to address a professional/industry audience
- Significant work performed as part of a research lab (manuscripts, presentations, publications, and/or grant applications on which one is listed as an author or contributor)
- Documentation of relevant internships (final reports, summary of presentations)
- HFES student chapter projects that the student had a leading role in

[2] Off-campus students must complete the comprehensive exam. In some cases, off-campus students may be able to complete a thesis, but this requires the approval of the HF faculty.

- Design activities (HFES or other professional design competitions, portfolio elements from courses in related disciplines like Art & Design, webpage development & design)
- Development of applications or programming examples
- Development of manuals (e.g., lab manuals)
- Development of teaching materials (e.g., for HFES outreach activities)
- Documentation of service projects within the realm of human factors and ergonomics

It is important for students to show through their portfolio that they have applied human factors and ergonomics-related skills and knowledge outside of the core coursework that is required for the completion of the M.S. degree. The portfolio should include at least one substantive element demonstrating the student's capability beyond course projects. In some cases, a course project can be expanded upon substantively outside of the course context to fulfill this criterion.

The evaluation of the portfolio takes the totality of the student's work into account to arrive at a pass/fail grade for this portion of the comprehensive exam.

Policies

The comprehensive exam is required of students in the non-thesis option. Students must enroll in Psyc 596: Comprehensive Exam (1 credit) in the semester that they plan to take the exam. Failure to take the exam after it has been scheduled will constitute a failure on the exam. Performance in Psyc 596 and performance on the exam are linked. That is, passing the exam will result in a passing grade for Psyc 596. Failing either element of the exam will result in an F for Psyc 596. An incomplete for Psyc 596 will only be given in rare cases, such as a family emergency or a protracted health problem. Failure to adequately prepare for the exam is not an adequate reason for the granting of an incomplete.

It is the student's responsibility to contact the Psyc 596 instructor of record to schedule the exam. There are no formal study materials or reading lists for the comprehensive exam. Students are encouraged to contact the faculty if they have questions about the format of the exam or how to prepare.

Consistent with university guidelines, students failing the exam may have one opportunity to retake the exam, at the discretion of the graduate studies committee. A minimum time of three months is required between the tests. Failing the exam does not automatically grant the student the right to re-take the exam.

DOCTORAL PROGRAM

Description of the Process: Master's-level work, preliminary exam, and dissertation

The process and timeline of completing master's level research will be very similar for students in the master's and PhD programs. Students in the PhD program should ideally be defending a thesis or completing other master's level work near the end of their second year in the program. However, some variation in the timing of completion of master's level work can be expected depending on the nature of the work being done and the goals set by the student and major professor. Students should begin the preliminary exam process no later than their third year in the program/first term following the successful defense of the Master's Thesis. Following completion of the preliminary exam, students begin work on dissertation research.

Acceptable Master's Level Work

Students must complete master's-level work prior to beginning the preliminary exam process. Master's-level work must demonstrate capability to perform at the master's level, as determined by the student's major professor and committee. Examples of acceptable master's level work include completion of a master's thesis, a first-author publication of an empirical paper, a significant research report prepared by the student (under the guidance of a major professor) for an outside agency, or submission of an external research proposal. Students are expected to also perform their own laboratory tasks (e.g., data collection, programming, etc.) well. However, merely performing well on technical tasks in the laboratory does not constitute master's level work.

Students Entering the Program with a Master's Degree

Students who enter the PhD program after having completed a master's degree at a different institution must have their work evaluated by the graduate committee. The evaluation may be initiated by either the student or major professor. The graduate committee will decide whether the student's previous work demonstrated master's level capability and whether the work is relevant to human factors. The evaluation of previous master's-level work should occur as soon as possible to avoid unnecessary delay in the student's progress.

Preliminary Exam: Process and Evaluation

Students begin the preliminary exam process immediately following completion of master's-level work. The process is intended to help students achieve broad thinking and understanding beyond the more narrowly focused work typically completed at the master's level. Students work with their major professor to determine the topic and scope of their preliminary exam review paper and reading list for the oral exam. For many PhD students, the preliminary exam will comprise a review paper of publishable quality and an oral board exam. The process could also include other deliverables such as application for a large, external grant. The final nature of the exam will be determined by the student and a committee of four faculty members including the major professor. The reading list for the oral exam will typically cover three broad areas, only one of which will overlap substantially with the student's preliminary project topic. The project is not to involve data collection, but rather to provide students with the opportunity to synthesize information from the field into a review paper (or grant proposal) that demonstrates the breadth of understanding expected of a PhD candidate.

Oral exam questions may cover topics related to the written portion of the exam, the agreed upon reading list, and the field writ large. Questions are likely to be broad and challenging, ranging from topics explicitly covered in the readings to those beyond the scope of the reading but within the field of Human Factors. Questions may be applied, empirical, or theoretical. Students are encouraged to read beyond the reading list and consider reviewing course material the program has covered.

The outcome of the exam is determined by the quality of the research paper and the student's answers to the oral exam questions. The exam begins with a student's brief review of their paper (no more than 15 minutes, with the faculty committee having the latitude to waive the presentation if they choose). Questions will then begin and continue for as long as the committee deems it appropriate (not to exceed three hours). After the questions, the student will be excused from the room to allow the committee to deliberate and determine whether more questions will be required. The student is then invited back into the room for additional questions or to hear the outcome of their exam.

If the student fails the preliminary exam, the committee will decide whether a second opportunity will be granted. If granted, the student must schedule the 2nd preliminary exam no earlier than 90 days and no later than 6 months from the date of the 1st preliminary exam. To pass, the student must heed the feedback from the committee to improve their performance. Should the student fail their second preliminary exam, they will be dropped from qualification for a PhD.

Results of the Preliminary Exam are to be reported by the Major Professor to COGS, on the form titled "Report of Preliminary Examination & Advancement to Candidacy."

Dissertation

Students will work with their major professors to determine an appropriate dissertation topic. A student and their major professor will form a dissertation committee following the same guidelines as for a master's level committee, except that there are to be 4 members, including the chair/major professor and an outside member.

The dissertation process should take approximately 2-3 years, including conception of the research idea, preparation of a proposal, and defense. Students receive guidance from a major professor during the entire process. Relative to master's students, PhD candidates are expected to show more initiative, differentiate themselves from their major professor in a meaningful scientific manner, and generally take on significantly more responsibility for getting the project to completion.

Selection of Major Professor

Initiation and successful completion of graduate study and independent research or creative activity requires support, advice and oversight by a faculty member who has agreed to serve as a major professor. Learn more about the appointment of a major professor here.

Beginning in the first semester, students should identify a faculty member with whom they will work. Some incoming students may be admitted with the intention of working with a particular faculty member; if that is a good fit then the selection of major professor is straightforward. For students who are not sure with whom they would like to work, it will be important to identify which faculty member's interests align with theirs. Students should be having conversations with multiple faculty members early in their program (within the first semester). Faculty members have limited capacity in their labs; even when interests align, they may not always be able to serve as major professor to another student. Thus, getting to know several professors in your first semester is a good idea. You should have a major professor identified prior to the beginning of your second semester. For distance students, the graduate program director typically serves as the major professor.

The major professor serves as the academic and primary research advisor. Your major professor will work with you to approve a study plan prior to the beginning of your second semester. They will also help you develop a thesis project and later a dissertation project. In addition, it is expected that you will work on additional research projects with your major professor. However, you should also take full advantage of working in multiple labs if the opportunity presents itself and you are able to manage your time well. You want to get the broadest experience you can while in the program to improve the skill sets you have when you enter the job market.

Should you need to change major professors, you should work with the graduate program director and review COGS policy and process for how to do so.

Forming the Degree Committee

MS Thesis option and PhD students will also need to form a thesis committee that will oversee their study plan and thesis proposal/defense. For PhD students, this committee may change as you prepare for your dissertation proposal and defense. Typically a thesis committee will consist of the major professor and two other faculty members (at least one of whom is a member of the graduate faculty) A doctoral dissertation committee will typically consist of 4 faculty members including the major professor, 2 inside committee members, and 1 outside committee member. Your major professor can help you identify faculty members within the department and across the university who would be useful on your committee.

The Preliminary Examination Committee consists of at least 4 members including the major professor, at least two additional inside committee members, and one outside committee member. For most students, the Preliminary Examination Committee and the Dissertation Committee will comprise the same faculty members.

Thesis/Dissertation Defense

Graduate students are required to present the results of the thesis or dissertation in a seminar that is open to the public and then be examined by their committee in a closed session. It is the student's responsibility to schedule the defense, at a time and on-campus location that allows all committee members to attend.

Before scheduling the defense, the student should file the Request to Proceed with Final Defense form. The form must be submitted no later than 10 working days prior to the dissertation defense. It must be signed by all committee members and then submitted to the College of Graduate Studies.

Two weeks prior to the final defense, the student must submit their thesis or dissertation for the first format review in Electronic Thesis & Dissertation (ETD). See the Thesis/Dissertation resources for more information on how to properly format the document and how to create an ETD account. In addition, the thesis committee should have the final thesis or dissertation in hand at least two full weeks prior to the proposed defense date.

We recommend that you bookmark the dates and deadlines chart. Note that these deadlines are updated annually.

Academic Performance and Annual Review

Academic performance standards in graduate school extend beyond the passing of exams. For most students, doing well in a course involves active participation, turning assignments in on time, performing exceptionally well on exams, and asking questions that reflect a depth of understanding of assigned readings and ability to apply material broadly within the field of Human Factors. The expectation is that students will earn "A" and "B" grades by doing excellent work at the graduate level. Graduate students must have a GPA of 3.0 to remain in good standing at the University of Idaho.

Students earning less than a 3.0 GPA will be placed on probation. If the GPA does not improve to a 3.0 by the end of the next term, the student is placed on academic disqualification. If the student gains a 3.0, but the cumulative GPA remains below 3.0 they remain on probation. Students who are disqualified are required to sit out for a semester and can then apply for reinstatement after disqualification, provided the department chair will provide a positive recommendation for reinstatement. If the department chair and graduate committee agree, the student may seek approval from the College of Graduate Studies. If reinstated, the student must enroll in the term for which they were reinstated and earn at least a 3.0 in the first semester back.

Annual Review of Students by the Graduate Committee

The graduate committee will meet annually, usually during the spring semester, to review each graduate student's progress. The committee will evaluate progress in coursework (including submission of a study plan), progress in research, and performance in teaching and research assistantships. Students will be given feedback by their respective major professors. Students and major professors will work together to implement corrective measures if a student is performing poorly in any area(s).

Students are required by COGS to ***initiate their annual review and complete a self-evaluation*** in the spring term of each year and in collaboration with the major professor discuss progress toward goals and program requirements. The form to begin your evaluation can be found here: www.uidaho.edu/cogs/forms.

The final evaluation report will be filed with the department chair and placed in the graduate student's file, together with any response that the student may attach to the report. Any evaluations which recommend a warning or dismissal must be routed to COGS for further review.

All policies concerning access and release of students' records must follow FERPA and University guidelines.

Safety and Integrity in Research

In the field of Human Factors, much of our research involves human participants. When conducting research that involves human participants, it is critical to ensure that all research protocols have Institutional Review Board (IRB) approval and that all individuals working on the study (collecting data from participants, entering or analyzing data, preparing posters, presentations, or manuscripts) have appropriate ethical training. The University of Idaho Responsible Conduct of Research policy requires that all individuals conducting research with human participants complete and have on file a current CITI training certification.

Learn more about the RCR training here:

Responsible Conduct of Research
Human Participants Training

Please be sure you apprise yourself of the rules, policies and consequences with regard to scientific misconduct.

In addition, it is important to understand and abide by the policies regarding Financial Conflicts of Interest.

The University of Idaho also maintains a hotline where information about actions that might be in violation of policy can be reported anonymously.

Student Conduct and Conflict Resolution

All University of Idaho students are expected to abide by the student code of conduct. Information about academic integrity can be reviewed on the dean of students' page.

In addition, as graduate assistants you are taking on a professional role at a public institution. Therefore, it is critical that you become familiar with policies that might arise as you work with students:
Student Education Records (FERPA)
Policy of Nondiscrimination
Sexual Harassment
Title IX (Note YOU are a mandatory reporter!!)
Consensual Romantic or Sexual Relationships
University Ethics (Make note of B-10 during election season!)

Keep in mind that the expectation for graduate students is that they conduct themselves in a professional manner, not only when on campus, but also as they represent the program and University of Idaho in a variety of endeavors. Failure to display professionally acceptable behavior may lead to dismissal and separation from the University of Idaho as an employee and even as a student, depending on the nature and severity of misbehavior and in accordance with all policies and provisions of the University of Idaho.

If you have any concerns about a fellow student, a faculty member or student in your course, let your major professor/supervisor/department chair know AND file a Vandal Care Report. There are separate forms to report health concerns, bias incidents, conduct issues, and sexual misconduct.

Our department works diligently to maintain a strong collegial and collaborative environment for our faculty and students. However, when conflict does arise, we hope all parties can work together towards resolution. In general, we would prefer that conflicts are initially addressed in a professional and positive manner directly with those with whom a conflict has arisen. However, graduate students may find that power differences make these conversations challenging. Should a graduate student have a conflict with a faculty member other than their major professor, they should first seek guidance from their major professor. Should the conflict be with a student's major professor, they should discuss their concerns with another trusted faculty member, such as their assistantship supervisor or the graduate program director. If a resolution is not possible or the student feels there is reason to seek guidance elsewhere, the department chair will be able to provide further guidance toward resolution. If the major professor is in the role of department chair or graduate program advisor, then it would be prudent to seek counsel from a trusted committee member or other faculty member in the department. Regarding a change in major professor or degree type, see the Department Chair or COGs Dean. Conflicts of interest between students and faculty members will be handled by the Department Chair or CLASS Dean or Associate Dean. Conflicts between students will be handled by the Department Chair. If students or faculty from other units are involved, the respective administrators will be consulted and involved in decisions.

Students may also seek counsel from the Ombuds' office, COGS Dean's office, CLASS Dean's office, or Office of the Dean of Students.

Assistantships

Teaching assistantships are an important aspect of undergraduate instruction. The department awards teaching assistantships to qualified graduate students to help offset some of the students' costs and to assist with the instructional mission of the department. Typically, students in good standing are provided with an assistantship of 20 hours per week (the maximum allowed by the university). In exchange for the assistantship, we expect students to perform their assistantship duties in a timely and responsible manner. Failure to perform your duties to the satisfaction of your assistantship supervisor may jeopardize future funding from the department. The work responsibilities of the assistantship will not necessarily align with activities that further the completion of your degree. However, assistantship evaluations by your supervising faculty member will become part of your file and may influence your future letters of reference from your major professor.

All teaching assistants are required to attend the COGS training institute and orientation. This is usually held the Thursday before fall courses begin. Be sure to complete your employment checklist.

Note that you will also be completing FERPA training on a regular basis to maintain your access to Canvas and to ensure compliance with federal law as it pertains to student information and storage of student records.

Teaching assistantships vary in terms of duties and time commitment. Not all assistantships require equal amounts of work. Workloads may fluctuate greatly over the semester, with the highest workloads typically occurring around test times. The keys to being successful are to manage one's time well and to stay in communication with one's assistantship supervisor.

Assistantship assignments are usually made the week before classes begin. Once assistantship assignments have been made, students should set up a meeting with their supervisor to clarify duties and responsibilities **BEFORE THE FIRST DAY OF THE SEMESTER**. The meeting should address the following questions:

- What are my duties?
- How many hours each week will I be expected to be available?
- Am I required to attend class?
- Will we have a regular meeting time? If not, how frequently should I check in with you?
- How will you contact me regarding my duties?

The goal of this meeting is to ensure that students are aware of the instructor's expectations regarding assistantship performance. The supervising faculty member will evaluate students' assistantship performance at the end of the academic year. Performance as an assistant will determine whether students receive an assistantship in the following year.

Leave: Any graduate student leave from Assistantship duties must first be negotiated with their supervisor, other than sick leave and other preapproved and University-allowed policies. Teaching assistants do not accrue leave, and any absences should be

communicated to your supervisor well in advance. If you are planning to travel for a conference, you will want to inform your supervisor as soon as you know that you will be out of town so that courses can be covered, and obligations met in your absence. You should make every effort to ensure that you are available during the academic term and should not plan to leave until after finals week or once all grades are entered. Clear, timely, and open communication with your supervisor is critical to a successful assistantship.

Graduate assistantship supervisors will submit evaluations of your performance each term to your major professor, the graduate committee, and the chair of the department. You will be evaluated on your ability to meet deadlines, responsiveness to students and supervisor, ability to follow instructions, helpfulness to the faculty member and students, and general performance of teaching assistantship duties.

It may useful to also review this Grad Assistant handbook from the College of Graduate Studies.

Department Resources and Opportunities

Conference Travel

Graduate Student Travel Grant Policy

(1) Travel money is a privilege.

(2) The department will endeavor, if possible, for all second-year students to receive $200 to defray travel expenses to authorized conferences (such as HFES).

(3) In addition, all graduate students are eligible to apply for a limited number of competitive travel grants (maximum award per academic year = $500). These competitive travel grants will be reviewed by the graduate faculty in the student's area of emphasis.

Students must apply for departmental travel grants at least 2 weeks prior to the beginning of the scheduled travel.

All travel for University of Idaho purposes should be approved through the University of Idaho system, even if you are personally funding your trip.

NOTE: Anyone traveling for university business (even if paying out of pocket) should file a travel approval request to ensure that university insurance will cover their travel.

You will need to register for Chrome River so that your travel can be approved:
https://www.uidaho.edu/finance/controller/accounts-payable/travel-services/chrome-river

After you log in, please click on your name. Scroll down to the bottom and click on "settings" On the left side of the screen, please click on "delegate settings". Please click on the "+ Add New Delegates" and put my name in it "Emily Dorigo". Make sure to save.

Student Organizations

There is an active student chapter of HFES (Human Factors and Ergonomics Society) and students are strongly encouraged to be involved in it. HFES is an excellent way to get to know other graduate students and professionals in the field, to expand your portfolio, and to practice your leadership skills.

The GPSA (Graduate and Professional Student Association) is a great resource for students seeking travel funding. The department has rotating student representatives in GPSA who can provide more detailed information.

The College of Graduate Studies also has a variety of additional resources that can assist you in navigating your graduate program and preparing for your next steps. Check out their Student Resources page for more information. You may find their professional development workshops useful as you begin writing your thesis/dissertation, seek internships, or go on the job market.

Frequently Asked Questions

If I start in the MS program, will I be admitted to the PhD program?

Students who were admitted to the master's program and have completed the master's program (thesis or non-thesis) will need to go through the regular process to apply to the PhD program. Matriculating through the master's program successfully does not guarantee placement in the limited number of slots in the PhD program. It is important to have a clear and honest conversation with your major professor as well as other faculty in the department about the viability of admission to the program based on your body of work to date.

To apply to the PhD program, your letter of recommendations must include a letter from your major professor and a personal statement that reflects a clear self-examination exploring why the PhD is necessary for your interests/career goals. Finally, it important to realize that only *exceptionally* accomplished MS students would be invited by the graduate committee or their major professor to apply to the PhD program.

Will my undergraduate courses count toward my graduate degree?

Credits earned on an undergraduate transcript may meet requirements for or overlap substantially with courses that are required for the graduate degree. However, the credits will not count toward the degree; students will still need to meet the minimum credit requirements to earn the graduate degree they seek. For example, if you took PSY 512 as an undergraduate and did not have it articulated on a graduate level transcript, you will not need to retake PSY 512, but you will need to take an "extra" 3 credit course to make up the credits.

Human Factors Faculty

Benjamin Barton (Ph.D., 2005, University of Alabama at Birmingham)

Dr. Barton examines factors affecting risk for unintentional injuries and injury prevention. His primary interest is in transportation safety. In the past, Dr. Barton has studied pedestrian safety, quiet vehicle technology, auditory and visual perception, and the role of automation in driver stress. Dr. Barton directs the Palouse Injury Research Laboratory, with facilities located at various locations on campus.

Rajal Cohen (Ph.D., 2008, Pennsylvania State University)

Dr. Rajal Cohen directs the Mind in Movement Laboratory. Ongoing lines of research focus on postural tone & proprioception, effects of subtle instructions on balance and performance, and connections between head position and cognition, Dr. Cohen's team is also involved in clinical intervention studies for musculoskeletal issues, neurodegenerative disease, and caregiver stress.

The lab is home to an eight-camera Vicon passive marker system for three-dimensional full body motion capture, Delsys surface electromyography for measuring muscle activity, a 64-channel ANT Neuro EEG system for recording brain activity, a set of six APDM wireless Opal inertial sensors with 3D accelerometers and gyroscopes for assessing gait, custom-built equipment for measuring axial postural tone, and The *MotionMonitor* for synchronizing it all.

Tianfang Han (Ph.D., 2023, Purdue University)

Dr. Han's research focuses on both basic and applied (human factors) aspects of cognitive psychology. In basic research, he investigates the mechanisms underlying alertness (or temporal preparation), which is regarded as a basic component of the human attention system. He is also interested in how conflicting information affects task performance and interacts with preparation processes. In the area of human factors, he studies driving behaviors and mutual vehicle interactions in roundabouts and other risk-related scenarios using his experience and knowledge from basic research.

Todd Thorsteinson (Ph.D., 1998, Bowling Green State University)

Dr. Thorsteinson is an industrial-organizational psychologist with research interests in decision making and organizational staffing.

Emeritus Faculty

Steffen Werner (Ph.D., 1994, University of Göttingen, Germany)

Dr. Steffen Werner conducts basic research in the areas of high-level visual cognition, spatial cognition, and attention. He is particularly interested in understanding long-term visual and spatial memory, as well as the integration of different sources of information during spatial tasks. His applied research interests lie in the areas of Human-Computer Interaction (e.g., user authentication, security, innovative display technologies), driving research (in-vehicle navigational displays, driver distraction), and neuroergonomics (e.g., neurological indicators of mental workload).

Affiliate and Adjunct Faculty

Roger Lew (Ph.D., University of Idaho)

Dr. Lew's research focuses on problem-solving and applying design thinking to 21st-century challenges related to energy and climate change. This includes human factors for nuclear energy for carbon-free energy and decision support systems for ecological systems.

Ronald Boring (Ph.D., Carleton University)

Dr. Boring is a senior research scientist in the Human Factors, Controls, and Statistics (HFCS) Department within the Nuclear Science and Technology Directorate. He began his career with the Idaho National Lab in 2003 and completed his PhD in Cognitive Science at Carelton University in 2004. His main research interests are human reliability analysis (HRA), resilience of critical infrastructure (usually in the area of energy), and using software microworlds as simplified process control environment testbeds. Dr. Boring led the development of the Human Systems Simulation Laboratory (HSSL), a reconfigurable, full-scale, full-scope research simulator at the Idaho National Lab - a unique, high-visibility facility that has allowed INL to perform cutting-edge research to support nuclear control room upgrades. Dr. Boring's research has been funded through both the Department of Energy as well as the Department of Defense.