

PURDUE
UNIVERSITY

Department of Psychological Sciences

College of Health and Human Sciences



Graduate Handbook

July 2018 Edition

I. Introduction

This handbook is designed to acquaint you with the departmental and area requirements for obtaining advanced degrees in Psychological Sciences. It includes (a) an overview of the general policies and standards of the department, and (b) some of the specific procedures that graduate students must follow during their graduate training. Students should be aware that they are also subject to the policies and standards established by the Graduate School, which are set forth in the Policies and Procedures Manual for Administering Graduate Student Programs. A copy of this Manual is available for inspection in the Graduate Office (PRCE 385B) and online at: [Graduate School Policy and Procedures Manual](#)

II. Overview of the Graduate Program in Psychological Sciences

A. General Objectives

Graduate students in Psychological Sciences are expected to become qualified researchers and experts in their selected area of concentration and to acquire a broad and in-depth background of the field in general. The graduate program provides comprehensive training leading to the Ph.D. with emphasis in one of the following six areas of major concentration: Clinical, Cognitive, Industrial-Organizational, Mathematical and Computational Cognitive Science, Neuroscience, and Social.

As part of their training, graduate students must complete the research requirements of both a Master's and a Ph.D. degree. In addition, all students must perform at high levels of competency in required departmental courses. Flexibility of individual programs of study is nonetheless stressed, with some required courses determined by the student's area of major concentration.

The primary goal of the program is to produce psychologists committed to the scientific study of behavior, familiar with knowledge about psychological processes, trained in basic research methodologies, and with the background and training to make substantive, future contributions to the field.

B. Degrees Granted

The **Ph.D.** in all areas of major concentration is research-oriented and requires a dissertation. Typically, four to six years of training are needed to complete the requirements for a Ph.D. degree. This assumes that the student entering the program has an undergraduate background in psychology, including some laboratory courses and statistics. Incoming students with a Master's degree from another institution should expect to take three to five additional years to complete the requirements for the Ph.D.

Prior to Ph.D. candidacy, the department also requires students to obtain a **Master of Science (M.S.) degree with thesis**. Students entering the program without a Master's degree must choose the thesis option.

A **Master of Science degree without thesis** can also be obtained but only under restricted conditions, (see *Appendix C*). Ordinarily, this degree is awarded to students

who, for various reasons, decide not to continue toward the Ph.D. degree after entering the graduate program. Also, see *Appendix D* for Master of Science degree without thesis for Political Science doctoral candidates.

III. Psychological Sciences Graduate Policies and Procedures

Some policies and procedures for our graduate program are briefly outlined here. More detailed information is described in subsequent sections of this Handbook or can be obtained from Nancy O'Brien in the Graduate Office (PRCE 385B). A paperwork timeline can be found in *Appendix K* and summarizes the timeline and paperwork deadlines for the various components of your graduate training.

A. Initial Steps

- Satisfy the conditions listed on your Admission Summary Sheet that was enclosed with your admission letter from the Graduate School. If you have misplaced this sheet, Nancy O'Brien has a copy in the Graduate Office.
- Select a Major Professor (faculty advisor). At some time during your first semester of graduate study, you should choose a Major Professor (if you have not already been assigned to one) to supervise your plan of study and your research. Generally, the Major Professor will be the faculty person in your area whose research is most interesting to you and who agrees to serve as your advisor.
- Select an Advisory Committee. In consultation with your major professor, select a Master's advisory committee (see *Appendix A*) and file a Master's plan of study (see *Section VII* & *Appendix M*) during the second semester of study.
 - You should have a clear idea of your Master's thesis project before selecting your advisory committee. Generally, you want to select those faculty who can be most helpful in providing advice regarding your research.
 - Faculty must be certified by the Graduate School to serve on advisory committees at certain levels (i.e., as chair, co-chair, member). When completing your plan of study, please be sure that the faculty members you are interested in including on your committee are certified at the appropriate level. You may obtain this information from the faculty member themselves, or from Nancy O'Brien, Graduate Coordinator.

- The Graduate School regards the *plan of study* as an individualized curriculum designed by the advisory committee to assist the student in achieving his or her educational objectives. The absolute deadline for filing it with the Graduate School is prior to the first day of the academic session of degree completion. Students not meeting this deadline will be asked to register for "Degree Only" for the following session to receive the degree. The plan of study is to be filed electronically via MyPurdue. More specific instructions for filing the plan of study can be found in Section VII and *Appendix M*.

B. Other Responsibilities

1. Familiarize yourself with the requirements specific to your area of major concentration. This information can be obtained from your major professor, or can be found in later sections of this Handbook.
2. Contact all committee members and schedule meeting rooms for all committee meetings.
3. When away from campus, you are responsible for registering, paying fees, processing forms, etc. Current mail and e-mail addresses and telephone numbers should be on record in the Graduate Office.
4. Familiarize yourself with this Handbook - it contains most of the information you'll need to know to progress smoothly through the program.

IV. Course Requirements

A. Departmental Requirements

Each student is required to satisfy the following departmental course requirements. Each Ph.D. Plan of study must include these courses. Only courses for which “A” or “B” grades are earned are acceptable in fulfilling departmental requirements. Students are expected to repeat any required courses in which they receive a grade of “C+” or lower.

1. Students must take one of the following sequences of statistics courses in order to cover the requisite material:

PSY 60601 (ANOVA for the Behavioral Sciences) and PSY 63100 (Multiple Regression Analysis).

or

PSY 60000 (Statistical Inference) and PSY 60100 (Correlation and Experimental Design).

Alternatively, students may take one of the following:

STAT 51100 (Statistical Methods)
STAT 51200 (Applied Regression Analyses)

and one different course from among the following:

STAT 51200 (Applied Regression Analysis)
STAT 51400 (Design of Experiment)

Six credits in total must be taken. **(This requirement must be met in order to receive your Master’s degree).** Area Coordinators will provide guidance regarding recommended sequence for your area.

2. Students are required to complete three additional graduate courses outside of their major area of concentration, for a total of nine credits. These courses are in addition to any courses required by their major area. At least two of these three courses must be graduate courses offered within the Department, as listed in

Appendix B. One of these courses may be from outside of the Department (e.g., an Interdisciplinary Neuroscience course, a HDFS course, a Sociology course). These three courses must be approved by a student's Ph.D. Advisory Committee, as indicated by approval of the student's Ph.D. Plan of study.

V. Areas of Major Concentration/Area Requirements

Graduate students are expected to work in one of the department's six areas of concentration in order to develop competence in a specialty within the broad discipline of psychology. Each area is described below, along with their specific course requirements. Paralleling departmental course requirements, note that a grade of “B-” or better is required to fulfill all area course requirements.

Acceptance into one of the department's areas of major concentration is determined by the particular interests expressed by students on their admissions applications and by the area faculty involved in the admissions process. The procedure for changing an area of major concentration following admission into the department is described in *Appendix J*, which also includes information regarding research in absentia.

A. Clinical Psychology

The clinical psychology doctoral training program at Purdue University offers doctoral training in psychology with the goal of preparing graduate students first for generating new knowledge in clinical psychology (e.g., research) as well as demonstrated competence in the empirically-based delivery of clinical services (i.e., assessment, diagnosis, and treatment of mental disorders). The Area takes a “clinical scientist” approach to training and has been continuously accredited by the American Psychological Association (APA) since 1948. The program created the in-house Purdue Psychology Treatment and Research Clinics (PPTRC) to train graduate students in offering evidence-based specialty psychological services to the community.

The four primary training goals of the Program are: excellence in the generation of original research, effective integration of scientific evidence into clinical assessment and intervention activities, knowledge of the theoretical and empirical bases of the science of psychology, and the development and demonstration of ethical and professional conduct in clinical science. Although science and practice are taught as necessarily mutually informative, the Program emphasizes research competence as the key to building the evidence base of the field as well as to honing the critical thinking capacities that are essential to effective practice. Students in the Program are educated first as scientific psychologists, second as clinical psychologists, and finally as specialists.

There are several important requirements special to the Clinical Area. One is that each required research project—First-Year Project, Master’s Thesis, Preliminary

Exam, and Doctoral Dissertation—must be written in form and length suitable to submit to an appropriate journal for review. (Dissertations, which typically are very extensive, potentially might span two or more manuscript-length documents.)

Other unique elements include the following:

- 1. First-Year Research Requirement:** In consultation with the Major Professor, each first-year student applies basic design and analytic skills to analyzing an existing dataset and writing up findings.
- 2. Master's Thesis:** The first year project provides background for designing, proposing, and beginning work on a Master's thesis, which typically involves the collection of original empirical data and is conducted under the guidance of a three-person thesis committee chaired by the student's Major Professor.
- 3. Preliminary Examination:** In the Clinical Area, there are two options for the Preliminary Examination for advancement to doctoral candidacy. The first is a comprehensive and integrative review paper (including a meta-analysis) modeled after publications in *Psychological Bulletin* or *Clinical Psychology Review*. The project should address some unanswered question in the field that is amenable to an integrative literature review. The second option is the completion and submission of an NIH National Research Service Award (NRSA) pre-doctoral fellowship grant application. As soon as possible after successful completion of the Master's thesis, the student selects an area to be reviewed, writes a proposal, and presents this to her/his advisory committee. Once approved, the student prepares the paper or grant application (with general input from committee members), and eventually submits it to the advisory committee for final oral examination. Generally, the student is expected to complete this within one year after the proposal meeting.
- 4. Dissertation:** The Ph.D. candidate must present a written dissertation based upon a major research investigation that makes an original contribution to knowledge in clinical psychological science. The committee that conducts the student's doctoral dissertation defense and final examination must have at least four members, at least two of whom must be members of the Clinical Area faculty.
- 5. Clinical Practica:** Students are gradually integrated into clinical work across the course of their training. Beginning in the second semester of the first year, following successful completion of the class in intellectual assessment, students conduct assessments on children, adolescents, and adults and receive supervision through the assessment practicum. Students continue to enroll in the assessment practicum through the end of their second year, and may continue beyond that if they wish to

garner more experience. Given satisfactory progress, students begin clinical work with clients in the third year. Each student must complete two, year-long supervised practica in the Program's in-house clinics (variously titled under PSY 67900), one of which is child-focused and one of which is adult-focused. After fulfilling this requirement, the student may seek additional and advanced clinical training from approved sites around the region; at this point, students are allowed to spend two days a week on outside placements, but most remain enrolled in one of the two in-house clinics.

6. Clinical internship: To complete the Program, each student must apply for and complete a year-long APA-approved clinical psychology internship (PSY 69700). This experience is the capstone of clinical training, as the dissertation completes research training.

7. Other specific requirements: Eighteen courses are required as a minimum in Purdue's Clinical Program. Clinical-specific courses include:

PSY 59100	Foundations of Clinical Science
PSY 69200	Clinical Seminar: Ethics/Ethnic Minority Issues
PSY 66800	Intellectual Assessment
PSY 66700	Personality Assessment
PSY 67000	Principles & Techniques of Psychotherapy
PSY 67300	Adult Behavior Disorders
PSY 67900	Developmental Psychopathology
PSY 67900	Assessment (practicum)
PSY 67900	Child Behavior Management (practicum)
PSY 67900	Adult Services (practicum)
PSY 69200	Pro-Seminar in Clinical Psychology

In keeping with current APA accreditation guidelines, students have a variety of experiences to demonstrate mastery of graduate-level discipline-specific knowledge at the core of clinical psychology. There are four categories of discipline specific knowledge:

Category 1: History and Systems of Psychology

PSY 69200	Clinical Seminar: History & Systems/Supervision and Consultation
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Category 2: Basic Content Areas in Scientific Psychology

- (a) *Affective Bases of Behavior*: PSY 69200 - Clinical Seminar: Cognitive Bases of Behavior/Affective Bases of Behavior
- (b) *Cognitive Bases of Behavior*: PSY 69200 - Clinical Seminar: Cognitive Bases of Behavior/Affective Bases of Behavior
- (c) *Biological Aspects of Behavior*: Systems and Clinical Neuroscience (course number to be determined)
- (d) *Developmental Aspects of Behavior*: PSY 67900, Developmental Psychopathology AND PSY 67300 Adult Behavior Disorders
- (e) *Social Aspects of Behavior*: PSY 64000, Survey of Social Psychology

Category 3: Advanced Integrative Knowledge in Scientific Psychology

PSY 69200 - Clinical Seminar: Cognitive Bases of Behavior/Affective Bases of Behavior

Category 4: Research and Quantitative Methods

PSY 60601 – ANOVA (required)
PSY 63100 – Regression (required)
PSY 69200 -- Clinical Seminar: Methods module (required)
PSY 61000 – Multivariate Statistics
PSY 67400 – Structural Equation Modeling
PSY 60500 – Applied Multivariate Methods
PSY 60600 – Intensive Repeated Measures Methods
PSY 60901 – Multilevel Modeling
PSY 62601 – Bayesian Statistics
PSY 60700 – Scaling and Measurement

B. Cognitive Psychology

The term "cognitive psychology" encompasses most topics in human experimental psychology. It includes the fields of sensory and perceptual processes, attention, human learning, memory, information processing, psycholinguistics, judgment, problem-solving, neuroscience, and human factors. Research in those areas includes an integration of empirical approaches and quantitative modeling. All students are expected to participate actively in research. New students should begin research projects with their Major Professor in the first semester. New students are expected to present the results of this research in the Cognitive Colloquium in their second semester, and a paper based on their project is due August 1st.

1. **Preliminary examination:** The preliminary examination in this area consists of either a comprehensive written review paper or comprehensive written examination, each of which is followed by an oral examination.

Topics and readings for either option are chosen in consultation with the student's Preliminary Examination committee.

2. **Final examination committee:** The committee must consist of the Major Professor and at least three additional faculty members. At least half of the committee members must have their primary appointment in the Cognitive Area.

When students are planning a committee meeting that involves evaluation of a written document (e.g., proposal, thesis, or dissertation), the document must be provided to the committee members at least two weeks prior to the meeting date, unless all the committee members agree to a shorter time frame.

Specific Cognitive Area Requirements

1. One 3-hour quantitative course, in addition to the department's statistics requirement
2. At least four of the below:
 - PSY 62400 (Human Learning & Memory)
 - PSY 62500 (Complex Cognitive Processes)
 - PSY 62800 (Perceptual Processes)
 - PSY 63700 (Human Information Processing)
 - PSY 69200 (Introduction to Cognitive Neuroscience)
3. Two topical seminars of PSY 63900 (Seminar in Cognition) or equivalent

Students typically also take between 6 and 10 elective courses during their graduate careers (number of hours varies).

Students must take two statistical/Mathematical and Computational Cognitive Science courses, two cognitive area core courses, and two additional courses (from 2 or 4 above) for their Master's degree.

Students must also register for PSY 63300 (Cognitive/Learning & Memory Colloquium) every semester. The Area Coordinator must approve exceptions.

C. Industrial-Organizational Psychology

This program is composed of two related subspecialties both concerned with understanding the behavior of individuals in organizations and applying psychological knowledge to organizational problems. Industrial psychology is concerned with performance appraisal, personnel selection and placement, training, and job analysis. Organizational psychology is concerned with topics such as job attitudes, work motivation, leadership, individual and group decision-making, and organizational communication. Special emphasis in both of these subspecialties is placed on quantitative techniques and experimental design. Research experience is an important part of the program. Students are expected to actively participate in research throughout their training.

1. Preliminary examination: The preliminary exam consists of two parts. The first part of the exam is designed to evaluate the students' understanding of the field, that is, their breadth of knowledge. This part of the exam will be a closed book test consisting of 9 questions. The questions will cover the material from the major topic areas within Industrial Psychology, Organizational Psychology, Research Methods, and Statistics. The exam takes place in May with all questions answered in 2 sessions on one day. The examining committee consists at least three faculty, to include the Major Professor, and all committee members must be from the I-O area. To complete the second part of the preliminary examination, students will need to submit a first-authored manuscript to a *peer-reviewed* journal to be reviewed for publication. The submission must be reviewed and approved by your faculty advisor prior to submission. This part of the preliminary exam can be completed at any time during the first 3 years of the program.

2. Final examination committee: The final examining committee consists of at least four faculty. The student's Major Professor will serve as Chair and at least two of the remaining three members must be from within the Psychology Department. One of these two department members must be from within the I-O area and one must be from outside of the I-O area. The fourth member can be from outside of the Psychology Department. On occasion, a student may want to constitute a five-person committee in which case the members of the committee must be approved by the I-O area faculty.

Specific Industrial-Organizational Area Requirements

PSY 68000 (*Survey of Industrial Psychology*)

PSY 68000 (*Survey of Organizational Psychology*)

PSY 68100 (*Survey in Research Methodologies of Industrial/Organizational Psychology I*)

PSY 68100 (*Survey in Research Methodologies of Industrial/Organizational Psychology II*)

At least 6 hours in I/O psychology graduate seminars (other than the above courses)

D. Mathematical and Computational Cognitive Science Psychology

Students in the Mathematical and Computational Cognitive Science program acquire a solid background in mathematics, psychology, and statistics to use as a base for creating mathematical models in a wide range of psychological areas. Academic study within this area includes modeling of psychological phenomena (cognitive psychology, learning, memory, visual and auditory perception, and psychophysics), experimental design, probability, and applied statistics. Student thesis research is preferably directed toward theoretical and/or methodological problems within a content area of psychology, such as experimental, social, clinical, or industrial psychology. Students are also encouraged to take advantage of the excellent opportunities at Purdue to delve into neighboring disciplines such as artificial intelligence, neurophysiology, robotics, computer science, systems theory, and linguistics.

1. First year paper: During the first year, students will be given the opportunity to participate in an on-going research program, either through background reading, data collection, or data analysis and model fitting. By the end of the Spring semester, students must submit a short research report (10 pages or more) that summarizes their work on this project. In some cases, this report will be in the form of a research article and in others it may be a summary of the research literature relating to the student's current area of interest or a proposal/critique of a quantitative model. The paper will be evaluated by a two-member committee composed of the student's advisor and one other member of the Area chosen by the student. If the paper is unsatisfactory, the student must submit a revised paper before the end of the Fall semester of the second year. Students who fail to meet the first year paper requirement by the end of the Fall semester of the second year will be placed on probation and may be dropped from the program.

2. Qualifying examination: The course curriculum required for the Master's degree is designed to help prepare the student for the Qualifying Examination, which is required for all students in the program.

Students must arrange for a place in which to take the exam without interruptions for four continuous hours. The exam will be open book and open notes. Each member of the examination committee will contribute one or more questions designed to take no more than one hour to complete. Exam questions will be based on material from the Area Core reading list, which is available from the Area Secretary, and from required courses taught by one of the faculty in the MCCS area, taken by the student prior to the exam. Students may wish to review Qualifying Examination questions given to other students in the program. Copies of these (questions only) will be available from the Area Secretary. The core list may be updated periodically by the Area. However, students may choose between the most current list and any prior lists available starting from the year in which the student entered the program. The committee head should ensure that all members have copies of the core reading list selected by the student.

In some cases, the committee head may decide that the student's handwritten answers should be retyped by the Area Secretary before they are distributed to the committee. Copies of answers to the exam will be distributed promptly to members of the committee by the committee head. [Note: Copies of the examination questions should be given to the committee for approval before the exam and to the Area Secretary after the exam is completed.]

3. Preliminary examination: The Mathematical and Computational Cognitive Science Area have no set requirement for the preliminary examination. Please process appropriate paperwork with the departmental Graduate Office to meet the Graduate School's requirement for this examination.

4. Ph.D. Candidacy: A student is admitted into Ph.D. candidacy after obtaining a M.S degree, passing the qualifying exam, and completing the forms for the Preliminary examination.

5. Final examination committee: This committee must have no less than four members and must include the Major Professor (from the Mathematical and Computational Cognitive Science Area). Two or three of the remaining members must also be in the Mathematical and Computational Cognitive Science Area.

Specific Mathematical and Computational Cognitive Science Area Requirements

A student working on a Master's degree through the Purdue Department of Statistics may, with the agreement of his or her advisor, substitute statistics courses satisfying Statistics Master's degree requirements for statistics courses that are specific Mathematical and Computational Cognitive Science Area requirements.

For Masters:

One of the following:

MATH 44000 (*Real Analysis*)

MATH 50400 (*Real Analysis*)

MATH 51000 (*Vector Calculus*)

One of the following:

STAT 51900 (*Introduction to Probability*)

EE 44000 (*Transmission of Information*)

EE 48300 (*Digital Control Systems Analysis & Design*)

MATH 52700 (*Advanced Mathematics for Engineers & Physicists I*)

One of the following sequences:

PSY 60000 (*Statistical Inference*) & PSY 60100 (*Correlation & Experimental Design*)

STAT 51700 (*Statistical Inference*) & STAT 52800 (*Introduction to Mathematical Statistics*)

STAT 51700 (*Statistical Inference*) & STAT 55300 (*Theory of Linear Models & Analysis of Experimental Designs*)

One of the following:

EE 57000 (*Artificial Intelligence*)

EE / CS 66800 (*Introduction to Artificial Intelligence*)

EE 60000 (*Random Variables & Signals*)

MATH 53800 (*Probability Theory I*)

STAT 53200 (*Elements of Stochastic Processes*)

STAT 57600 (*Statistical Decision Theory & Bayesian Analysis*)

For Ph.D.:

Three course from the following list:

PSY 51400 (*Introduction to Mathematical Psychology*)

PSY 60500 (*Applied Multivariate Analysis*)

PSY 60700 (*Scaling & Measurement*)

PSY 60600 (Seminars)

(PSY 60600 seminars may be repeated for credit)

(Substitutions of courses previously taken or to be taken by a student for the courses listed above can be allowed by the Area on an ad hoc basis when sufficient information on the content and level of the alternative course is available.)

E. Neuroscience

This program focuses on the study of brain-behavior relationships, broadly defined. It offers students exceptional flexibility to customize their graduate training and research. The program also provides equally exceptional access to state-of-the-art techniques and technologies, such as single cell recording, optogenetics, electrophysiology (EEG/ERP), magnetic resonance imaging (MRI), and computer simulation. Problems studied by the neuroscience area include, but are not limited to: molecular and genetic determinants of behavior, physiological bases of motivated behaviors (e.g., appetitive, sexual, maternal and drug seeking behaviors), neural and hormonal bases of learning and memory, neural bases of anxiety, physiological bases of psychiatric disorders, and the underlying neural mechanisms of cognitive processing and social interaction. Cognitive processes currently under investigation include associative learning, reward processing, decision-making, selective attention, and problem solving. Clinical phenomena currently under investigation include alcoholism, anorexia, diabetes, epilepsy, obesity, depression, anxiety, post-traumatic stress disorder, and autism.

Relevant campus research facilities and resources:

- The Purdue MRI facility: (link forthcoming; meanwhile use www.purdue.edu/hhs/mri)
- Bioscience imaging facility: www.purdue.edu/discoverypark/bioscience/facilities/imaging/
- Transgenic mouse core facility: www.cancerresearch.purdue.edu/research/resources/transgenic-mouse
- Genomic core facility: www.genomics.purdue.edu/

A number of interdisciplinary centers exist that provide valuable training for neuroscience graduate students at Purdue. Of particular interest are the Purdue Institute for Integrative Neuroscience (PIIN), the Ingestive Behavior Research Center, and the Center for Research on Brain, Behavior, and NeuroRehabilitation

(CEREBBRAL). PIIN brings together investigators from many disciplines who share a common interest in the properties of the brain. PIIN organizes regular special lectures and colloquium series that bring distinguished neuroscientists to Purdue. The Ingestive Behavior Research Center is an interdisciplinary center that offers a variety of training options such as special lecture series and opportunities to participate in collaborative research on bases of ingestive behavior, eating disorders, and obesity. CEREBBRAL is an Area of Research Excellence within the College of Health and Human Sciences addressing questions about how to improve quality of life, not just extend it, and how to predict disease- and aging-related declines in highly variable populations.

1. Advisory Committees:

Students should establish an advisory committee at the end of their first year in the program. This committee is designed to provide oversight and monitor progress until the student forms a master's committee or dissertation committee (these may be the same committees). An advisory committee meeting is to be scheduled by the student at least once per year. Students will present research progress and discuss their plan of study in the yearly meetings. Depending on the direction of the student's research, the composition of this committee may change over the course of the student's time in the program and changes to the committee should be discussed with the committee, the coordinator of the neuroscience graduate area, and the Director of Graduate Studies prior to their implementation.

2. Master's Proposal and Defense

Students are expected to become active in a research program. Students are expected to appear as a substantial contributing author on at least one original research manuscript (i.e., not a review) submitted to a peer-reviewed journal before the beginning of their third year of study. With committee approval, this submitted publication may serve as the student's written Master's thesis and basis for the Master's defense. In cases where submission of a publication is not possible, students are expected to write and defend a Master's thesis by the beginning of their third year. Students entering the program with a Master's degree from another institution (or another graduate department within Purdue University) must receive area approval that this degree is equivalent to that of the Master's degree received by students in the Neuroscience area. Once this equivalence is granted, the student will begin the program at the post-Master's level.

3. Preliminary Examination

The preliminary examination involves an in-depth examination of a research problem that a) goes beyond the student's primary research area, and b) is conducted independently by the student. The exam process should stimulate the student to develop original research ideas, and to organize and integrate literature related to neuroscience. The preliminary examination should be completed no later than the end of the student's third year. In consultation with the student's major professor, the area coordinator will select one member of the student's advisory committee to serve as the exam committee chair. The student's major professor will not be a member of this committee. The committee chair will identify other members of the faculty to serve on this committee, as appropriate for the student's area of research, in order to have at least three committee members.

There are three options for the preliminary exam. The first is to prepare a review article (e.g., meta-analysis) that makes a novel contribution to the field. The student is required to submit this review article for possible publication shortly after completion of the preliminary examination. The second option is to prepare an application for a NIH grant (e.g., F31), which the student must submit to the funding agency shortly after completion of the preliminary exam. The third option is to complete an original research proposal that is integrative in nature (e.g., incorporating a novel methodological approach or content area that the student has not previously studied). Whenever feasible, students are encouraged to complete the proposed project after their successful defense. For all three options, students will be evaluated based on their ability to critically evaluate a literature, to identify existing gaps in the literature, and to develop testable hypotheses to address those gaps.

Each student's plan for completing his/her preliminary exam must be initially approved. Specifically, the student should prepare a one-page document describing the topic and its importance, hypotheses, and the general approach to be used to test the hypotheses. The student will schedule a meeting of the preliminary examination committee to discuss the plan. The plan must be approved by the preliminary examination committee, and then distributed to the full neuroscience area, for the student to proceed.

Upon successful completion of the written exam and an oral defense, the student will advance to doctoral candidacy.

4. Ph.D. Proposal and Defense

The student's dissertation proposal must be approved by the student's Ph.D. Examining Committee. Once the proposal is approved, the committee will meet as necessary (at a minimum yearly) to assess progress and to provide ongoing evaluation of the direction of the research. The committee will also determine, given inevitable changes to the project, when the student's body of research is sufficient for a dissertation. The expectation is that the defense will occur no later than the end of the student's fifth year.

NEUROSCIENCE AREA COURSE WORK

Departmental Requirements:

Neuroscience area students are expected to meet all the Department of Psychological Sciences course requirements, including the graduate statistics sequence. Students must also take an approved ethics course and enroll in the area seminar series PSY 69600 each semester. In addition, graduate students in the Neuroscience area are expected to complete the three area core requirements, two methods courses as selected, and two seminars as selected. The *Other Relevant Courses* listed below are suggested as relevant, but not required.

Neuroscience Area Core Requirements:

- Molecular and Cellular Neuroscience (new course replacing PSY 51200)
- Systems and Clinical Neuroscience (new course replacing PSY 51200 and PSY 61500)
- Cognitive Neuroscience PSY 69200

Methods Courses (at least two from list; substitutions require Advisory Committee authorization):

- fMRI Design and Analysis, PSY 62900
- Introduction to Confocal Microscopy and Image, BMS 52400
- Electrophysiology Design and Analysis (new course)
- Intro to Computational/Cognitive Neuroscience, PSY 59100
- One of the following statistics courses on repeated-measures/time series:
 - Repeated Measures Designs, PSY 60600
 - Multilevel Modeling, PSY 64600

- Time Series and Applications, STAT 52000
- Introduction to computational statistics, STAT 54500
- Bayesian Stats for Psychological Sciences, PSY 64600

Seminars (at least two):

- Genes, Brain & Behavior PSY 63300
- Animal Feeding Models, PSY 63300
- Special Lectures Neuroscience, PSY 63300
- CNS disease (new course)
- Skill learning PSY69200

Other Relevant Courses (not required):

- Endocrinology, BIOL 55900
- Intro to Developmental Cognitive Neuroscience, PSY 59100
- Eating Disorders, PSY 59100
- Neuroethics, PSY 58100
- Hormones and Behavior, PSY 59100
- Neuroscience of Consciousness, PSY 59100
- Cellular Neurobiology, BIOL 60200
- Psychopharmacology, PSY 60300
- Psychophysics, PSY51100
- Neuropsychology, PSY 63200
- Research in Ingestive Behavior, PSY 69200
- Cognitive/Affective Bases of Behavior, PSY 69200
- Scientific Writing, PSY 69200
- Neurobiology of Learning and Memory, PSY 69200
- Social Cognition, PSY 64500

F. Social Psychology

The Social Psychology program emphasizes a scientific, research-oriented approach to the study of human social behavior and is concerned with establishing general

principles and theories of behavior. Research areas covered within the social area include close relationships, group interaction, health psychology, attitudes, social cognition, social influence, social justice, stereotypes/prejudice, personality and individual differences, the self, prosocial behavior, and aggression. All students are expected to participate actively in research, at first under the close supervision of their major professor, then with increasing independence as their graduate careers progress. Collaborations with multiple faculty in the social area and potentially across other areas of the department (or other departments) are encouraged, particularly in the later stages of students' training.

1. Preliminary examination: Students are expected to take the preliminary exam between the second and third year of their program. The prelim has three parts: an in-house written exam, a week-long take-home exam, and an oral defense. A student must successfully pass the in-house written exam in order to sit for the oral defense. Failure to achieve at least the minimum passing grade on the in-house written exam (as described below) is tantamount to failing the entire preliminary examination. The prelim will be offered once a year, beginning on the Monday one or two weeks prior to the start of the Fall semester, as determined by consensus vote of the students taking the exam in a given year.

A. The in-house written exam will be the same for all students taking the exam in a given year and will consist of six questions selected from a pool of questions contributed by the Social faculty. Students will be expected to answer all questions. This in-house component of the exam is closed-book and is six hours in length, beginning at 9:00 a.m. and ending at 4:00 p.m. with a one-hour break. The faculty will provide facilities such that answers will be written using a word processor on a computer. Each question will be graded by two Social faculty members, with the intent of matching question content to faculty expertise. Questions are graded on a 4point scale (4 = Outstanding, 3 = Acceptable, 2 = Marginal, 1 = Unacceptable) and students must receive a minimum average grade of 2.25 on the six questions in order to pass the written exam and sit for the oral defense.

If a score of 2.25 or below is received on any given answer, students may be asked to re-write their answer(s) after the written portion of the exam has been completed. Rewrites are due to committee members at least two weeks prior to the oral defense, and committee members must indicate that re-writes are acceptable before the student can proceed with the oral defense. Students may not receive input or feedback from anyone when preparing their re-writes, although they may consult the literature.

B. The week-long, take-home portion of the exam will consist of two questions also selected from a pool of items generated by the Social faculty. One question is expected to be especially comprehensive and integrative; the answer to it should be no less than 15 and no more than 20 typed, double-spaced pages. The second question will require the review of a journal article; the answer (review) should not exceed 4 double-spaced pages. Students are free to use any and all sources in answering these questions with the exception that all work that is submitted must be done independently (i.e., without communicating with anyone else about the questions). The take-home questions will be distributed to students immediately following the in-house exam and will be due in one week later at 4 p.m. Answers to each question will be graded by two Social faculty members.

C. The third and final component of the preliminary exam is the oral defense. As noted above, students must receive an average of 2.25 on their in-house written exam to sit for the oral defense. The oral defense can be scheduled any time after the student has received his or her grade on the in-house written exam. A faculty committee, consisting of the student's Major Professor and three randomly selected additional Social faculty members, will convene to ask questions of the student. The defense will be used to clarify answers on the written portion of the exam and/or to probe the student's ability to converse about other topics in social psychology. The oral exam will be scheduled for 2 hours.

Following the oral defense, pass or fail determination for the entire preliminary exam will be made on the basis of grades from all three parts of the exam. If a student is determined to have failed the exam, all three parts of the exam can be taken on one additional occasion. If the oral defense is not conducted prior to when the next in-house examination is offered, the student must retake all three parts of the preliminary examination. In addition, students cannot complete the oral component of the prelim exam until after they have defended their Master's thesis.

2. Final examination committee: At least four members, including at least three from the Social Area, are required for both the Ph.D. Advisory and the Final Examination Committee.

Specific Social Area Requirements

PSY 64000 (*Survey of Social Psychology*)

PSY 68800 (*Research Methods of Social Psychology*)

Must take both of the following courses at least once for a grade, and both for three additional semesters on a pass/fail basis. **Each must be taken at least once over the student's first year, and can be taken during additional semesters in a manner that best fits with the student's overall schedule.**

PSY 50600 (*Professional Issues and Trends in Social Psychology*)

PSY 50700 (*Current Readings in Social Psychology*)

Must take at least four courses from the following list:

PSY 63000 (*Stereotyping & Prejudice*)

PSY 63600 (*Self & Identity*)

PSY 64200 (*Social Influence*)

PSY 64300 (*Attitudes & Attitude Change*)

PSY 64400 (*Close Relationships*)

PSY 64500 (*Social Cognition*)

PSY 64600/59100 (*Cross Cultural Social Psychology*)

PSY 64700 (*Group Processes & Performance*)

PSY 66900 (*Prosocial Behavior*)

VI. Course Registration

A. General Principles

All credit work done by students at Purdue University beyond the Baccalaureate degree is administered by the Graduate School. The registration of a graduate student should reflect the nature and amount of the student's study and research activities as accurately as possible.

1. Full-time Study

Full-time study is based on the number of credit hours in a given semester. **Eight** credit hours is the full-time certification standard for graduate students during the Fall and Spring semesters. **Six** credit hours is the full-time certification for the summer semester. Various fellowships and sponsoring agencies may have differing definitions of full-time status.

2. Maximum Registration

The maximum number of credits that may be taken in a given semester is **eighteen** during the Fall or Spring semester and **nine** for summer (including Maymester).

3. Responsibility for Registering

The registration of a graduate student is the responsibility of the student and the student's department. Registration must be accomplished according to schedules and procedures established by the Bursar, Registrar and the Graduate School.

B. Registration Procedures

1. Registration for All Students

With the advice of a departmental advisor (generally the Major Professor), each graduate student submits their registration by the registration deadline for the upcoming semester. Early registration is recommended, as late registration will result in additional fees and may result in unavailability of desired courses. This is particularly true for STAT courses, which fill up very quickly.

Students may register for some courses themselves, utilizing the on-line registration system myPurdue. There are several courses for which you may not register yourself such as (variable credit courses, courses that require instructor approval, research hours, etc.) To register for these courses, you must submit an email request to the Graduate Program Coordinator (Nancy O'Brien).

2. Registration for Graduate Staff Appointment and Fellowship Students

To be eligible to hold a graduate staff appointment during any session, an individual must be enrolled as a graduate student in a degree program and be registered for at least three credit hours of graduate-level course and/or research work during the entire appointment period.

Any student (whether on appointment or not) **must be registered during each semester or summer session when doing research utilizing faculty direction or consultation and/or requiring the use of University facilities.** Research includes literature reviews and thesis writing. A student's research registration should be proportional to the amount of time devoted to research activities, with 18 semester hours representing the maximum registration.

It is important to keep in mind that under-registration for research is likely to result in the accumulation of insufficient in-residence study credits. (At least 30 total credit hours are required for award of the Master's degree, and at least 90 credit hours are required for the Doctoral degree).

Students must also be registered for any semester or summer session in which they plan to hold a preliminary or final examination.

C. Registration in the Final Academic Session

1. Registration in the Session of Graduation
 - a. All students must be registered in the session of graduation.
 - b. Students must be registered as degree "candidates" in order to graduate. Students who register as candidates for the same degree for more than 2 consecutive sessions will be accessed a

late graduation fee of \$200 during their third consecutive session of candidate registration.

- c. Students with outstanding incomplete grades for courses listed on their plan of study will not be permitted to graduate.

2. Privileged Registration

a. Examination Only Registration

A student who has completed the Graduate School's residency requirement (30 hours for Master's degree; 90 hours for a Ph.D. degree) and who has finished all degree requirements except for the final examination and depositing the thesis/dissertation prior to the first day of the academic session of graduation, and was registered for at least 1 research credit the previous Fall or Spring semester, may request registration for "Examination Only" at a reduced fee. If approved, this registration will remain valid only if both a positive Report of Final Examination and a Thesis Receipt are received in the Graduate School by the eighth week of the semester (fourth week of a summer session). Otherwise, the registration for the current session will be converted automatically to one hour of research, and the student will be billed for the additional fees.

b. Degree Only Registration

A student who has completed the Graduate Schools residency requirement (30 hours for a Master's degree; 90 hours for a Ph.D. degree) and who has finished all degree requirements except depositing the thesis/dissertation and for whom a positive Report of Final Examination has been received in the Graduate School prior to the first day of the academic session of graduation, but who has not been awarded the degree, and was registered for at least 1 research credit the previous Fall or Spring semester, may request registration for "Degree Only" at a reduced fee. If approved, this registration will remain valid only if a Thesis Receipt is received in the Graduate School by the eighth week of the semester, (fourth week of a summer session). Otherwise, the registration for the current session will

be converted automatically to one hour of research and will be billed for the additional fees.

D. Part-time and Intermittent Study

Although it is not generally recommended, some students find it necessary to pursue graduate study on a part-time basis or to drop out for a period of time. Part-time students must, like full-time students, register appropriately any time they use University facilities or receive faculty supervision. Students who have interrupted their graduate study must submit a new application if three or more consecutive academic sessions (including summer session) have elapsed since their last registration. **(For example, if a student begins a leave of absence during the Fall 2018 semester and was not registered for the Summer 2018 session, that student must register for the Spring 2019 to maintain their enrollment status. If they do not register for the Spring 2019 semester and wish to return to the program, they would need to reapply for admission through the Graduate School.)** Upon the recommendation of the department and on a case by case basis, special consideration will be given to students returning to continue their graduate studies after being called to active military service.

Five-year Rule: Course credits earned by a student whose graduate study and/or professional activity has been inactive for five years or more cannot be used on a plan of study for an advanced degree. A plan of study approved prior to such a period of inactivity is invalid. A preliminary examination passed prior to such a period of inactivity is invalid. Readmission is granted by the dean of the Graduate School. The dean of the Graduate School will notify students who have been readmitted, and a copy of the readmission letter will be sent to the department.

VII. Degree and Preliminary Examination Requirements

A. Master of Science (M.S.) Degree

The M.S. degree usually takes two to three years to complete. The *M.S. degree with thesis*, a requirement for the Ph.D. degree, entails a minimum of 24 hours of course work plus 6 hours of research and a successfully defended thesis.

The *M.S. degree without thesis* requires 36 semester hours of course work and is permitted only if a student later decides not to pursue the Ph.D. (see *Appendix C*). In other words, this degree is not intended to be a primary goal for an entering student.

1. Master's Committee. When filing a plan of study for the master's degree, the student must designate three faculty members who will serve on his/her Master's Advisory Committee (see *Appendices A, K, L & M*). These faculty normally serve on the Master's Examining Committee as well (see *Appendix A*). All plans of study are now done online and the forms are accessible through myPurdue. Allow extra time for routing and electronic signatures of advisory committee members. **Your Master's Plan of study must reach the Graduate School prior to the first day of classes in the semester in which the degree is to be received.**

2. Master's Examination

A. For defense of the thesis, the student and Examining Committee must establish a mutually agreeable date and time for the exam. Three members of the committee should be present at the oral examination and at least two of these must be members of the student's Advisory Committee.

B. The student is responsible for formally scheduling his/her exam by submitting the following information to Nancy O'Brien: The date and time of your examination, the names of your examining committee members and your thesis title. **This form must be done at least two weeks prior to the examination date.** If the Graduate School does not have two weeks to process the request, the request will not be processed and the examination must be rescheduled for a later date. They are very firm about this rule. When the request is approved, the Graduate School will notify the Examining Committee Chair that the electronic (*GS Form 7*), Report of Final Examination is available in the Graduate School Database.

C. Thesis format approval must be obtained from Julie Smith in PSYC 3117. See Julie for guidelines and deadlines.

D. You must deposit your completed thesis, electronically, at least 24 hours prior to your mandatory, online final deposit appointment with the Graduate School's Thesis/Dissertation Office. A complete thesis deposit checklist, forms and instructions can be found at: [Graduate School Thesis Deposit Checklist](#)

B. The Ph.D. Plan of Study and the Ph.D. Advisory Committee

In consultation with your Major Professor, select your Ph.D. Advisory Committee (see *Appendices A, K, L & M*) and prepare your Ph.D. plan of study as soon as possible following the master's degree. The Graduate School regards the plan of study as an individualized curriculum designed by the Advisory Committee to assist the student in achieving his or her educational objectives. **It must be filed with the Graduate School prior to submitting a request for the appointment of a Preliminary Examination Committee.** As mentioned earlier, all plans of study are submitted online using myPurdue. Allow extra time for routing and electronic signatures of advisory committee members.

C. The Preliminary Examination

Upon a recommendation for continued graduate study by the Master's Examining Committee, students are eligible to take the preliminary examination. This examination takes a variety of forms (e.g., a series of written essays, a lengthy review and-critique paper, etc.), depending upon the student's area of major concentration. Refer to section V, Area Requirements. The examination should be scheduled as soon as possible following completion of the M.S. degree and must be completed at least two semesters before the expected date of the doctoral final examination. For example, **a student taking the preliminary examination in the fall semester could schedule their doctoral final examination, at the earliest, during the subsequent fall semester, assuming summer registration.** Please note that preliminary exams taken between the Fall and Spring semesters are considered spring semester completions rather than a fall completion, and therefore, you would not be eligible to complete your final examination until the following spring. Please also note that passing the preliminary examination is a prerequisite for formal admission to candidacy for the Ph.D. degree. The Preliminary Examination Committee (see *Appendix A*), which may evaluate the student on written and/or oral presentations, reports the results of the examination to the Graduate School with a recommendation

for admission to Ph.D. candidacy, continued preparatory study, or discontinuation from the program.

If a student does not pass the preliminary examination, a re-examination cannot be scheduled until the following semester or later. Should the prelim be failed twice, students are *not* permitted to take a third exam, except upon the recommendation of the Preliminary Examination Committee and with special approval of the Graduate Policy Committee.

1. The Nature of the Preliminary Examination. The specific nature of the preliminary examination varies from area to area. Generally, it is intended to assess the student's ability to organize, integrate, and utilize information central to his/her major area of concentration.
2. The Preliminary Examination Committee. Three faculty members are required to serve on this Committee. At least two of these must be members of the Ph.D. Advisory Committee.
3. Request for Ph.D. Preliminary Examination Meeting. Students must schedule a Ph.D. preliminary examination date, time, and room and submit the following information to Nancy O'Brien: The date and time of your examination and the names of your examining committee members. **This must be done at least two weeks prior to the exam date.** When the request is approved, the Graduate School will notify the Examining Committee Chair that the electronic (*GS Form 10*) Report of Preliminary Examination is available in the Graduate School's database.

D. Dissertation

The special research carried on as part of the doctoral work is expected to make a definite contribution to the candidate's chosen field of knowledge, a contribution of sufficient importance to merit publication. Students must, therefore, prepare a dissertation showing the results of their research and must successfully defend the dissertation by demonstrating to their Examining Committee that they have all the capabilities for which the Doctor of Philosophy degree is awarded.

1. The Ph.D. Examining (Final Examination) Committee. This committee (see *Appendix A*) shall consist of no fewer than four members. Departmental rules require that at least two members of the Final Examination Committee must be members of the student's Ph.D. Advisory

Committee. Each area also has rules for Committee composition. Refer to section V, Area Requirements. All members of your Final Examination committee should be present at the exam.

2. The Ph.D. defense. The department requires at least two semesters of research after admission to Ph.D. candidacy before the dissertation defense. This means that at least two semesters must intervene between the preliminary and final examinations. (For example, if the prelim is passed by the end of the summer session, a student can defend the dissertation in the Spring semester of the following academic year, assuming summer and fall registration.) After the research has been completed and the dissertation written, the candidate shall be given a final examination in which s/he defends the dissertation to his/her examining committee.

3. Scheduling Procedures:

A. The student and Examining Committee must establish a mutually agreeable date and time for the dissertation defense. The four members of the committee should be present at the defense.

B. The student must formally schedule the defense by submitting the following information to Nancy O'Brien: date and time of examination, names of your examining committee members and your dissertation title. **This must be done at least two weeks prior to the proposed exam date.** If the Graduate School does not have two weeks they will return the paperwork to you with a note to reschedule your exam. They are very firm about this rule. When the request is approved, the Graduate School will notify the Examining Committee Chair that the electronic (*GS Form 11*), Report of Final Examination is available in the Graduate School database. After the defense, the reporting form will be signed by the examining committee and submitted electronically to the Graduate School by the deadline indicated on the Graduate School's webpage at: [Graduate School Calendar](#)

C. ELECTRONIC THESIS ACCEPTANCE FORM [ETAF]
Using your Plan of Study link in your myPurdue account you can initiate Form 9 (Thesis/Dissertation Acceptance Form). For

instructions on how to initiate the Form, go to: [Instructions for Initiating Electronic Thesis Acceptance Form](#)

- D. Thesis format approval must be obtained from Julie Smith in PSYC 3117. See Julie for guidelines and deadlines.
- E. You must deposit your completed dissertation electronically, at least 24 hours prior to your mandatory, online final deposit appointment with the Graduate School's Thesis/Dissertation Office. A complete dissertation deposit checklist and instructions can be found at: [Graduate School Thesis Deposit Checklist](#)
- F. All course work and incomplete grades must be completed before the end of the session in which you hope to receive your degree.

VIII. Student Performance and Evaluation

Graduate students are expected to progress through the entire Ph.D. program within 6 years. Student evaluations, conducted biannually by the faculty in the student's area of major concentration, will in part reflect this progress (see below).

Note also that the Graduate School has a separate "Five-Year Rule" for courses: "Course credits earned by a student whose graduate study has been inactive for five or more years cannot be used in a plan of study for an advanced degree."

- A. Grades and Index Requirements.** Only grades of "A" or "B" are acceptable in fulfilling departmental and area course requirements on any plan of study. Pass/no pass grades are not acceptable in fulfilling degree requirements. A graduate student is expected to maintain a minimum cumulative index of 3.0. Students who fail to achieve a B- or better in a required course may retake the course only one time.
- B. Student Evaluation Procedures.** The faculty in each Area meet once each semester to evaluate the progress and standing of their graduate students. The Area Coordinator or another Area faculty member then provides a written summary of the Area's deliberations along with an overall evaluation (see categories below) to each student. A copy of the evaluation letter is given to Nancy O'Brien and to the student's Major Professor.

The following categories are used to provide an overall evaluation:

1. In good standing. This category is used for any student who is judged to be progressing with graduate work in a fashion satisfactory to the standards of the area.
2. On probation. This category is used for any student whose progress is not meeting the standards of the area but who is judged as worthy of the opportunity to improve his/her performance. A student should not be placed in this category for more than two consecutive semesters.
3. Not in good standing. This category is used for any student whose performance is judged to be sufficiently unsatisfactory to warrant being dropped from the program. A student judged to be not in good standing is not permitted to continue in the program beyond the semester to which the

evaluation refers. Immediate notification of this decision is given to students placed in this category.

C. Timely Completion of the Ph.D. Degree. Our department's graduate program is structured so that students should be able to complete their doctoral degree within 6 years of admission (not including one year of internship for clinical students). Accordingly, students are expected to complete their graduate training by the end of that time. Any student who does not complete doctoral degree requirements after a total of 6 years in the program (7 years for clinical students) must provide reasons for the delay to the Graduate Committee in the spring prior to the fall semester in which they will enter their seventh year and on an annual basis thereafter. The reasons for delay, is to be submitted in written form to Nancy O'Brien by **May 1**, of a student's 6th year and will be reviewed by the Graduate Committee, who may request that the student attend a Graduate Committee meeting to discuss their situation. Based on the student's academic record, stated reasons, and input from the student's Major Professor and Area faculty, the Graduate Committee will make a recommendation to the Department Head by the end of each spring semester regarding whether or not the student should be dismissed from the graduate program. Dismissal decisions are made by the Department Head.

D. Dropping Students from a Program and from Department. It is the policy of the department that all students shall be affiliated with one of the recognized Areas of Major Concentration (see *Section V*). Dismissal of a student from any Area by the faculty of that area is tantamount to dismissal from the Department of Psychological Sciences.

The only exception to this policy is when a student who has been dropped by an Area is subsequently permitted, by special approval of the Graduate Committee of the Department, to remain a student in good standing in the Department of Psychological Sciences without an Area affiliation. Such students will be considered to be in General Psychology and it will be the responsibility of the student's Advisory Committee to carry out formal evaluations of the student's progress each semester. Students are placed in this category only under unusual circumstances, and those desiring to explore this possibility must contact the Director of Graduate Studies who will, when appropriate, convene the Graduate Committee to consider the student's request.

E. Grievances. Grievances or appeals with respect to any aspect of a student's graduate program may be submitted to the Graduate Committee. In hearing such cases, the Committee may be supplemented by a voting graduate student from within

the department. The decision on whether or not to add a graduate student to the Committee will be made in consultation with, and with approval by, the student filing the grievance or appeal. The student representative to such a hearing will be selected in consultation with, and with approval by, the student filing the grievance or appeal.

F. Plagiarism Policy. The faculty members of the Department of Psychological Sciences at Purdue consider academic integrity to be the cornerstone of our collective efforts to further psychological science. Accordingly, we view any lapse in academic integrity to be a very serious transgression. One particularly egregious breach of academic integrity is plagiarism. (*see Appendix G for department plagiarism policy*).

G. Appropriate Professional Conduct. In activities related to the teaching, service, and research functions of the department, each graduate student is expected to conform to reasonable standards of academic and professional conduct. The university has developed a statement on Integrity in Scholarship and Research (*see Appendix H*) that applies to both students and faculty.

IX. Financial Support

There are two general sources of financial support: *internal* (e.g., departmental teaching assistantships and graduate instructorships, and Purdue Research Foundation Grants) and *external* (e.g., research assistantships funded by grant money obtained by the student's major professor, and pre-doctoral fellowships obtained by the student from agencies such as the National Institutes of Health and the National Science Foundation).

The students with the highest priority for **departmental teaching assistantships** (TAs) and **graduate instructorships** (GIs) are regular, full-time students who are in good standing at the time awards are made. Students in or beyond their fifth year of graduate training, and students with Master's degrees from elsewhere who are in or beyond their fourth year of training, may have a lower priority for continued support than new students or other continuing students. Decisions regarding priority for departmental support are made by the faculty in the student's area of major concentration, subject to approval by the Head.

Students who have completed the M.S. degree, who have a graduate index of 3.5 or above, and who are actively working towards their Ph.D. are eligible for a **Purdue Research Foundation (PRF) Grant**. These grants offer 12 months of support and are awarded on a competitive basis. They require submission of a research proposal by the student's major professor or in that person's name (i.e., the student can write the proposal). The call for PRF proposals is typically made to the faculty early in the Fall semester. The departmental deadline for submission of these proposals usually falls between mid-November and early-December. Awards are announced in February or March.

A limited number of **Graduate School Research Grants** are available to post Master's-degree students for summer support. In addition to completion of the degree requirements for the M.S., students must have a graduate index of 3.25 or higher and have held only a TA or GI position with an FTE of ½-time or more during both semesters of the preceding academic year. (Students who have held a fellowship appointment or a research assistantship in either semester are not eligible.) Students are nominated for these grants by the faculty in their area. The nominations are then rank ordered by the departmental Graduate Committee and are forwarded to the Graduate School. Awards are announced by the Graduate School toward the end of the Spring semester.

Research assistantships funded by external research grants require the student to conduct research related to the grant award. The award of these assistantships and their length of support are decided by the faculty member whose grant money funds the award.

First- and second-year graduate students who do not have a Master's degree are eligible to apply for **National Science Foundation (NSF) pre-doctoral fellowships**. These competitively awarded fellowships provide 12 months of support for 3 years and require formal application to NSF. (Fellowship support is not provided for clinical research or for animal models of clinical conditions/treatment.) The deadline for applications is in October, with awards announced in April. Application materials may be obtained directly from the NSF Web site at: [NSF Pre-Doctoral Fellowships](#)

All students are eligible for **National Institutes of Health (NIH) predoctoral fellowships** to support a wide range of research at both the Master's and Ph.D. levels. These fellowships provide up to 5 years of support and require submission of a research proposal with supporting letters of recommendation. Proposals are assigned to, and reviewed by, one of the NIH Study Sections at one of their three yearly meetings. Details about the program and application materials may be obtained directly from the NIH Web site at:
<https://researchtraining.nih.gov/programs/fellowships/F31>

The terms and conditions of employment of all graduate staff are governed by University policies and procedures. Those policies and procedures are summarized in the Graduate Student Employment Manual. The manual is available in the Graduate Office (PRCE 385B) and online at:
[Graduate Student Employment Manual](#).

Supplemental Support for Graduate Student Training in Research Methods & Statistics:

The Department of Psychological Sciences will provide small stipends to graduate students interested in enhancing their methodological and/or statistical training beyond the courses offered at Purdue University. More information and instructions are available at:
[Supplemental Support for Graduate Student Training in Research Methods and Statistics](#)

Departmental Travel Grants

Graduate students in good standing in Psychological Sciences who are in their first 5 years of training will be eligible for a departmental allocation per fiscal year (July 1 to June 30) to support their travel to a conference (or conferences) where they will be presenting their research. Both primary authors and supporting authors are eligible for the award. To receive reimbursement of conference expenses, each student needs to provide the business office with:

1. Complete a request to travel in [CONCUR](#), prior to booking travel.
2. Evidence that his or her paper or poster was accepted for presentation at the conference (e.g., confirmation e-mail, copy of the program, etc.).
3. Evidence of conference registration.

Criteria for Assigning Extra .25 TA Appointments to Graduate Students in the Department of Psychological Sciences

From time to time the department has resources available to fund graduate students for an extra .25 Teaching Assistantship (TA) assignment (i.e., in addition to a standard .50 appointment). When such situations arise, we will use the following criteria to help determine which students are awarded those extra assignments. This is not a ranked list, but a set of general criteria used to help guide decisions about extra assignments.

Preference for extra .25 TA assignments will be given to:

- 1) Students in their first 5 years of training and in good standing in the department;
- 2) Students whose advisor or area coordinator has approved the assignment;
- 3) Students with a background (teaching or research) making them particularly well suited for the assignment;
- 4) Students who are making strong progress towards Ph.D. degree completion and have a record of peer-reviewed publications and/or submissions;
- 5) Students who have a history of covering particularly difficult or challenging TA assignments in the past;
- 6) Students with a track record of good departmental citizenship; and
- 7) Student seniority.

Finally, when all other factors are equal (i.e., there are multiple students who identically meet the above criteria), assignments will be made based on random selection.

X. Miscellany

A. Keys. Keys to the Psychological Sciences (PSYC) Building and Peirce Hall (PRCE), the lounge, and specific offices and labs in PSYC and PRCE are kept in the Duplicating Room (see Phyllis Zickmund in PRCE 385D). However, before she can sign out keys to graduate students, the students must get the approval of their Major Professors or Area Coordinators. If the key is to a laboratory room, the professor in charge of that lab must give approval. Under no circumstances should an individual have a university key duplicated. All keys must be returned to Phyllis prior to leaving the university.

B. Business Office. The staff of the department's Business Office are located in PRCE 367, 369 and 371. Kim Haskett, PRCE 369, handles monthly payroll. Please see her to complete the paperwork needed for payroll if you are a teaching assistant, research assistant, or on a fellowship. For assistance with travel please see Sharon Franks in PRCE 371.

To receive reimbursement for conference expenses each student needs to provide the clerk with the following:

1. Request to travel in [CONCUR](#), at least two weeks prior to traveling, but, before booking travel.
2. Evidence that his or her paper or poster was accepted for presentation at the conference (confirmation e-mail or copy of the program).
3. Evidence of conference registration.

Contacts:

Heidi Campbell, Business manager, extension 46947, hcampbell@purdue.edu
Sharon Franks, Account Clerk, extension 46948, sfranks@purdue.edu
Kim Haskett, Account Clerk, extension 49230, khaskett@purdue.edu

C. Duplicating Facilities. One photocopy machine is located on the third floor of PRCE Hall under the supervision of Phyllis Zickmund (open 7:30 AM - 4:45 PM Mon-Fri). Teaching assistants may copy handouts or other material for classes with permission from the professor responsible for the course. The professor in charge of the course can give you the account number to use. Research assistants can copy

material with permission of the professor they are assisting if the research is funded, in which case a grant account number must be used.

D. Computer Support. In addition to the resources provided by the University, there are several computer resources available within the department, to include Internet connectivity for your personal computer, which is available in all departmental offices. There are also some labs throughout the department that are equipped with computers. To find which lab or facility has the resources you need, contact your Major Professor, Area Coordinator, or a member of the Psychological Sciences Electronics Shop staff.

E. Shop Facilities. The departmental Electronic Shop is located on the second floor of Peirce Hall (PRCE 250). Shop staff are trained to assist with electronics, technology, and computing issues and are available from 8:00 a.m. to 11:45 p.m. and 1:00 p.m. to 4:45 p.m. for questions and project requests. The Shop is equipped with electronic test equipment and computers for use by shop staff and department staff as determined by instructional, research, or project needs. A color inkjet printer and a wide-format poster printer are housed here with access from three computers in the shop. Additionally, some electronic and computing equipment is available for use outside the shop by faculty, staff, and graduates. This loan equipment can be reserved and picked up from the shop by stopping by, calling 494-6867, or writing to psych-help@psych.purdue.edu.

F. Office of Graduate Assistance and Conflict Resolution (OGACR). The Graduate School's Office of Graduate Assistance and Conflict Resolution (OGACR) provides a safe and secure university environment for graduate students, faculty, and staff to seek information, garner advice and request assistance for the effective resolution of conflict. The office provides ombuds services, as well as facilitative mediation to help advance the academic success of all involved in graduate education, related research, and scholarly endeavors. More information can be found at: [Office of Graduate Assistance and Conflict Resolution](#).

Appendix A: Responsibilities of Student-Appointed Committees

The faculty who serve on the following committees are selected by the student in conjunction with the Major Professor.

Master's Advisory Committee. The three-member committee designated on the student's Master's plan of study, and the first committee listed with the Graduate School. Advises the student on appropriate course work in preparation for the Master's degree and on the formulation of an appropriate thesis project.

Master's Examining Committee. The three-member committee that evaluates the Master's thesis proposal and/or the thesis itself, and conducts the oral examination of the Master's thesis.

Ph.D. Advisory Committee. The four-member committee designated on the student's Ph.D. plan of study. Advises the student on appropriate course work in the preparation for the Ph.D. degree and on the formulation of the dissertation.

Preliminary Examination Committee. The three-member committee that evaluates the student's performance on his/her preliminary examination.

Ph.D. Examining (Final Examination) Committee. The four-member committee that evaluates the dissertation proposal and the dissertation itself, and conducts the oral examination of the dissertation.

Appendix B: Courses Meeting Departmental Requirements

In addition to meeting the statistics course requirement specified in Section IV, Part A, all students are required to complete three additional graduate courses outside of their major area of concentration, for a total of nine credits. These courses are in addition to any courses required by their major area. At least two of these three courses must be graduate courses offered within the Department listed below. One of these courses may be from outside of the Department (e.g., an Interdisciplinary Neuroscience course, a CDFS course, a Sociology course). These three courses must be approved by a student's Ph.D. Advisory Committee, as indicated by approval of the student's Ph.D. plan of study.

Clinical:

All 50000- and 60000-level clinical psychology courses **except:** PSY 63100, (*Multiple Regression Analysis*), PSY66700 (*Clinical assessment I*), PSY 66800 (*Clinical assessment II*), PSY 67900 (*Practicum in clinical psychology*), PSY 69700 (*Clinical psychology internship*), PSY 67400, Structural Equation Modeling, PSY 60600, (*Intensive Repeated Measures*) and PSY 64600, (*Multilevel Modeling*).

Cognitive:

All 5000- and 6000-level cognitive psychology courses **except:** PSY 57700 (*Human Factors in Engineering*) and PSY 64600, (*Bayesian Statistics*)

Industrial-Organizational:

All 50000- and 60000-level industrial/organizational psychology courses **except:** PSY 68100 (*Seminar on methods in industrial/organizational psychology*), PSY 68100 (*Research methods in industrial/organizational and social psychology*), PSY 61000 (*Multivariate Analysis in Behavioral Sciences*) and PSY 61101 (*Multilevel Theory, Measurement, and Analysis*)

Mathematical and Computational Cognitive Science:

All 50000- and 60000-level MCCA courses **except:** PSY 5000 (PSY 6000 (*Statistical Inference*), PSY 60100 (*Correlation & Experimental Design*) and PSY 62901, (*fMRI Design and Analysis*)

Neuroscience:

All 5000- and 6000-level neuroscience courses

Social:

All 5000- and 6000-level social psychology courses **except:** PSY 60601, (*ANOVA for the Behavioral Sciences*), PSY 50600 (*Professional Issues & Trends in Social Psychology*), PSY 50700 (*Current Readings in Social Psychology*) and PSY 68800 (*Research Methods in Social Psychology*)

Course substitutions will be considered by the Graduate Committee on an individual basis and must be approved by a student's Ph.D. Advisory Committee. Contact the Director of Graduate Studies to begin this process.

Appendix C: Non-thesis Master's Degree

The Department of Psychological Sciences offers a non-thesis Master's degree under the following conditions¹:

1. The student is a terminal Master's candidate (i.e., the student will not continue in the program beyond the M.S. degree).
2. The faculty in the student's area of major concentration agree to the non-thesis option.
3. The student has previously filed a plan of study and has selected a Master's committee.
4. The student has taken 36 hours of graded, graduate-level course work, with no more than 6 of those hours in research courses (PSY 69000 or 69800).
5. The department core courses are included in the 36 hours of course work.

¹ From the Graduate Policy Committee meeting on 6 October 1995.

Appendix D: Non-thesis Master's Degree for Graduate Students in Political Science

In cooperation with the Department of Political Science at Purdue University, the Department of Psychological Sciences offers a non-thesis Master's degree for advanced graduate students in political science who meet the following conditions:

1. Student must obtain the consent of both Departments. Consent from the Department of Psychological Sciences may be obtained from the Director of Graduate Studies, who will indicate approval by being listed as the Advisory Committee Chair on the student's Master's plan of study.
2. Student must have an M.A. in Political Science and must have been admitted to the Ph.D. Program in Political Science.
3. Student must take a total of 10 graduate courses, including 7 from the Department of Psychological Sciences and 3 from the Department of Political Science. The following course options apply:

From the Department of Psychological Sciences

- PSY 59100: Cross Cultural Social Psychology
- PSY 63600: Self and Identity
- PSY 64600: Social Influence
- PSY 64400: Close Relationships
- PSY 64600: Stereotyping and Prejudice
- PSY 64700: Group Processes and Performance
- PSY 66900: Prosocial Behavior
- PSY 62400: Human Learning and Memory
- PSY 68000: Survey of Organizational Psychology

Note that the 7 required courses in Psychological Sciences must include PSY 64000, Survey of Social Psych and PSY 68800, Research Methods in Social Psychology. Other 60000-level graduate courses with relevance to political psychology may be considered on a case-by-case basis, with requests considered by the Graduate Committee.

For those students who have not successfully completed 2 or more graduate-level statistics courses (such as POL 60500) with a grade of "B" or better, the following courses may be included among the 7 courses:

- PSY 63100: Multiple Regression Analysis
- HDFS 61300: Statistical Approach for Dev & Fam Res
- PSY 60601: ANOVA for the Behavioral Sciences
- STAT 51200: Applied Regression Analysis
- STAT 51400: Design of Experiments

From the Department of Political Science

- POL 61001: Research Seminar in American Government
 - (Electoral Behavior and Political Involvement)
- POL 61500: Pro-seminar in Electoral Behavior and Political
 - Socialization (Public Opinion)
- POL 61600: Research Seminar in Political Behavior (Mass Media)
- POL 66000: Research Seminar on Public Law and Judicial
 - Behavior (Judicial Behavior)

Satisfactory completion of the above requirements, with grades of "B" or better in all courses, will earn the student an M.S. in Psychological Sciences upon completion of the Ph.D. examinations in Political Science.

Appendix E: Non-thesis Master's Degree for Graduate Students in Industrial Engineering

In cooperation with the School of Industrial Engineering at Purdue University, the Department of Psychological Sciences offers a non-thesis Master's degree for advanced graduate students in industrial engineering who met the following conditions:

1. Students must obtain the consent of both academic units. Consent from the Department of Psychological Sciences may be obtained from the Director of Graduate Studies, who will approve a faculty member of the department to serve as the Advisory Committee Chair on the student's Master's plan of study.
2. Student must have been admitted to the Ph.D. Program in Industrial Engineering.
3. Student must take a total of 10 graduate courses, including 7 from the Department of Psychological Sciences. The following course options apply:

From the Department of Psychological Sciences

- PSY 57700: Human Factors in Engineering
- PSY 62400: Human Learning and Memory
- PSY 62500: Complex Cognitive Processes
- PSY 62700: Advance Topics in Perception
- PSY 62800: Perceptual Processes
- PSY 63300/63900: Seminar in Cognitive Psychology
- PSY 63700: Human Information Processing
- PSY 64300: Attitudes and Attitude Change
- PSY 64500: Social Cognition
- PSY 64600: Social Influence
- PSY 64700: Group Processes & Performance
- PSY 68000: Survey of Industrial Psychology
- PSY 68000: Survey of Organizational Psychology
- PSY 69200: Introduction to Cognitive Neuroscience

Other 50000/60000-level graduate courses with relevance to industrial engineering may be considered on a case-by-case basis, with request considered by the Graduate Committee.

For those students who have not successfully completed 2 or more graduate-level statistic courses with a grade of “B” or better, the following courses may be included among the 7 courses:

Students must take one course from among the following:

PSY 63100 (Multiple Regression Analysis)
STAT 51100 (Statistical Methods)
STAT 51200 (Applied Regression Analysis)

and one different course from among the following:

PSY 60601 (ANOVA for the Behavioral Sciences)
HDFS 61300 (Statistical Approach for Dev and Fam Researchers)
STAT 51200 (Applied Regression Analysis)
STAT 51400 (Design of Experiment)

or students may take:

PSY 60000 (Statistical Inference) and PSY 60100 (Experimental Design), but are encouraged to take PSY 60000 and PSY 60100 as a 2-course sequence in order to cover the requisite material.

Satisfactory completion of the above requirements, with grades of “B” or better in all courses, will earn the student an M.S. in Psychological Science upon completion of the Ph.D. examinations in Industrial Engineering.

Appendix F: Graduate Certificate in Psychological Statistics

Graduate Certificate in Psychological Statistics

The Department of Psychological Sciences offers a “Graduate Certificate in Psychological Statistics.” This is a graduate-level certification program that is available to students currently admitted to a graduate degree program at Purdue. Students earning the certificate will demonstrate a broad theoretical understanding of advanced quantitative methods. They will also learn the technical skills (e.g., software; computer programming) necessary to integrate these advanced methods into their substantive research programs.

CERTIFICATE LEVEL

The certificate is offered at the graduate level only, not the post-baccalaureate level.

ADMISSIONS CRITERIA

- Bachelor’s degree from an accredited institution.
- Minimum undergraduate GPA of 3.0/4.0 with the possibility of conditional admission for applicants who do not meet this requirement.
- Minimum TOEFL score of 550 or higher on the paper-based test, or 77 or higher on the Internet-based test (iBT) for applicants whose native language is not English. Applicants who take the TOEFL iBT must achieve the following minimum test scores, in addition to the overall score of at least 77: reading, 19; listening, 14; speaking, 18; and writing, 18. Applicants taking the IELTS must score at least 6.5 on the Academic Module. Applicants taking the PTE must score at least 58.
- Students must already have completed a two-course introductory statistics sequence that is required of all graduate students in Psychological Sciences (as outlined immediately below), with a grade of B or better, prior to being eligible to enroll in any of the courses comprising the certificate.

Specifically, students must take one course from among the following. The dates in parentheses indicate when these courses will be offered in the next few years:

PSY 60601, (ANOVA for the Behavioral Sciences) {Fall 2019, Fall 2020, Fall 2021}
HDFS 61300, (Statistical Approach for Dev and Fam Researchers)
STAT 51100 (Statistical Methods) {Fall 2019; Spring 2020; Fall 2020}

STAT 51400, (Design of Experiment) Spring 2019, Fall 2019, Spring 2020, Fall 2020}

AND one different course from among the following:

PSY 63100 (Multiple Regression Analysis) {Spring 2019; Spring 2020; Spring 2021}

STAT 51200 (Applied Regression Analyses) {Fall 2019; Spring 2020; Fall 2020}

HDFS 59000 (Regression)

OR students may take:

PSY 60000 (Statistical Inference) {Fall 2019, Fall 2020, Fall 2021}

and

PSY 60100 (Experimental Design) {Spring 2019, Spring 2020, Spring 2021}

Grades of B or better must be earned in the prerequisite courses. Students must be admitted to a graduate degree-seeking program at Purdue University.

- Students in Psychological Sciences will be eligible to earn the certificate.
- Students outside of Psychological Sciences will be eligible to earn the certificate.

ADMISSION PROCESS

The admission process will parallel that for degree-seeking students at the graduate level.

All applicants to the Psychological Statistics Graduate Certificate Program must complete and submit the on-line application through our Graduate School at: [Graduate School Online Application](#)

Applicants will be required to pay a \$60 application fee at the time of application. In addition, applicants must provide a current Purdue transcript OR indicate “YES” on the application where it says “I consent and authorize Purdue University faculty and/or staff to access my Purdue University academic record for university business.” Students from outside of Psychological Sciences must also provide a

completed [G.S. Form 18](#), Dual Graduate Program Request signed by the applicant and the Head of the applicant's home department.

All application materials must be received by: **August 1** (for Fall admission) and **December 1** (for Spring admission). Students may apply at any time prior to, during, or after completion of the course requirements, but no later than **August 1** to qualify for a December certificate or **December 1** to qualify for a May certificate.

COMPLETION REQUIREMENTS

- The certificate shall require a minimum of 9 credit hours taken for a letter grade.
- No more than 9 credit hours earned in non-degree status, including credit hours earned toward completion of a single certificate or more than one certificate, may be applied toward a graduate degree.
- Courses that have been certified as undergraduate excess may be used to satisfy requirements for a certificate.

COURSES

Students must select three courses from the following list of courses with at least two of those courses coming from the Department of Psychological Sciences. The dates in parentheses indicate when these courses will be offered in the next few years:

PSY 60500 – Applied Multivariate Analysis {Spring 2020; Spring 2022}

A survey of the most frequently employed multivariate research techniques, such as multivariate generalizations of univariate tests and analysis of variance, principal components, canonical analysis, and discriminant analysis. A central theme of the course is the general linear model, both univariate and multivariate. A multipurpose program for this model provides the student with practical experience in conducting multivariate research. Some prior exposure to elementary matrix algebra is recommended.

PSY 60600 – Intensive Repeating Measures {Fall 2019; Fall 2021}

The primary purpose of this course is to learn how to model data from intensive repeated measures designs, also known as intensive longitudinal data, collected from individuals, dyads, and groups. We will primarily use a multi-level modelling framework for these analyses, so prior experience with MLM or HLM is helpful,

though not explicitly required. Intensive longitudinal data analysis can be applied to a wide range of data. These analyses are well-suited to modelling processes collected via methods such as daily diary studies, ecological momentary assessment, psychophysiological approaches, and behavioral assessments that capture multiple data points per observation. These approaches are most effective when applied to samples with a minimum of 10-20 data points per individual, and up to thousands of data points per individual.

PSY 60700 – Scaling & Measurement {Spring 2019; Spring 2021}

An introduction to the theory of measurement and a survey of modern scaling methods (unidimensional and multidimensional, metric and nonmetric) within the framework of the modern theory of measurement. Some prior exposure to elementary matrix and set algebra is recommended.

PSY 60800 – Measurement Theory & The Interpretation of Data

The theory of measurement and the development of reliability and the Spearman Brown equations, true scores and variables, and correction for attenuation. Variance or covariance of combinations of variables. Item analysis and test construction strategies. Reliability and validity of measurements and the influence of measurement error and measurement threats to research design.

PSY 60901 – Multilevel Modeling {Spring 2019; Fall 2019, Fall 2021, Fall 2023}

This course gives students a basic grounding in the class of statistical techniques known as multilevel modeling (MLM), also known as hierarchical linear modeling (HLM), mixed models, or random coefficient models. Primary discussions will be on applications of these models to the study of marriages, relationships, families, aging, and child and adult development, but also will touch on biomedical, educational, and economic examples. The focus is on three types of multilevel models: growth-curve models, organizational models, and daily experience models. Students will also learn how to use SAS Proc Mixed for conducting MLM analyses. Students are assumed to have taken at least two graduate statistics courses and have a solid understanding of regression analysis.

PSY 61000 – Multivariate Analysis in Behavioral Sciences {Fall 2019, Fall 2020}

This course examines the application of multivariate methods to the analysis of organizational data. Topics to be covered include: matrix algebra, the general linear model, multivariate analysis of variance, canonical correlation, discriminant function analysis, and factor/component analysis. Time will also be spent on issues in data screening. Be aware, this is an advanced doctoral-level statistics course. As such, emphasis is placed on the theory, mathematics, assumptions, application, and interpretation of multivariate statistics, specifically within the context of organizational research.

PSY 62601 – Bayesian Statistics {Fall 2020, Fall 2022, Fall 2024}

The course will explain why you might want to use Bayesian methods instead of frequentist methods (such as t-tests, ANOVA, or regression). The general plan is to explain some problems/difficulties with frequentist methods: Publication bias, optional stopping, questionable research practices; discuss differences between hypothesis testing and prediction: mean squared error, shrinkage; discuss methods for prediction: likelihood, AIC, BIC, cross-validation, lasso; explain the basic ideas of Bayesian methods: non-informative priors, informative priors; provide hands-on examples of applying Bayesian methods: Bayes Factors, hierarchical models; and discuss ways to make decisions: utility.

PSY 67400 – Structural Equation Modeling {Fall 2019; Fall 2021}

This is an advanced course in structural equation modeling (SEM), intended to provide doctoral students with an introductory treatment of a wide variety of models, including path models, exploratory and confirmatory factor models, structural regression models, and latent growth models. We will focus on path, factor, and structural regression models, as these will be most widely applicable to the students in the class. SEM has been used in a wide variety of disciplines, including economics, marketing, medicine, biology, etc. In this class, we will focus on using SEM within the social and behavioral sciences, and many of the examples presented in class will specifically come from psychological science. The instructor will introduce the students to three types of SEM software, Mplus, SPSS/AMOS, and SAS, but a majority of examples will be given in Mplus. Students are assumed to have taken at least two graduate statistics courses and have a solid understanding of linear modeling.

HDFS 62700 – Multilevel Modeling in Developmental and Family Research

This course gives students a basic grounding in the class of statistical techniques known as multilevel modeling (MLM), also known as hierarchical linear modeling (HLM), mixed models, or random coefficient models. Primary discussions will be on applications of these models to the study of marriages, relationships, families, aging, and child and adult development, but also will touch on biomedical, educational, and economic examples. The focus is on three types of multilevel models: growth-curve models, organizational models, and daily experience models. Students will also learn how to use SAS Proc Mixed for conducting MLM analyses. Students are assumed to have taken at least two graduate statistics courses and have a solid understanding of regression analysis.

HDFS 62800 – Structural Equation Modeling

This course is an introduction to classic structural equation models with latent variables (SEM). It provides an overview of the method including the origins of the method and two major model components: simultaneous equations and confirmatory factor analysis. We will learn model notation and review the matrix algebra and covariance structures that are used to define SEMs. The primary steps of implementing SEMs will be covered to include: model specification, model identification, parameter estimation, and model evaluation (model fit). Additional topics include moderation analysis using multiple groups, estimation for non-normal and categorical outcomes, and estimation with missing data.

CRITERIA FOR COMPLETING CERTIFICATE

- Students must earn a minimum grade of B in each of the three (3) classes they select from the above list.
- A maximum of 3 credits may be transferred from another institution. (Transfer credit must be approved by the Director of Graduate Studies (DGS) in the Department of Psychological Sciences, the instructor of the equivalent Purdue course and the student's program area coordinator. Students requesting transfer course equivalency must provide a syllabus for the course to be transferred as well as a transcript indicating that a grade of "B" or better was achieved. These documents should be provided to the Graduate Office in the Department of Psychological Sciences.)
- No credits may be used from undergraduate-level courses.

- The certificate must be completed within 7 years of a student being admitted to the graduate school.
- Courses used to satisfy the requirements for this certificate may not be used towards the completion of another certificate.
- A total of 9 credits may be taken prior to admission to the certificate program and counted toward completion of the certificate.

COMPLETION REPORTING

Students enrolled in the Certificate Program are responsible for notifying the Graduate Office in the Department of Psychological Sciences once they have successfully completed the course requirements for award of the certificate. **This notification must be received at least 60 days prior to the expected award date.** Once notification is received, the Graduate Office will conduct an audit to certify completion and notify the Graduate School.

TRANSCRIPTING

The certificate will be posted separately once the requirements have been completed. The graduate certificate will be recorded in the following manner:

- Awarded: Graduate Certificate
- Program: Psychological Sciences – Grad Cert
- College: Graduate School
- Campus: West Lafayette
- Major: Psychological Sciences
- Major Concentration: Psychological Statistics

-- Credits earned toward the certificate will be included in the computation of the overall GPA posted on the transcript.

-- The certificate will be printed by the Office of the Registrar and will share the common format and style of all certificates under the purview of the Graduate School.

-- The certificate will be awarded jointly by the Department of Psychological Sciences and the Graduate School. It will bear the signature of the head of Psychological Sciences and the dean of the Graduate School.

-- The certificate will be awarded at the normal times when degrees are awarded.

Appendix G. Departmental Plagiarism Policy

The faculty members of the Department of Psychological Sciences at Purdue consider academic integrity to be the cornerstone of our collective efforts to further psychological science. Accordingly, we view any lapse in academic integrity to be a very serious transgression. One particularly egregious breach of academic integrity is plagiarism. Below we provide a definition of plagiarism. We require that our graduate students familiarize themselves with this definition and work to ensure that they not plagiarize others' work.

As discussed in the *Ethical Principles of Psychologists and Code of Conduct* (EPPCC) published by the American Psychological Association (2010), **plagiarism** is defined as an individual presenting portions of another's work as the individual's own work. Section 8.11 of the EPPCC indicates that evidence of intent to deceive is not needed in order to identify plagiarism: "Psychologists do not present portions of another's work or data as their own, even if the other work or data source is cited occasionally" (p. 15).

Whether the writer deliberately copied material from another source and attempted to present it as his or her own, or if the writer simply failed to properly attribute the source of another writer's original work, the outcome is still plagiarism. Any work that involves material originally constructed by another writer that is not properly cited and/or is presented as one's own work will be considered to be an act of plagiarism.

As discussed in the *Publication Manual of the American Psychological Association* (6th Ed., 2010), "[q]uotation marks should be used to indicate the exact words of another" (p. 349). In addition, "[e]ach time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you will need to credit the source in the text" (p. 349). Even if the writer makes minor changes in a source's wording of phrases or sentences (e.g., moving a clause from one part of a sentence to another, changing prepositions or pronouns, etc.), it is still considered plagiarism if you do not properly credit the originating author.

As the faculty views plagiarism as the academic equivalent of theft, it will be treated as an extremely serious violation of departmental, college, and university regulations as well as a breach of the APA EPPCC standards. Any allegation of plagiarism will be adjudicated by a student's area faculty. If a majority of a student's area faculty agree that plagiarism has occurred, the student will be terminated from the Graduate Program of the Department of Psychological Sciences. The student may appeal the

area faculty's finding to the Graduate Committee, who will make a non-binding recommendation to the Department Head regarding dismissal. The decision of the Department Head will be final.

All students in the Graduate Program of the Department of Psychological Sciences will be required to sign a statement indicating their knowledge of the definition of plagiarism offered above as well as their understanding that any act of plagiarism will result in dismissal from graduate studies in the Department of Psychological Sciences.

Appendix H: Integrity in Scholarship and Research

Integrity in scholarship and research is an essential part of Purdue University's intellectual and social structure and adherence to its spirit and principles must be maintained. These principles include commitment to truth, objectivity, fairness, honesty, and free inquiry.

Although serious violations of honesty in scholarship and research may be rare, those that do occur strike at the very heart of the enterprise. Advances in scientific knowledge depend on trustworthy data and honestly reported conclusions. Advances in humanistic studies depend upon gathering and interpreting legitimate information in a manner which other scholars; operating in good faith, can judge and replicate. Artists present portfolios and performances, which reflect a unique artistic statement and point of view. Anything less will seriously undermine the total enterprise and erode public confidence in those responsible for its conduct. Moreover, in any academic institution dedicated to education, scholars and researchers have a special obligation to exemplify the very best qualities and the highest standards of personal and professional conduct.

The integrity of the process of research and scholarship must depend largely on self-regulation; it is the responsibility of all who engage in the search for knowledge. Advances are gleaned from vigorous application of scientific and scholarly methods and in compliance with ethical codes rooted in intellectual honesty.

Dishonesty is an unfortunate response to environmental temptations, and detection in advance of those who are most susceptible is difficult, if not impossible. Therefore, major attention should be directed toward establishing the best research and scholarly environment. To accomplish this goal, each scholar, researcher, and academic unit has an obligation to participate in and focus attention on:

1. encouraging intellectual honesty;
2. discouraging "success at any cost";
3. acceptance by research directors and other mentors of responsibility for integrity;
4. maintaining professional interpersonal relationships;
5. establishing and maintaining well-defined research protocols;
6. appropriate assigning credit and responsibility.

The arrangements for investigating allegations of dishonesty will be on an ad hoc basis depending on the apparent circumstances. However, the following principles should guide the investigation.

1. All members of the academic community have a responsibility to report what they believe to be a lack of integrity in scholarship and research. Persons receiving and acting on such reports have a duty to hold them in confidence. Persons giving information in good faith about questionable conducts should be protected against reprisals.
2. Since personal relations may make objectivity difficult or impossible, investigations of deviation from integrity should not be handled by associates of the person whose work is under investigation. Anyone appointed to investigate allegations of fraud must be objective and must possess the special competencies necessary to understand the scholarship or research in question.
3. The mere suspicion or allegation of wrongdoing, even if totally unjustified, is potentially damaging to a person's career. Confidential handling of information about an investigation must be the responsibility of all involved. If the investigation concludes that no wrongdoing occurred, all suspicion and allegations should be obliterated from memory.
4. Academic colleagues should expect data and interpretations to be challenged routinely in a scholarly context. However, a colleague under investigation for dishonesty may be reluctant to cooperate in providing access to data and procedures, and such reluctance will not in itself be considered evidence of guilt. The individual under investigation should have opportunity to communicate with the investigator or investigating committee in the course of the inquiry and prior to the formulation of conclusions. The individual under investigation should be advised of any decision to disseminate information about the investigation or to seek information about the research or scholarship from others.
5. The Executive Vice President for Research and Partnership must be informed of any investigation. The university has an obligation to notify external granting organizations, which may be associated with the scholarship or research when there is substantial reason to believe that fraud has occurred, even if the investigation has not been completed. The Executive Vice President for Research and Partnership will make this determination with appropriate consultation.

Appendix I: Creating and Maintaining a Positive Learning Climate

It is imperative that all students strive to develop social and interpersonal conditions that promote learning. Learning climate is undermined by unprofessional behavior or behavior that demeans others, such as sexual harassment. Purdue policy states that “It is the policy of Purdue University to maintain the campus as a place of work and study for faculty, staff, and students free from all forms of harassment. In providing an educational and work climate that is positive and harassment-free, faculty, staff, and students should be aware that harassment in the workplace or the educational environment is unacceptable conduct and will not be tolerated.” (Purdue Executive Memorandum No. C-33, September 16, 1994) you have a right not to be solicited, commented upon, or intimidated on the basis of your gender by peers, staff, or faculty.

You do not have to suffer in silence when confronted by problems posed by students or instructors. This can include dangers and complications that can result from relationships that start out as consensual, but can end up in fear, demands, and recriminations. As a general rule, avoid romantic relationships with anyone with status “above” or “below” you. Purdue University policy prohibits amorous relationships between a student and any Purdue employee who has educational responsibility over the student. (For specific details, see Purdue Policies, Ethics, Amorous Relationships 111.A.1).

Purdue University is committed to maintaining a community that recognizes and values the inherent worth and dignity of every person. Purdue’s nondiscrimination policy prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran.

Appendix J: Changing Graduate Training Areas

It is recognized that a student's interests may change, particularly during the first year of graduate work, and that this change might sometimes be accommodated by a change in graduate training area. However, a change in training area cannot be automatically approved because it involves questions about availability of faculty supervision, sources of financial support, courses, and career intentions of the student. In order for a change of training area to be considered, a number of conditions must be satisfied, including the following:

1. A request for a change in training area may only be made during the department's graduate admission season (i.e., between October 15th of one year and April 15th of the next).
2. A request for a change in area should be initiated via discussion between the student and the student's current Major Professor. If the student believes there are extenuating circumstances preventing such a discussion, the student should meet with the Department Head to discuss those circumstances prior to any further action by the student.
3. Given that a currently enrolled graduate student's request to change areas affects departmental resources, such a request ultimately will involve a discussion with the current Major Professor, the Department Head, the Director of Graduate Studies, the Area Coordinator of the new area in which the student seeks to affiliate, and the proposed new Major Professor.
4. Final approval of a change of area, including the timing of the change, must be obtained from the Department Head.

Appendix K: Paperwork Timeline

Throughout your enrollment there will be various Graduate School forms that need to be completed at particular times. Below is the sequence and timeline in which these forms are to be completed.

1) Master's Plan of Study:

The Master's plan of study is submitted electronically via myPurdue, and should be completed as soon as possible. It must reach the Graduate School **no later than the last business day prior to the semester in which your degree is to be awarded**. For example, if you plan to receive your degree in August, and the first day of the summer session is Monday, June 10, the Graduate School must receive your plan of study by Friday, June 7. Also keep in mind that each member of your advisory committee and the Director of Graduate Studies must electronically approve it before it flows on to the Graduate School, so please allow enough time for this process and consider faculty member availability. (*see Section VII; paragraph A, 1 for further instruction*).

2) Master's Final Examination:

Once you have selected a date to hold your Master's final examination/thesis defense, you must submit the following information to Nancy O'Brien: Examination date and time, names of your committee members, and your thesis title. This must be done **at least two weeks prior to the date of your exam**. (*see Section VII; paragraph B, 1 for further instruction*).

3) Ph.D. Plan of Study:

The Ph.D. plan of study is also submitted electronically via myPurdue, and should be completed as soon as possible following the Master's degree, and **must be submitted prior to submitting your request for appointment of examining committee for your preliminary exam**. (*see Section VII, Paragraph B for further instructions*).

4) Preliminary Examination:

The preliminary examination should be scheduled as soon as possible after completion of the Master's degree and must be completed **at least two semesters before the expected date of final doctoral examination**. (For example: a student

who successfully completes the preliminary examination in Fall 2014, would first be eligible to schedule their Ph.D. Final Examination, in Fall 2015.) Once you have selected a date for your preliminary examination, you must submit the following information to Nancy O'Brien: Examination date and time and the names of your examining committee members. **This must be done at least two weeks prior to the date of your exam.** (*see Section VII, paragraph C. for further instructions*).

5) Ph.D. Final Examination:

Once you have selected a date for your Ph.D. final examination/dissertation defense, you must submit the following information to Nancy O'Brien: Examination date and time, the names of your committee members and your dissertation title. This must be done **at least two weeks prior to the date of your exam.** (*see section VII, paragraph D. For further instructions.*)

6) Graduation Deadlines:

Each semester the Graduate School publishes graduation deadlines on their web page for:

- a. Declaring Candidacy
- b. Passing the Final Examination
- c. Submitting Report of Final Examination
- d. Depositing Thesis/Dissertation
- e. Delivering the Thesis Receipt

You may access this web page at [Graduate School Calendar](#)

Appendix L: Graduate Faculty Identifiers

(Use for plan of study and final/preliminary examinations)

<u>FACULTY NAME</u>	<u>CERT CODE</u>
Agnew, Christopher	C4482
Arriaga, Ximena	C5154
Berndt, Thomas	C2658
Brewster, Amy	C8968
Chester, Julia	C6075
Dzhafarov, Ehtibar	C5040
Eckhardt, Christopher	C6151
Foti, Dan	C8969
Fox, Edward	C5155
Francis, Gregory	C4173
Graziano, William	C5738
Helic, Sebastien	C8595
Hennes, Erin	C9572
Hollich, George	C5812
Jagacinski, Carolyn	C3162
Kail, Robert	C2032
Karpicke, Jeffrey	C7180
Kelly, Janice	C3060
Kinzig, Kimberly	C6680
Lane, Sean	C9873
Lynam, Donald	C6863
Monteith, Margo	C6840
Powley, Terry	C2033
Proctor, Robert	C3163
Redick, Thomas	C8887
Rollock, David	C3164
Rupp, Deborah	C6922
Samuel, Douglas	C8300
Sangha, Susan	C9034
Schneider, Darryl	C8888
Schweickert, Richard	C2034
Sereno, Anne	C10486
South, Susan	C7403
Swithers, Susan	C3368
Tay, Louis	C8795
Thomas, Katherine	C9556
Tonnsen, Bridgette	C9573
Tyler, James	C7055
Urcuioli, Peter	C2295
Williams, Kipling	C3239
Woo, Sang	C7702
Younger, Barbara	C3062

Appendix M. Plan of Study Guide

Each graduate student admitted to a degree program must file a plan of study (POS). A formal plan of study should be created as early as feasible in the student's career because it guides a student's academic degree progress. A plan of study is an academic contract between a student, the faculty members of the advisory committee, and the Graduate School. All departmental and Graduate School policies related to the filing of a plan of study must be adhered to explicitly.

Students filing their plan of study should complete their plan electronically. Access to the electronic Plan of Study Generator (POSG) is via MyPurdue.

When you have completed your plan of study and feel it is ready for review by your advisory committee, submit your plan as a Draft. While your plan is in Draft status, review the information with your advisory committee and your departmental coordinator to ensure that it satisfies department and Graduate School policies. Use your draft as a basis to discuss your academic and research goals with your advisory committee members. Once your entire committee has verbally accepted your plan of study, return to the POSG and submit your plan as "Final." The plan of study form will be electronically routed, reviewed and, if approved, signed by the department coordinator, your advisory committee and the graduate school. You may check the status of your plan at any time by returning to the POSG and click on the Display Submitted Plan of study link.

Once the Graduate School has approved your plan of study, you should check it following every semester to monitor your academic degree progress.

Please note that if you entered the doctoral program with only a Baccalaureate degree, you will need to complete both a Master's plan of study and a Ph.D. Plan of study. **Of the 90 required credits needed for award of the Ph.D., only 30 can be carried over from the Master's degree to toward meeting the Ph.D. requirements.** In other words, you **must complete at least 60 credits (PostMaster's)**. Also, please keep in mind that pass/fail courses, such as clinical practicum, do not count toward meeting the credit hour requirements.

The following rules pertain to the completion of **both** the Master's and Ph.D. plans of study:

- 1) Only 50000-level or above courses should be included.
- 2) Only courses for which a grade was (or will be) received should be included (i.e., no pass/fail or satisfactory/unsatisfactory courses).
- 3) Must have 2 statistics courses from departmental requirement list.
- 4) Must have 3 additional courses (beyond courses required by your area of major concentration) from Appendix B.
- 5) Must list all specific area requirements listed in your areas section of the handbook.

*NOTE: For the Master's plan of study, the department requires only items 1-3, however, be sure to check your area requirements. All five items apply for the Ph.D. Plan of study.