

Approved by the Faculty Senate, April 11, 2018

**Graduate Major Concentrations and CIP Codes for
Doctoral Programs in the Department of Psychology at Rice University**

Four Major Concentrations for the doctoral program within the Department of Psychology are specified in the Graduate Announcements (GA) already as Research Interest Groups.

From the GA (<https://graduate.rice.edu/psychology>):

Degrees Offered:

Ph.D.

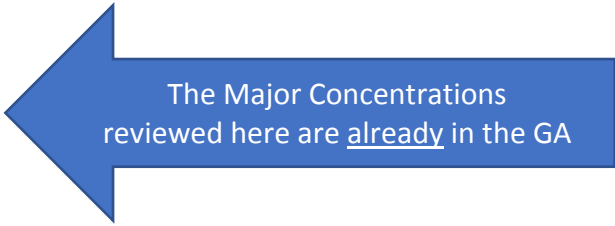
All prospective applicants should note that the Department of Psychology is offering a Ph.D. Program only and does not consider applicants pursuing a terminal Master's degree. While the department does not offer a Master's Degree track, students typically earn one as they progress toward the Ph.D.

NOTE: Our department does not offer programs in clinical, counseling, educational or school psychology.

Research Interest Groups

- » Cognitive & Affective Neuroscience
- » Human Factors/ Human-Computer Interaction
- » Industrial/Organizational Psychology
- » Psychometrics & Quantitative Psychology

Students engage in interdisciplinary coursework and participate in research opportunities through collaborative links with nearby world-renowned medical institutions in the Texas Medical Center (TMC) and NASA.



The Major Concentrations reviewed here are already in the GA

(continued)

These four Research Interest Groups are enumerated as Major Concentrations in the material that follows.

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This document outlines each Major Concentration: i.e., its associated CIP code, learning objectives, and graduate education that supports these learning objectives. All of this is also summarized in the accompanying spreadsheet.

Establishing major concentrations with their associated CIP codes is important to the department for two major reasons. First, the Major Concentration will show up on the graduate student's transcript upon receipt of the PhD, providing official support for the graduate student's expertise in a specific subfield of Psychology. Conversely, we only offer a Ph.D. in Psychology currently, which is quite general and does not indicate expertise. Second, some of these Major Concentrations have CIP codes that are STEM subfields, which has potential and actual implications for the student (e.g., extending international students' work visa stays; expanding students' employment possibilities).

We appreciate your review, consideration, and approval of the Major Concentrations and attendant CIP codes. Note that the descriptions of each concentration were provided by the most relevant psychology faculty. Thus, descriptions are not written completely in parallel; however, we strived for overall consistency.

Cognitive and Affective Neuroscience

Major Concentration:
CIP 26.1501 (STEM) – Neuroscience

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines

Per Graduate Major Concentration Guidelines Document section 4 (a)

What is the target audience for the Major Concentration?

The target audience is Psychology Ph.D. students working within the Cognitive and Affective Neuroscience area within the department.

What is the need or demand for the Major Concentration?

Cognitive and affective neuroscience is a subfield of psychology that investigates the relationship between the human brain and higher forms of behavior, including sensation, perception, attention, memory, language, social cognition, emotion, emotion regulation, and health. Ph.D. students within the Cognitive and Affective Neuroscience area are currently required to complete coursework in this field; survey courses of foundational research in Neuroscience, Neuroanatomy and Psychology; in-depth neuroscience courses in the areas of Perception & Attention, Language & Memory and/or Affective/Health; in-depth cognitive psychology courses in perception, memory, language, and/or decision making. Offering a Major Concentration and CIP in Neuroscience will be valuable to students in the Psychology Ph.D. program who decide to seek STEM careers in cognitive- and neuroscience-related fields (e.g. Neuroscience, Communication Sciences and Disorders, Cognitive Science). It will also make this concentration within our department more attractive to prospective Ph.D. students and help recruiting best talent.

How does the Major Concentration requirements and curriculum differ from the other graduate degrees offered by the academic unit?

The Major Concentration requirements parallel the requirements for the Cognitive and Affective Neuroscience RIG. The requirements are substantively different than those of other RIGs in the department.

Is there any potential for the Major Concentration to attract students to the detriment of existing graduate degrees?

No. The Major Concentration will provide official recognition of the type of coursework already being undertaken by students in the Cognitive and Affective Neuroscience RIG.

How will it complement their graduate degree?

The Major Concentration provides official recognition of existing specializations within the graduate program in the Department of Psychology.

How is the Major Concentration distinct or related to previously approved major concentrations?

Not applicable.

Is a student required to complete a Major Concentration to complete the graduate degree program or is the completion of a Major Concentration optional?

Yes, Psychology Ph.D. students must complete a Major Concentration.

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines Per Graduate Major Concentration Guidelines Document section 4 (b)

Provide a description of the requirements for the Major Concentration. Please list any required courses, electives, other requirements to complete the Major Concentration.

Degree Requirements

The end of this section contains the degree requirements and electives for the Ph.D. in Psychology, with the major concentration: Cognitive and Affective Neuroscience.

Additional requirements include:

1. No grade lower than a B- in any of the required courses.
2. Successfully complete and present the first-year project in May of the first year.
3. Successfully complete and present the second-year project in May of the second year.
4. Successful defense of a Master's thesis, if students entering Rice without a master's degree in psychology or in a related field.
5. Write and defend a dissertation. The dissertation committee must be overseen by a psychology faculty member affiliated with the Cognitive and Affective Neuroscience RIG.

Please provide assurance that the courses proposed for the satisfaction of the Major Concentration are offered regularly enough to allow for timely completion of the Major Concentration requirements.

The courses proposed for the satisfaction of the Major Concentration are already core courses for the Ph.D. programs in Psychology. Core courses are offered on a regular basis to allow for timely completion of the Major Concentration requirements.

Per Graduate Major Concentration Guidelines Document section 4 (c)

Multiple concentrations. Will students in the graduate program be permitted to declare and pursue more than one Major Concentration?

Yes.

If so, please provide a justification. Please describe how the additional Major Concentration is identified and earned. How will it provide benefit to a student?

All Major Concentrations are coordinated courses that provide essential skills to our graduate students, in terms of intellectual development and employment.

Is there a potential for it to be detrimental to a student?

No.

Could the set of requirements for one Major Concentration automatically fulfill the requirement for other Major Concentrations within the graduate program?

No.

Ph.D. Program: Update and Change to Program

**Justification (& Answers to Questions Outlined) per Major Concentration Guidelines
Per Graduate Major Concentration Guidelines Document section 4 (d)**

Provide a list of participating faculty. Identify faculty who will have primary roles in administering the Major Concentration and advising student participants.

Participating Faculty include: Jim Dannemiller, Bryan Denny, Chris Fagundes, Simon Fischer-Baum, Randi Martin & Jim Pomerantz.

Primary responsibility for administering the Major Concentration and advising student participants will rest on the Director of the Cognitive and Affective Neuroscience RIG, currently Randi Martin.

Per Graduate Major Concentration Guidelines Document section 4 (e)

Procedures and qualifications for approval to pursue the Major Concentration (i.e. document the departmental/program procedures that will be put in place to certify eligibility and completion of the Major Concentration requirements, etc.)

Ph.D. students admitted to the Doctoral Program in Psychology in the School of Social Science, whose graduate advisor is affiliated with the Cognitive and Affective Neuroscience area will be eligible for this major concentration. The offices of the Director of Graduate Studies in the Psychology Department and the Director of the Cognitive and Affective Neuroscience area will be responsible for certifying eligibility and for monitoring progress in the program and completion of the Major Concentration requirements.

Per Graduate Major Concentration Guidelines Document section 4 (f)

List the procedures and qualifications to comply with SACSCOC accreditation requirements, as well as best practices in curriculum design, the proposal must include:

(1) Description of the Major Concentration's student program learning outcomes that are clear standards for observable, measurable student-centered outcomes in terms of knowledge, skills, and behaviors;

Program Learning Outcomes (PLOs) Students completing the Major Concentration will:

1. Learn theoretical and methodological tools necessary to carry out independent research in cognitive neuroscience.
2. Write an independent and original dissertation that is of sufficient quality to merit publication in a top cognitive psychology or cognitive neuroscience journal.
3. Conduct a focused review of the literature and develop a research design to carry out independent research.
4. Learn to defend their research design and data analysis choices by presenting their paper in a seminar environment.

5. Communicate their research effectively by writing clearly, concisely and cogently.
6. Read critically and assess research manuscripts related to their field of study and in other fields.

(2) a curriculum map that relates the components of the proposed Major Concentration curriculum to the specified student learning outcomes;

The required courses include Advanced Psychological Statistics I & II, Introduction to Cognitive Neuroscience, and Foundations of Cognitive Psychology and will teach the students the theoretical and methodological tools necessary to carry out independent research in cognitive neuroscience. These courses will prepare them to write an independent and original dissertation that is of sufficient quality to merit publication in a top cognitive psychology or cognitive and/or affective neuroscience journal. Students will be required to take PSYC 529 – Weekly Cognitive Research Seminar or PSYC 532 – Weekly Health Research Seminar (corresponding to their choice of the *Cognitive Track* or *Affective/Health Track*; see below) every semester and present their research once per year, fulfilling the outcome in which they learn to defend their research design and data analysis choices by presenting their paper in a seminar environment. The Master's and Dissertation requirements will fulfill the SLO of communicating research effectively by writing clearly, concisely and cogently. Finally, the Core Courses and the Advanced Cognitive Neuroscience Courses will provide the opportunity to read critically and assess research manuscripts related to their field of study and in other fields.

(3) an assessment plan for measuring the success and effectiveness of the Major Concentration curriculum and students' achieving the learning outcomes after implementation.

Performance on exams in Advanced Psychological Statistics I & II, Introduction to Cognitive Neuroscience, and Foundations of Cognitive Psychology will assess whether the students were able to learn the theoretical and methodological tools necessary to carry out independent research in cognitive neuroscience.

The written report for the first and second year projects will demonstrate:

- Conduct a focused review of the literature and develop a research design to carry out independent research.
- Communicate their research effectively by writing clearly, concisely and cogently.

Students will be required to take PSYC 529 – Weekly Cognitive Research Seminar or PSYC 532 – Weekly Health Research Seminar every semester and present their research once per year, and performance in these presentations will be used to assess:

- Learn to defend their research design and modeling choices by presenting their paper in a seminar environment.

Performance in leading class discussions around specific papers and/or writing response papers in the Core Courses and the Advanced Cognitive Neuroscience Courses will be used to assess:

- Read critically and assess research manuscripts related to their field of study and in other fields.

Per Graduate Major Concentration Guidelines Document section 4 (g)

Supporting letters from chair(s) of participating departments/programs and the appropriate dean(s) verifying that:

a. The proposed Major Concentration has been reviewed and received faculty approval through appropriate governance procedures;

The Major Concentration reflects what is already being offered in the Department of Psychology.

b. Resources to support the Major Concentration, as presented in the proposal, are available without impacting other courses and programs for at least five years.

See answers to related questions. This proposal has been approved by the department chair and department director of graduate studies, and it is awaiting review and approval by all other involved parties (Graduate Council, OIE, etc.).

Per Graduate Major Concentration Guidelines Document section 4 (h)

The complete and specific language describing the official name of the Major Concentration and the exact requirements for students to complete it – as they would appear in the General Announcements if the proposal were approved. The Major Concentration must be in place and in the General Announcements for the year in which the student matriculates, or graduates, or any year in between.

Upon approval, the Office of the Registrar will work with the Psychology Department on the updating of their General Announcements text for 2018-19.

Per Graduate Major Concentration Guidelines Document section 4 (i)

Specification of a CIP code for the proposed Major Concentration with justification. The Offices of the Registrar, Institutional Research and Institutional Effectiveness can assist and will ultimately determine the appropriate CIP code to be assigned.

The assigned CIP of 26.1501 Neuroscience.

List of current core courses for Cognitive and Affective Neuroscience

Note: Students choose either the *Cognitive Track* or the *Affective/Health Track*

Core Courses (all required)

1. PSYC 502 – Advanced Psychological Statistics I
2. PSYC 503 – Advanced Psychological Statistics II
3. PSYC 520 – Foundations of Cognitive Psychology
4. PSYC 574 – Introduction to Cognitive Neuroscience
5. PSYC 577 – Introduction to Functional Neuroanatomy (Baylor) or equivalent UT course
6. PSYC 660 – Professional Issues

Weekly Research Seminar (Students must pick one of the following two and attend that seminar throughout their enrollment in the relevant track)

1. PSYC 529 – Weekly Cognitive Research Seminar – every semester
2. PSYC 532 – Weekly Health Research Seminar – every semester

Neuroscience Core Courses (2 required)

1. PSYC 575/NEUR 501 – Advanced Cognitive Neuroscience: Attention and Perception
2. PSYC 576/NEUR 502 – Advanced Cognitive Neuroscience: Higher Mental Functions
3. PSYC 586 – Social and Affective Neuroscience

Cognitive Track Core Courses (2 required)

1. PSYC 524 – Memory
2. PSYC 525 – Psycholinguistics
3. PSYC 527 – Reasoning, Decision Making, Problem Solving
4. PSYC 581 – Vision Science

Affective/Health Track Core Courses (all required)

1. PSYC 546 – Psychoneuroimmunology
2. PSYC 547 – Foundations of Health Psychology
3. PSYC 550 – Foundations of Social Psychology

(continued)

2 additional elective courses below, required of all

List of current elective courses for Cognitive and Affective Neuroscience

1. PSYC 511 – History and Systems of Psychology
2. PSYC 522 – Information Processing and Attention
3. PSYC 524 – Memory
4. PSYC 525 – Psycholinguistics

5. PSYC 527 – Reasoning, Decision Making, Problem Solving
6. PSYC 543 – Computational Modeling of Cognitive Processes
7. PSYC 550 – Foundations of Social Psychology
8. PSYC 575/NEUR 501 – Advanced Cognitive Neuroscience: Attention and Perception
9. PSYC 576/NEUR 502 – Advanced Cognitive Neuroscience: Higher Mental Functions
10. PSYC 586 Social and Affective Neuroscience
11. PSYC 578 – Cognitive Neuropsychology: Theories and Methods
12. PSYC 580 – Developmental Cognitive Neuroscience
13. UT GS140024 – Systems Neuroscience
14. PSYC 581 – Vision Science
15. PSYC 590 – Advanced Topics in Neuroscience (may be taken once)
16. PSYC 620 – Topics in Cognitive Psychology (may be taken once)
17. PSYC 621 – Topics in Memory (may be taken once)
18. PSYC 622 – Topics in Psycholinguistics (may be taken once)
19. PSYC 665 – Seminar in Genes and Cognition
20. PSYC 681 – Perceptual Organization
21. PSYC 546 – Psychoneuroimmunology
22. PSYC 547 – Foundations of Health Psychology
23. PSYC 552 – Emotion Regulation
24. NEUR 430 – Human Neuroimaging
25. NEUR 505 – Optical Imaging in Neuroscience
26. NEUR 511 – Integrative Neuroscience Core I
27. NEUR 512 – Integrative Neuroscience Core II
28. NEUR 671 – Methods in Cognitive Neuroscience
29. BIOE 592 – Sensory Neuroengineering
30. BIOE 685 – Fundamentals of Medical Imaging
31. UT School of Public Health – PHM 1111 – Health Promotion Theory and Methods I
32. UT School of Public Health – PHM 1112 – Health Promotion Theory and Methods II

Human Factors/Human-Computer Interaction

Major Concentration:

CIP 30.3101 (STEM) – Human Computer Interaction

Justification for the Major Concentration program.

What is the target audience for the Major Concentration?

The target audience is Psychology Ph.D. students with an interest in conducting basic and applied research in human-computer interaction and human factors.

What is the need or demand for the Major Concentration?

Human factors/human-computer interaction is a subfield of Psychology concerned with the understanding of interactions among humans and other elements of a system and the application of theories, principles, data and other methods of design in order to optimize human well-being and overall system performance. Rice has offered training in this subfield at the Ph.D. level for several decades; recognizing this as a major concentration will make our

Ph.D. program more attractive to prospective Ph.D. students and help us to recruit top talent, as well as documenting that their specialty area is in human factors, which is a high-demand area especially within industry. All Rice psychology doctorates in human factors are immediately employed after graduation within academic settings or industrial settings. Over the past half dozen years, our doctorates have been placed very well, such as at Texas A&M, the Air Force Academy, Ford Motor Company, and Google.

How does the Major Concentration requirements and curriculum differ from the other graduate degrees offered by the academic unit?

Although, this concentration has some overlap with other areas in the department and does draw from those areas, it primarily offers content that is unique to the human factors/human-computer interaction subfield.

Is there any potential for the Major Concentration to attract students to the detriment of existing graduate degrees?

No. The existing students will also be eligible for the Major Concentration.

How will it complement their graduate degree?

The Major Concentration provides official recognition of existing specializations within the graduate program in the Department of Psychology.

(continued)

How is the Major Concentration distinct or related to previously approved major concentrations?
Not applicable.

Is a student required to complete a Major Concentration to complete the graduate degree program or is the completion of a Major Concentration optional?

Yes, Psychology Ph.D. students must complete a Major Concentration.

Please provide assurance that the courses proposed for the satisfaction of the Major Concentration are offered regularly enough to allow for timely completion of the Major Concentration requirements.

The courses proposed for the satisfaction of the Major Concentration are core courses for the Ph.D. programs in Psychology. Core courses are offered on a regular basis to allow for timely completion of the Major Concentration requirements.

Per Graduate Major Concentration Guidelines Document section 4 (c)

Multiple concentrations. Will students in the graduate program be permitted to declare and pursue more than one Major Concentration?

Yes.

If so, please provide a justification. Please describe how the additional Major Concentration is identified and earned. How will it provide benefit to a student?

All Major Concentrations are coordinated courses that provide essential skills to our graduate students, in terms of intellectual development and employment.

Is there a potential for it to be detrimental to a student?

No.

Could the set of requirements for one Major Concentration automatically fulfill the requirement for other Major Concentrations within the graduate program?

No.

Provide a list of participating faculty. Identify faculty who will have primary roles in administering the Major Concentration and advising student participants.

Participating Faculty include: Michael Byrne, David Lane, Philip Kortum, and Eduardo Salas. Primary responsibility for administering the Major Concentration and advising student participants will rest on the Director of the HCI/HF area, currently Mike Byrne.

Per Graduate Major Concentration Guidelines Document section 4 (f)

List the procedures and qualifications to comply with SACSCOC accreditation requirements, as well as best practices in curriculum design, the proposal must include:

(1) Description of the Major Concentration's student learning outcomes that are clear standards for observable, measurable student-centered outcomes in terms of knowledge, skills, and behaviors;

Program Learning Outcomes (PLOs) Students completing the Major Concentration will:

1. Learn theoretical and methodological tools to carry out independent research in human-computer interaction and human factors.
2. Write an independent and original dissertation that is of sufficient quality to merit publication in a top human factors/human-computer interaction journal.
3. Conduct a focused review of the literature and develop a research design to carry out independent research.
4. Communicate and defend their research design and modeling choices when presenting their papers and/or presentations.
5. Communicate their research effectively by writing clearly, concisely, and cogently.
6. Read critically and assess research manuscripts related to their field of study and in other fields.

(2) a curriculum map that relates the components of the proposed Major Concentration curriculum to the specified student learning outcomes; and

The required courses including Advanced Psychological Statistics I & II, Human-Computer Interaction, Foundations of Human Factors/Engineering Psychology, Methods in Human-Computer Interaction, will teach the students the theoretical and methodological tools necessary to carry out independent research in human-computer interaction and human factors. These courses will prepare them to write an independent and original dissertation that is of sufficient quality to merit publication in a top cognitive psychology or cognitive neuroscience journal. Students will be required to take PSYC 531 – Weekly HCI/HF Research Seminar, every semester and present their research once per year, fulfilling the outcome in

which they learn to defend their research design and data analysis choices by presenting their paper in a seminar environment. The Master's and Dissertation requirements will fulfill the SLO of communicating research effectively by writing clearly, concisely and cogently. Finally, the Foundations of Cognitive Psychology course will provide the opportunity to read critically and assess research manuscripts related to their field of study.

(3) an assessment plan for measuring the success and effectiveness of the Major Concentration curriculum and students' achieving the learning outcomes after implementation.

Performance on exams in Advanced Psychological Statistics I & II, Human-Computer Interaction, and Foundations of Human Factors/Engineering Psychology will assess whether the students were able to learn the theoretical and methodological tools necessary to carry out independent research in human-computer interaction and human factors.

The written report for the first and second year projects will demonstrate:

- Conduct a focused review of the literature and develop a research design to carry out independent research.
- Communicate their research effectively by writing clearly, concisely and cogently.

Students will be required to take PSYC 531 – Weekly HCI/HF Research Seminar, every semester and present their research once per year, and performance in these presentations will be used to assess:

- Learn to defend their research design and modeling choices by presenting their paper in a seminar environment.

Performance in leading class discussions around specific papers and/or writing response papers in the Human-Computer Interaction and Foundations of Human Factors/Engineering Psychology will be used to assess:

- Read critically and assess research manuscripts related to their field of study and in other fields.

Per Graduate Major Concentration Guidelines Document section 4 (g)

Supporting letters from chair(s) of participating departments/programs and the appropriate dean(s) verifying that:

a. The proposed Major Concentration has been reviewed and received faculty approval through appropriate governance procedures.

The Major Concentration reflects what is already being offered in the Department of Psychology.

b. Resources to support the Major Concentration, as presented in the proposal, are available without impacting other courses and programs for at least five years.

See answers to related questions. This proposal has been approved by the department chair and department director of graduate studies, and it is awaiting review and approval by all other involved parties (Graduate Council, OIE, etc.).

Per Graduate Major Concentration Guidelines Document section 4 (h)

The complete and specific language describing the official name of the Major Concentration and the exact requirements for students to complete it – as they would appear in the General Announcements if the proposal were approved. The Major Concentration must be in place and in the General Announcements for the year in which the student matriculates, or graduates, or any year in between.

Upon approval, the Office of the Registrar will work with the Psychology Department on the updating of their General Announcements text for 2018-19.

Per Graduate Major Concentration Guidelines Document section 4 (i)

Specification of a CIP code for the proposed Major Concentration with justification. The Offices of the Registrar, Institutional Research and Institutional Effectiveness can assist and will ultimately determine the appropriate CIP code to be assigned.

The assigned CIP 30.3101 Human-Computer Interaction

List of current courses for the PhD within Human Factors/Human-Computer Interaction

Master's Course Requirements

Core Courses (both required)

1. PSYC 502 Advanced Psychological Statistics I
2. PSYC 503 Advanced Psychological Statistics II

Four additional required courses

1. PSYC 520 Foundations of Cognitive Psychology
2. PSYC 540 Foundations of Engineering Psychology
3. PSYC 541 Human Computer Interaction
4. PSYC 609 Methods in Human-Computer Interaction

Course Requirements for Provisional Admission to Master's Candidacy

The following are required before you can defend your master's thesis.

1. The two core courses
2. Two of the four additional courses listed above

Doctoral Course Requirements

Core Courses (all required)

1. PSYC 502 Advanced Psychological Statistics I
2. PSYC 503 Advanced Psychological Statistics II
3. PSYC 520 Foundations of Cognitive Psychology
4. PSYC 531 Weekly HCI/HF Research Seminar
5. PSYC 540 Foundations of Engineering Psychology
6. PSYC 541 Human-Computer Interaction
7. PSYC 609 Methods in Human-Computer Interaction
8. PSYC 660 Professional Issues

Five of the following courses are required

1. PSYC 504 Computer Applications in Psychology (or other approved programming experience)
2. PSYC 522 Information Processing and Attention
3. PSYC 524 Memory
4. PSYC 525 Psycholinguistics
5. PSYC 527 Reasoning, Decision Making, Problem Solving
6. PSYC 530 Foundations of I/O Psychology
7. PSYC 543 Computational Modeling of Cognitive Processes
8. PSYC 581 Vision Science
9. PSYC 601 Multivariate Statistics
10. PSYC 602 Psychometrics
11. PSYC 630 Advanced Topics in I/O - Training

12. PSYC 634 Personnel Selection
13. PSYC 640 Topics in HCI/HF (can be repeated for credit)

Industrial-Organizational Psychology

Major Concentration:
CIP 42.2804 – Industrial and Organizational Psychology

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines
Per Graduate Major Concentration Guidelines Document section 4 (a)

What is the target audience for the Major Concentration?

The target audience is Psychology Ph.D. students working within the Industrial-Organizational Psychology area within the department.

What is the need or demand for the Major Concentration?

Industrial-organizational psychology is a subfield of psychology that takes a theory-driven and research-based approach to understanding the psychology of workplace behavior and its individual, group, organizational, and managerial influences. Ph.D. students working within the Industrial-Organizational Psychology area are currently required to complete coursework in this field (outlined below) that includes foundational courses in psychology (statistics, broad psychology) and more specialized substantive and statistical/methodological courses in this sub-discipline. Offering a Major Concentration and CIP in Industrial-Organizational psychology will be valuable to students in the Psychology Ph.D. program, to indicate their specialization, and when appropriate, indicating any co-concentrations. Indicating the CIPs help external parties to understand the nature of the Ph.D. degree, and the option to specialize in STEM-related CIPs will make the graduate program more attractive to prospective Ph.D. students and help recruiting best talent.

How does the Major Concentration requirements and curriculum differ from the other graduate degrees offered by the academic unit?

Requirements for the Major Concentration in industrial-organizational psychology area are already offered for PhD requirements. These requirements are substantively different than those of other core research areas in the department.

Is there any potential for the Major Concentration to attract students to the detriment of existing graduate degrees?

No.

(continued)

How will it complement their graduate degree?

The Major Concentration provides official recognition of existing specializations within the graduate program in the Department of Psychology.

How is the Major Concentration distinct or related to previously approved major concentrations?

Not applicable.

Is a student required to complete a Major Concentration to complete the graduate degree program or is the completion of a Major Concentration optional?

Yes, Psychology Ph.D. students must complete a Major Concentration.

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines Per Graduate Major Concentration Guidelines Document section 4 (b)

Provide a description of the requirements for the Major Concentration. Please list any required courses, electives, other requirements to complete the Major Concentration.

Please see end of this section for a list of Major Concentration requirements.

Please provide assurance that the courses proposed for the satisfaction of the Major Concentration are offered regularly enough to allow for timely completion of the Major Concentration requirements.

The requirements proposed for the satisfaction of the Major Concentration are already required for our Ph.D. in the industrial-organizational psychology research areas. These courses are already offered on a regular basis to allow for timely completion of the Major Concentration requirements.

Per Graduate Major Concentration Guidelines Document section 4 (c)

Multiple concentrations. Will students in the graduate program be permitted to declare and pursue more than one Major Concentration?

Yes.

If so, please provide a justification. Please describe how the additional Major Concentration is identified and earned. How will it provide benefit to a student?

All Major Concentrations are coordinated courses that provide essential skills to our graduate students, in terms of intellectual development and employment.

Is there a potential for it to be detrimental to a student?

No.

Could the set of requirements for one Major Concentration automatically fulfill the requirement for other Major Concentrations within the graduate program?

No.

Ph.D. Program: Update and Change to Program

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines Per Graduate Major Concentration Guidelines Document section 4 (d)

Provide a list of participating faculty. Identify faculty who will have primary roles in administering the Major Concentration and advising student participants.

Participating Faculty include: Drs. Margaret Beier, Mikki Hebl, Eden King, Steve Motowidlo, Fred Oswald, Ed Salas

Primary responsibility for administering the Major Concentration and advising student participants will rest on the Director of the Industrial-Organizational Psychology area, currently Fred Oswald.

**Per Graduate Major Concentration Guidelines Document section 4 (e)
Procedures and qualifications for approval to pursue the Major Concentration (i.e. document the departmental/program procedures that will be put in place to certify eligibility and completion of the Major Concentration requirements, etc.)**

Ph.D. students admitted to the Doctoral Program in Psychology in the School of Social Science, whose graduate advisor is affiliated with the Industrial-Organizational Psychology area will be eligible for this Major Concentration. The offices of the Director of Graduate Studies in the Psychology Department and the Director of the Industrial-Organizational Psychology area will be responsible for certifying eligibility and for monitoring progress in the program and completion of the Major Concentration requirements.

Per Graduate Major Concentration Guidelines Document section 4 (f)

List the procedures and qualifications to comply with SACSCOC accreditation requirements, as well as best practices in curriculum design, the proposal must include:

(1) Description of the Major Concentration's student learning outcomes that are clear standards for observable, measurable student-centered outcomes in terms of knowledge, skills, and behaviors;

Students completing the Major Concentration will:

1. Apply the theoretical tools necessary to carry out independent research in industrial-organizational psychology.
2. Apply the methodological and statistical tools necessary to carry out independent research in industrial-organizational psychology.
3. Conduct a focused literature review tied to an independent research question.
4. Develop a research design to carry out independent research.
5. Communicate research effectively by writing clearly, concisely, and cogently.
6. Read critically and assess research manuscripts related to their field of study and in other psychological and multidisciplinary arenas.
7. Communicate and defend their research designs and modeling choices when presenting papers and/or presentations.
8. Write an independent and original dissertation that is of sufficient quality to merit publication in a top journal within industrial-organizational psychology.

(2) a curriculum map that relates the components of the proposed Major Concentration curriculum to the specified student learning outcomes;

The SLO number below is indexed to the SLO description above:

SLO	Core Courses	Substantive Courses	Statistical Courses	Research Opportunities	Thesis Work

1	X	X		X	X
2		X	X	X	X
3				X	X
4				X	X
5		X		X	X
6			X	X	X
7				X	X
8					X

For the first three columns above—core courses, substantive courses, and statistical courses—please see the end of this section.

(3) an assessment plan for measuring the success and effectiveness of the Major Concentration curriculum and students' achieving the learning outcomes after implementation.

Progress and performance is assessed through a variety of feedback and evaluation mechanisms: continuous meetings and feedback from advisors and other faculty, monitoring course grades during and after each semester, conducting semester performance reviews in the department, and conducting an annual review within the industrial-organizational psychology area.

Students are evaluated on their course work, their independent research projects and research collaborations, their first-year and second-year projects, and their master's thesis and dissertation work. Each semester, students take PSYC 533 – I/O Research Seminar, where they are required to present their master's thesis and conference-based research.

Per Graduate Major Concentration Guidelines Document section 4 (g)

Supporting letters from chair(s) of participating departments/programs and the appropriate dean(s) verifying that:

a. The proposed Major Concentration has been reviewed and received faculty approval through appropriate governance procedures;

The Major Concentration reflects what is already being offered in the Department of Psychology.

b. Resources to support the Major Concentration, as presented in the proposal, are available without impacting other courses and programs for at least five years.

See answers to related questions. This proposal has been approved by the department chair and department director of graduate studies, and it is awaiting review and approval by all other involved parties (Graduate Council, OIE, etc.).

Per Graduate Major Concentration Guidelines Document section 4 (h)

The complete and specific language describing the official name of the Major Concentration and the exact requirements for students to complete it – as they would appear in the General Announcements if the proposal were approved. The Major Concentration must be in place and in

the General Announcements for the year in which the student matriculates, or graduates, or any year in between.

Upon approval, the Office of the Registrar will work with the Psychology Department on the updating of their General Announcements text for 2018-19.

Per Graduate Major Concentration Guidelines Document section 4 (i)

Specification of a CIP code for the proposed Major Concentration with justification. The Offices of the Registrar, Institutional Research and Institutional Effectiveness can assist and will ultimately determine the appropriate CIP code to be assigned.

The assigned CIP 42.2804 Industrial and Organizational Psychology

List of current courses for the PhD within Industrial-Organizational Psychology

Core Courses (all required)

1. PSYC 502 Advanced Psychological Statistics I
2. PSYC 503 Advanced Psychological Statistics II
3. PSYC 530 Foundations of I/O Psychology
4. PSYC 533 Weekly I/O Research Seminar
5. PSYC 634 Personnel Psychology
6. PSYC 636 Advanced Organizational Psychology
7. PSYC 660 Professional Issues

Substantive courses (three required)

1. PSYC 511 History and Systems of Psychology
2. PSYC 520 Foundations of Cognitive Psychology
3. PSYC 540 Foundations of Engineering Psychology
4. PSYC 550 Foundations of Social Psychology
5. PSYC 631 Foundations of Individual Differences

Statistical courses (two required)

1. PSYC 507 Research Methods
2. PSYC 601 Multivariate Statistics
3. PSYC 602 Psychometrics
4. Other approved methodology course

I/O and advanced psychology courses (three required)

Three courses to be selected according to students' individual interests from the set of special topics courses taught by I/O faculty and other advanced courses taught by other psychology faculty.

Psychometrics and Quantitative Psychology

Major Concentration:

CIP 42.2708 (STEM) – Psychometrics and Quantitative Psychology

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines **Per Graduate Major Concentration Guidelines Document section 4 (a)**

What is the target audience for the Major Concentration?

The target audience is Psychology Ph.D. students seeking a psychometrics and quantitative psychology Major Concentration.

What is the need or demand for the Major Concentration?

There is already enormous psychology graduate student demand for quantitative courses, and this Major Concentration formally meets that demand with its emphasis on psychometrics and quantitative psychology. Psychology is a data-driven science that critically depends on reliable, valid, and fair psychological measures. After receiving solid training in psychometrics and quantitative psychology in line with the Major Concentration requirements, the department's Ph.D. students become more skilled researchers, and therefore are more employable.

How does the Major Concentration requirements and curriculum differ from the other graduate degrees offered by the academic unit?

Requirements for the Major Concentration in psychometrics and quantitative psychology are highly distinct from the three other Major Concentrations in the department.

Is there any potential for the Major Concentration to attract students to the detriment of existing graduate degrees?

No.

How will it complement their graduate degree?

This Major Concentration provides core graduate student training within the graduate program in the Department of Psychology.

How is the Major Concentration distinct or related to previously approved major concentrations?

Not applicable.

Is a student required to complete a Major Concentration to complete the graduate degree program or is the completion of a Major Concentration optional?

Yes, Psychology Ph.D. students are required to complete a Major Concentration.

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines Per Graduate Major Concentration Guidelines Document section 4 (b)

Provide a description of the requirements for the Major Concentration. Please list any required courses, electives, other requirements to complete the Major Concentration.

Please see end of this section for a list of Major Concentration requirements.

Please provide assurance that the courses proposed for the satisfaction of the Major Concentration are offered regularly enough to allow for timely completion of the Major Concentration requirements.

This Major Concentration emphasizes the research component (see SLOs below). Courses required (listed at the end of this section) are already offered frequently enough to satisfy the Major Concentration.

Per Graduate Major Concentration Guidelines Document section 4 (c)

Multiple concentrations. Will students in the graduate program be permitted to declare and pursue more than one Major Concentration?

Yes.

If so, please provide a justification. Please describe how the additional Major Concentration is identified and earned. How will it provide benefit to a student?

All Major Concentrations are coordinated courses that provide essential skills to our graduate students, in terms of intellectual development and employment.

Is there a potential for it to be detrimental to a student?

No.

Could the set of requirements for one Major Concentration automatically fulfill the requirement for other Major Concentrations within the graduate program?

No.

Ph.D. Program: Update and Change to Program

Justification (& Answers to Questions Outlined) per Major Concentration Guidelines

Per Graduate Major Concentration Guidelines Document section 4 (d)

Provide a list of participating faculty. Identify faculty who will have primary roles in administering the Major Concentration and advising student participants.

Participating Faculty include: Drs. Mike Byrne, Jim Dannemiller, Phil Kortum, David Lane, and Fred Oswald. Fred Oswald will assume the primary role in administering the Major Concentration and advising student participants.

Per Graduate Major Concentration Guidelines Document section 4 (e)

Procedures and qualifications for approval to pursue the Major Concentration (i.e. document the departmental/program procedures that will be put in place to certify eligibility and completion of the Major Concentration requirements, etc.)

Ph.D. students admitted to the Doctoral Program in Psychology in the School of Social Science will be eligible for this Major Concentration. The offices of the Director of Graduate Studies in

the Psychology Department and the administrator of the Major Concentration (above) will be responsible for certifying eligibility and for monitoring progress in the program and completion of the Major Concentration requirements.

Per Graduate Major Concentration Guidelines Document section 4 (f)

List the procedures and qualifications to comply with SACSCOC accreditation requirements, as well as best practices in curriculum design, the proposal must include:

(1) Description of the Major Concentration's student learning outcomes that are clear standards for observable, measurable student-centered outcomes in terms of knowledge, skills, and behaviors;

Students completing the Major Concentration will:

1. Apply the statistical and measurement concepts necessary to carry out independent research involving psychological measurement.
2. Communicate research involving psychometrics and psychological measurement effectively by writing clearly, concisely, and cogently.
3. Read critically and assess research manuscripts for their psychometric content, across psychological and multidisciplinary arenas.
4. Communicate research by presenting papers and/or presentations.
5. Write an independent and original dissertation that includes a strong emphasis in psychometrics and quantitative psychology.

(2) a curriculum map that relates the components of the proposed Major Concentration curriculum to the specified student learning outcomes;

The SLO number below is indexed to the SLO description above:

SLO	Psychometrics Courses	Research Opportunities	Thesis Work
1	X	X	X
2		X	X
3	X	X	X
4		X	X
5			X

(3) an assessment plan for measuring the success and effectiveness of the Major Concentration curriculum and students' achieving the learning outcomes after implementation.

Progress and performance is assessed through a variety of feedback and evaluation mechanisms: continuous meetings and feedback from advisors and other faculty, monitoring course grades during and after each semester, conducting semester performance reviews in the department. The student's major advisor will be responsible for ensuring that their work has an emphasis in psychometrics and quantitative psychology as reflected in the SLOs above

Per Graduate Major Concentration Guidelines Document section 4 (g)

Supporting letters from chair(s) of participating departments/programs and the appropriate dean(s) verifying that:

a. The proposed Major Concentration has been reviewed and received faculty approval through appropriate governance procedures;

The Major Concentration reflects courses already offered within the Department of Psychology.

b. Resources to support the Major Concentration, as presented in the proposal, are available without impacting other courses and programs for at least five years.

See answers to related questions. This proposal has been approved by the department chair and department director of graduate studies, and it is now awaiting review and approval by all other involved parties (Graduate Council, OIE, etc.).

Per Graduate Major Concentration Guidelines Document section 4 (h)

The complete and specific language describing the official name of the Major Concentration and the exact requirements for students to complete it – as they would appear in the General Announcements if the proposal were approved. The Major Concentration must be in place and in the General Announcements for the year in which the student matriculates, or graduates, or any year in between.

Upon approval, the Office of the Registrar will work with the Psychology Department on the updating of their General Announcements text for 2018-19.

Per Graduate Major Concentration Guidelines Document section 4 (i)

Specification of a CIP code for the proposed Major Concentration with justification. The Offices of the Registrar, Institutional Research and Institutional Effectiveness can assist and will ultimately determine the appropriate CIP code to be assigned.

The assigned CIP 42.2708 (STEM) – Psychometrics and Quantitative Psychology

Appendix

Courses for the Major Concentration in Psychometrics and Quantitative Psychology

Baseline courses

PSYC 502 and 503 (all psychology students take this)

Core courses (all 3 required)

1. PSYC 507 Research Methods
2. PSYC 602 Psychometrics
3. PSYC 631 Foundations of Individual Differences

Take three additional approved courses, such as

1. PSYC 543 Computational Modeling of Cognitive Processes
2. PSYC 601 Multivariate Statistics
3. PSYC 635 Multilevel Modeling in Psychological Research
4. PSYC 637 Meta-analysis in Psychological Research
5. PSYC 638 Structural Equation Modeling
6. Department-approved courses outside of the psychology department

Secondary Major Concentration

Even as a secondary major concentration, at least one graduate student research project (thesis, publication) is required to have a department-approved component pertaining to psychometrics and quantitative methods. This requires approval by faculty involved in this Major Concentration, who then inform the major advisor.