Resolution

Approving the Submission of a Notification of Intent to Submit a Proposal (NISP) for a Doctor of Philosophy (Ph.D.) Degree in Behavioral Neuroscience (CIP Code 42.2706)

WHEREAS, the College of Arts and Sciences at The University of Alabama at Birmingham strives to deliver quality programs that are relevant and innovative; and

WHEREAS, the program will train students who are in demand by employers and who lead fulfilling careers through their ability to independently: 1) discover basic principles of behavioral neuroscience, 2) apply Behavioral Neuroscience principals to solve complex, real-world issues of professional interest and importance in a variety of interdisciplinary contexts, and 3) demonstrate proficiency in the professional skills needed to be independently successful in the Behavioral Neuroscience field; and

WHEREAS, the Behavioral Neuroscience Ph.D., Program will replace the existing Behavioral Neuroscience Ph.D., concentration in the Department of Psychology at UAB; and

WHEREAS, the program will prepare graduates to enter the workforce with the terminal Master of Science degree or enter a Ph.D. program; and

WHEREAS, the program is built upon a successful history of the current Ph.D. in Psychology;

NOW, THEREFORE, BE IT RESOLVED by The Board of Trustees of The University of Alabama that it approves submission of a Notification of Intent to Submit a Proposal (NISP) for a Doctor of Philosophy (Ph.D.) degree in Behavioral Neuroscience (CIP Code 42.2706) by The University of Alabama at Birmingham.
This collection of proposals aims to: 1) separate the 3 existing PhD concentrations in Psychology into distinct PhD programs to better reflect their distinct focus, curricula, and admission and program procedures; 2) change the master’s degree from MA to MS to align with the scientific nature and research focus of the programs; and 3) separate the master’s degree into the same 3 areas as the PhD to reflect the distinct focus, curricula, and admission procedures associated with the master’s degree in each area.

Current

MA Psychology\textsuperscript{1,2}

\Downarrow

PhD Psychology

Concentrations
Medical / Clinical Psychology
Developmental Psychology
Behavioral Neuroscience

Proposed

MS Medical / Clinical Psychology\textsuperscript{2}
Joint program with the School of Medicine

\Downarrow

PhD Medical / Clinical Psychology

MS Applied Developmental Psychology\textsuperscript{2}

\Downarrow

PhD Applied Developmental Psychology

MS Behavioral Neuroscience\textsuperscript{3}

\Downarrow

PhD Behavioral Neuroscience

\textsuperscript{1} Behavioral Neuroscience does not currently offer a master’s degree.  
\textsuperscript{2} No terminal master’s degree offered.  
\textsuperscript{3} Behavioral Neuroscience plans to offer a terminal master’s degree.
NOTIFICATION OF INTENT TO SUBMIT A PROPOSAL (NISP) FOR A NEW PROGRAM OF INSTRUCTION

1. Institution: University of Alabama at Birmingham

2. Date of NISP Submission: June 10, 2022

3. Institutional Contact Person: Katrina Mintz, Ph.D.
   Telephone: (205) 934-2384
   Fax: (205) 934-3179
   E-mail: kmintz@uab.edu

4. Program Identification:
   Title: Behavioral Neuroscience
   Award: PhD
   CIP Code: 42.2706

5. Proposed Program Implementation Date: Fall 2023

6. Statement of Program Objectives (Objectives should be precise and stated in such a way that later evaluation/assessment of program outcomes is facilitated.):

The objective of the Behavioral Neuroscience PhD Program is to train students who are in demand by employers and who lead fulfilling careers through their ability to independently 1) discover basic principles of behavioral neuroscience, 2) apply Behavioral Neuroscience principals to solve complex, real-world issues of professional interest and importance in a variety of interdisciplinary contexts, and 3) demonstrate proficiency in the professional skills needed to be independently successful in the Behavioral Neuroscience field.

Specific Program Objectives include training students to:

- Synthesize, critique, and apply advanced theories of psychology to the scientific study of the nervous system.
- Critique, evaluate, and apply advanced quantitative behavioral neuroscience research design and statistical methods.
- Conduct independent research that makes an original contribution to the field of behavioral neuroscience.
- Communicate effectively, both orally and in writing, about advanced
neuroscience theories, methods, and concepts.
• Act in accordance with ethical standards of professional conduct and research.

7. Relationship of program to other programs within the institution.

a. How will the program support or be supported by other programs within the institution?

The Behavioral Neuroscience PhD Program will be affiliated with the Department of Psychology in the UAB College of Arts and Sciences. The Behavioral Neuroscience PhD program will be supported by the Psychology Department, which agrees to provide the necessary infrastructure for the program, including teaching faculty. Students will take elective courses from faculty in other Schools (e.g., Medicine and Optometry). Faculty from other Schools can also serve as research mentors for students in the Behavioral Neuroscience PhD program.

Students in Behavioral Neuroscience PhD program will take courses alongside students in other graduate programs affiliated with the Department of Psychology (currently Developmental Psychology and Medical/Clinical Psychology). Courses taught by faculty associated with Behavioral Neuroscience will be open to students in the other Psychology graduate programs as well as other UAB programs such as the Graduate Biomedical Sciences and Vision Science programs. Students will take elective courses from faculty in other Schools (e.g., Medicine and Optometry). Faculty from other Schools can also serve as research mentors for students in the Behavioral Neuroscience program.

Students admitted directly to the Behavioral Neuroscience PhD program will complete some of their coursework alongside students admitted to the terminal Behavioral Neuroscience MS program. Students admitted to the PhD program, who meet requirements for the MS degree, will earn an MS in Behavioral Neuroscience en route to the PhD.

Day-to-day administrative support for the Behavioral Neuroscience program will be provided by the Department of Psychology. Behavioral Neuroscience program leadership will participate collaboratively in the administration of the other Psychology graduate programs, for example in development of shared policies, oversight of administrative staff, and planning for shared instructional and administrative space.

b. Will this program replace any existing program(s) or specialization(s), options or concentrations within existing programs? Yes: __X__ No: ______
If yes, please explain.

The Behavioral Neuroscience PhD Program will replace the existing Behavioral Neuroscience PhD concentration in the Department of Psychology. The Behavioral Neuroscience PhD concentration is one of three concentrations (Behavioral Neuroscience, Developmental Psychology, and Medical/Clinical Psychology) currently offered in the Department of Psychology.

8. If this program is duplicative of any other programs in the state, please give your rationale for program duplication.

The Behavioral Neuroscience PhD Program will replace the existing Behavioral Neuroscience PhD Concentration in the Department of Psychology at UAB. It does not duplicate other programs in the state. However, other state universities (e.g., University of Alabama and Auburn University) do have concentrations that are somewhat similar to UAB’s existing Behavioral Neuroscience Concentration. The University of Alabama at Tuscaloosa has an existing Educational Neuroscience concentration under the Educational Psychology Program (CIP: 42.2806), and Auburn University has a concentration in Cognitive and Behavioral Sciences in their Psychology Department (CIP: 42.0101).

9. Do you plan to explore possible program collaboration with other institutions? Please explain.

Collaboration with other institutions may be possible in the future, but nothing formal is planned at this time.

10. Do you anticipate the use of distance education technology in the delivery of the program? Please explain.

The use of distance education technology is not currently planned.

11. What methodology will you use to determine the level of student demand for this program?

The Behavioral Neuroscience Program will replace an existing Behavioral Neuroscience PhD Concentration in the Psychology Department at UAB. Demand for this program has already been established and is reflected by the 20-30 applications we receive for admission to the existing concentration each year. We receive applications from across the United States and from international students. On average over the past decade, 3 students have graduated from the Behavioral Neuroscience program each year, and with recent increases in enrollment, 4 students have graduated with a Behavioral Neuroscience PhD on average over the past 5 years. We anticipate this number will continue to grow to 5 graduates per
year as planned increases in enrollment take full effect. There is no reason to think that student demand will decrease as a function of a change in formal status within UAB. However, we will continue to track this metric in future years.

12. What methodology will you use to determine need for this program?

Need will also be determined by alumni outcomes. Based on information from the past 5 years for Behavioral Neuroscience concentration students, the largest portion (87%) of our graduates accepted a postdoctoral position at a major research university (e.g., Harvard University/McClean Hospital, University of California-Berkeley, Washington University in St. Louis, Baylor College of Medicine, University of Alabama at Birmingham). Upon completion of their postdoc, approximately 90% of alumni seek academic (research and/or teaching) positions at research focused institutions. We will continue to monitor alumni job placements to assess the continued need for this program and to proactively make programmatic changes to ensure successful placements.

According to the U.S. Bureau of Labor Statistics, jobs for neuroscientists are projected to grow by 10-20% over the next decade. The demand for jobs at this level of training is reflected by the growing number of undergraduate neuroscience degree programs across the country, which have tripled in the last decade. In addition, STEM (Science, Technology, Engineering, and Mathematics) fields continue to grow in line with projected increases in jobs requiring STEM skills. The increased number of undergraduates with bachelor level neuroscience degrees has increased the need for graduate level programs to train the next generation of neuroscientists with more advanced knowledge and skills.

Students graduating with a PhD in Behavioral Neuroscience most commonly pursue postdoctoral training experiences before accepting positions as faculty in academic units like the School of Medicine, College of Arts and Sciences, and School of Optometry at large research and teaching focused universities in Alabama and across the country (e.g., UAB, Auburn University, and University of Alabama). Our graduates are also competitive for faculty teaching positions at Liberal Arts colleges (e.g., Samford University and University of Montevallo). In addition, PhD graduates with a degree in Behavioral Neuroscience are very competitive for staff scientist positions in scientific research organizations (e.g., Southern Research) and university-based research labs (e.g., UAB, Auburn University, and University of Alabama).
THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

Resolution

Granting Initial Approval of and Submission to the Alabama Commission on Higher Education (ACHE) of a Proposal for a Doctor of Philosophy (Ph.D.) Degree in Behavioral Neuroscience (CIP Code 42.2706)

WHEREAS, the Board of Trustees approved the Notice of Intent to Submit a Proposal (NISP) at the June 10, 2022, meeting; and

WHEREAS, the College of Arts and Sciences at The University of Alabama at Birmingham strives to deliver quality programs that are relevant and innovative; and

WHEREAS, the program will train professionals who are in demand by employers and who will lead fulfilling careers through their ability to independently: 1) discover basic principles of behavioral neuroscience, 2) apply behavioral neuroscience principals to solve complex, real-world issues of professional interest and importance in a variety of interdisciplinary contexts, and 3) demonstrate proficiency in the professional skills needed to be independently successful in the Behavioral Neuroscience field; and

WHEREAS, the program is built upon the successful history of the current Ph.D. in Psychology;

NOW, THEREFORE, BE IT RESOLVED by The Board of Trustees of The University of Alabama that it approves granting approval of and submission to the Alabama Commission on Higher Education (ACHE) of a proposal for a Doctor of Philosophy (Ph.D.) degree in Behavioral Neuroscience (CIP Code 42.2706) by The University of Alabama at Birmingham.
The University of Alabama System: Outline for a New Proposal: PhD in Behavioral Neuroscience

Executive Summary

The PhD degree in Behavioral Neuroscience is a program within the Department of Psychology in the College of Arts and Sciences at the University of Alabama at Birmingham (UAB). The program will replace an existing Behavioral Neuroscience concentration within the Psychology Department. Behavioral Neuroscience is currently one of three Psychology concentrations (i.e., Behavioral Neuroscience, Developmental Psychology, and Medical/Clinical Psychology) at UAB. These three concentrations largely operate independently, with separate directors, admissions procedures, and steering committees that have distinct foci, admissions, curricula, and training goals. Thus, our aim is to separate the three existing concentrations in Psychology into three distinct programs.

This program will be the only Behavioral Neuroscience PhD program in the state. Behavioral neuroscience is inherently interdisciplinary as the field evolved from several traditional sub-disciplines within psychology (physiological psychology, experimental psychology, sensation and perception, conditioning and learning, motivation, cognition, and regulatory biology) in order to interface with the then emerging field of neuroscience. The program is designed to provide students with in-depth knowledge of the concepts and methodologies of behavioral neuroscience while training students to apply cutting edge research in the field. Behavioral neuroscience emphasizes the neural underpinnings of behavior, and this program is designed to produce outstanding scientists capable of providing advanced teaching and independent research careers by providing well-founded academic training and interdisciplinary research experiences, all under the guidance of the UAB’s expert faculty.

Behavioral neuroscientists provide a vital contribution to the field of neuroscience by emphasizing behavioral and functional endpoints in their research. Behavioral neuroscience is represented by scientists with interests in the physiological and neural substrates of behavior. Research in behavioral neuroscience at UAB occurs within an interdisciplinary context thereby providing a rich experience for graduate students. A major strength of the program is that it is interdisciplinary and includes programmatic research and training under the supervision of any faculty member within any department at UAB who has research interests that lie in the area of behavioral neuroscience. Faculty in Behavioral Neuroscience at UAB hold primary appointments in the Departments of Psychology, Anesthesiology, Ophthalmology, Cell Biology, Neurobiology, Neurology, and Psychiatry & Behavioral Neurobiology. This breadth of perspective is reflected both in the courses offered and the research pursued by Behavioral Neuroscience students. In this spirit, students study core content areas (e.g., statistics, neurobiology, behavioral neuroscience, cognitive neuroscience) and can choose to obtain direct, hands-on laboratory-based training in a specific behavioral neuroscience topic.
2. Steps taken to determine if other UA System Institutions might be interested in collaborating in the program.

We have not yet explored collaboration with other University of Alabama System institutions. We already have long-standing internal collaborations established, and opportunities for partnership with other University of Alabama System Institutions will be considered.

3. Desegregation Impact Statement:

The UAB College of Arts and Sciences and Department of Psychology are committed to ensuring recruitment and retention of students from diverse backgrounds in all programs. We will ensure this program, like all other degree offerings at the University of Alabama at Birmingham, is accessible and available to diverse population.

4. Summary of Consultant’s Comments

N/A

5. Summary of Other Campuses’ Comments

N/A

6. Other pertinent information

N/A
PROPOSAL FOR A NEW DEGREE PROGRAM (Part 1: Proposal)

1. Date of Proposal Submission:       June 9, 2023
   Full program name and level:       Behavioral Neuroscience PhD
   Degree nomenclature (e.g., MBA, BS): PhD
   CIP Code: 42.2706

2. Learning Outcomes:
   Succinctly list at least four (4) but no more than seven (7) of the most prominent student
   learning outcomes of the program.
   i. Synthesize, critique, and apply advanced theories of psychology to the scientific study of the nervous system.
   ii. Critique, evaluate, and apply advanced quantitative behavioral neuroscience research design and statistical methods.
   iii. Conduct independent research that makes an original contribution to the field of behavioral neuroscience.
   iv. Communicate effectively, both orally and in writing, about advanced neuroscience theories, methods, and concepts.
   v. Act in accordance with ethical standards of professional conduct and research.

3. Employment Outcomes and Program Demand
   Please describe how the proposed program prepares graduates to seek employment in the occupations (SOC codes) identified within the NISP. Note: you may also indicate any updates to those codes here.

   The Behavioral Neuroscience PhD program will prepare graduates to successfully seek employment through the rigorous coursework and research training. In particular, courses will provide foundational knowledge in behavioral neuroscience and neurobiology. In addition, advanced coursework in statistical methodology will equip graduates with the skills needed to manage and analyze research data. Students will also complete a dissertation project.

   The program has some goals in common for all students so that they have the ability to perform competently after graduation. The following competencies are expected to be
mastered by graduation to a level that suggests the student is ready to undertake this activity independently while seeking reasonable consultation with others as needed; performs at a level of competency and independence that is consistent with that of a beginning post-doctoral research fellow or assistant professor. These are transferable skills that will prepare graduates in a variety of contexts/careers:

- **Plan a program of research**
  - Evaluate and synthesize scientific literature.
  - Identify research problems and questions.
  - Identify and operationalize relevant constructs.
  - Generate testable hypotheses.
  - Recognize the significance of research questions and problems for application to real-world settings.

- **Design a study**
  - Make well-justified research design decisions to answer research questions and test hypotheses.
  - Select and appropriately justify measures to address research questions.
  - Design studies to generate data relevant to a research problem/question.
  - Select appropriate methods for statistical analysis.
  - Determine sample size and adjust study design based on statistical power considerations.
  - Identify, explain, and control for potential confounds.
  - Describe and justify the feasibility of a study, as well as a reasonable timeline for study completion.

- **Conduct a study**
  - Write a research protocol that provides detail sufficient to ensure consistency in the conduct of the study procedures.
  - Monitor and maintain fidelity to a research protocol throughout the course of a study.
  - Master and implement relevant technical skills.
  - Collect, maintain, and manage study data and associated records.
  - Appropriately apply and interpret statistical analyses.
  - Comply with the requirements of the IRB, IACUC, and other appropriate bodies throughout the course of the research and associated data analyses.
  - Interact productively with professionals from disciplines other than their own.
  - Monitor progress with respect to study timeline and consult appropriately with others when and if problems arise.

- **Communicate research**
• Effectively communicate the rationale, methods, and findings for a study in oral and written forms.
• Effectively respond to questions and challenges.
• Critically evaluate their own and other’s research.

Please explain whether further education/training is required for graduates of the proposed program to gain entry-level employment in the occupations you have selected.

Further education/training is not required, but will often be obtained, before entry-level employment in the occupations listed. For example, graduates of the Behavioral Neuroscience program will be competitive for entry level teaching appointments at universities, colleges, and junior colleges within Alabama and across the United States. However, many graduates will pursue postdoctoral training to further develop their research credentials to become competitive for faculty positions that have a larger research commitment. Similarly, graduates of the Behavioral Neuroscience program will be competitive for many industry positions (e.g., Southern Research) without further education/training. However, graduates may pursue additional training to advance their competitiveness for other positions, perhaps even within the same organization, that require postdoctoral training.

Briefly describe how the program fulfills a specific industry or employment need for the State of Alabama. As appropriate, you should discuss alignment with Alabama’s Statewide or Regional Lists of In-Demand Occupations (available at https://ache.edu/Instruction.aspx under “Policy/Guidance”) or with emerging industries as identified by Alabama’s Innovation Commission or the Economic Development Partnership of Alabama (EDPA).

According to the U.S. Bureau of Labor Statistics, jobs for neuroscientists are projected to grow by 10-20% over the next decade. The demand for jobs at this level of training is reflected by the growing number of undergraduate neuroscience degree programs across the country, which have tripled in the last decade. In addition, STEM (Science, Technology, Engineering, and Mathematics) fields continue to grow in line with projected increases in jobs requiring STEM skills. The increased number of undergraduates with bachelor level neuroscience degrees has increased the need for graduate level programs to train the next generation of neuroscientists with more advanced knowledge and skills.

Students graduating with a PhD in Behavioral Neuroscience most commonly pursue postdoctoral training experiences before accepting positions as faculty in academic units like the School of Medicine, College of Arts and Sciences, and School of Optometry at large research and teaching focused universities in Alabama and across the country (e.g., UAB, Auburn University, and University of Alabama). Our graduates are also competitive for faculty teaching positions at Liberal Arts colleges (e.g., Samford University and University of Montevallo). In addition, PhD graduates with a degree in Behavioral Neuroscience are very competitive for staff scientist positions in scientific research organizations (e.g., Southern Research) and
university-based research labs (e.g., UAB, Auburn University, and University of Alabama).

Please describe how you will determine whether graduates are successful in obtaining relevant employment or pursuing further study.

Success obtaining relevant employment or additional training will be determined by following the employment/training status of graduates upon graduation. We will track the location and type of employment for their first position following graduation along with annual updates to monitor their current employment/training status (location and type of employment) for at least 10 years following graduation.

Briefly describe evidence of student demand for the program, including enrollments in related coursework at your institution if applicable. If a survey of student interest was conducted, please briefly describe the survey instrument, number and percentage of respondents, and summary of results.

The Behavioral Neuroscience Program will replace an existing Behavioral Neuroscience PhD Concentration in the Psychology Department at UAB. Demand for this program has already been established and is reflected by the 20-35 applications we receive for admission to the existing concentration each year. We receive applications from applicants throughout Alabama, across the United States, and from international locations. On average over the past decade, 3 students have graduated from the Behavioral Neuroscience program each year, and with recent increases in enrollment, 4 students have graduated with a Behavioral Neuroscience PhD on average over the past 5 years. We anticipate this number will continue to grow to 5 graduates per year as planned increases in enrollment take full effect. There is no reason to think that student demand will decrease as a function of a change in formal status within UAB. However, we will continue to track these metrics in future years.

4. Specific Rationale (Strengths) for Program

What is the specific rationale for recommending approval of this proposal? List 3-5 strengths of the proposed program.

i. Behavioral Neuroscience is currently one of three Psychology concentrations (i.e., Behavioral Neuroscience, Developmental Psychology, and Medical/Clinical Psychology) at UAB. Our aim is to separate the three existing concentrations in Psychology into three distinct programs. The rationale for doing so is that these concentrations largely operate independently, with separate directors, admissions procedures, and steering committees for existing concentrations that have distinct foci, admissions, curricula, and training goals that map onto different CIP codes.

ii. The field of behavioral neuroscience evolved from several traditional sub-disciplines within psychology (physiological psychology, experimental
psychology, sensation and perception, conditioning and learning, motivation, cognition, and regulatory biology) in order to interface with the emerging field of neuroscience. In this manner, the behavioral neuroscientist provides a vital contribution to the field of neuroscience by emphasizing behavioral and functional endpoints in their research. Behavioral neuroscience is represented by scientists with interests in the physiological and neural substrates of behavior. Research in behavioral neuroscience at UAB occurs within an interdisciplinary context thereby providing a rich experience for graduate students. Faculty in Behavioral Neuroscience at UAB hold primary appointments in the Departments of Psychology, Anesthesiology, Ophthalmology, Cell Biology, Neurobiology, Neurology, and Psychiatry & Behavioral Neurobiology. This breadth of perspective is reflected both in the courses offered and the research pursued by Behavioral Neuroscience students. In this spirit, students study core areas of psychology (e.g., statistics, neurobiology, behavioral neuroscience, cognitive neuroscience) and obtain direct, hands-on laboratory-based training in a specific behavioral neuroscience topic, including experience developing research funding proposals, manuscripts, and public presentations.

iii. Training in Behavioral Neuroscience at UAB is designed to produce outstanding young scientists capable of pursuing independent research careers in the field of behavioral neuroscience by providing graduate course instruction and research training of the highest degree. It is the philosophy of the Behavioral Neuroscience program that this mission is best achieved by having each student obtain a firm academic foundation in both psychology and neuroscience curriculums, and to engage the student in systematic research under the supervision of one of the program faculty.

iv. A major strength of the Behavioral Neuroscience PhD program is that it is an interdisciplinary program that includes programmatic research and training under the supervision of any faculty member within any department at UAB who has research interests that lie in the area of behavioral neuroscience. This training approach is an advantage to our students as it enables them to obtain faculty positions in psychology departments as well as many other neuroscience-related departments within university settings, medical schools, research institutions, and private industry.

Please list any external entities that have supplied letters of support attesting to the program’s strengths, and attach letters with the proposal.

5. Program Resource Requirements

A. Faculty. Please provide or attach a brief summary of primary and support faculty that includes their qualifications specific to the program proposal. Note: Institutions must maintain and have current and additional primary and support faculty curriculum vitae available upon ACHE request for as long as the program is active, but you do not need to submit CVs with this proposal.
Primary Faculty

Mary Boggiano, PhD
Qualifications: Teaches program elective (e.g., PY 520: Motivation and Emotion), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Olivio Clay, PhD
Qualifications: Teaches required program courses (e.g., PY 619: Diversity, Equity, and Inclusion; PY 716: Introduction to Statistics) and serves on student Qualifying Exam and Dissertation committees.

Ed Cook, PhD
Qualifications: Teaches required program courses (e.g., PY 717: Applied Statistical Methods) serves on student Qualifying Exam and Dissertation committees.

Burel Goodin, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

David Knight, PhD
Qualifications: Teaches required program courses (e.g., PY 756: Research Seminar in Behavioral Neuroscience), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Sylvie Mrug, PhD
Qualifications: Teaches elective program courses (e.g., PY 719: Multivariate Statistical Methods; PY 746: Structural Equation Modeling), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Robert Sorge, PhD
Qualifications: Teaches elective program courses (e.g., PY 687: Dynamics of Pain), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Christianne Strang, PhD
Qualifications: Teaches required program courses (e.g., PY 653: Foundations of Behavioral Neuroscience; PY 792: Introduction to Neurobiology), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Edward Taub, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Jarred Younger, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Jennifer DeBerry, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Ronald Lazar, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Lynn Dobrunz, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Jane Allendorfer, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Mark Bolding, PhD
Qualifications: Teaches program elective (e.g., NBL 735: Functional MRI), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Jerzy Szaflarski, MD, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Andrew Pickering, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Adrienne Lahti, MD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Nina Kraguljac, MD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Eric Roberson, MD, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Junghee Lee, PhD
Qualifications: Serves on student Qualifying Exam and Dissertation committees and trains graduate students in the lab.

Kristina Visscher, PhD
Qualifications: Teaches program elective (e.g., NBL 625: Methods in Neuroimaging), serves on student Qualifying Exam and Dissertation committees, and trains graduate students in the lab.

Please provide faculty counts for the proposed program:

<table>
<thead>
<tr>
<th>Status</th>
<th>Faculty Type</th>
<th>Primary</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Full-Time</td>
<td>22</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Current Part-Time</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Additional Full-Time (to be hired) | 0 | 0  
Additional Part-Time (to be hired) | 0 | 0

Note: Annual compensation costs for additional faculty to be hired should be included in the NEW ACADEMIC DEGREE PROGRAM SUMMARY table in Part 3. Salary/benefits for current faculty should not be included.

Briefly describe the qualifications of any new faculty to be hired:

B. Staff. Will the program require dedicated staff?  
[ ] Yes  [x] No

If so, indicate the number or percentage of FTEs.

Note: Annual compensation costs for staff to be hired should be included in the NEW ACADEMIC DEGREE PROGRAM SUMMARY table in Part 3.

C. Equipment. Will any special equipment be needed specifically for this program?  
[ ] Yes  [x] No

If yes, please list. Their cost should be included in the NEW ACADEMIC DEGREE PROGRAM SUMMARY table in Part 3.

D. Facilities. Will any new facilities be required specifically for the program?  
[ ] Yes  [x] No

If yes, please list. Only new facilities need be listed. Their cost should be included in the NEW ACADEMIC DEGREE PROGRAM SUMMARY table in Part 3.

E. Library. Will additional library resources be required to support the program?  
[ ] Yes  [x] No

Please provide a brief description of the current status of the library collections supporting the proposed program.

Students at UAB have access to an extensive library resources. The Lister Hill Library of the Health Sciences is centrally located in the heart of the academic medical center and is the largest biomedical library in Alabama. In addition to an extensive collection of print books and periodicals, the library offers an excellent digital collection supporting biomedical research. The Mervyn H. Sterne Library maintains a collection of over one-
million items that supports teaching and research in social and behavioral sciences, arts and humanities, business, education, engineering, and natural science and mathematics. The facility has special collections, including books, periodicals, and access to electronic titles, seminar rooms, collaborative study spaces, computers, printers and copiers, and seating for 1,350 users.

If yes, please briefly describe how any deficiencies will be remedied, and include the cost in the NEW ACADEMIC DEGREE PROGRAM SUMMARY table.

F. Assistantships/Fellowships. Will you offer any assistantships specifically for this program?

☐ Yes  ☒ No

If “Yes”, how many assistantships will be offered?  

The expenses associated with any *new* assistantships should be included in the NEW ACADEMIC DEGREE PROGRAM SUMMARY table in Part 3.

G. Other. Please explain any other costs to be incurred with program implementation, including lab start-up expenses or specialized accreditation costs. Be sure to note these on the NEW ACADEMIC DEGREE PROGRAM SUMMARY table in Part 3.
PROPOSAL FOR A NEW DEGREE PROGRAM (Part 2: Course Info)

Name of Proposed Program:

Program Completion Requirements: (Enter a credit hour value for all applicable components, write N/A if not applicable)

- Credit hours required in program courses: 32
- Credit hours in general education or core curriculum: N/A
- Credit hours required in support courses: N/A
- Credit hours in required or free electives: 16
- Credit hours in required research: 24
- Total credit hours required for completion: 72

Maximum number of credits that can be transferred in from another institution and applied to the program:

Twenty-two credit hours equivalent to course work required by the program can be transferred in from another institution and applied to the program.

Intended program duration in semesters for full-time students:

Students are intended to complete the program within 15 semesters (fall, spring, and summer) across 5 years.

Intended program duration in semesters for part-time students:

This program is intended for full-time students only. Part-time students will not be admitted to the program.

Does the program require students to demonstrate industry-validated skills, specifically through an embedded industry-recognized certification, through structured work-based learning with an employer partner, or through alignment with nationally recognized industry standards? If yes, please explain how these components fit with the required coursework.

Laboratory research is a cornerstone of the Behavioral Neuroscience PhD training program. During the first year, students gain research experience in 3 laboratories, selecting one laboratory rotation each semester (fall, spring, and summer). Students can rotate within the laboratories of any faculty member on campus engaged in behavioral neuroscience research. Faculty that train behavioral neuroscience students are found within the departments of Psychology, Anesthesiology, Neurobiology, Neurology, Ophthalmology, and Psychiatry & Behavioral Neurobiology. Laboratory rotations allow students to increase their breadth of experience in behavioral neuroscience before making a commitment to one faculty member's research program. Based on the laboratory rotations (year 1), students select a research mentor at the end of their first
year in the program. Through a close collaboration with their mentor, each student develops a systematic line of research (years 2-5) which culminates in the doctoral dissertation. As part of their training, students also gain experience writing research proposals, manuscripts, and making public presentations.

Does the program include any options/concentrations? If yes, please give an overview of the options, and identify the courses for each in the table below.

The program does not include any options/concentrations.

Please indicate any prior education or work experience required for acceptance into the program:

Interested students will apply to the PhD Program in Behavioral Neuroscience through the UAB Graduate School. Because of the interdisciplinary nature of Behavioral Neuroscience, students with diverse backgrounds in psychology, neuroscience, and biology are encouraged to apply. All students are expected to have undergraduate training in psychology, biology, physics, chemistry, and mathematics. Students not trained in one or more of these areas may be required to make up deficits after enrollment. Relevant research experience is advantageous and considered an important indication of the applicant's motivation and commitment to program goals. Qualified applicants will be invited for a personal interview. The admissions committee will consider all applicant information in a holistic manner to select students who will be offered program admission. The program will begin in the fall semester.

Describe any other special admissions or curricular requirements for the program:

Students in the Behavioral Neuroscience program will be required to complete program milestones, which include a 1) 2nd Year Project, 2) Qualifying Exam, and 3) Dissertation project for graduation with a PhD. These program milestones are described below.

2nd Year Research Project Requirement
In year 2, students will complete a 2nd Year Project under the direction of their research mentor. The project can take the form an empirical or methods paper. To fulfill the requirement, a written research document must be submitted to the Behavioral Neuroscience Director and the project must be presented during Behavioral Neuroscience Seminar. The document should be in the format of the journal that it will ultimately be submitted to and contain a title page, abstract, introduction, results, discussion, and reference section. The Seminar presentation should include background, methods, results, and discussion of findings. The Behavioral Neuroscience Director will review the 2nd Year Project document and the student will be informed of any changes that are needed. The student must demonstrate their science writing and presentation abilities by: 1) describing their research in an appropriate context, 2) displaying a good understanding of experimental methods/design and statistical analysis, and 3) demonstrating the ability to write and present their work clearly.
Successful completion of the 2nd Year Project is required before a student can begin the Qualifying Examination.

Qualifying Examination Requirement
During year 3, students will complete a Qualifying Examination. The purpose of the Qualifying Examination is to evaluate the student’s ability to integrate learned material and to increase the breadth of the student's knowledge. Successful completion of the Qualifying Examination is required for admission to candidacy for the Ph.D. The Qualifying Examination project should be approved by the student's mentor and must be completed during the student’s 3rd year in the program and before the dissertation proposal. The Qualifying Exam will take the form of a comprehensive, integrative review paper on an area of the student’s choice. The topic should be related to the student’s primary area of research. The goal of the paper is to (1) increase the student’s breadth of knowledge in the area, including review of relevant historical papers and (2) integrate or synthesize the available research findings with the goal of achieving new insights which may guide future inquiry. The review paper should end with a 1-page discussion of open questions, next steps, and/or specific aims for future projects.

Satisfactory completion of the Qualifying Examination will be determined based on the submitted paper and oral defense of the project. The final paper should be between 8,000 and 10,000 words (~20 to 30 pages) in length and cite ~100 references. Faculty will read the paper carefully and suggest substantive and editorial changes that will improve the manuscript and make it more suitable for publication.

Finally, the student will present a brief summary of the scope of the review and the questions posed. A focus on the insights gained during the review is encouraged. The student should indicate what implications the review has for future research and for the research of other laboratories. After the discussion with the student about the paper is completed, the committee will reach a consensus about whether the student has passed the examination. A decision of "pass" is based on both an acceptable written paper and on the student demonstrating adequate knowledge and a relatively sophisticated conceptualization during the oral presentation.

Dissertation Requirement

Dissertation Proposal: Students will prepare a dissertation proposal in an F31 NIH grant proposal format. The F31 format should include 1 page of specific aims and 6 pages of significance, innovation, and approach. Preliminary data can be included, but is not required for the proposal. In addition, students can include a methods-based appendix to describe methods that do not fit within the F31 page limits.

Students will also schedule a Proposal meeting where the student will present the background and proposed experiments to the Dissertation Committee. The committee will examine the proposal and will give feedback on the document and presentation regarding the appropriateness of the proposed experiments. The dissertation committee is expected to evaluate and approve/disapprove each of the proposed projects.

The Private and Public Dissertation Defense
The Public Defense deadline varies according to Graduate School deadlines, but is
usually in July of year 5. The Private Defense should be scheduled at least 1 month before the planned Public Defense (i.e. June of year 5).

Following completion of the proposed research, the full written document will be distributed to the Dissertation Committee by the student. A Private Defense meeting will be scheduled during which the student will defend the dissertation privately to their Dissertation Committee alone. The Private Defense meeting will include a presentation followed by questioning by the committee. The committee may make suggestions for modifications of the dissertation document and the oral presentation that should be implemented prior to the Public Defense. The student must make these corrections and has two weeks to submit the revised dissertation back to the committee members. The committee members then take up to two weeks to read the dissertation prior to the Public Defense. If additional changes are required, this process may be repeated. At the Public Defense, scheduled after the full private defense approval by the committee, the student will present a departmental colloquium, open to the public, and respond to questions from the general audience. The Dissertation Committee and the student will then have a closed meeting in which the project and the area(s) of expertise of the student can be discussed more fully. The committee may recommend further changes to the dissertation document if necessary before the PhD is awarded. Once all changes have been made to the dissertation document, a copy will be shared with the Graduate School and program director for placement in the student’s record.

Please complete the table below indicating all coursework for the proposed program, identifying any new courses developed for the program, along with courses associated with each option as applicable. Include the course number, and number of credits. Coursework listed should total the number of hours required to complete the program.

<table>
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<th>Course Number and Title</th>
<th>Number of Credit Hours</th>
<th>* If New Course</th>
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### NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY

**INSTITUTION:** University of Alabama at Birmingham

**PROGRAM:** Behavioral Neuroscience

**Select Level:** Doctorate

#### ESTIMATED "NEW" EXPENSES TO IMPLEMENT PROPOSED PROGRAM

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#### *NEW* REVENUES AVAILABLE FOR PROGRAM SUPPORT

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#### ENROLLMENT PROJECTIONS

*Note: “New Enrollment Headcount” is defined as unduplicated counts across years.*

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#### DEGREE COMPLETION PROJECTIONS

*Note: Do not count Lead “0”s and Lead 0 years in computing the average annual degree completions.*

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