

February 21, 2022

Chancellor Finis St. John
The University of Alabama System
500 University Boulevard East
Tuscaloosa, Alabama 35401

Dear Chancellor St. John:

I am pleased to endorse the recommendations of Executive Vice President and Provost James Dalton and Dean Joseph Messina of the College of Arts and Sciences for the approval of the attached notification of intent to submit a proposal (NISP) for a proposed Bachelor of Science (B.S.) degree in Neuroscience. The proposed program will provide students a unique, multidisciplinary opportunity to develop skills and knowledge that will prepare them for diverse and competitive graduate programs focused on biological aspects of psychology and also prepare them for careers in health-related sciences.

If you approve of this NISP, I would appreciate you forwarding this request to the Board of Trustees for their approval.

Sincerely,



Stuart R. Bell
President

Enclosures

c: Executive Vice President and Provost James Dalton
Dean Joseph Messina



February 21, 2022

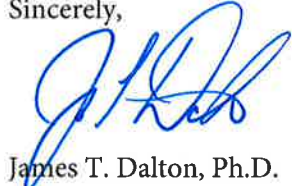
President Stuart R. Bell
The University of Alabama
203 Rose Administration Building
Tuscaloosa, AL 35487

Dear President Bell:

I join Dean Joseph Messina of the College of Arts and Sciences in recommending for your approval the attached Notification of Intent to Submit a Proposal (NISP) for a Bachelor of Science (B.S.) degree in Neuroscience. The proposed program will provide students a unique, multidisciplinary opportunity to develop skills and knowledge that will prepare them for diverse and competitive graduate programs focused on biological aspects of psychology and also prepare them for careers in health-related sciences.

If you approve of this NISP, I would appreciate you forwarding this request to the Chancellor at your earliest convenience.

Sincerely,



James T. Dalton, Ph.D.
Executive Vice President and Provost

Enclosures

c: Dean Joseph Messina

6 September 2021

Dr. James T. Dalton
Executive Vice President and Provost
The University of Alabama

Dear Provost Dalton:

In order to continue to enhance the educational mission of The University of Alabama and support the academic needs of students in the College of Arts and Sciences, I write to lend my support to the creation of the following program:

A major in Neuroscience in the Department of Psychology

The Neuroscience minor was created in the Psychology department in the spring of 2018 and quickly rose from 28 students to just over under 100 students by the spring of 2020. This rapid growth reflects the high level of interest by University of Alabama students in this STEM area of study.

On a regional and national level, the United States Bureau of Labor Statistics Occupational Outlook for neuroscientists projects an 8% job growth from 2018-2028. This is much faster than the average for all occupations and reflects a potential increase from 130,700 jobs in 2018 to 141,200 jobs in 2028. The training provided in this program would specifically allow students to pursue either advanced degrees or certification programs to qualify them in a wide range of occupations.

Aligning student academic interest with research and job opportunities on a national level highlights the importance of creating a Neuroscience major and that such a program will help support and enhance the educational mission of The University of Alabama.

Sincerely,



Dr. Joseph P. Messina
Dean and Professor
College of Arts and Sciences
The University of Alabama



**NOTIFICATION OF INTENT TO SUBMIT A PROPOSAL (NISP)
FOR A NEW PROGRAM OF INSTRUCTION**

1. Institution: The University of Alabama

2. Date of NISP Submission: April 2022

3. Contact Person and Title:

Dr. Ginger Bishop, Assistant Provost and Director of Institutional Effectiveness

Telephone: 205-348-7125

E-mail: vabishop@ua.edu

4. Program Identification:

Award Level: Bachelor of Science (B.S.)

Title: Neuroscience

6-digit CIP: 26.1501

5. Program Administration and Implementation:

Name of College/ School: College of Arts and Sciences

Name of Dean: Dr. Joseph Messina

Name of Department: Psychology

Name of Chairperson: Dr. Thompson Davis

Proposed program implementation date: 08/01/2023

Anticipated ACHE meeting to vote on proposal: December 2022

Anticipated date of approval from institutional governing board: November 2022

Other considerations for timing and approval (e.g., upcoming SACSCOC review):

None

6. Program Design:

Brief Description of Program and Objectives:

Neuroscience research has changed the landscape of scientific understanding of the inner workings of the brains of human and non-human species. The proposed Bachelor of Science in Neuroscience program will use a multidisciplinary team of faculty from different departments at The University of Alabama (UA) to create a new degree that examines the functional and anatomical mechanisms underlying the brain. In addition to the Department of Psychology, we have sought the participation from departments like Biological Sciences, Philosophy, Anthropology, and from the College of Education. The Program Directors and Chairs of these entities have been informed about the program and they have generously agreed to have neuroscience students enroll into relevant courses from their departments. The main purpose of this program is to provide a unique opportunity for UA students to develop skill and knowledge that will prepare them for diverse and competitive graduate programs

focused on biological aspects of psychology, and also prepare them for careers in health-related sciences in general. In addition to meeting the growing interest in neuroscience, the proposed Neuroscience (B.S.) will provide students with extensive opportunity to participate in neuroscience research and gain research experience, which is necessary for admission to graduate and professional programs. The Neuroscience (B.S.) program will be a multi-disciplinary major, offering training in different aspects of Neuroscience including social, cognitive, and affective neuroscience, cellular neuroscience, neuroanatomy, neurological and psychiatric disorders, and the neurobiological mechanisms of learning, memory and cognition. By adding this new program, the Department of Psychology will increase its potential to serve its large and diverse student population, to prepare them for careers in new STEM related disciplines. Furthermore, the emphasis of the neuroscience program on biological and psychological foundations of behavior will prepare the students to excel in the Medical College Admission Test (MCAT) and to succeed in Medical School. Thus, the proposed program directly relates to the mission of The University of Alabama and of the Alabama Life Research Institute (ALRI), and also fits well with UA's recent initiative in establishing a brain imaging center. In addition, the neuroscience program aligns well with UA's mission and goals of commitment for offering high quality programs and education.

Students who graduate from the undergraduate neuroscience program will be able to:

- i. Synthesize, discuss, and evaluate the core principles (major concepts, theoretical perspectives, major empirical findings, and clinical and translational applications) of neuroscience.
- ii. Design a neuroscience research study. Students will also be able to explain and follow scientific method and recognize specific methods and techniques used by neuroscientists for studying the brain.
- iii. Recall, explain, and discuss molecular, cellular and systems level organization of the nervous system and its communication.
- iv. Explain the principles of clinical and translational neuroscience and design research studies to address how such principles can be applied to study neurological and psychiatric disorders.

6. Program Design (*continued*):

Proposed delivery format (In-person, online, hybrid): 100% In-person

If hybrid, what % of program will be delivered online? 0

Any other comments about program delivery:

This program is intended to be in person.

Please identify any specialized accreditation agency that may apply to this program and explain why your institution does or does not intend to seek specialized accreditation.

N/A

Will the curriculum require work-based or experiential learning (internship, practicum, etc.)? If yes, please explain.

Experiential learning in terms of internship and practicum are not required as part of the program. However, neuroscience students interested in a research career are encouraged (not required) to pursue volunteer research opportunities.

Will the program be designed to meet educational requirements licensure and/or certification required for entry-level employment? If yes, please list license and/or certifications(s).

No, this program is not going to meet licensure or certification requirements.

7. Employment Occupational Alignment:

Using the federal Standard Occupational Code (SOC) System, please indicate the top three occupational codes related to post-graduation employment from the program. A full list of SOCs can be found at <https://www.onetcodeconnector.org/find/family/title#17>. A list of Alabama's "In-Demand Occupations" is available at <https://ache.edu/Instruction.aspx>

**SOC 1 (Required) - Standard Occupational Classifications
29-1222**

**SOC 2 (optional) - Standard Occupational Classifications
19-1029**

**SOC 3 (optional) - Standard Occupational Classifications
29-1217**

8. Relationship to other programs within the institution:

Is the proposed program associated with any existing offerings? If yes, please explain. If this is a graduate program, please list any existing undergraduate programs which are directly or indirectly related. If this is a doctoral program, also list related master's programs.

The proposed program has some similarities with the Educational Neuroscience program at UA. However, the Educational Neuroscience (B.S.) program is a specific and specialized program more focused on teaching neuroscience principles relevant to

education and teaching. Whereas, the proposed program encompasses Neuroscience as a field in general and trains students to acquire proficiency in more comprehensive and broader principles of social, cognitive, affective, developmental and behavioral neuroscience. Such a training can prepare students to pursue higher education and careers in a wider array of fields. In short, the proposed program encompasses a larger level approach to neuroscience whereas the Educational Neuroscience program can be considered as one of the sub specializations or branches.

Will this program replace any existing programs or specializations, options, or concentrations within existing programs? If yes, please explain.

No, this program will not replace any existing programs.

9. Relationship to programs at other Alabama public institutions:

List programs at the same degree level that use the same or similar CIP codes. If no similar programs exist within Alabama, please list similar programs offered within the 16 SREB states.

The University of Alabama at Birmingham (UAB) offers a neuroscience undergraduate degree with a focus in neurobiology, and Auburn University (AU) also offers an undergraduate neuroscience program with a focus on general neuroscience topics. Although UAB and AU programs use the same CIP code (26.1501), UA's proposed program differs from these programs in its focus on systems neuroscience and multidisciplinary training in social, cognitive, affective and developmental neuroscience areas. The UAB neuroscience program directors have been informed about UA's plan for developing a neuroscience major and have been largely supportive of the efforts.

The proposed program at UA will have some similarities with the neuroscience programs at UAB and at AU. All share essential courses for an undergraduate neuroscience major common to neuroscience majors at other universities. A relatively recent survey of program directors in neuroscience has found that the most essential courses for the undergraduate major in neuroscience were an introduction to biology, neuroscience, organic/inorganic chemistry, and calculus (Boitano & Deyal, 2011). Another study (Amherst, 2011) compared neuroscience curricula nationally and reported that a pre-med basic science curriculum, supplemented with specific coursework in psychology and neuroscience, were the prevalent models. However, specific neuroscience courses varied with faculty teaching loads and research interests of faculty. Hence, no two programs are alike. Given the common pre-med curriculum (Chemistry, Biology, Physics, Mathematics), there is variability in required specialty courses in the neurosciences, attributable to the areas of expertise of each institution's respective faculty. The same is true for the proposed neuroscience and psychology course work at UA. The UA program will differ from similar programs at UAB and AU in our emphasis on systems neuroscience. This will also provide more opportunities for students to find their interest and branch out as there are courses from multiple

disciplines like Psychology, Philosophy, Biology, Anthropology, Communicative Disorders, and Education.

Given the level of interest expressed by the current psychology undergraduate students and the neuroscience minor students at UA, and the expected job growth in neuroscience related fields, we do not see the proposed degree as infringing on or made unnecessary by the UAB or Auburn programs. Moreover, some faculty in the neuroscience programs at AU and UAB successfully collaborate with UA neuroscience faculty on research and teaching. Thus, collaborative neuroscience research across AU, UAB, and UA as well as the proposed neuroscience major at UA can contribute to strengthening neuroscience education and workforce in the state of Alabama.

If you plan to explore program collaboration with other institutions, please explain.

Biology, Human Development, Educational Neuroscience, Communicative Disorders, and Anthropology Programs/Departments at The University of Alabama have shared interests and ongoing collaborations. Undergraduate students from these departments work as research assistants in different laboratories. Likewise, undergraduate students will have training opportunities with faculty in these departments.

UA has ongoing collaborations with several faculty from UAB and AU. UA plays an active role in the Alabama Advanced Imaging Consortium (AAIC), which is a formal entity that promotes research and training activities across neuroscience groups (faculty and students) at UAB, AU, University of South Alabama, and UA. Our students will have opportunities to do laboratory research and training rotations in these institutions to learn new research methodologies and techniques, and to use facilities that are not available at UA (e.g., the 7 tesla MRI Imaging Center at Auburn).

10. Projected program demand

What is the primary methodology you will use to determine the level of student demand for this program? (Survey of current or former students, enrollments in existing programs or courses)

The primary methods that will be used to determine level of student demand are: survey of current students at UA about their interest in neuroscience major; and the rate of enrollment of students in the neuroscience minor at UA and its growth over the years.

What is the primary methodology you will use to determine state need for this program? (Labor market information, expert market analysis, state or regional economic development strategy)

National as well as state-wide distribution of data on undergraduate neuroscience programs, labor market information etc. will be the primary methods.