APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

NOTE: This form is a cover sheet that must accompany the degree program change proposal. The actual proposal should be prepared in accordance with format requirements provided in the *Guide and Format for Curriculum Proposals* published by the UCCC. Both cover sheet and proposal should be submitted to UCCC Mail Stop 9702 (281 Garner Hall), Phone: 325-9410.

College College of Arts & Sciences **Department:** Psychology

Contact Person: Adam Jones **Mail Stop:** 9637 **E-mail:** jones@cse.msstate.edu

Nature of Change: Addition **Date Initiated:** 04/24/2024

Current Degree Program Name: NA

Current Major: NA

Current Concentration(s): NA

Current Campus(es): Starkville

New Degree Program Name: Minor in Applied Neuroscience **Effective Date:** 08/20/25

Semester	Year
Fall	2025

Proposed Major: Minor in Applied Neuroscience

Proposed Concentration(s): NA

Proposed Campus(es): Starkville

Summary of Proposed Changes:

The proposed program is an undergraduate minor in Applied Neuroscience. This minor consists of 18 credit hours: 6 hours from core courses focusing on neurobiological and neuropsychological topics, and 12 hours of neuroscience-related electives. Electives must come from at least two departments. Relevant electives not listed below must be approved before they can be applied toward course requirements. No more than 50% of the courses applied toward this minor may be core courses within a given student's major.

Approved:	Date:
Jarrod Moss Digitally signed by Jarrod Moss Date: 2025.02.19 11:49:05 -06'00'	02/19/2025
Department Head	
Director of Academic Quality	2/19/0025
Chair, College or School Curriculum Committee	4/11/25
Dean of College or School	4/11/25
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	

Proposal: Undergraduate Minor in Applied Neuroscience

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New Degree Outline Chart

NEW DEGREE OUTLINE FORM

Use the chart below to indicate your new degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. Expand rows as needed.

PROPOSED New Degree	
Degree: Undergraduate Minor Major: Applied Neuroscience Concentration: N/A	
The proposed program is an undergraduate minor in Applied Neuroscience. The minor will provide fundamental knowledge of neuroscience and neuroscience-related topics, providing a broad foundation within the field. This minor consists of 18 credit hours: 6 hours from core courses focusing on neurobiological and neuropsychological topics, and 12 hours of neuroscience-related electives. Electives must come from at least two departments. No more than 50% of the courses applied toward this minor may be core courses within a given student's major. Relevant electives not listed below must be approved before they can be applied toward course requirements.	
Proposed Curriculum Outline	Required Hours
Neurobiological Core (choose 1): BIO/PSY 3033 - Introduction to Neuroscience PSY 4403 - Biological Psychology NOTE: Students must receive a final grade of C or greater in all core courses.	3
Neuropsychological Core (choose 1): PSY 3713 - Cognitive Psychology PSY 4413 - Cognitive Neuroscience PSY 4423 - Sensation & Perception NOTE: If a student takes both PSY 4403 and BIO/PSY 3033, one of those courses may be used to satisfy this requirement. Students must receive a final grade of C or greater in all core courses.	3
Elective Courses (choose 4): ABE 3413 - Bioinstrumentation ABE 4323 - Physiological Systems in Biomedical Engineering ABE 4613 - Biomechanics ABE 4633 - Biomedical Signals and Sensors ABE 4723 - Tissue Eng. and Regeneration BCH 4013 - Principles of Biochemistry BCH 4713 - Molecular Biology BIO 3004 - Human Anatomy BIO/PSY 3033 - Introduction to Neuroscience BIO 3033 - Introduction to Neuroscience BIO 4133 - Human Genetics BIO 4503 - Vertebrate Histology BIO/PO 3103 - Genetics CSE 4433 - Virtual and Extended Reality CSE 4633 - Artificial Intelligence CSE 4643 - AI Robotics CSE 4663 - Human-Computer Interaction CSE 4683 - Machine Learning and Soft Computing EP 4703 - Neural Control & Human Movement PE 3223 - Motor Development & Movement PE 4853 - Motor Learning & Skill Analysis	12

PHI 4223/PSY 4383 - Philosophy of Cognitive Science PSY 3713 - Cognitive Psychology PSY 4223 - Drug Use and Abuse PSY 4403 - Biological Psychology PSY 4413 - Cognitive Neuroscience PSY 4423 - Sensation & Perception PSY/CSE 4653 - Cognitive Science PSY 4713 - Language and Thought PSY 4733 - Memory NOTE: Students may choose to take a 4800 Undergraduate Research course or a Directed Individual Study where they engage in faculty-mentored, neuroscience-related research for up to 3 hours credit toward elective requirements. In order to utilize this option, students must submit a research plan signed by their faculty mentor for approval by the Applied Neuroscience Curriculum Committee. Other courses that can be reasonably justified as having neuroscience content may also be counted toward elective requirements with approval of the program coordinator. This must be completed and approved prior to applying for graduation. Core courses cannot be double counted as electives. However, core courses taken beyond the specified core requirements may be applied to fulfill the elective requirements. Students must receive a final grade of C or greater in all elective courses.	
Total Hours	18

Additional Program Information

Justification:
With neuro-technology, artificial intelligence, and extended reality becoming increasingly common in daily life, this minor is intended to provide students with a working knowledge of the science that fundamentally underpins them. Thus, the minor's core courses focus on neurobiology, neural processing, perception, and cognition. The remaining elective courses are intended to allow students to study neuroscience-related topics that align with their educational and career trajectories while also ensuring a broad foundation within the field. Courses, when available, may be taken either online or in-person pending departmental enrollment policies. Courses not listed in this proposal that contain sufficient neuroscience research or application may count toward elective requirements pending approval by the program coordinator.

Target Audience:
Undergraduate students who are interested in understanding neuroscience applications and research across multiple disciplines.

Effective Date:
August 2025

Proposed Abbreviation:
NEU

CIP Code:
26.1501 (Neuroscience)

CIP Description:
A program that focuses on the interdisciplinary scientific study of the molecular, structural, physiologic, cognitive, and behavioral aspects of the brain and nervous system. Includes instruction in molecular and cellular neuroscience, brain science, anatomy and physiology of the central nervous system, molecular and biochemical bases of information processing, behavioral neuroscience, biology of neuropsychiatric disorders, and applications to the clinical sciences and biomedical engineering.

Learning Outcomes and Evaluations:

- *Outcome 1:* Demonstrate an understanding of fundamental neurobiological mechanisms.
  Evaluation: A grade of C or better on the exam focusing on fundamental neurobiological mechanisms in either BIO/PSY 3033 or PSY 4403.

- *Outcome 2:* Use fundamental principles to analyze neuroscience applications in multiple disciplines.
  Evaluation: A reflective essay clearly demonstrating an understanding of neuroscience and its applications as evaluated by the program coordinator.

Administration of the Minor:
This proposal has been developed by the Neuroscience Organizing Committee, consisting of representatives from the participating departments. Upon approval of this proposal, this committee will become the Applied Neuroscience Curriculum Committee (ANCC). The curriculum for this minor will be managed by the ANCC. The committee will include one faculty representative from each department contributing courses to the minor. One member will serve as the committee chair and program coordinator for a term of three years. The minor will be housed within the Department of Psychology in the College of Arts & Sciences. Although the ANCC oversees the minor, administrative approvals must proceed through the Psychology Department Chair and the College of Arts & Sciences. The ANCC will meet no less than once per semester to evaluate the state of the curriculum, discuss future directions, and vote on curricular modifications and additions.

Each department offering courses in the minor must have one representative on the ANCC. If relevant courses from a department not currently represented on the ANCC are added to the approved curriculum, a representative from that department must be added to the committee. Ideally, ANCC members are faculty who teach classes relevant to the minor. In the event a member must be replaced, their associated department may select a replacement member whose teaching and research most closely align with the minor. New or replacement members must submit a CV for evaluation by the ANCC. The ANCC will vote on the addition of the proposed member. In the event that the ANCC does not find sufficient overlap between the proposed member's teaching or research and applied

neuroscience, the ANCC may request that their respective department suggest an alternative member for consideration. In the event that a participating department no longer offers neuroscience-related courses, it will no longer require representation on the ANCC.

Every three years, a committee chair is elected by the ANCC from its members. The election will take place during a regularly scheduled ANCC meeting. The chair of the Organizing Committee will serve as the inaugural chair of the ANCC with elections occurring every three years thereafter.

Program Faculty Support Letter

MISSISSIPPI STATE UNIVERSITY

BAGLEY COLLEGE OF ENGINEERING
Department of Computer Science and Engineering
Mississippi State University
Starkville, MS, USA, 39762
P. (662) 325-2756
jones@cse.msstate.edu
www.cse.msstate.edu

To Whom It May Concern: February 19, 2025

We are pleased to present the application materials and formal support for the creation of a Minor in Applied Neuroscience. This is a program that crosses many departmental and college boundaries, highlighting Mississippi State University's culture of cooperation and innovation. This minor consists of 18 credit hours: 6 hours from core courses focusing on neurobiological and neuropsychological topics, and 12 hours of neuroscience-related electives. Electives must come from at least two departments. Additional details about the program and its administration can be found in our attached proposal.

This proposal is being submitted by the Neuroscience Organizing Committee, consisting of representatives from the participating departments. Upon approval of this proposal, this committee will become the Applied Neuroscience Curriculum Committee (ANCC). The curriculum for this minor will be managed by the ANCC. The committee will include one faculty representative from each department contributing courses to the minor. One member will serve as the committee chair and program coordinator for a term of three years. The chair of the Organizing Committee will serve as the inaugural chair of the ANCC with elections occurring every three years thereafter.

As such, the committee consists of the following representatives:

- David Van Den Heever, *Agricultural and Biological Engineering*
- Jiaxu Li, *Biochemistry, Nutrition, and Health Promotion*
- Angus Dawe, *Biological Sciences*
- J. Adam Jones, *Computer Science & Engineering*
- Zhujun Pan, *Kinesiology*
- John Bickle, *Philosophy and Religion*
- Ken Maclyn, *Poultry Science*
- Jarrod Moss, *Psychology*

We will happily address any questions, comments, or concerns you may have about the minor.

With Sincere Support,

2/19/2025
J. Adam Jones (committee chair)

2/19/2025
David Van Den Heever (committee member)

2/20/2025
John Bickle (committee member)

Angus Dawe Digitally signed by Angus Dawe Date: 2025.02.20 14:28:48 -06'00'
Angus Dawe (committee member)

Jarrod Moss Digitally signed by Jarrod Moss Date: 2025.02.20 12:13:31 -06'00'
Jarrod Moss (committee member)

Ken Macklin Digitally signed by Ken Macklin Date: 2025.02.20 08:07:33 -06'00'
Ken Maclyn (committee member)

Jiaxu Li Jiaxu Li 2025.02.19 23:37:46 -06'00'
Jiaxu Li (committee member)

Zhujun Pan (committee member)

Departmental Support Letters

MISSISSIPPI STATE UNIVERSITY.

Department of Agricultural and Biological Engineering
P. O. Box 9632, Mississippi State, MS 39762
Phone: 662.325.3282; Website: abe.msstate.edu

February 18, 2025

To whom it may concern:

I am writing in support of the Minor in Applied Neuroscience. As a department, we support the use of the following Agricultural & Biological Engineering courses as electives:

- ABE 3413 - Bioinstrumentation
- ABE 4323 - Phys. Systems in Biomedical Eng.
- ABE 4633 - Biomedical Signals and Sensors
- ABE 4613 - Biomechanics
- ABE 4723 - Tissue Eng. and Regeneration

Online enrollment may be necessary for non-majors due to the need to meet major matriculation needs. Overrides can be given on a case-by-case basis as per need during other instructional periods. Please do not hesitate to contact me for any further information or clarification.

Sincerely,
ABE faculty

J. Alex Thomasson
Department Head, Professor

Dong Chen
Assistant Professor

Daniel Chesser
Assistant Professor

Jessica Drewry
Digitally signed by Jessica Drewry
Date: 2025.02.19 10:53:43 -06'00'
Jessica Drewry
Assistant Ext. Professor

Steve Elder
Professor

Hussein Gharakhani
Assistant Professor

Seungil Kim
Assistant Professor

Wes Lowe
Assistant Professor

Vitor Martins
Assistant Professor

Maryam Mohammadi
Assistant Research Professor

Prem Parajuli
Professor

Lauren Priddy
Associate Professor

Digitally signed by Amirtaha Taebi
Date: 2025.02.19 08:16:07 -05'00'
Amirtaha Taebi
Assistant Professor

Mary Love Tagert
Associate Professor

David Vandenheever
Associate Professor

Nuwan Wijewardane
Assistant Professor

Fei Yu
Professor

Xin Zhang
Assistant Professor

MISSISSIPPI STATE UNIVERSITY.

DEPARTMENT OF BIOCHEMISTRY, NUTRITION,
AND HEALTH PROMOTION
P. O. Box 9655
Mississippi State, MS 39762
P. 662.325.2640
bchnhp.msstate.edu

February 10, 2025

Dr. Adam Jones
Department of Computer Science & Engineering
323 Butler Hall
Mississippi State, MS 39762

Re: **Letter of Support for Minor in Applied Neuroscience**

Dear Dr. Jones,

I am pleased to write this letter in support of the minor in Applied Neuroscience that is being developed by several departments on campus. I have discussed the minor in Applied Neuroscience with the Biochemistry faculty, and everyone that had an opinion on the Applied Neuroscience minor saw it as a positive for MSU and the Department of Biochemistry, Nutrition & Health Promotion (BCHNHP). The Biochemistry faculty are pleased that two Biochemistry courses – BCH 4013: Principles of Biochemistry & BCH 4713: Molecular Biology – will be included in the elective list for the minor.

We look forward to helping you with the minor in Applied Neuroscience!

Please feel free to contact me if you require any additional information.

Sincerely,

Daniel G. Peterson

Daniel G. Peterson, Ph.D.
William L. Giles Distinguished Professor
Interim Head
Department of Biochemistry, Nutrition & Health Promotion

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

P.O. Box GY
295 E Lee Blvd
Mississippi State, MS 39762

P. 662.325.3120
F. 662.325.7939
www.biology.msstate.edu

February 17, 2025

To whom it may concern:

The Department of Biological Sciences is submitting this letter in support of the development of a minor in Applied Neuroscience. We support the use of our courses in this proposed curriculum option. Although we expect the proposed minor will be of interest to a number of students, we do not anticipate that enrollments in any necessary courses will increase from inclusion in this new track, or affect the availability of any courses for other students or the way we offer them. We are happy to help provide a new pathway for students that provides novel options as they consider their future career goals.

Sincerely,

Angus Dawe

Digitally signed by Angus Dawe
Date: 2025.02.17 17:11:57 -06'00'

Angus L. Dawe, Ph.D.
Professor
Department Head

Evan L. Kaplan
2025.02.18 09:38:58 -06'00'

Evan Kaplan, Ph.D.
Assistant Teaching Professor
Chair, Biological Sciences Curriculum Committee

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

Stephen A. Torri
CSE Committee on Courses and Curricula Computer Science and Engineering
Mississippi State University
665 George Perry Street
Box 9637
Mississippi State, MS 39762

February 17, 2025

Dr. Perkins,

To Whom It May Concern,

The faculty of the Computer Science and Engineering (CSE) department has officially approved the Minor in Applied Neuroscience. As a department, we support the use of the following Computer Science and Engineering courses as electives for this minor degree:

- CSE 4433 - Virtual and Extended Reality
- CSE 4633 - Artificial Intelligence
- CSE 4643 - AI Robotics
- CSE 4663 - Human-Computer Interaction
- CSE 4683 - Machine Learning and Soft Computing

Online enrollment may be necessary for non-majors due to the need to meet major matriculation needs. Overrides can be given on a case-by-case basis as needed during other instructional periods.

Please feel free to contact me if you have any questions or concerns.

Stephen A. Torri
Committee Chair
Associate Professor

Jingdao Chen, Ph.D.
Committee Member
Assistant Professor

Kortni Neal
Committee Member
Instructor

Joshua Crowson
Committee Member
Instructor

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF KINESIOLOGY
P.O. Box 6186
6th Floor Rice Hall
Mississippi State, MS 39762
P. 662.325.2963
F. 662.325.4525
www.kinesiology.msstate.edu

February 14, 2025

To whom it may concern:

I am writing in support of Minor in Applied Neuroscience. As a department, we support the use of the following Kinesiology courses as electives:

- EP 4703: Neural Control of Human Movement
- PE 3223: Motor Development and Movement
- PE 4853: Motor Learning and Skill Analysis

Online enrollment may be necessary for non-kinesiology majors due to the need to meet Kinesiology major matriculation needs. Overrides can given on a case by case basis as per need during other instructional periods.

Please do not hesitate to contact me for any further information or clarification.

Sincerely,

JohnEric W. Smith, PhD

JohnEric W. Smith, Ph.D.
Department Head | Associate Professor
Department of Kinesiology
Mississippi State University

MISSISSIPPI STATE UNIVERSITY™

COLLEGE OF ARTS & SCIENCES
Department of Philosophy & Religion

233 Lee Blvd
P.O. Box JS
Mississippi State, MS 39762

P. 662.325.2382
F. 662.325.3340
www.philosophyandreligion.msstate.edu

February 21, 2025

Members of the UCCC:

The Department of Philosophy and Religion supports the Minor in Applied Neuroscience, including the use of PHI 4223/6223 Philosophy of Cognitive Science as an elective for that program.

Sincerely,

J. Robert Thompson, Ph.D.
Head
Department of Philosophy and Religion

Alicia Hall

Dr. Alicia Hall, Ph.D.
Chair, Department of Philosophy and Religion Curriculum Committee

MISSISSIPPI STATE UNIVERSITY.

DEPARTMENT OF POULTRY SCIENCE
P. O. Box 9665
Mississippi State, MS 39762
P. 662.325.3416
poultry.msstate.edu

Date: February 11th, 2025

To: Dr. Ken Macklin, Department Head
From: Dr. Jessica Wells, Curriculum Committee Chair

Re: Minor in Applied Neuroscience

Dear Dr. Macklin,

This letter serves as verification that the Curriculum Committee supports the Minor in Applied Neuroscience. As a department, we support the use of the following Poultry Science course as an elective:

- PO 3103 - Genetics

Online enrollment may be necessary for non-majors due to the need to meet major matriculation needs. Overrides can be given on a case-by-case basis as per need during other instructional periods.

Sincerely,

Jessica Wells

Digitally signed by Jessica Wells
Date: 2025.02.17 11:57:02 -06'00'

Jessica Wells, PhD
Chair

MISSISSIPPI STATE UNIVERSITY

To: University Committee on Courses and Curricula
From: Department of Psychology
Date: February 18, 2025

Dear UCCC Committee Members:

The Department of Psychology enthusiastically supports the proposed **Minor in Applied Neuroscience**, submitted by the Neuroscience Organizing Committee and to be housed within our department. Members of the Psychology Undergraduate Committee have reviewed the proposal and fully endorse its implementation.

The Applied Neuroscience Minor aligns closely with the Department of Psychology's mission to advance interdisciplinary education and research. The curriculum leverages existing strengths in our course offerings, including courses such as **Biological Psychology (PSY 4403)**, **Cognitive Psychology (PSY 3713)**, and **Cognitive Neuroscience (PSY 4413)**, as well as electives that intersect with psychology, neurotechnology, and cognitive science. This program will provide students with a robust foundation in neuroscience principles while fostering connections to emerging fields such as artificial intelligence, biomedical engineering, and human-computer interaction.

We commend the proposal's structured governance model, including the Applied Neuroscience Curriculum Committee (ANCC), which ensures interdisciplinary collaboration and curricular rigor. As the administrative home for the minor, the Department of Psychology is committed to supporting the ANCC's efforts to maintain high academic standards and adapt to advancements in neuroscience education.

The integration of psychology courses into this minor underscores our department's role in bridging theoretical and applied science. We are confident this program will enhance student opportunities for research, interdisciplinary study, and career readiness in a rapidly evolving field.

Thank you for your consideration of this proposal. Please do not hesitate to contact us with any questions.

Sincerely,

Danielle Nadorff, Ph.D. (Committee chair)

Danielle K. Nadorff, Phd. Digitally signed by Danielle K. Nadorff, Ph.D.
Date: 2025.02.18 16:02:28 -06'00'

Allison Jaegar Berena, Ph.D. (Committee member)

Allison Jaeger Digitally signed by Allison Jaeger
Date: 2025.02.19 10:26:54 -06'00'

Jonathan Black, M.S. (Committee member)

2-19-2025