Student Learning Outcomes (SLOs) Report for Non-Accredited Programs

(***updated 9/19/23)***

Program Type: **Non-Accredited Program**

Program Name: BS in Neuroscience

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Submission Date:

Review Cycle:

- ○ Even Year
- X Odd Year

Review Round:

[X] Round A (Associate Dean review)
Round B (Associate Dean + VPAA review)

All SLO reports are archived here: https://www.eiu.edu/assess/majorassessment.php

DUE: **October 15th** to your Associate Dean or designee

BS in Neuroscience Year 4 Assessment Report

Summer 2023 to Spring 2025 Data

Student Learning Outcomes (SLOs) for Neuroscience Majors

First approved by the Department of Psychology on December 11, 2020

Over the past 2 years, we have collected direct assessment data of the Neuroscience (NEU) student learning outcomes through embedded course assessments. PSY courses from which we report NEU student performance include the following:

- PSY 3310: Biological Psychology
- PSY 3450: Neuropsychology
- PSY 3518: Psych of Language Development
- PSY 3680: Sensation and Perception
- PSY 3820: Cognitive Neuroscience
- PSY 4810: Neuropsychopharmacology

Embedded course measures included quizzes, exams, reaction papers, journal article critiques, term papers, and oral presentations.

SLO(s) *Note: Measures might be used for more than 1 SLO*	***ULG****	***Measures/Instruments*** *Please include a clear description of the instrument including when and where it is administered*	**How is the information Used?** *(include target score(s), results, and report if target(s) were met/not met/partially met for each instrument)*
I. CONCEPTUAL KNOWLEDGE:			
1. Basic understanding of the development, structure, and function of the nervous system	NA	PSY 3820 Exams PSY 3450 Exams PSY 3450 Term Paper PSY 3518 Term Paper PSY 3310 Quizzes PSY 3680 Quizzes PSY 4810 Quizzes	81.5 (n = 52)
2. Basic understanding of the cellular and molecular biology of the nervous system	NA	PSY 3820 Exams PSY 3450 Exams PSY 3310 Quizzes PSY 3680 Quizzes PSY 4810 Quizzes	80.1 (n = 44)
3. Basic understanding of systems and behavioral approaches to neuroscience	NA	PSY 3820 Exams PSY 3450 Exams PSY 3310 Quizzes PSY 3680 Quizzes PSY 4810 Quizzes	80.1 (n = 44)

SLO(s) *Note: Measures might be used for more than 1 SLO*	***ULG****	***Measures/Instruments*** *Please include a clear description of the instrument including when and where it is administered*	**How is the information Used?** *(include target score(s), results, and report if target(s) were met/not met/partially met for each instrument)*
4. Broad-based and integrated knowledge acquisition in fields that intersect with neuroscience	NA	PSY 3820 Exams PSY 3450 Final Exam PSY 3450 Term Paper PSY 3518 Term Paper PSY 3310 Quizzes PSY 3680 Quizzes PSY 3310 Quizzes PSY 4810 Quizzes	82.6 (n = 52)
II. ANALYTIC AND SCIENTIFIC THINKING:			
1. Ability to collect, analyze, and interpret quantitative information	C, Q	PSY 3680 Journal Critique PSY 3310 Journal Critique PSY 3310 Reaction Paper PSY 4810 Reaction Paper	90.6 (n = 24)
2. Abilities in scientific inquiry, such as hypothesis development, experimental design, and data analysis and interpretation	C	PSY 3680 Journal Critique PSY 3310 Quizzes PSY 3310 Journal Critique PSY 3310 Quizzes PSY 3310 Reaction Paper PSY 4810 Quizzes PSY 4810 Reaction Paper	87.2 (n = 24)
3. Ability to read and critically analyze a primary research paper	C, W	PSY 3680 Journal Critique PSY 3820 Term Paper PSY 3450 Term Paper PSY 3518 Term Paper PSY 3310 Journal Critique PSY 3310 Reaction Paper PSY 4810 Reaction Paper	89.3 (n = 43)
III. RIGOROUS AND RESPONSIBLE CONDUCT OF RESEARCH:			
1. Basic understanding of scientifically rigorous experimental design and execution, as well as data analysis and interpretation	C, Q	PSY 3450 Term Paper PSY 3518 Term Paper	88.0 (n = 15)
2. Basic understanding of research ethics, such as: Research misconduct and research integrity, including data falsification or manipulation; Policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices; Responsible authorship, peer review, and publication processes	R	PSY 3310 Quizzes PSY 3310 Reaction Paper PSY 4810 Quizzes PSY 4810 Reaction Paper	86.9 (n = 24)

IV. COMMUNICATION SKILLS:			
1. Ability to present scientific information orally in an organized and coherent manner	S	PSY 3820 Presentation	69.5 (n = 4)
2. Ability to communicate scientific information in written format for scientific publication	W	PSY 3450 Term Paper PSY 3518 Term Paper	88.0 (n = 15)
3. Ability to communicate scientific information to the lay public in both oral and written formats	S, W	PSY 3680 Journal Critique PSY 3310 Journal Critique PSY 3310 Reaction Paper PSY 4810 Reaction Paper	90.6 (n = 24)
4. Listening carefully and asking pertinent questions	S	PSY 3820 Presentation	69.5 (n = 4)
5. Visual presentation of data and preparation of figures	W	PSY 3820 Presentation	69.5 (n = 4)
V. INDIVIDUAL DEVELOPMENT AND PROFESSIONALISM:			
1. Responsible and ethical behavior	R	PSY 3450 Term Paper PSY 3518 Term Paper	88.0 (n = 15)
2. Teamwork and professional interpersonal skills	R	Faculty Evaluation of Student Researchers	See section 5.4 of the PSY Assessment table below
3. Exposure to the cultural diversity of the neuroscience community	R	PSY 3820 Term Paper PSY 4810 Reaction Paper	84.7 (n = 12)
4. Advocacy and community outreach	R	Not assessed	
5. Awareness of career opportunities and the paths to achieve career goals	NA	PSY 3450 Final Exam	100.0 (n = 7)

**Please reference any University Learning Goal(s) (ULG) that this SLO, if any, may address or assess. C=Critical Thinking, W=Writing & Critical Reading; S=Speaking and Listening; Q=Quantitative reasoning; R=Responsible Citizenship; NA=Not Applicable*

PSY Faculty Evaluation of NEU Student Researchers

The table below contains faculty ratings of NEU majors enrolled in PSY 3900 (Independent Study) or PSY 4100 (Undergraduate Research). Sample sizes range from 1 to 2 students depending on the learning goal. Ratings are on a 4-point scale from 1 (Not at all) to 4 (A lot). Our target goals are mean ratings above 3.5, and 90% indicating "Some" or "A lot." A considerable number of these goals overlap with the NEU major learning goals.

We assessed the NEU students using the PSY major learning goals below.

Goal 1: Content Knowledge and Applications

Student Learning Objectives (ULG)	Measures/Instruments	Results
1.1 Describe key concepts, principles, and theories in psychological science	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot
1.2 Develop a working knowledge of psychology's major subfields	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot
1.4 Apply psychological content to solve practical problems	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot

Goal 2: Scientific Inquiry and Critical Thinking (EIU LG "Critical Thinking" and "Quantitative Reasoning")

Student Learning Objectives (ULG)	Measures/Instruments	Results
2.1 Exercise scientific reasoning to investigate psychological phenomena	Faculty Evaluation of Student Researchers	M = 3.5, 100% Some/A lot
2.2 Interpret, design, and evaluate psychological research	Faculty Evaluation of Student Researchers	M = 3.5, 100% Some/A lot
2.3 Incorporate sociocultural factors in scientific research practices	Faculty Evaluation of Student Researchers	M = 4.0, 100% Some/A lot
2.4 Use statistics to evaluate quantitative research findings	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot

Goal 3: Values in Psychological Science (EIU LG "Responsible Citizenship")

Student Learning Objectives (ULG)	Measures/Instruments	Results
3.1 Employ ethical standards in research, practice, and academic contexts	Faculty Evaluation of Student Researchers	M = 3.5, 100% Some/A lot
3.2 Develop and practice interpersonal and intercultural responsiveness	Faculty Evaluation of Student Researchers	M = 4.0, 100% Some/A lot
3.3 Apply psychological principles to strengthen community and improve quality of life	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot

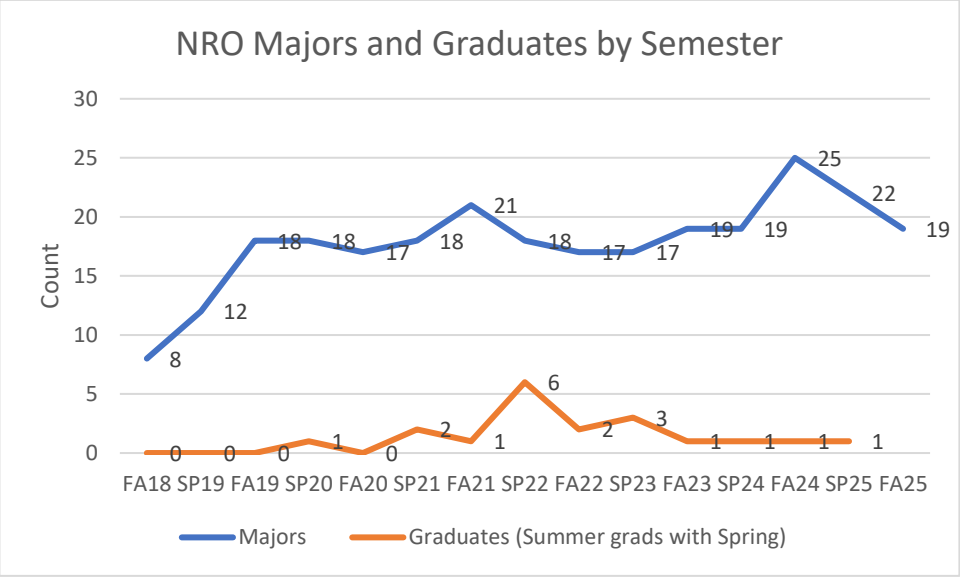
Goal 4: Communication, Psychological Literacy, and Technology Skills (EIU LGs "Writing and Critical Reading" and "Speaking and Listening")

Student Learning Objectives (ULG)	Measures/Instruments	Results
4.1 Interact effectively with others	Faculty Evaluation of Student Researchers	No data
4.2 Write and present effectively for different purposes.	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot

4.3 Provide evidence of psychological literacy	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot
4.4 Exhibit appropriate technological skills to improve communication		

Goal 5: Personal and Professional Development

Student Learning Objectives (ULG)	Measures/Instruments	Results
5.1 Exhibit effective self-regulation	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot
5.2 Refine project management skills	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot
5.3 Display effective judgment in professional interactions	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot
5.4 Cultivate workforce collaboration skills (This item is similar to NEU Goal V.2)	Faculty Evaluation of Student Researchers	No data
5.5 Demonstrate appropriate workforce technological skills	Faculty Evaluation of Student Researchers	No data
5.6 Develop direction for life after graduation	Faculty Evaluation of Student Researchers	M = 3.0, 100% Some/A lot



Improvements and Changes Based on Assessment

1. Provide a short summary (1-2 paragraphs or bullets) of any curricular actions (revisions, additions, and so on) that were approved over the past two years as a result of reflecting on the student learning outcomes data. Are there any additional future changes, revisions, or interventions proposed or still pending?
    a. No curricular changes in the past 2 years.
2. Please provide a brief description or bulleted list of any improvements (or declines) observed/measured in student learning. Be sure to mention any intervention made that has not yet resulted in student improvement (if applicable).

a. Our number of NEU majors remains fairly steady.
b. Most of the assessment data are comparable to the last report and within range of the 85% performance benchmark. However, three learning outcomes (IV.1, IV.4, IV.5) were much lower due solely to the incomplete submission of assignments by one of four students enrolled in PSY 3820 (Cognitive Neuroscience).

3. Using the form below, please document annual faculty and committee engagement with the assessment process (such as the review of outcomes data, revisions/updates to assessment plan, and reaffirmation of SLOs).

History of Annual Review		
Date of Annual Review	**Individuals/Groups who Reviewed Plan**	**Results of the Review (i.e., reference proposed changes from #1 above, revised SLOs, etc...)**
9/19/2025	Neuroscience Committee	The Society for Neuroscience has not changed the learning objectives that we adopted for the undergraduate major so we will retain the existing learning objectives. Despite planning to have a separate faculty rating survey for NEU and PSY undergraduate research students, the faculty supervising NEU majors' research received the PSY evaluation survey. This will be corrected in future years. We will also consider inviting the BIO faculty to rate NEU students conducting research in BIO. We considered adding an alumni survey/interviews if we can obtain contact information from our alumni. We may need to spread out the offering of NEU 3905 (Neuroscience Research Methods) to increase course enrollment. We will add NEU 3905 to the list of courses from which we pull embedded assessments.

Dean Review & Feedback

The BS in Neuroscience assessment plan is well-conceived with clearly identified and mapped out SLOs tied to instruments in specific courses in the program. The Neuroscience assessment committee completed an annual review in September 2025 which resulted in an affirmation of the major's learning objectives along with plans to add an alumni survey (contingent upon obtaining alumni contact information). The review also highlighted a need to adjust scheduling for NEU 3905, the research methods course. In order to better assess student research in the program, the department plans to invite BIO faculty to rate NEU students who conduct research in BIO courses. Overall, the NEU assessment instrument continues to evolve and the department draws from assessment data to inform curricular and programmatic decisions.

Michael Cornebise, Associate Dean — 11/25/2025
Dean or designee — Date

Academic Affairs –Review & Feedback