Department of Psychology

Neuroscience Assessment Plan (2016-2018)

Department of Psychology – Neuroscience Program Mission Statement

The Department of Psychology – Neuroscience Program at the University of Wisconsin-River Falls (1) provides students with an understanding of the content and methods of neuroscience, (2) prepares students for a lifetime of learning and thinking by cultivating intellectual and communications skills, and (3) promotes personal characteristics that are consistent with high ethical and professional standards. We strive to acquaint students with research findings and theories in numerous areas across neuroscience, psychology, biology, chemistry, and related fields. This goal is accomplished through a curricular structure that ensures students first take courses in introductory neuroscience and scientific methodology followed up by courses in the foundations of psychology, biology, and chemistry. We also encourage our students to further their scientific understanding by conducting independent research under the supervision of one or more faculty sponsors. Our department recognizes that many students are seeking careers in health and human services and other applied fields. Thus, we will offer a variety of courses and experiences, including internships, that enable students to apply neuroscience principles across a variety of settings (classrooms, laboratories, workplaces).
Section 1: Learning Outcomes

Engagement with internal stakeholders in developing our learning outcomes

The Neuroscience Program considers its primary internal stakeholders to be our students, our faculty (including tenure-track and IAS), and departments/units with which we closely collaborate (e.g., Biology, Chemistry, URSCA). As will be detailed later in the report, we collect extensive data from our students that we use in our ongoing assessment and curricular development. Our faculty participate in all phases of the assessment process, including assessment development, data collection, data analysis, and evidence-based changes to our curricular and other departmental processes. Thus, our learning outcomes and assessment practices reflect careful consideration of the needs and capacities of our internal stakeholders.

Engagement with external stakeholders in developing our learning outcomes

The Neuroscience Program considers its primary external stakeholders to be our alumni, organizations that employ and welcome our students as interns, and graduate schools that accept and further train our students. We also recognize our obligations and connections to the field of neuroscience, to our regional and state communities, and to the families who send us the students that we educate. We maintain close contact with our alumni, welcoming them at numerous annual department events. We connect with students’ families on College Visit Days, at prospective student visits, and at departmental events where we encourage students to bring their families. We also interact regularly with UWRF Career Services to informally gather their observations of our students’ readiness for internships and jobs.

Regarding our connection to the field as a whole, the learning outcomes reflect the Faculty for Undergraduate Neuroscience core competencies for an undergraduate neuroscience program published in 2012 (see reference below).


Our program was designed to allow students to complete the neuroscience degree and most of the prerequisites to enter pre-professional programs such as pharmacology, medicine, and occupational therapy. Thus, our learning outcomes are consistent with literature-based recommendations for training these students (see reference below).


In summary, our learning outcomes and assessment practices reflect careful consideration of the needs and capacities of our external stakeholders.
Statement of Program Learning Outcomes

Consistent with these findings and our own capacities, our learning outcomes are:

1. **Knowledge Base of Neuroscience (LO1):** A graduate will be able to demonstrate an understanding of basic neuroanatomy and nervous system function on a molecular, cellular and systems level. They will also demonstrate an understanding of the main research approaches, techniques, and topics in neuroscience and understand the interdisciplinary nature of neuroscience.

2. **Scientific Inquiry and Critical Thinking (LO2):** A graduate will be able to use scientific reasoning to interpret phenomena in neuroscience, demonstrate information literacy and interpret, design, and conduct basic research in neuroscience.

3. **Ethical and Social Responsibility in a Diverse World (LO3):** A graduate will demonstrate an understanding of the relationship between neuroscience and society, including an evaluation of ethical implications in neuroscience research.

4. **Communication (LO4):** A graduate will be able to demonstrate effective writing and communication skills.

5. **Professional Development (LO5):** A graduate will apply neuroscience content and skills to career goals.

Linkage of Learning Outcomes to UWRF Strategic Goals and Initiatives

**Distinctive Academic Excellence:** The Neuroscience major at UWRF is distinctive in a number of respects. First, our program is distinctive in being the first neuroscience degree in the University of Wisconsin System. Second, our curriculum follows a science-based, science-first strategy aligned with core competency findings of the Faculty for Undergraduate Neuroscience professional group (Identifying and using ‘Core Competencies’ to Help Design and Assess Undergraduate Neuroscience Curricula, 2012; LO1 and LO2). As part of this, our students take foundational courses in multiple disciplines, namely psychology, biology and chemistry. All students have opportunities to complete several research experiences in keeping with the 2012-2013 Strategic Initiative focused on Undergraduate Research, Creative, and Scholarly Activity (URSCA). In addition to our emphasis on scientific skills, students strengthen their Knowledge Base in Neuroscience (LO1) as well as their Communication Skills (LO4) as they advance through the curriculum. Ethical and Social Responsibility Skills (LO3) should be especially strengthened as part of the Research Methods course (PSYC 216) and Bioethics (PHIL 220). Professional Development Skills (LO5) are especially strengthened as part of their career exploration in the Introduction to Neuroscience Course.

**Innovation and Partnerships:** As discussed previously, we will participate significantly in internships, field-based educational experiences, and alumni partnerships. Because our formal program start was only last year, we are still in the process of developing these experiences. While much of the assessment of these practices will be informal, we will formally assess student benefits from internship experiences in our Senior Exit Survey. Our expectation is that all these experiences will be especially helpful to students in the development of LOs 3-5.
Section 2: Profile of Where Learning Outcomes are being Achieved

Coursework Experience and Assessments:

LO1: Knowledge Base of Neuroscience: Students should gain a strong knowledge base in neuroscience through the following courses:

1) Our Introductory courses -
   NSCI 111: Introduction to Neuroscience
   PSYC 101: General Psychology
   BIOL 150: General Biology
   CHEM (varies): One introductory Chemistry Course

2) Our core courses –
   BIOL 342: Anatomy and Physiology II (focus on the nervous system)
   BIOL 356: Neurobiology
   PSYC 350: Sensation and Perception
   PSYC 355: Physiological Psychology

LO2: Scientific Inquiry and Critical Thinking: Students will learn to use scientific reasoning to interpret phenomena in neuroscience, demonstrate information literacy and interpret, design and conduct basic research in neuroscience through the following courses:

1) Our Introductory courses –
   NSCI 111: Introduction to Neuroscience
   PSYC 201: Behavioral Statistics or BIOL 231: Biostatistics
   PSYC 216: Research Methods

2) Our core courses –
   CHEM (varies): One introductory Chemistry Course
   BIOL 240: Cellular and Molecular Biology
   BIOL 342: Anatomy and Physiology II
   BIOL 351: Epigenetics
   PSYC 355: Physiological Psychology

LO3: Ethical and Social Responsibility: Students will demonstrate an understanding of the relationship between neuroscience and society, including an evaluation of ethical implications in neuroscience research through the following courses:

1) Our Introductory courses –
   NSCI 111: Introduction to Neuroscience
   PSYC 216: Research Methods
   PHIL 220: Bioethics

2) Our core courses –
   BIOL 342: Anatomy and Physiology II
   BIOL 351: Epigenetics
**LO4: Communication:** Students will demonstrate effective writing and communication skills through the following courses:

1. **Our Introductory courses –**
   - NSCI 111: Introduction to Neuroscience
   - PSYC 216: Research Methods

2. **Our core courses –**
   - BIOL 240: Cellular and Molecular Biology
   - PSYC 355: Physiological Psychology

**LO5: Professional Development:** Students will apply neuroscience content and skills to career goals through the following course:

1. **Our Introductory courses –**
   - NSCI 111: Introduction to Neuroscience

**Out-of-Classroom Experience and Assessments:**

**Independent Research Experiences:** As noted, all students will complete at least one research experience as part of Research Methods. In addition to that, however, we strongly encourage our students to conduct research independently or collaborate with other students on a research project. We have ongoing neuroscience research studies that provide students with opportunities to work in a functioning neuroscience research lab. These experiences are relevant to LOs 1-5 and will be assessed in our Senior Exit Survey (see Section 3).

**Internships:** Students will have the opportunity to complete internship credits through a variety of sites where they can apply neuroscience concepts and skills. Our goal is to develop internship placements that allow hands-on experience in health sciences, lab settings, and other setting where neuroscience is relevant. These experiences are relevant to LOs 3-5 and will be assessed in our Senior Exit Survey.

**Teaching/Lab Assistantships:** Students have the opportunity to serve as a teaching/lab assistant to the Introduction to Neuroscience course. The students receive independent study credit for their work. This experience allows them the opportunity to more deeply learn the course concepts as well as to practice assisting other students and communicating with both students and professors. These experiences will especially relevant to LOs 1, 3, 4, and 5, and will be assessed in our Senior Exit Survey.
Section 3: Venues for Assessing Learning Outcomes

Direct Assessments:

<table>
<thead>
<tr>
<th>Course</th>
<th>LO1: Knowledge Base</th>
<th>LO2: Scientific Inquiry</th>
<th>LO3: Ethical and Social Responsibility</th>
<th>LO4: Communication</th>
<th>LO5: Professional Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSCI 111 Introduction to Neuroscience</td>
<td>Exams</td>
<td>Lab Assessments</td>
<td>Exams</td>
<td>Research Papers</td>
<td>Career Aspiration Assignment</td>
</tr>
<tr>
<td>PSYC 355 Physiological Psychology</td>
<td>Exams</td>
<td>Lab Assessment</td>
<td>Research Papers</td>
<td>Presentations</td>
<td></td>
</tr>
</tbody>
</table>

Final Research Paper: All students in PSYC 216: Research Methods complete this paper. In completing this paper, students have to work together to complete a research project, demonstrate an initial understanding of basic scientific methodology, and communicate their findings clearly. The rubric was developed by the course instructors and is designed to assess LOs 2, 3, 4.

Career Aspiration Paper: This assignment is completed in NSCI 111: Introduction to Neuroscience and is designed to allow students to become immersed in an area or areas of neuroscience that they could see themselves doing in the future. This paper is tailored to start academic exploration of neuroscience careers early. The rubric was developed by the course instructor and is designed to assess LO5.

Research Papers and Lab Reports: These assignments are completed by all students in NSCI 111: Introduction to Neuroscience and PSYC 355: Physiological Psychology. In NSCI 111, students have to work together to complete an experiment in both neuropsychopharmacology and neurogenetics, understand basic scientific methodology, and communicate their findings clearly in lab reports. In PSYC 355, students choose a relevant topic in neuroplasticity that is of interest. Students will be able to learn, read critically and synthesize data and theory presented in scholarly works; and develop skills in organizing and writing information. Through this work, they will be able to demonstrate their understanding of the importance of evidence in neuroscience, scientific methodology related to neuroscience and demonstrate written communication skills. The rubric was designed by the course instructor and is designed to assess LOs 1, 2, and 4.

Presentations: This assignment is completed in PSYC 355: Physiological Psychology. As part of this assignment, students work in groups to present information on an assigned neurotransmitter. Through this work, they will be able to demonstrate their understanding of the importance of evidence in
neuroscience, demonstrate oral communication skills, and work with others to complete the project. The rubric was designed by the course instructor and is designed to assess **LOs 2 and 4**.

**Indirect Assessments:**

Senior Exit Survey: All graduating seniors are asked to complete our exit survey. This survey assesses their feelings and attitudes toward the major, their perceptions of their own learning for all core areas of neuroscience as well as for statistics and methods, and their future plans. As noted above, they are also asked about their relevant out of class experiences including independent research, internships, and teaching/lab assistantships. This survey was developed by departmental faculty with respect to the Learning Outcomes and will be administered by the Program Coordinator.

*See Attached: Direct and Indirect Assessments (Tests, Rubrics, and Surveys).*

**Section 4: Process for Assessment**

There is no professional accreditation available for undergraduate neuroscience program.

**Data Collection**

Assessments will be collected in the following manner:

1) **Senior Exit Survey**
   Data collected by the Program Coordinator and scored by the Program Associate. The data are submitted to the Program Associate for storage.

2) **Final Research Papers (PSYC 216: Research Methods)**
   Data collected by the instructor of each section of the course each semester. The instructor will also compile averages and rubric data (representative samples) and submit it to the Program Associate for storage.

3) **Presentation (PSYC 355: Physiological Psychology)**
   Data collected by the instructor of the course. The instructor will compile averages and rubric data (representative samples) and submit it to the Program Associate for storage.

4) **Career Aspiration Assignment (NSCI 111: Introduction to Neuroscience)**
   Data collected by the instructor of the course. The instructor will compile averages and rubric data (representative samples) and submit it to the Program Associate for storage.

5) **Research Papers and Lab Reports (NSCI 111: Introduction to Neuroscience and PSYC 355: Physiological Psychology)**
   Data collected by the instructor of the course. The instructor will compile averages and rubric data (representative samples) and submit it to the Program Associate for storage.
Reports, Action, and Accountability

An annual Assessment Meeting will take place each academic year. As part of that meeting, the department (including all faculty and the Program Associate) will discuss any deficiencies or problems that have become clear as part of the data collection and analysis. Action steps will be generated, if necessary, to address any such issues. This discussion will include a comparison of our Learning Outcomes to those of the Faculty for Undergraduate Neuroscience (FUN) on whose guidelines our Learning Outcomes were developed and that we would consider benchmarks for learning in our field.

Formal Assessment Reports will be completed every third year based on the previous three years’ data. These Assessment Reports will be aggregated and used by the Assessment and Program Prioritization Committees and by the Program Audit and Review Committee every six years.

The Assessment Plan as well as the Formal Assessment Reports may be placed on the University website. This placement should allow both internal and external stakeholders (e.g., parents, prospective students, graduate programs) to better understand our Learning Outcomes and the progress we are making in meeting these outcomes.
Possible Future Neuroscience Aspirations Paper Guidelines

This assignment is designed to allow you to become immersed in an area or areas of neuroscience that you could see yourself doing in the future. There are so many branches of neuroscience, so there is practically an infinite amount of opportunities throughout this field. This paper is tailored to start academic exploration of neuroscience careers early. In your paper describe and discuss the following:

- What sparked your interest in neuroscience? (Or should I say fired your neurons?)
- What have you found the most interesting topic we’ve studied? Is that directly correlated with what you’d like to pursue?
- What is your primary area(s) of interest in neuroscience? What is your ultimate goal (this can be as practical or outlandish as you’d like).
- Lastly, how has NSCI 111 helped steer your interest in neuroscience?

The paper will be due on XXXX, before midnight in the D2L DropBox. The paper is worth 60 points.

General Instructions:

Your paper should be about 2 – 3 typed, double-spaced pages, not including a title page, any references, or attached documents. Please use standard margins (1 - 1½’) and typeface size. The final grade of the paper will be based on content, style and grammar.

Content (30 points): Make sure you follow all of the directions for the paper topic. Make sure your paper is free of plagiarism.

Style (15 points): The purpose of your paper should be clear and your ideas should be stated clearly and thoroughly discussed. Provide an introduction that leads the reader smoothly into the body of the paper and a conclusion that reemphasizes the central idea. The support paragraphs should stay with the main point of the paper and relate clearly to each other. Sentences should be fluent, clear and concise with accurate vocabulary or words.

Grammar (15 points): Be sure to proof-read your paper before turning it in. Avoid shifts in verb tense, lack of agreement between subject and verb, unclear pronoun references, sentence structure and punctuation errors and misspelled words.
Neuroplasticity Paper Guidelines

An important component of Physiological Psychology (PSYC 355) is a paper preparation. This assignment is designed to allow you to become immersed in a topic related to neuroplasticity; to learn, read critically and synthesize data and theory presented in scholarly works; and develop your skills in organizing and writing information.

The paper will be due on XXXX, before midnight in the D2L DropBox. The paper is worth 100 points.

Make sure I approve your topic before you get started. If you want to discuss the content of your paper or if you have any questions, we can always set up a meeting to talk about the paper.

General Instructions:

Your paper should be about 6 – 7 typed, double-spaced pages, not including a title page, any references or attached documents. Please use standard margins (1 - 1½") and typeface size. The final grade of the paper will be based on content, style and grammar.

Content (70 points): Make sure you follow all of the directions for your paper topic. Be sure to demonstrate a good understanding of the purpose and conclusions of any studies you cite. Make sure your paper is free of plagiarism.

Style (15 points): The purpose of your paper should be clear and your ideas should be stated clearly and thoroughly discussed. Provide an introduction that leads the reader smoothly into the body of the paper and a conclusion that reemphasizes the central idea. The support paragraphs should stay with the main point of the paper and relate clearly to each other. Sentences should be fluent, clear and concise with accurate vocabulary or words.

Grammar (15 points): Be sure to proof-read your paper before turning it in. Avoid shifts in verb tense, lack of agreement between subject and verb, unclear pronoun references, sentence structure and punctuation errors and misspelled words.

Your paper should include 6 – 8 scholarly references. You must include a reference page citing these sources. Wikipedia IS NOT an acceptable source for references. Also, do not cite class lectures. In addition to PsycINFO, a good source for locating references for your paper is:


Provided with an outline, I can help develop your direction, but written paragraphs are strongly encouraged. Written compositions will allow me to best access your writing skills. The more work
you have done, the more feedback you will receive. This feedback will ultimately translate into a better evaluation of your final paper.

**Policy Regarding Late Papers:**
Any paper turned in after the due date will receive a letter grade deduction for each day late.

**Topic**
A central underlying theme of this course is neuroplasticity, or the nervous system’s potential for physical or chemical change that enhances its adaptability to environmental change. Describe, in detail, an example of how experience (ex. learning, memory) can influence such changes in the brain. Describe the physical, morphological or chemical changes in the nervous system that result from the experience. Cite studies (ex. imaging studies, basic animal research) that provide evidence for your example of neuroplasticity.
Lab reports are an essential part of all laboratory courses and a part of your grade. Here's a format for a lab report you can use if you aren't sure what to write or need an explanation of what to include in the different parts of the report. A lab report is how you explain what you did in the experiment, what you learned and what the results mean. Here is a standard format.

**Title Page:** a single page that states:
- The title of the experiment. The title says what you did. It should be brief (aim for ten words or less) and describe the main point of the experiment. If you can, begin your title using a keyword rather than an article like 'The' or 'A'.
- Your name

**Introduction:** Usually, the Introduction is one paragraph that explains the objectives or purpose of the lab. In one sentence, state the hypothesis. Include some background information. You need to state the purpose of the experiment, or why you did it. This would be where you state your hypothesis.

**Methods:** Describe the steps you completed during your investigation. This is your procedure. Write it as if you were giving direction for someone else to do the lab.

**Results:** Describe in words what the data mean.

**Discussion:** This is where you interpret the data and determine whether or not a hypothesis was accepted. This is also where you would discuss any mistakes you might have made while conducting the investigation. You may wish to describe ways the study might have been improved.

**Conclusions:** Most of the time the conclusion is a single paragraph that sums up what happened in the experiment, whether your hypothesis was accepted or rejected, and what this means.

**Figures & Graphs:** Graphs and figures must both be labeled with a descriptive title. Label the axes on a graph, being sure to include units of measurement. The independent variable is on the X-axis. The dependent variable (the one you are measuring) is on the Y-axis. Be sure to refer to figures and graphs in the text of your report. The first figure is Figure 1, the second figure is Figure 2, etc.

**References:** If your research was based on someone else's work or if you cited facts that require documentation, then you should list these references.

**General Instructions:**

Your paper should be about 3 – 5 typed, double-spaced pages, not including a title page, any references, or attached documents. Please use standard margins (1 - 1½”) and typeface size. The final grade of the paper will be based on content, style and grammar.

**Content (30 points):** Make sure you follow all of the directions for the paper topic. Be sure to demonstrate a good understanding of the purpose and conclusions of any studies you cite. Make sure your paper is free of
plagiarism.

Style (10 points): Sentences should be fluent, clear and concise with
accurate vocabulary or words. Use standard scientific format (AP Format).

Grammar (10 points): Be sure to proof-read your paper before turning it
in. Avoid shifts in verb tense, lack of agreement between subject and verb,
unclear pronoun references, sentence structure and punctuation errors
and misspelled words.

The paper will be due on XXXX before midnight in the D2L DropBox. The paper is worth 50 points.
Neurogenetics Lab Report Guidelines

Lab reports are an essential part of all laboratory courses and a part of your grade. Here's a format for a lab report you can use if you aren't sure what to write or need an explanation of what to include in the different parts of the report. A lab report is how you explain what you did in the experiment, what you learned and what the results mean. Here's a standard format.

Title Page: a single page that states:
- The title of the experiment. The title says what you did. It should be brief (aim for ten words or less) and describe the main point of the experiment. If you can, begin your title using a keyword rather than an article like 'The' or 'A'.
- Your name

Introduction: Usually, the Introduction is one paragraph that explains the objectives or purpose of the lab. In one sentence, state the hypothesis. Include some background information. You need to state the purpose of the experiment, or why you did it. This would be where you state your hypothesis.

Methods: Describe the steps you completed during your investigation. This is your procedure. Write it as if you were giving direction for someone else to do the lab.

Results: Describe in words what the data mean.

Discussion: This is where you interpret the data and determine whether or not a hypothesis was accepted. This is also where you would discuss any mistakes you might have made while conducting the investigation. You may wish to describe ways the study might have been improved.

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References: If your research was based on someone else's work or if you cited facts that require documentation, then you should list these references.

General Instructions:

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Style (10 points): Sentences should be fluent, clear and concise with accurate vocabulary or words. Use standard scientific format (AP Format).

Grammar (10 points): Be sure to proof-read your paper before turning it in. Avoid shifts in verb tense, lack of agreement between subject and verb, unclear pronoun references, sentence structure and punctuation errors and misspelled words.

The paper will be due on XXXX before midnight in the D2L DropBox. The paper is worth 50 points.
Neurotransmitter Caucus

During a caucus, voters in attendance divide themselves into groups according to the candidate they support. The undecided voters congregate in their own group and prepare to be persuaded by supporters of other candidates. Voters in each group are then invited to give speeches supporting their candidate, trying to persuade others to join their group. At the end of the caucus, officials count the voters in each candidate's group and calculate how many delegates to the convention each candidate has won.

You will work in groups of four and each group will represent a “candidate” neurotransmitter. Each group will have five minutes to present information about their “candidate” neurotransmitter and prepare a presentation aimed at convincing the undecided voters to vote for their “candidate” neurotransmitter. Everyone in the group can speak or each group can choose one spokesperson.

For the presentation, either prepare PowerPoint slides or handouts that include the following information about your “candidate” neurotransmitter:

- When and how was the neurotransmitter discovered
- What is the importance of the neurotransmitter in behavior
- What are some common drug effects with the neurotransmitter
- What are the diseases or disorders associated with the neurotransmitter

Students not in their assigned neurotransmitter group will act as “undecided voters”. These voters are going to decide which “candidate” neurotransmitter they want to support in the caucus based on the candidates' positions. The "undecided voters" in the class can ask questions of the candidates and make points about an issue if they choose. After the final arguments, all students, including those who were originally assigned to support a particular “candidate” neurotransmitter, can vote for whichever “candidate” they prefer.
Point Distribution – Final Paper Psyc 216 Research Methods

Title Page (3 points)
___ Page header included (words running head and actual running head) (1)
___ The page number is included (.5)
___ Study Title which overviews study (IV and DV) (1)
___ Name & Affiliation (.5)

Abstract (5 points)
___ The abstract should roughly 250 words in length. (.5)
___ Written in APA format (left justified, double spaced, abstract is centered) (.5)
___ Your abstract covers information about your topic or hypotheses (.5)
___ Your abstract includes a brief statement about your participants (1)
___ Your abstract includes a summary information about your methods (1)
___ Your abstract discusses the pattern of your results (1)
___ Your abstract includes a statement of implications of the findings (.5)

Introduction (25 points)

First Component – Statement of Purpose and Theory (5 points)
___ Started the paper with an opening to the problem and board general topic of interest (2)
___ A description of what your specific study topic. Defined terms if necessary. (1.5)
___ A discussion of the theory for why the IV affects the DV. (1.5)

Second Component – Use of 4 Scholarly Source Articles (15 points)
___ Overview of three experimental articles for the discussion of the IV → DV (Goal or hypotheses, What was done, Results, Implications) (6)
___ Overview of one experimental study related to the PV → DV (2)
___ Discussion about how/why these studies are relevant for your research topic (3)
___ Transitioned into each article overview (1)
___ Followed APA in text citing (3)

Third Component – Overview Paragraph and Hypotheses (5 points)
___ Provided an overview of the current study and methods (1.5)
___ Appropriate (hypotheses should be specific, logical based on background studies, discuss the appropriate relationship)
___ hypothesis for main effect 1 (1)
___ Appropriate hypothesis for main effect 2 (1)
___ Appropriate hypothesis for interaction effect (1)
___ Followed the hypotheses formatting method (.5)

Method (20 points)

Participants (6 Points)
___ Discussed the total number of participants and in each condition (1)
___ Identified important demographic information of your participants (gender, age, race/ethnicity, grade). (3)
___ Described how participants were selected and if they were compensated in any way. (2)

Design and Materials (9 Points)
___ Stated the type of experimental design (2)
___ Stated how the IV and DV were operationalized (2)
___ Described each material used in sufficient detail (4)
___ Did not discuss how the materials were used and focused on description (1)

Procedure (5 Points)
___ Based on the description in the paper it is clear what you intend to do during the experiment. (3)
___ Discussed any extraneous variables that were controlled for. (2)
Results (15 points)

Results Write Up (10 Points)
___ Stated the statistical test used in the study (1)
___ Stated why you used the aforementioned statistical technique. (.5)
___ Discussed how groups were divided for analysis. (.5)
___ Stated whether your hypothesis 1 was supported with proper APA style (including degrees of freedom, F-value
   obtained, and p-value) (1.5)
___ Stated whether your hypothesis 2 was supported with proper APA style. (1.5)
___ Include both group’s means and standard deviations for supported main effect. (1)
___ Stated whether your hypothesis 3 was supported with proper APA style (1.5)
___ The text should orient the reader to your figure (.5)
___ Did not to interpret your results in this section. (.5)
___ Followed APA format with the italicizes information and decimal places (1.5)

Between Groups ANOVA Table (5 Points)
___ Accurate title for the table (1)
___ APA format was followed for the italicized information, table formatting, and decimal places (1)
___ Included the necessary information (main effects, interaction, total, etc.) (2)
___ Was correctly placed in the paper (1)

Discussion (17 points)
___ Restated the goal of the study and hypotheses (2)
___ Discussed whether the hypothesis for the interaction was supported and accurately interpreted the interaction
(2)
___ Discussed whether the hypotheses for the main effects were supported (2)
___ Related the findings to past scholarly research (included APA citing format) (2)
___ Discussed conclusions you can draw from this finding and how the research can be applied to everyday living
(2)
___ Discussed limitations of the study (2)
___ Suggestions for future research – ideas (2)
___ Suggestions for future research – design (2)
___ Conclusion paragraph that discusses the importance of the findings (1)

References (5 Points)
___ Reference entries should be aligned with the left margined and second and subsequent lines are indented. (.5)
___ All references in the paper are listed in the reference section and vice versa (1)
___ All references are in alphabetical order (.5)
___ Information in the references is in the APA format: author(s), year, title of the article, journal name,
   volume number, page numbers. (3)

___ Spelling, grammar, APA-style (10 points)
___ Spelling, grammar, use of psychological terms (2)
___ Page header and numbers throughout the manuscript (1)
___ Section headings in APA format (2)
___ Appendix section in APA format and in correct order (1)
___ Correct tense for each section (1)
___ Meets page requirements (3)

___ Total Score 100 Points
Department of Psychology – Neuroscience Graduating Senior Exit Survey

Congratulations on your imminent graduation. Please take a few minutes to complete this survey. It allows you an opportunity to give the department feedback about your educational experience and help us to maintain and improve our services to current and future students.

Thank you,
The Psychology Department Faculty

Part I – Personal Information [All Information Will Be Kept Confidential.]

1. Semester graduating ______________

2. How many classes in your major did you take elsewhere and transfer to UWRF?
   ___ None   ___ 1 to 2   ___ 3 to 4   ___ 5 or more

3. Do you have a minor?
   ___ No
   ___ Yes (If yes, what department?) ____________________

4. Do you have additional majors?
   ___ No
   ___ Yes (If yes, what department(s)?) ____________________
5. Did you participate in any **faculty supervised research** in neuroscience?
   
   ___ No (If no, please skip to question 6 on the next page regarding international study experience)
   ___ Yes (If yes, please answer the following questions)

Participation in **faculty supervised research** helped develop familiarity with concepts, principles and themes in neuroscience.

<table>
<thead>
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<th>Strongly Agree</th>
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Participation in **faculty supervised research** helped me use scientific reasoning, demonstrate information literacy, and interpret, design, and conduct basic research in neuroscience.

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<th>Strongly Agree</th>
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Participation in **faculty supervised research** helped me apply ethical standards to evaluating neuroscience and practice.

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Participation in **faculty supervised research** helped me develop skills in effective writing and presenting.

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<th>Strongly Agree</th>
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Participation in **faculty supervised research** helped apply neuroscience content and skills to my graduate school and/or career goals.

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<th>Strongly Agree</th>
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6. Did you participate in any **international study experiences**?
   ___No (If no, please skip to question 7 below regarding internship experience)
   ___Yes (If yes, please answer the following questions)

Participation in **international study experiences** helped me apply ethical standards to evaluating neuroscience and practice.

<table>
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<tr>
<th>Strongly Agree</th>
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Participation in **international study experiences** helped me develop skills in effective writing and presenting.

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</table>

Participation in **international study experiences** helped me apply neuroscience content and skills to my graduate school and/or career goals.

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<th>Strongly Agree</th>
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<th>Slightly Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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7. Did you participate in any **internships**?
   ___No (If no, please skip to question 8 on the next page regarding teaching/lab assistant experience)
   ___Yes (If yes, please answer the following questions)

Participation in **internships** helped me apply ethical standards to evaluating neuroscience and practice.

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<tr>
<th>Strongly Agree</th>
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Participation in **internships** helped me develop skills in effective writing and presenting.

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Participation in **internships** helped me apply neuroscience content and skills to my graduate school and/or career goals.

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</table>
8. Did you participate as a teaching/lab assistant for a neuroscience professor?
   ___ No (If no, please skip to question 9 below)
   ___ Yes (If yes, please answer the following questions)

   Participation as a teaching/lab assistant helped me apply ethical standards to evaluating neuroscience and practice.

   Strongly Agree  ___ Agree  ____ Slightly Agree  ____ Slightly Disagree  ____ Disagree  ____ Strongly Disagree

   Participation as a teaching/lab assistant helped me to develop skills in effective writing and presenting.

   Strongly Agree  ___ Agree  ____ Slightly Agree  ____ Slightly Disagree  ____ Disagree  ____ Strongly Disagree

   Participation as a teaching/lab assistant helped me develop skills to build on my graduate school and/or career goals.

   Strongly Agree  ___ Agree  ____ Slightly Agree  ____ Slightly Disagree  ____ Disagree  ____ Strongly Disagree

**Part II – Goals and Future Plans**

9. Which field best describes the area in which you plan to be working?
   ___ Health Sciences – Medicine/Healthcare (Pharmacy/Physician/Nursing/PT/OT)
   ___ Health Sciences – Psychology (Clinical/Psychiatry)
   ___ Education
   ___ Research and Development
   ___ Public Policy/Health
   ___ Other ____________________________

10. Are you planning on going to graduate/professional school?
    ___ No.
    ___ Yes, I have applied and have been accepted.
    ___ Yes, I have applied but have not been accepted yet
    ___ Yes, I will apply within this academic year
    ___ Yes, I am planning to go but not until later.

    If you have applied or have been accepted, where did you apply?

    __________________________________________________________________________

    Masters Level (MA/MS)? ____  Doctoral Level (Ph.D.)? ____ Both? ____
### Part III – Skill Development

How strongly do you agree that your experiences in the Psychology Department – Neuroscience Major helped to develop your:

11. Skill in reading academic materials in neuroscience (e.g., research articles, textbooks, etc.)?

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12. Critical thinking skills (e.g., assessing information, developing new ideas)?

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13. Skill in conducting statistical analysis?

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14. Skill in interpreting statistical results?

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15. Skill at conducting research overall?

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16. Oral communication skills?

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17. Written communication skills?

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18. Teamwork/Interpersonal skills?

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Part IV – Interpersonal Aspects of Education and Overall Satisfaction

19. My training and experiences as a neuroscience major have helped me appreciate individual and cultural differences.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

20. My training and experiences as a neuroscience major have helped me to develop high ethical standards.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

21. I am satisfied with my ability to assess my own talents and career options.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

22. I am satisfied with the information I received from the Psychology Department – Neuroscience Major about graduate school (e.g., options, application process).

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

23. I am satisfied with the information I received from the Psychology Department – Neuroscience Major about careers in neuroscience.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

24. I am satisfied with the opportunities I had to interact with faculty outside the classroom.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

25. I am satisfied with the academic advising I received in the Psychology Department – Neuroscience Major.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

26. To what extent do you agree that if you had it do over again you would major in neuroscience.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree

27. I am satisfied with the quality of the education that was provided to me.

Strongly Agree  Agree  Slightly Agree  Slightly Disagree  Disagree  Strongly Disagree
Part V – Things You Would Change and Things You Liked

28. What other things should the Psychology Department – Neuroscience Major change to enhance the educational experiences we provide to our majors?
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

29. What do you feel that the Psychology Department – Neuroscience Major does especially well that you would want to see continued?
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Thank you for completing this survey and for the time and effort you put into completing your Neuroscience Major. Best wishes as you enter a career or continue your studies.
We are required to contact all students after they graduate to assess their job/graduate school experiences. Please list contact information that we may use within the next one to two years.

Name: __________________________________________________

Expected Graduating Term: _______________________________________

Non-UWRF Email: ______________________________________________

Phone Number: ________________________________________________

I am on:

Facebook  Yes (name: ________________________________________)  No

Linked In  Yes (name: ________________________________________)  No

Instagram  Yes (name: ________________________________________)  No

Other? ______________________________________________________