

BIO/PSY 351: Foundations of Neuroscience 2

Instructors

Dr. Blatchley
bblatchley@agnesscott.edu
404-471-6233
Office Hours:
M - TR, 10:30 - 11:30 AM or by appointment

Dr. Larimore:
jlarimore@agnesscott.edu
404-471-6270
Office Hours:
M/W, 9:00 - 10:00 AM or by appointment

Class: Tuesday & Thursday 11:30-12:45 BSC 112 West

Lab: G15.2 E (ground floor lab across from Teasley) Wednesday Dr. Larimore 2:00 - 4:00 PM

Required Text and Materials

Neuroscience. Purves et al. 6th Edition. Oxford Press

Neuroscience Basics. Larimore. 1st Edition. Academic Press

Course Description

Students will understand the basic structure, function and organization of the mammalian nervous system and how sets of cells in the CNS and PNS operate in systems to produce both simple and complex behavior. Students will also be able to present their research findings in an oral presentation as well as in a written.

Course Objectives

This course is the second in a two-course sequence required for the Neuroscience major. The first course (Foundations I) introduces students to the structure and function on the cellular elements of the nervous system. This course (Foundations II) introduces students to the function and properties of neural circuits and systems. In this class, students will explore the organization of the mammalian brain, examine the function of sensory systems, neural regulatory circuits that govern behaviors like sleeping/waking and eating, and the circuits that allow us to learn and remember.

Skill Objectives

1. Critical thinking/Problem Solving - through weekly article analysis, students will be able to critically read and evaluate scientific literature. Through designing experiments and inquiry-driven laboratory experiences, students will sharpen their ability to think critically about neuroscience.
2. Oral Communication - through article presentations and lab poster presentations, students will demonstrate their abilities to present scientific findings to a broad audience.
3. Written Communication - through weekly assignments and the Grant pre-proposal, students will demonstrate their ability to write scientifically.
4. Teamwork/Collaboration - working with a lab team as well as a team for presentations will enable the students to practice real-world teamwork competencies that are taught as a part of SUMMIT.
5. Digital Technology - students will learn how to navigate various online resources to complete assignments and collaborate with peers. Students will actively use CITI, Canvas, PubMed, Google Drive and Power point.
6. Research Skills - as a result of this course, students can design an experiment, analyze the results, draw conclusions, and report on the research both with scientific writing and an oral presentation. The laboratory portion of this course is designed to enhance the learning in the lecture as well as progress the career of each student as a scientist.
7. Career Management - at the end of this course, there is a day to add the relevant skills gained from this course to a student's CV or resume. Additionally, there will be time to work on personal statements and discuss cover letters.

The final grade includes lecture and lab for this course and will be based on the following:

Lecture:

Quizzes	40 points (8 quizzes x 5 points each)
Tests	150 points (30 points each x 5 exams)
Class Final Project (LOI)	100 points
Project Outline	15 points
Article Analysis	60 points (10 points each x 6 article pairs)
Article Presentations	40 points (20 points each x 2 presentations)
DRQs	40 points (5 points each x 8 assignments)

LECTURE TOTAL: 445 points

93 - 100	A
90 - 92.9	A-
87 - 89.9	B+
83 - 86.9	B
80 - 82.9	B-
77 - 79.9	C+
73 - 76.9	C
70 - 72.9	C-
67 - 69.9	D+
63 - 66.9	D
60 - 62.9	D-
Below 60	F

Labs:

CITI Training	15 points
Lab Notebook Checks	30 points
Lab Practical	20 points (* * cannot be made up)
Poster Section Drafts	35 points (5 x 7 drafts)
Scotties with Nerves present	20 points
SpARC presentation	20 points

LAB TOTAL: 140 points

* additional points or assignments may be added by the instructors

Academic Honesty for your work as a scientist:

You are responsible. Review each course syllabus for the professor's expectations regarding course work and class attendance. Violations of the honor code results in consequences ranging from failure of the assignment, failure of the course, to expulsion from the college. You should speak with your professors if you need clarification about any of these policies.

By placing your name on ANY assignment, you are stating that you completed that assignment with academic honesty. Cheating in this class may keep your grade where you want it, but it will not help your career long term - you cannot cheat the GRE or the MCAT. You have to. Learn this material in order to succeed in science. Additionally, academic dishonesty is reported to medical schools and graduate schools as per their request. Finally, anyone caught cheating relinquishes the privilege of asking for a letter of recommendation from the professor and will receive a 0 on the assignment. Acts of academic dishonesty will be turned over to Honor Court.

Plagiarism: do attribute all ideas taken from other sources; this shows respect for other scholars. Plagiarism can include portraying another's work or ideas as your own, buying a paper online and turning it in as if it were your own work, or not citing or improperly citing references on a reference page or within the text of a paper. Passing off someone else's work as your own represents intellectual fraud theft and violates the core values of our academic community. Plagiarism is passing off any work that is not yours as your own work **** EVEN WITH A CITATION****. If you are using a source and citing the source, the information from that source **STILL** must be reworded in your own voice. Putting a citation behind a statement gives ownership to that source, but, if you do not reword that information, it is plagiarism. Do not cut and paste from the slide, your book, your neighbor, Wikipedia, or the internet. To further your science education, you need to be able re-word science in your own voice. If your answers are not your own, you will receive a 0 for the assignment. **All cases of academic dishonesty will be turned into Honor Court.**

Intellectual Fraud: do not falsify or create data and resources or alter a graded work without the prior consent of your professor. This includes making up a reference for a works cited page or making up statistics or facts for academic work.

Cheating: do not allow another party to do your work/exam or submit the same or similar work in more than one course without permission from the course instructors. Cheating also includes taking an exam for another person, looking on another person's exam for answers, using exams from previous classes without permission, or bringing and using unauthorized notes or resources (i.e., electronic, written, or otherwise) during an exam. Cheating also

includes when you help another student complete a take home exam, give answers to an exam, talk about an exam with a student who has not taken it, or collaborate with others on work that is supposed to be completed independently.

Lectures

Class lectures will be interactive. Therefore, reading the assigned chapters *prior* to class arrival will further your understanding of the material and will prove beneficial to your overall experience within the class. Lecture power points will be posted to Moodle a few hours prior to class.

Directed Reading Questions (DRQs)

These function as review questions for each chapter and can assist you in learning the information covered in the lecture. They highlight what the professor believes is the important information in the chapter. Each DRQ will be posted to Moodle prior to the lecture. Answer these questions as you read the assigned chapters prior to lecture. Turn these questions in for 5 points per worksheet. No late work will be accepted for DRQs. DRQs are due the day before first lecture at noon, usually a Monday. Your answers **MUST** be in your own words. You cannot quote any sources. Your answers cannot be cut and paste from any sources. If you cut and paste from a source or another student, you will receive a 0 on the assignment without any chance to make it up.

Why DRQs? Studies demonstrate that studying in small chunks will help you retain more information and for a longer period of time than cramming for a test the night before. This is to help you avoid cramming for a test.

Quizzes

There will be a quiz for each assigned lecture. The lecture quizzes will be on the power point lecture material. The quiz days are listed on your syllabus schedule.

Why quizzes? Studies demonstrate that studying in small chunks will help you retain more information and for a longer period of time than cramming for a test the night before. This is to help you avoid cramming for a test.

Tests (see schedule for tentative dates)

There will be tests spaced throughout the semester. The tests will be written to assess your understanding of the information covered in class and your ability to apply and analyze the information using higher order thinking skills by answering short answer and essay questions.

Why tests? To retain information! And to take that information one step further and apply it.

Article Analysis

Two peer-reviewed articles from primary literature will be assigned each week (see Moodle for articles). Everyone in the class will submit an article analysis (except for the people presenting that given week) deciding which article is more valid or correct. The Article Analysis form is available on Moodle. Answer the questions and load the analysis to Moodle as a PDF before Friday at noon. No late work will be accepted. Your answers **MUST** be in your own words. You cannot quote any sources. Your answers cannot be cut and paste from any sources. If you cut and paste from a source or another student, you will receive a 0 on the assignment without any chance to make it up.

Why article analysis? While it may seem like pointless task, especially if you never study any of these diseases, the overall skill of being able to digest a primary article is necessary in so many science fields. Scientific literature is almost its own language and being able to pick out the key information is a necessary skill in any science field.

Article Presentations

The presentations should *no shorter than 15 minutes and no longer than 20 minutes*. For these presentations, you cannot use any notes.

Why article presentations? Public speaking in a science field will be necessary, whether its to get a job or to discuss your findings at a meeting, or to recruit potential donors to a cause, public speaking in science is a skill that is absolutely necessary.

The group preparing the article presentation will need to create a google slides/keynote/PPT presentation. Because each member of the group will be graded individually, each group member needs to save their own slides as a PDF and load that to Canvas prior to class. Each group member should present at least 1 figure.

The group preparing the article presentation will need to create a PPT or keynote with the following information:

Introduction section - give background information to help our class understand your topic. Why is this experiment important? What background information will help us understand what was done (reference the papers cited in the introduction)? State the hypothesis.

Results - the graphs, the tables, figures, etc - should include a figure legend and a figure title. Any time you present a piece of data, always explain what the audience is looking at (this is a western blot or images of a cell), what method was used to obtain the data (and explain it if we haven't covered it in class), and what the data mean (your interpretation), how does that tie back to the hypothesis, and why the data are important to the paper and our understanding. Each person in the group should present at least one figure. If there are not enough figures in a paper, look up figures from either previous research and present those in the introduction or look up figures from studies after the paper and present those in the conclusion.

Conclusions - simple statements to describe the key, take-away points from the experiment and their importance in the field of study. How did the study contribute to the hypothesis?

ANY information on your slide is FAIR GAME for a question. If you put it on a slide, BE ABLE TO EXPLAIN IT!! You will lose points if you cannot explain something on your slide.

Things to consider: less text is better, diagrams are always helpful, keep the background info relevant, keep all additional information relevant, if it's boring to you, it's boring to your audience. Additional information on the specifics of the presentation can be found on Moodle.

Criteria	5: Excellent	4: Good	2-3: Fair	1-2: Poor
1. Organization (5)	<ul style="list-style-type: none"> • Clear title • Clearly defined sections • Clear flow of topics • Easy to follow 	<ul style="list-style-type: none"> • Clear title • Sections defined • Generally easy to follow, though may require rereading for clarity 	<ul style="list-style-type: none"> • Title present • Sections unclear or inappropriate • Takes effort to follow thoughts and ideas 	<ul style="list-style-type: none"> • Title unclear or absent • Sections unclear or absent • No flow of ideas • Cluttered, messy
2. Creativity (5)	<ul style="list-style-type: none"> • eye-catching • Diagrams clearly labeled • Good balance of text and graphs or pictures • Engaging use of color 	<ul style="list-style-type: none"> • Neat • Some use of color • Diagrams present • Fair balance of text and graphs or pictures 	<ul style="list-style-type: none"> • Bland • Little or no color • Diagrams absent or unclear • Mainly or all text 	<ul style="list-style-type: none"> • Bland • Boring • No variety in layout • Diagrams absent • Majority is text
3. Science Content (5)	<ul style="list-style-type: none"> • contains all the necessary information to understand the project • Information is explained in a very understandable fashion • No excess information that is distracting • All abbreviations are defined 	<ul style="list-style-type: none"> • contains most of the information necessary to understand the project • Information is explained in a pretty understandable fashion • The majority of the information is not distracting • Most abbreviations are defined 	<ul style="list-style-type: none"> • contains some of the information necessary to understand the project • Information is poorly explained • Excess information is distracting • Some abbreviations are defined 	<ul style="list-style-type: none"> • contains little to no information necessary to understand the project • Information is not explained • Excess information is distracting • abbreviations are not defined
4. Oral presentation (5)	<ul style="list-style-type: none"> • Well-rehearsed without long pauses • clear articulation • appropriate eye contact, voice volume 	<ul style="list-style-type: none"> • Well-rehearsed with some pauses • Articulation, eye contact, voice volume generally adequate 	<ul style="list-style-type: none"> • Obvious lack of rehearsal • Lacking in one of areas: articulation, eye contact, voice volume 	<ul style="list-style-type: none"> • Obvious lack of rehearsal • lack of conveyed information • lacking in one <u>ore</u> more of the following areas: articulation, eye contact, voice volume

For the final project in this course, you will be writing a grant pre-proposal. This project is only 2 pages (no title page). Within those 2 pages, you must have your grant pre-proposal, citations and any figures. It is single-spaced, Arial Font, Size 11 with 1-inch margins. Use the citation style for Journal of Neuroscience. Your grant pre-proposal Final Draft must be proof-read by the CWS to receive full points for the pre-proposal. This must be turned in as a word document with at least 10 references

WHY we are doing this? No matter what field of science you end up in, you will have to master the skill of scientific writing. Science doesn't do any good unless it is communicated with other scientist. Grant writing occurs in all fields of science.

An outline of the project will be due part way through the semester. This outline must include some of the information that you will include in each of the following sections. The outline is worth 15 points.

Grant OUTLINE Grading Rubric

- 1 point Overall Impact of the research on the field of study and significance of the research.
- 1 point Innovation of the project and approach.
- 2 points Background. Supports the predictions and hypothesis, is clear, flows well, and is correct.
- 2 points Hypothesis. Solid, testable hypothesis, clearly stated and supported by background information.
- 6 points Specific Aims (3 of them, 10 points each). Clearly stated, contains experimental summary and predictions.
- 1 points Figures. Supports the hypothesis and predictions, is labeled and has a legend
- 2 points. References (have at least 5 solid references)

The Grant Pre-proposal should include:

1. **The Background** - 4-5 paragraphs of background with citations. The challenge here is choosing your background data. There is bound to be a lot of background. The background information should explain why you are making the hypothesis you are making. Somewhere in this section, you should also explain why this project is significant to the field of study and innovative.
2. **Hypothesis.** The end of the last background paragraph should be your hypothesis.
3. **Specific aims.** Transition from the hypothesis to the specific aims "This hypothesis leads me to make the following predictions. 3 specific aims - 3 testable predictions based on your hypothesis. The specific aim is one sentence (below it is bolded). Then describe what techniques (yes, plural) you will use to assess your prediction (shown for specific aim #1). It is generally best to use more than one technique because that will further support any claim you make. Discuss the # of test subjects used and the number of trials needed to obtain clean stats.
4. **References.** For a grant pre-proposal, after the 2 - 3 aims comes the references. You need at least 8 references for this LOI.
5. **Figure of previous data** leading to the hypothesis. After the references comes a figure 1. This is your preliminary data that lead you to the hypothesis. Generally, you can talk about it in the background as you near introducing your hypothesis. Use a figure from a primary literature article.

Grant Pre-Proposal Grading Rubric

- 10 points Overall Impact of the research on the field of study and significance of the research.
- 4 points Innovation of the project and approach.
- 30 points Background. Supports the predictions and hypothesis, is clear, flows well, and is correct.
- 11 points CWS proof-read. The CWS proof-reads your proposal FINAL DRAFT. You take CWS your final draft AND this grading rubric.
- 5 points Hypothesis. Solid, testable hypothesis, clearly stated and supported by background information.
- 30 points Specific Aims (3 of them, 10 points each). Clearly stated, contains experimental summary and predictions.
- 5 points Figures. Supports the hypothesis and predictions, is labeled and has a legend
- 5 points Instructions followed/format requirements followed

BIO/PSY 251 LAB 2019 LAB

CITI Training

CITI training for research with rodents is required by federal law in order for you to complete this lab. This training is through Agnes Scott's membership to the CITI program.

After you have completed the required courses, log in to your CITI profile. Click on Records. Save that page as a PDF and load it to Canvas. Be sure when you save the PDF, it shows your name at the top of the screen. It should look something like this:

Agnes Scott College Records (ID 3011)

Information Privacy Security (IPS) - All Learners (ID 102995)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	29974168	80%	88%	14-Jan-2019	14-Jan-2019	-	View	View-Print-Share

Biomedical Responsible Conduct of Research (ID 103000)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
RCR	29974169	-	-	Due Now	-	-	View	-

Biomedical Data or Specimens Only Research - Basic/Refresher (ID 102983)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	29974167	-	-	Due Now	-	-	View	-

Animal Care and Use - Group 1: Researchers (Faculty and Students) (ID 103006)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Lab Animal Research	29974170	-	-	Due Now	-	-	View	-

CITI Registration: <https://www.agnesscott.edu/sponsoredprograms/research-integrity.html>

Access the CITI training modules.

Instructions for registering for the CITI program:

On the CITI home page, in the top, right-hand corner, click "Register."

In the "Search for organization" box, type "Agnes."

Select "Agnes Scott College" from the list that appears below the box.

Click "Continue to Step 2."

Enter the required information using an Agnes Scott email address as the primary email address.

Enter a personal email address that can be used as a back-up address and will be available after leaving Agnes Scott College.

Click "Continue to Step 3."

Create a User Name, Password, and Security Question.

Be sure to remember what you create here, because you will need it again later, and this will be your Log In information even after you leave Agnes Scott College. Students will be able to affiliate with another institution and have their scores transfer when they go to graduate school.

Click "Continue to Step 4."

Answer the demographic questions.

Click "Continue to Step 5."

Answer the questions about Continuing Education Unit (CEU) credit. (answer "no.")

Click "Continue to Step 6."

Enter the required fields and any optional fields you would like to complete. The most important field is the "Role in research" field.

Agnes Scott students will select the "Student Researcher

Question 1

Human Subjects Research

Please choose one learner group below based on your role and the type of human subjects activities you will conduct. You will be enrolled in the Basic Course for that group.

Choose one answer

- Biomedical Research Investigators: Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Biomedical research with human subjects.
- Social & Behavioral Research Investigators: Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social and Behavioral research with human subjects.
- Research with data or laboratory specimens- ONLY: No direct contact with human subjects.
- IRB Members: This Basic Course is appropriate for IRB or Ethics Committee members.
- Not at this time, thank you.

* Question 2

Please select the Good Clinical Practice course that you will like to review.

Choose all that apply

- Faculty
- Staff and Administrators
- Students
- Not at this time, thank you.

Question 3

Information Privacy Security

Please make the appropriate selection if you are required to complete the Information Privacy Security (IPS) course.

Choose one answer

- All Learners
- I am not required to complete the IPS course at this time.

Question 4

Responsible Conduct of Research

Please make your selection below to receive the courses in the Responsible Conduct of Research.

Choose one answer

- Biomedical Responsible Conduct of Research Course
- Social and Behavioral Responsible Conduct of Research Course
- Physical Science Responsible Conduct of Research Course
- Humanities Responsible Conduct of Research Course
- Responsible Conduct of Research for Engineers
- Responsible Conduct of Research for Administrators
- Not at this time.

Question 5

Laboratory Animal Research

Do you conduct studies that use Lab animals?

1. If YES, then you must complete the Basic course and the appropriate species specific modules.
2. If you are an IACUC Member you should complete the "Essentials for IACUC Members".
3. Choose the appropriate species specific electives according to your research interests.

Choose all that apply

- Group 1: Researchers (Faculty and Students)
- Group 2: Administrators and Staff
- Group 3: IACUC Members
- Group 4: Students Taking Course for Class Credit
- IO ACU
- Not at this time, thank you.

Question 6

Biosafety/Biosecurity

Please make your selection(s) below to enroll the Biosafety/Biosecurity Course.

Choose all that apply

- Introduction to Biosafety
- Biosafety Officer Training
- Basic Biosafety Training
- Biosafety Retraining
- Animal Biosafety
- Shipping and Transport of Regulated Biological Materials
- OSHA Bloodborne Pathogens
- Select Agents, Biosecurity and Bioterrorism
- Emergency and Incident Response to Biohazard Spills and Releases
- NIH Recombinant DNA (rDNA) Guidelines
- OSHA Personal Protective Equipment Training
- Human Gene Transfer Trials
- Nanotechnology
- Institutional Biosafety Committee Member
- Dual Use Research of Concern (DURC)
- USDA Permits

* Question 7

Export Compliance

If you would you like to register for the Export Compliance course, please select the appropriate option below.

Choose one answer

- CITI Export Controls Course
- Not at this time.

After you finalize registration, you will be assigned several modules. The modules you need are:

All Learners: Stage 1 – Basic Course – 17 modules

Animal Biosafety: Stage 1 – Biosafety/Biosecurity

Basic Introduction to Biosafety

Biomedical Data or Specimens Only Research – Basic/Refresher

Biomedical Responsible Conduct of Research

Group 1: Researchers (Faculty and Students) – Stage 1 – Lab Animal Research

Initial Biosafety Training

OSHA Blood borne Pathogens

Personal Protective Equipment

Working with Mice in Research

LAB Practical

During a lecture hour noted on your syllabus, there will be a lab practical. This will consist of several stations with pins in various parts of a sheep brain. Prior to the lab practical, there will be a dissection of the sheep brain. Because of the time required to prepare this exam and because other labs will require that space which means we cannot leave the materials out, no make-up times will be offered for the lab practical.

Required Lab Notebook

You are required to have a lab notebook to record the animal care as well as the experimental notes. Before you come to lab, in your lab notebook, you need to answer the pre-lab questions. Also, before you come to lab, you need to copy the protocol into your notebook leaving space for each step for you to take notes. Your notebook will be checked prior to the start of lab. If the pre-lab questions and protocol are not in there, you will not be allowed to participate in lab. Missing lab will affect your grade.

Mouse Behavior Analysis

For this semester, you are going to work with a lab group to design a test to determine if a high fat diet (HFD) could impact anxiety (open field test) or depression (forced swim) in mice. We will be using C57/Black 6 (C57/B6) mice from Jackson Labs. Your entire lab section will be divided into 2 groups. Each group will receive 4 control mice and 4 mice for the variable testing. One group will test the control and the variable in these 2 behavioral assays with male mice and the other group will use female mice.

These are an inbred strain of mice without any genetic modifications. Look up more about them on the Jackson Lab website. Forced swim test is a behavioral test used to measure depressive like behavior in mice (see Forced Swim section of the lab manual for further explanation). Open field test is a behavioral test used to measure anxiety behavior in mice (see the open field test of the lab manual for further explanation). We have 2 articles that describe the protocols in their entirety. Read this articles **BEFORE** your group decides on your experimental design.

To do this, you are required to complete animal handling modules on CITI training website (Instructions here: <https://www.agnesscott.edu/sponsoredprograms/research-integrity-CITI.html>). This is to be completed during the lab time the first week of class. Due date is on the syllabus schedule. Turn in the course completion screen shot or PDF (not the course certificates).

The SpARC AND Scotties with Nerves Poster Presentations

Your entire Lab group will be presenting your results at SpARC AND Scotties with Nerves. Each group will present for approximately 10 minutes. If you rush through this, people will not understand what you are saying. This is your lab grade. Take your time. Each person in the lab group is expected to do equal parts of the talking.

Why a poster presentations? Public speaking in a science field will be necessary, whether it's to get a job or to discuss your findings at a meeting, or to recruit potential donors to a cause, public speaking in science is a skill that is absolutely necessary.

Your lab group will need to save a PDF version of your poster and upload it to Moodle. All group member names should be in the filename.

For EACH section - make sure you have rehearsed your section at least 4-5 times. Your information should be understandable to someone who **DID NOT** conduct this research, but someone who is familiar with science. Consider practicing your information with a non-science major friend and see if they understand your

presentation. Your information should be well organized, well explained. You need a good balance of text and diagrams for each section!

ANY information on your slide is FAIR GAME for a question. If you put it on a slide, BE ABLE TO EXPLAIN IT!!

Introduction section - give background information to help our class understand your topic. Why is this experiment important? What background information will help us understand what was done? State the hypothesis.

Methods section - highlight the techniques used to gather the data. Explain what we are measuring and what we used for those measurements. You don't have to give step by step on how to do it, just what these are and why we are using them for our experiment. The underlying concept to cover is why were these techniques used and how will they address the question that is stated in the hypothesis?

Results - the graphs, the tables, etc - should include a figure legend and a figure title. Any time you present a piece of data, always explain what the audience is looking at, what you did to arrive at the data you are seeing (what method you used), and what the data mean (your interpretation) and why they are important.

Conclusion - simple statements to describe the key, take-away points from the experiment and their importance in the field of study. How did the study contribute to the hypothesis? Also, this should include future studies - what would propel this study if there was something more to be added to it.

Your group members will rate you on your effort after the presentations are complete. This rating can impact your grade.

Criteria	5: Excellent	4: Good	2-3: Fair	1-2: Poor
1. Organization (5)	<ul style="list-style-type: none"> • Clear title • Clearly defined sections • Clear flow of topics • Easy to follow 	<ul style="list-style-type: none"> • Clear title • Sections defined • Generally easy to follow, though may require rereading for clarity 	<ul style="list-style-type: none"> • Title present • Sections unclear or inappropriate • Takes effort to follow thoughts and ideas 	<ul style="list-style-type: none"> • Title unclear or absent • Sections unclear or absent • No flow of ideas • Cluttered, messy
2. Creativity (5)	<ul style="list-style-type: none"> • eye-catching • Diagrams clearly labeled • Good balance of text and graphs or pictures • Engaging use of color 	<ul style="list-style-type: none"> • Neat • Some use of color • Diagrams present • Fair balance of text and graphs or pictures 	<ul style="list-style-type: none"> • Bland • Little or no color • Diagrams absent or unclear • Mainly or all text 	<ul style="list-style-type: none"> • Bland • Boring • No variety in layout • Diagrams absent • Majority is text
3. Science Content (5)	<ul style="list-style-type: none"> • contains all the necessary information to understand the project • Information is explained in a very understandable fashion • No excess information that is distracting • All abbreviations are defined 	<ul style="list-style-type: none"> • contains most of the information necessary to understand the project • Information is explained in a pretty understandable fashion • The majority of the information is not distracting • Most abbreviations are defined 	<ul style="list-style-type: none"> • contains some of the information necessary to understand the project • Information is poorly explained • Excess information is distracting • Some abbreviations are defined 	<ul style="list-style-type: none"> • contains little to no information necessary to understand the project • Information is not explained • Excess information is distracting • abbreviations are not defined
4. Oral presentation (5)	<ul style="list-style-type: none"> • Well-rehearsed without long pauses • clear articulation • appropriate eye contact, voice volume 	<ul style="list-style-type: none"> • Well-rehearsed with some pauses • Articulation, eye contact, voice volume generally adequate 	<ul style="list-style-type: none"> • Obvious lack of rehearsal • Lacking in one of areas: articulation, eye contact, voice volume 	<ul style="list-style-type: none"> • Obvious lack of rehearsal • lack of conveyed information • lacking in one <u>ore</u> more of the following areas: articulation, eye contact, voice volume

Academic Policies:**e-mail:**

Instructors will make announcements regularly via e-mail. It is your responsibility to check your Agnes Scott email account daily. When responding to a professor over email, take care that your email is professional. Examples here: <https://medium.com/@lportwoodstacer/how-to-email-your-professor-without-being-annoying-afcf64ae0e4087#.jddd3bxes>

Technology:

If you are on your phone in class, it is our prerogative to answer your calls or texts as it is our class. Cell phones should be in the silence mode prior to entering the classroom or lab. Minimize potential distractions if you are using a laptop or tablet in class to take notes. This would include refraining from 'surfing the web' during class. You will be asked to leave class or lab if you are using your cell phone or laptop to conduct business other than that of the class.

Plagiarism and Citations:

In your review article at the end of this class, you will need several outside sources. At no point can you copy work from another student. If you do so, you will receive a 0 on the assignment. If you use an outside source, you **MUST** reword the content from that source in your own words. If you do not reword the content from the outside source, you will receive a 0 on the assignment. If you use an outside source as a reference, make sure you use the first occurrence (first person to describe a mutation/animal model, etc – don't simply cite a review that mentions the first mutation).

Honor Code:

All work performed in this course must be in accordance with the Agnes Scott College Honor Code.

ADA:

If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please the Office of Academic Advising to register for services. Students that receive accommodation checklists, please meet with the instructors to discuss the provisions of those accommodations as soon as possible.

Title IX:

For the safety of the entire community, any incidence of or information about sexual misconduct must be reported immediately to Title IX Coordinator Karen Gilbert (kgilbert@agnesscott.edu, 404-471-6435) or Deputy Title IX Coordinator Kristian Contreras (kcontreras@agnesscott.edu, 404-471-6394).

Inclusion:

This course adheres to the principles of diversity and inclusion integral to the Agnes Scott community. We respect people from all backgrounds and recognize the differences among our students, including racial and ethnic identities, religious practices, and gender expressions. We strive for our campus to be a safe space in which all students feel acknowledged and supported. At the same time, we understand that course content, critical inquiry, and classroom dialogues give us opportunities to examine topics from a variety of perspectives. Such discourse is a defining feature of a liberal arts education, and can compel debates that challenge beliefs and positions, sometimes causing discomfort, especially around issues related to personal identities. While we uphold and preserve the tenets of academic freedom, we request and invite your thoughtful and constructive feedback on ways that we can, as a community of learners, respectfully assist and challenge one another in our individual and collective academic work.

Content Warning:

This course will explore the human brain and behavior, which might raise issues of racism, sexism, classism, heterosexism, cissexism, ableism, and other kinds of privilege. If you want more information, reach out to the instructors. If you feel you will be unable to fully participate in the course requirements, set up a meeting with the course instructor to determine appropriate accommodations.

Deadlines:

Attendance and participation will be assessed periodically to determine your engagement and commitment to this class. Students are expected to attend all class periods, except in cases of documented illness or emergency. If a missed class cannot be avoided because of illness or emergency, it is **STRONGLY** recommended that you contact the one of the instructors **IN ADVANCE**, or within 24 hours of the class period. Should an emergency or crisis arise, such that you miss class, you must provide legitimate documentation in order for the instructor to consider allowing you to make up missed work.

It is your responsibility to keep up with the class material. Thus, if you miss class, it is up to you to find out from a reliable source if you missed an assignment. It is also your responsibility to stay on top of presentation, quiz and exam deadlines. In-class assignments (such as the experimental design projects), presentations, and quizzes will **NOT** be available to make up later, unless you have a documented excuse, **OR** you have contacted one of the instructors ahead of time.

Course Evaluations:

At the end of the semester you will receive an e-mail asking you to submit an evaluation of the course. Please give feedback! Your input is important to the college as a whole and to us as instructors. We take your comments very seriously.

Academic Honesty:

The Agnes Scott College honor code embodies an ideal of character, conduct, and citizenship, and is an important part of the College's mission and core identity. This applies especially to academic honesty and integrity. Passing off someone else's work as your own represents intellectual fraud and theft, and violates the core values of our academic community. To be honorable, you should understand not only what counts as academic dishonesty, but also how to avoid engaging in these practices. You should:

- review each course syllabus for the professor's expectations regarding course work and class attendance.
- attribute all ideas taken from other sources; this shows respect for other scholars. Plagiarism can include portraying another's work or ideas as your own, buying a paper online and turning it in as if it were your own work, or not citing or improperly citing references on a reference page or within the text of a paper.
- not falsify or create data and resources or alter a graded work without the prior consent of your professor. This includes making up a reference for a works cited page or making up statistics or facts for academic work.
- not allow another party to do your work/exam, or submit the same or similar work in more than one course without permission from the course instructors. Cheating also includes taking an exam for another person, looking on another person's exam for answers, using exams from previous classes without permission, or bringing and using unauthorized notes or resources (i.e., electronic, written, or otherwise) during an exam.
- not facilitate cheating, which can happen when you help another student complete a take home exam, give answers to an exam, talk about an exam with a student who has not taken it, or collaborate with others on work that is supposed to be completed independently.
- be truthful about the submission of work, which includes the time of submission and the place of submission (e.g., e-mail, online, in a mailbox, to an office, etc.).

You should understand that penalties result from dishonest conduct, ranging from failure of the assignment to expulsion from the college. You should speak with your professors if you need clarification about any of these policies.

BIO/PSY 351

	Date	Reading	GROUP PRESENTING	Quiz	ASSIGNMENT DUE	CLASS TOPIC
T	1/14	syllabus and Larimore Chapters 1-4			DRQ Syllabus is due 24 hours prior to class	Syllabus and pre-test
W	1/15	Larimore Chapters 5-8			CITI Training	CITI Training
TH	1/16	Test			Test on Larimore Chapters	Test on Larimore Chapters
T	1/21	Chapter 3, 5, and 6			DRQ due Monday	Lecture 1: Crash course I Neurobiology 1
W	1/22				Experimental Design/ Stats review/Poster Prep - Work on the abstract/intro	Abstract due at the end of lab
TH	1/23	Chapter 3, 5, and 6			Article Analysis due Friday	Lecture 2: Crash Course in Neurobiology 2
T	1/28	Appendix - Survey of Human Anatomy and Marshall 2015	Group 1	Quiz on Neurobiology	DRQ due Monday, bring brain agreement to class	Lecture 3: Neuroanatomy part 1/ Sheep brain dissection
W	1/29				CITI registration is DUE BEFORE LAB	Animal Handling 101
TH	1/30	Yoo 2018	Group 2		Article Analysis due Friday	Lecture 4: Neuroanatomy part 2/ Sheep brain dissection
T	2/4	Chapters 11 and 12 and Martini 2017	Group 3	Quiz on Neuroanatomy	DRQ due Monday	Lecture 5: Vision part 1
W	2/5	JOVE article			Pre-lab on Forced Swim Test	Forced Swim Test
TH	2/6	Wallace 2018	Group 4		Article Analysis due Friday	Lecture 6: Vision part 2
T	2/11	Test #1			TEST	Test #1: Neurobiology and Neuroanatomy
W	2/12	JOVE Article			Analyze Forced Swim Test Data (come with videos quantified)	Turn in a figure at the end of lab period

	Date	Reading	GROUP PRESENTING	Quiz	ASSIGNMENT DUE	CLASS TOPIC
TH	2/13	LAB PRACTICAL			LAB PRACTICAL	LAB Practical on Brain Anatomy: NO MAKE UP EXAMS OFFERED
T	2/18*	Chapter 28 and McEvoy 2019	Group 5	Quiz on Vision	DRQ due Monday	Lecture 7: Sleep part 1
W	2/19				Pre-Lab on Open Field Test	Open Field Test
TH	2/20*	Wilde 2016	Group 6		Article Analysis due Friday	Lecture 8: Sleep part 2
T	2/25			Quiz on sleep	PRe-lab on WB Prepare Hippocampus for WB	
W	2/26				Run WB/Transfer WB/ Block/ 1°AB Overnight	Poster Preps: Intro and Methods due at the end of lab
TH	2/27				2°AB and develop WB	
T	3/3	Test #2			TEST	Test #2: on Vision and Sleep
W	3/4				Analyze Open Field Test (come with videos quantified)	Turn in a figure at the end of lab period
TH	3/5				Outline Work - bring 2 hard copies of your outline to class	Outline due at the end of class
T	<u>3/10</u>	<u>PEAK WEEK</u>			<u>PEAK WEEK</u>	<u>PEAK WEEK</u>
TH	<u>3/12</u>	<u>PEAK WEEK</u>			<u>PEAK WEEK</u>	<u>PEAK WEEK</u>
T	<u>3/17</u>	<u>SPRING BREAK</u>			<u>SPRING BREAK</u>	<u>SPRING BREAK</u>
TH	<u>3/19</u>	<u>SPRING BREAK</u>			<u>SPRING BREAK</u>	<u>SPRING BREAK</u>
T	3/24	Chapter 8 and 30			DRQ due Monday	Lecture 9: Learning and Memory part 1
W	3/25				Analyze WB data	Turn in a figure at the end of lab period
TH	3/26				Article Analysis due Friday	Lecture 10: Learning and Memory Part 2

	Date	Reading	GROUP PRESENTING	Quiz	ASSIGNMENT DUE	CLASS TOPIC
T	3/31	Chapter 16 and 17 and Pitt 2020	Group 1	Quiz on Learning and Memory	DRQ due Monday	Lecture 11: Motor Systems Part 1
W	4/1				Complete Results/ Conclusion of Poster	RD of Poster due at the end of Lab
TH	4/2	Shear 2015	Group 2		Article Analysis due Friday	Lecture 12: Motor Systems Part 2
T	4/7*			Quiz on the Motor System	Poster Preparations	
W	4/8				Meet with your lab to begin practicing for your poster	
TH	4/9*	Test #3			TEST	Test #3 Learning and Memory and Motor Systems
T	4/14	Chapter 31 and Beaulieu 2019	Group 3		DRQ due Monday	Lecture 13: Emotions Part 1
W	4/15				POSTER PRESENTATION in LAB	
TH	4/16	Panchal 2018	Group 4		Article Analysis due Friday. And . Email your poster to Alix Valcin for printing by 5PM on Thursday	Lecture 14: Emotions Part 2
T	4/21	Chapter 33 and Caplain 2019	Group 5	Quiz on Emotions	DRQ due Monday	Lecture 15: Human Communication Part 1
W	4/22				Grant Project Due by 5PM	
TH	4/23	VanItallie 2019	Group 6		Article Analysis due Friday	Lecture 16: Human Communication Part 2
Sat	4/25				SCOTTIES WITH NERVES	PRESENT POSTER
T	4/28	SpARC		Quiz on Human Communication	SpARC	PRESENT POSTER
W	4/29					
TH	4/30	Test #4			TEST	Test #4: Emotions and Human Communications

	Date	Reading	GROUP PRESENTING	Quiz	ASSIGNMENT DUE	CLASS TOPIC
T	5/5				Bring a hard copy of your CV to class	SpARC EC/ CV prep/ personal statement work
W	5/6					Last Day of Classes
TH	5/7	Reading Day			Reading Day	Reading Day and Senior Finals