

Summer 2022

BIO 330

Diseases of the Nervous System

Dr. Larimore

jarimore@agnesscott.edu

Class Time: Asynchronous and Online.

Dr. Larimore has weekly office hours to answer questions.

Required Texts:

- 1) *Diseases of the Nervous System*. Harald Sontheimer. Academic Press. ISBN: 978-0-12-800244-5
- 2) *Neuroscience Basics*. Larimore. 1st Edition. Academic Press

Course Description: This class examines the cell types that make up the human brain and how each of these cell types function properly to make us who we are. We will examine the sub-cellular nature of several different neurological diseases to fully understand the important functions of individual brain cells.

This is an intense upper level **scientific writing and reading course**. Thus, a lot is expected of you. You are required to:

- read 2 chapters in the textbook **each week**
- read 2-4 assigned articles
- complete 1-2 paper analysis **each week**
- work on your final project each week
- Final Written Project in lieu of a final.

Course Objectives: Upon successful completion of this course, the student will demonstrate knowledge of altered cellular functions in neurological diseases. Students will be able to translate neuroscience knowledge and disease proficiency into a review article.

Skill Objectives:

- Critical thinking/Problem Solving – through weekly article analysis, students will be able to critically read and evaluate scientific literature. Through designing experiments, students will sharpen their ability to think critically about neuroscience.
- Written Communication – through weekly assignments and the review paper, students will demonstrate their ability to write scientifically.
- Research Skills – as a result of this course, students can design an experiment, analyze results, draw conclusions, and critically analyze the overall conclusions.
- 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.

Grading Policy: The final grade for this course will be based on the following.

Larimore Analysis Form	20 points
Paper & Chapter Analysis Form	240 points (6 assignments x 40 points each)
Outline for Final Project	50 points
Draft #1 final Project	45 points
Final Project	100 points
Total	455 points

*** additional points/assignments may be added by the professor*

Grades are not a gift. You earn your grade. You and you alone are responsible for your grade.

Academic Honesty for scientific work:

You are responsible.

Review each course syllabus for the professor's expectations regarding course work and class attendance. Violations of the honor code can result in failure of the assignment, failure of the course, to expulsion from the college. You 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 must 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 professors and will receive a 0 on the assignment. **Acts of academic dishonesty will be turned over to Honor Court.**

Plagiarism: Do not 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, 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.

Course Components:

All assignments are to be uploaded on Canvas.

Weekly Reading:

Each week, you will be assigned reading from the Sontheimer textbook and peer-reviewed articles from primary literature (one clinical and one basic research article).

Weekly Paper Analysis:

Two peer-reviewed articles from primary literature – one clinical paper and one basic research paper- will be assigned to each disease. **Due dates for the paper analysis are on Canvas.**

Each chapter in the book has a relatively similar outline.

1. Case Story
2. History
3. Clinical Presentation/Diagnosis/Epidemiology
4. Disease Mechanism/Cause/Basic Science
5. Treatment/Standard of Care/Clinical Management
6. Experimental Approaches/Clinical Trials
7. Challenges and Opportunities

The clinical portions of the chapter include: Case Story, History, Clinical Presentation/Diagnosis/Epidemiology, Treatment/Standard of Care/Clinical Management.

The basic research portions of the chapter include: Disease Mechanisms/Causes/Basic Science, Experimental Approaches/Clinical Trials, and Challenges and Opportunities.

When covering the chapter reading, this should serve as a background of sorts for the paper information you will cover. When covering the paper, you should pick a figure or key piece of information, a key takeaway that impacts our understanding of the disorder/disease.

Final Project Description

In lieu of a final, you will create a book chapter based on a neurological disease that is not covered by our book. Use google to identify a neurological disease that is not included in our text. You will use the general outline that our book uses:

8. Case Story
9. History
10. Clinical Presentation/Diagnosis/Epidemiology
11. Disease Mechanism/Cause/Basic Science
12. Treatment/Standard of Care/Clinical Management
13. Experimental Approaches/Clinical Trials
14. Challenges and Opportunities

Final Project Outline – 50 points

For your outline due at the beginning of the semester, you will use the outline above. Your outline that is turned in must have at least 5 substantial bullet points that are in your own words (not quotes or cut and paste abstracts) for each of the sections. Each bullet point is worth 1 point. A bullet point will earn the full point if it demonstrates mastery of the material and organization necessary of the information.

For your outline that is due at the beginning of the semester, you need to turn in at least 2 referenced, unique sources for each section. Some sources may be used in multiple sections, however, for the outline, each section needs at least 2 sources that are unique to that section. The sources for each section are worth 1 point each, so 2 points total per section. References should follow the citation format of our text.

Outline Rubric

1 point for following directions plus the following 49 points:

Section	0 points	2-6 points	7 points
Case Study	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references
History	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references
Clinical Presentation	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references
Disease Mechanism	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references
Treatment	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references
Experimental Approaches	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references
Challenges	Bullet points do not demonstrate mastery of the material and organizing necessary information No references	Bullet points demonstrate some mastery of the material and some organization of the necessary information 1 unique reference	Bullet points demonstrate mastery of the material and organization of the necessary information 2 unique references

Final Project Draft #1 – 45 points

For Draft that you turn in later in the semester, you will incorporate feedback from the outline. This draft cannot contain bullet points and MUST be in paragraph form. This Draft #1 should look like a rough draft of a book chapter, with complete sentences and proper formatting. The closer this is to a final draft, the more substantial feedback the professor can give you so that you can earn all your points for the final.

	0 points	1 points	2 points	3 points
Case study	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
History	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
Clinical Presentation	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
Disease Mechanism	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
Treatment	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
Experimental Approach	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
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Grammar/Spelling	Poor Grammar and spelling.	Some Grammar and spelling errors.	Very few grammar and spelling errors	No grammar or spelling errors
	0 points	1 points	3 points	4 points
Formatting	Proper formatting was not followed	Proper formatting was followed some of the time	Proper formatting was followed most of the time	Proper formatting was followed.
	0 points	4 points	8 points	10 points
Overall Cohesion/Flow of the paper	The paper was choppy and did not flow.	The paper flowed/was cohesive some of the time.	The paper flowed/was cohesive most of the time.	The paper was cohesive.
	0 points	4 points	8 points	10 points

Final Project – 100 points

This draft must be formatted to look like a chapter from our text. The text should be in paragraph form, with a polished scientific voice. It must incorporate any feedback received.

	0 points	4 points	8 points	10 points
Case study	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
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Clinical Presentation	Section does not contain appropriate knowledge or integration to the theme. No mastery of the subject is evident.	Section has some knowledge of the topic and some integration to the theme. Some mastery of the information is evident.	Section contains most of the knowledge for the topic and most of the integration of the them. Mastery of the material is mostly present.	Section contains necessary knowledge and integration of knowledge to the theme. Mastery of the information is evident,
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Grammar/Spelling	Poor Grammar and spelling.	Some Grammar and spelling errors.	Very few grammar and spelling errors	No grammar or spelling errors
Formatting	Proper formatting was not followed	Proper formatting was followed some of the time	Proper formatting was followed most of the time	Proper formatting was followed.
Overall Cohesion/Flow of the paper	The paper was choppy and did not flow.	The paper flowed/was cohesive some of the time.	The paper flowed/was cohesive most of the time.	The paper was cohesive.

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, ensure your email is professional. Examples here: <https://medium.com/@lportwoodstacer/how-to-email-your-professor-without-being-annoying-af-cf64ae0e4087#.jlidd3bxes>

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 me 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. I invite you to come see me if you want more information. 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: It is your responsibility to keep up with the class material. It is also your responsibility to stay on top of presentation, quiz and exam deadlines.

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.

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	Date	Chapter Reading	Assignments
TR	5/26	Syllabus & Chapters 1 - 4 in the Larimore Book	Work on Larimore and Syllabus Paper analysis
M	5/30	No Class	No Class
T	5/31	Chapter 5-8 in the Larimore book	Work on the Paper Analysis form for Larimore Chapters and your final project outline
W	6/1	Chapter 1 in Sontheimer	Work on the Paper Analysis form for Stroke and your final project outline
TR	6/2	Chapter 1 in Sontheimer	Work on the Paper Analysis form for Stroke and your final project outline
F	6/3		Larimore Paper Analysis Due & Stroke Paper Analysis Due
M	6/6	Chapter 2 in Sontheimer	Work on the Paper Analysis form for CNS Trauma and your final project outline
TU	6/7	Chapter 2 in Sontheimer	Work on the Paper Analysis form for CNS Trauma and your final project outline
W	6/8	Chapter 3 in Sontheimer	Work on the Paper Analysis form for Seizure Disorders and Epilepsy and your final project outline
TR	6/9	Chapter 3 in Sontheimer	Work on the Paper Analysis form for Seizure Disorders and Epilepsy and your final project outline
F	6/10		CNS Trauma and Epilepsy Paper Analysis Due AND your Outline of your final project
M	6/13	Project work	Update your outline with feedback received and start Draft #1
TU	6/14	Project work	Update your outline with feedback received and start Draft #1
W	6/15	Chapter 4 in Sontheimer	Work on the Paper Analysis form for Aging, Dementia, and AD and Final Project Draft #1
TR	6/16	Chapter 4 in Sontheimer	Work on the Paper Analysis form for Aging, Dementia, and AD and Final Project Draft #1
F	6/17		Paper Analysis form for Aging, Dementia, and AD is Due
M	6/20	No Class	No Class
TU	6/21	Project work	Turn in Draft #1
W	6/22	Chapter 5 in Sontheimer	Work on the Paper Analysis form for PD
TR	6/23	Chapter 5 in Sontheimer	Work on the Paper Analysis form for PD
F	6/24		Paper Analysis form for PD is Due
M	6/27	Project work	Incorporate feedback on Draft #1 into your next draft and begin preparing your final draft.
TU	6/28	Chapter 8 in Sontheimer	Work on the Paper Analysis form for MS and Final Project
W	6/29	Chapter 8 in Sontheimer	Work on the Paper Analysis form for MS and Final Project
TR	6/30	Final Exams for Summer Session 1	Submit your Final Project, and Paper Analysis for MS
	7/7	Grades Due	