

Bio 330: Diseases of the Nervous System

Instructor

Instructor: Dr. Jennifer Larimore

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Office Hours: Monday & Wednesday 11:30AM – 12:30PM my office 201 West or by appointment

Class time: 10:00 – 11:15 AM Tuesday & Thursday

Required Text:

1. *Diseases of the Nervous System*. Harald Sontheimer. Academic Press. ISBN: 978-0-12-800244-5

2. If you have not had BIO 250, the following text is required: *Neuroscience Basics*. Jennifer Larimore. Academic Press. ISBN: 9780128110164

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.

Course Objectives:

Upon successful completion of this course, the student will achieve the following objectives:

- Demonstrate knowledge of altered cellular functions in neurological diseases.
- Relate and present primary journal articles, demonstrating analytical thinking and scientific presentation skills.
- Demonstrate proficiency in designing neuroscience experiments.
- Be able to translate neuroscience knowledge and disease proficiency into a review article.

Grading Policy:

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

Google Doc Outline	60 points (12 x 5 points each)	Grading Scale
Outline Class Discussion	60 points (12 x 5 points each)	A = 92-100%
Article Presentations	20 points (3 presentations x 20 points each)	A- = 90-91.9%
Article Analysis Form	30 points (6 analysis x 5 points each)	B+ = 88-89.9%
Group Article Discussion Quest.	18 points (9 articles x 2 points each)	B = 82-87.9%
Tests	200 points (2 tests x 100 points each)	B- = 80-82.9%
Abstract	25 points	C+ = 78-79.9%
Review Paper outline	25 points	C = 72-77.9%
Review Paper	100 points	C- = 70-72.9%
Total	538	D+ = 68-69.9%
		D = 62-67.9%
		D- = 60-62.9%
		F = below 60.0

*additional points or assignments may be added by Dr. Larimore

Grades are not a gift. You earn your grade.

You and you alone are responsible for your grade.

This is an intense upper level class and a lot will be expected of you. Each week, you will be expected to read 1 chapter in the textbook and 2 assigned articles prior to coming to class. Each week you will be completing an article analysis or presenting an article. There are 2 tests and a 3000 word review in lieu of a final. Be sure you set aside enough time to complete the work necessary to succeed in this class.

Group Discussions on the chapter (Thursdays):

The What: Class lectures will be interactive and student lead, therefore reading the assigned chapters prior to class arrival is necessary as well as bringing your book to class. Students will be leading lectures.

The Why: Research demonstrates that in upper level classes, this increases the understanding and learning that occurs in class.

The Expectations: Each member of the class will be assigned a section of the chapter. Prior to class, you will need to fill out your section of the Google doc outline for that chapter (5 points each) by 5PM the day before group discussions. In class, we will pull the Google doc outline up and you will be responsible for discussing your section (5 points each). The Google doc should be a summary (bullet points). There should NEVER be exact wording from the book. If you fail to summarize the section, you will lose points. If you copy from the book, you will lose points. If you aren't familiar with your section when you lead the discussion, you will lose points.

Articles (Tuesdays):

The What: Two peer-reviewed articles from primary literature – both clinical and basic research - will be assigned each week for reading to accompany discussion of current research. Article analysis sheets will be due for each article at the beginning of those class periods, except for the groups presenting. The article analysis sheets should be typed and loaded to Moodle prior to class as a PDF with your last name and the date in file name. Failure to follow instructions will result in a loss of points.

Presentations: There will be assigned groups. Each group will present 3 articles through the semester. These presentations are expected to be well prepared. The grading rubric for these presentations is on Moodle. You will be graded on Creativity, Organization, Scientific Content, and Preparation.

The Why: While it may seem like a 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.

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.

The Expectations: For the written responses, your answers should be thoughtful. Under no circumstances should you quote the article. Take the time to break this down into your own thoughts and wording. Do not plagiarize any materials. Do not work in groups. This is for your personal growth.

For the presentations, you are expected to collaborate with your group. Group work is part of any scientific career or endeavour. Group work is part of any career in general. Be respectful of each other's schedules and times. If a group member is not working well, feel free to email me or meet with me before class.

Tests:

The What: There will be 2 tests, 100 points each through the semester. The tests will be take home tests – open note, open book. These tests are to be typed and submitted electronically on Moodle as a PDF with your name and the test number as the file name. These tests will be examining your ability to apply knowledge, not simply to locate the answers in your notes or book.

The Why: To take that information we have learned one step further and apply it to a problem or combine it with other information in a unique way.

The Expectations: These tests are take home, open note, open book, but not open friend. Respect the Honor Code on these assignments. Read the questions carefully.

Original Review Article:

The What: In lieu of a final, you will be writing and original review article due on Wednesday, **November 22, 2017**. This should be a review of the literature in one of diseases that we covered in the class. **DO NOT WAIT UNTIL THE LAST MONTH OF CLASS TO WRITE THIS REVIEW** or you will be very upset with yourself. **A solid review takes at least 2 months to prepare and write.**

A rough draft of the abstract is due just a few weeks into the semester (**Tuesday 9/28/2017**, BEFORE class). Brain storm ideas and write a rough draft of your abstract. This will take some time, so allow for plenty of planning.

I have taken the best of the best of these original review articles in the past and submitted them for publication. I will be on the lookout for **novel ideas** and consider publication when a review article is suitable. For publication, an article must present the ideas in a novel manner.

Novel Idea - think about any of the diseases we have covered and come at it from a different angle. Compare the genetics of 2 or more diseases, or structural changes of 2 diseases. Or, compare the symptomology of 2 or more diseases and suggest a potential new way of thinking about the disease or treatments. Be CREATIVE. This is what takes a long time to develop so do not wait.

See Moodle for examples of original review articles written and published by Agnes Scott students from this class. Also, it adhered to the guidelines you will adhere to for this assignment.

The Why: Why the article review? Another necessary skill for all science fields is the ability to write scientifically, in a clear and concise manner. This skill set will take you far in life.

The Expectations: *This Review article should include the following:*

- 1) Title – clear and simple
- 2) Abstract (200-400 words) – describing the novel nature of the review and what body of literature you are going to review
- 3) If figures are included, it is limited to 2 figures (FIGURES ARE NOT NECESSARY)
- 4) The review: 3000 words (not including the title, abstract or the works cited page)
- 5) Work Cited (see examples on Moodle or the Guidelines on Moodle)

Academic Policies:

Moodle

What will I be posting to Moodle?

1. Syllabus.
2. Articles and the analysis sheet to use for assigned articles.
3. Place to turn in the article analysis BEFORE the class period it is due.
4. Link to the Google Doc Outline Folder for our class.
5. Presentation Grading Rubric.
6. Sample Review Articles (Final Class Project) published from this assignment in previous years.
7. Place to turn in your abstract by class time.
8. Place to turn in your Manuscript Outline
9. Place to Turn in your Review Article.
10. Take Home Tests.
11. Place to Turn in your Take Home Tests.

e-mail

I will make announcements regularly via e-mail. It is your responsibility to check your Agnes Scott email account daily.

Technology

Cell phones should be in the silence mode prior to entering the classroom. Cell phones need to remain in your bag. They should not be out during class time. 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 if you are using your cell phone or laptop to conduct business other than that of the class. I may even answer your phone if it rings. If there is an emergency in which you need your phone out, please tell me before class.

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.

Honor Code

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

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

Agnes Scott is a diverse and inclusive community. This course adheres to the principles of diversity and inclusion integral to the Agnes Scott community. We respect people from all backgrounds and affirm people's decisions about gender expression and identity. Please feel free to correct me if your preferred name or gender pronoun are different from that listed on the class roster.

Attendance and Deadlines for Class

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 and it is your responsibility to obtain the class information from a peer. It is also your responsibility to stay on top of presentation, quiz and exam deadlines. Approved absence requiring you to miss a presentation can be made up with prior permission.

Accommodations

If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please see [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.

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.

	Date	Class Topic	Chapter	Work Due
Tues				
Thurs	8/24/17	Group Meetings/Paper Assignments/ Review Article		
Tues	8/29/17	Stroke	Chapter 1	Google Doc Outline Section
Thur	8/31/17	CNS Trauma	Chapter 2	Google Doc Outline Section
Tues	9/5/17	Clinical (group A)/Basic Paper (group B)	#1 for Group A and B	C,D, E, F article analysis
Thur	9/7/17	Seizures and Epilepsy	Chapter 3	Google Doc Outline Section
Tues	9/12/17	Clinical (group C)/Basic Paper (group D)	#1 for Group C and D	A, B, E, F article analysis
Thur	9/14/17	Aging, Dementia, and Alzheimer Disease	Chapter 4	Google Doc Outline Section
Tues	9/19/17	Test #1		
Thur	9/21/17	Abstract work		Abstract due at 5PM
Tues	9/26/17	Clinical (group E)/Basic Paper(group F)	#1 for Group E and F	A, B, C, D, article analysis
Thur	9/28/17	Parkinson Disease	Chapter 5	Google Doc Outline Section and Abstract Due
Tues	10/3/17	Clinical (group B)/Basic Paper(group A)	#2 for Group A and B	C,D, E, F article analysis
Thur	10/5/17	Diseases of Motor Neurons and NMJ	Chapter 6	Google Doc Outline Section
Tues	10/10/17	Clinical (Group D)/Basic Paper (group C)	#2 for Group C and D	A, B, E, F article analysis
Thur	10/12/17	No Class : Fall Break		
Tues	10/17/17	Manuscript Day		Outline Due by 5PM
Thur	10/19/17	Huntington Disease	Chapter 7	Google Doc Outline Section
Tues	10/24/17	Clinical (group F)/Basic Paper (group E)	#2 for Group E and F	A, B, C, D, article analysis
Thur	10/26/17	Multiple Sclerosis	Chapter 8	Google Doc Outline Section
Tues	10/31/17	Clinical (group A)/Basic Paper (group B)	#3 for Group A and B	C,D, E, F article analysis
Thur	11/2/17	Brain Tumors	Chapter 9	Google Doc Outline Section
Tues	11/7/17	Clinical (group C)/Basic Paper (group D)	#3 for Group C and D	A, B, E, F article analysis
Thur	11/9/17	Neurodevelopment Disorders	Chapter 11	Google Doc Outline Section
Tues	11/14/17	Test #2		
Thur	11/16/17	Group Manuscript Review		
Tues	11/21/17	Clinical (group E)/Basic Paper(group F)	#3 for Group E and F	A, B, C, D, article analysis Manuscript Due by 11/22 at 5PM
Thur	11/23/17	No Class: Thanksgiving break		
Tues	11/28/17	Mood Disorders and Depression	Chapter 12	Google Doc Outline Section
Thurs	11/30/17	Schizophrenia	Chapter 13	Google Doc Outline Section
Tues	12/5/17	Reading Day		