Biology 490: Senior Seminar-Congenital Brain Malformations
UW-Stevens Point
Fall 2019

Instructor: Dr. Ashley Driver
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Lecture (CBB 135): M W 12:00-12:50PM
Office Hours: Wednesday from 1:00-2:00PM, Thursday 1:00-2:00PM or by appointment.

Course description:
This seminar focuses on improving both written and oral scientific communication skills. This particular seminar is focused on congenital brain malformations. To understand this topic, we will discuss cellular and molecular aspects of brain development. Students will be encouraged to choose a particular congenital brain malformation to do further research on using information from both primary and secondary sources. During this course students will be responsible for leading a discussion on research in this field, giving a data presentation, and conduct peer review with colleagues to revise and submit a review on their chosen topic.

Required reading:
"Writing in the Biological Sciences, Third Edition" by Angelika Hoffmann (available at the UWSP Bookstore). Readings will also be posted to Canvas.

By the end of the course a student should be able to:

1. Locate, critically read, synthesize, and discuss the primary literature dealing with multiple aspects of congenital brain malformations.
2. Demonstrate the ability to write and orally present biological information that is articulate and grammatically correct with properly documented and organized ideas and data, appropriate to the specific audience.
3. Evaluate your own and others' written and oral communication skills by providing and applying useful feedback.

Grading Scale:

91.0-100	A	81.0-88.9	B	71.0-78.9	C	60.0-68.9	D
90.0-90.9	A-	80.0-80.9	B-	70.0-70.9	C-	00.0-59.9	F
89.0-89.9	B+	79.0-79.9	C+	69.0-69.9	D+		

Course grading:
Your grade in this course will be determined by dividing the total number of points that you earn by the total (235), then multiplying by 100, and rounding to the nearest 0.1%.

Grade Discrepancies:
Grades will be posted on Canvas throughout the semester. If there are discrepancies on any assignments, quizzes, or exams they can be addressed with the instructor, in person, up to *one week* after the grade is posted (for online quizzes) or the assignment/exam/quiz is handed back in class. After this time, the grade will stand with whatever was originally granted.

Point Distribution:

Topic choice	5
Annotated Bibliography	5
Discussion Lead	20
Discussion Participation	20
Data presentation	10
Peer review	20
First Draft of Review	10
Second Draft of Review	20
Final Review Paper	50
Final Presentation on Review	50
Class participation and attendance	25
Total	**235**

Review Paper: You will be required to pick a specific congenital brain malformation to write a scientific review paper on. The goal is to write a publication-worthy document that accurately sums the current research within the field. You will be responsible for assignments throughout the semester to build your paper with an initial topic and annotated bibliography due followed by subsequent paper drafts. The initial paper draft needs to be 4-pages double-spaced (1-inch margins, figures, tables, and references do not count in the total page count). The final paper needs to be 8-10 pages double-spaced (again 1-inch margins, figures, tables, and references do not count in the total page count). You will need to use 8-10 *peer-reviewed* sources for your final paper.

Discussion Lead: Students will be responsible for leading discussion on two different primary research articles during the semester. One week prior to an assigned discussion lead the student needs to submit the selected research article to me via e-mail (adriver@uwsp.edu). As a discussion lead you will need to critically read your paper and determine the primary purpose/hypothesis driving the research, be able to explain the methods, and discuss what the results mean for the field/society.

Discussion Participation: Even if you aren't presenting for the class period, you need to read the papers in advance and come with *at least two questions about the paper*. Come ready to ask questions and critically assess the paper being presented!

Data Presentation: During the semester you will be responsible for presenting an assigned figure from a primary research article. Prior to class you will be responsible for reading and understanding components of the figure and providing a clear explanation of why this data is valuable for the study.

Peer Review: During the semester you will be assigned paper drafts from your colleagues for critique and valuable feedback. You will be responsible for filling out the peer-review form to provide suggestions for improvement. Additionally, it is expected that upon receiving your own peer review, that you utilize suggestions made by your colleagues. This is an opportunity for improvement both in your writing quality and your overall paper score.

Final Review Presentation: You will be required to give a 20-minute oral presentation summarizing findings from your review paper. A rubric will be provided with further details regarding expectations and grading.

Class Participation and Attendance: *Come prepared to be engaged in this class!!* This is a seminar course that is dependent on discussion of literature and research findings. Lack of participation will lead to a reduction in points! Additionally, missing class can lead to loss of points.

Absences:
It is expected that you will regularly attend this course. Success *cannot* be attained if you are not actively participating with your colleagues to understand the material.

- **If you are ill on a class day, you must contact me before class (if at all possible) and you should be prepared to provide documentation.** I must be notified of other conflicts, such as those arising from University sponsored athletic teams and student organizations, **at least two weeks prior to the event.**

- If you are a student athlete or student organization member whose team/organization will be traveling to away games/events on *any of the dates* on which in class activities or exams are scheduled, it is imperative that you provide me with your travel letter **as soon as you receive it** from your coach/advisor so we can schedule your makeup activities/exams.

- You are allowed *one absence* from class on a day when you would be a participant (not a presenter). After that, 10 points will be deducted from your grade for every day missed!

Comprehensive Exam:
Satisfactory completion of this course requires that you take the Biology Department's comprehensive exam. Although your performance on the exam will not influence your grade in BIO 490, grades may be withheld until the exam is complete. The exam will be offered in **CBB 101 on Wednesday December 4th and Thursday the 5th from 6:00-7:00PM.** No advanced sign up is required; just show up at one of these times.

Academic Policies:
Academic misconduct (as outlined and defined by Chapter 14 in the Academic Handbook.https://www.uwsp.edu/acadaff/Pages/handbook.aspx) will NOT be tolerated in this course. As a student you are expected to show integrity and honesty! Cheating or plagiarism related to any of the course assessments *will not be tolerated* and result in a score of zero for that assessment.

Disability Services:
Any student who feels that he/she may need an accommodation based on the impact of a disability should contact the Disability and Assistive Technology Center (Room 609 Albertson Hall, datctr@uwsp.edu). If you have already registered with this office and would like to discuss your class accommodations for the semester, please set up an appointment to meet with me privately.

Emergencies:
In the event of a medical emergency call 9-1-1 or use Red Emergency Phone in the hallway outside of the classroom. Offer assistance if trained and willing to do so. Guide emergency responders to victim.

In the event of a tornado warning, proceed to the first floor of the CBB Building where there is designated shelter rooms. In the event of a fire alarm, evacuate the building in a calm manner. Meet outside the building and notify instructor or emergency command personnel of any missing individuals.

Active Shooter/Code React – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so. Follow instructions of emergency responders.

See UW-Stevens Point Emergency Procedures at www.uwsp.edu/rmgt/Pages/em/procedures for details on all emergency response at UW-Stevens Point.

Course Schedule:

Week	Date	Topic	Assignments due
1	9/4	Course policies and introduction, Scientific communication	
2	9/9	Overview of brain development	
	9/11	Congenital brain malformations- What are they? How do we study them? *Before class read: Mirzaa et al., 2014; Poretti et al., 2014*	
3	9/16	Accessing information databases, defining sources of information *Before class: Read Hoffmann Chapter 4*	
	9/18	Scientific Writing skills- Style *Before class: Read Hoffmann Chapter 2*	Topic Due
4	9/23	Scientific Writing skills- Composition *Before class: Read Hoffmann Chapter 3*	
	9/25	The anatomy of a scientific paper *Before class: Read Hoffmann Chapter 11*	
5	9/30	Abstract mapping and plagiarism	Annotated Bibliography due
	10/2	Example instructor led discussion	
6	10/7	Student led discussions	
	10/9	Student led discussions	
7	10/14	Student led discussions	First draft of review paper due
	10/16	Student led discussions	
8	10/21	Analyzing scientific data *Before class read: Hoffmann sections 5.2 and 5.6*	
	10/23	Student data presentations	
9	10/28	Student data presentations	Peer review 1st draft due
	10/30	Student data presentations	
10	11/4	Student data presentations	
	11/6	Student led discussions	
11	11/11	Student led discussions	Second draft of review paper due
	11/13	Student led discussions	
12	11/18	Student led discussions	
	11/20	Oral presentations *Before class: Read Hoffmann Chapter 10*	
13	11/25	Student project presentations (2)	Peer review 2nd draft due
	11/27	Student project presentations (2)	
14	12/2	Student project presentations (2)	
	12/4	Student project presentations (2)	
15	12/9	Student project presentations (2)	
	12/11	Student project presentations (2)	Final paper due 12/18 by midnight