

**Biology 490: Bacterial Pathogenesis**  
**Spring 2019**  
**Class Syllabus**

**Course and Instructor Information**

Lecture: T, Th 12:00-12:50, CBB 271

Professor: Dr. Matt Rogge  
Office: CBB 345  
Phone: 346-2506  
Email: mrogge@uwsp.edu

Office hours: T, Th 10:00-10:50  
Other times by appointment

**Course Description**

This seminar will explore recent scientific research concerning bacterial pathogenesis. Bacterial pathogenesis is the process by which bacteria infect and cause disease in a host. Not all bacteria are pathogens and, therefore, do not have the ability for pathogenesis. There are many significant bacterial pathogens of plants and animals, and each has a certain set of mechanisms that are used to infect and colonize a host. Each student will choose a different bacterial pathogen and utilize primary and secondary literature to prepare a review article describing and explaining the pathogenic process of the bacterium. The goal of this class is for the student to learn how to acquire information from written scientific communications of the topic and to develop the ability to communicate scientific information in written and oral formats.

**Course Learning outcomes**

Students will be able to:

1. Locate, critically read, synthesize, and discuss the primary literature dealing with multiple aspects of infectious disease of fish.
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.

**Required Texts**

- Hofmann, A. H. *Writing in the Biological Sciences: A Comprehensive Resource for Scientific Communication*, Second Edition. Oxford University Press, New York, New York.  
Available in the bookstore or online.

**Attendance**

Students are expected to attend all sessions. If you are aware ahead of time of a conflict with the period, a meeting with the instructor is required at least a week in advance of the period to discuss the situation, and any makeup work that will be required.

**Grading**

*Assignments*

- Topic choice: 5 pts
- Thesis statement: 10 pts
- Lead a group discussion for **two** scientific research articles: 20 pts each
- Annotated bibliography: 15 pts

- Oral presentation of quantitative data analysis: 15 pts
- First draft of a scientific review article focused on a chosen topic: 10 pts
- Peer review of first draft: 5 pts
- Revised draft of a scientific review article focused on the chosen topic: 15 pts
- Peer review of second draft: 5 pts
- Final scientific review article focused on the chosen topic: 50 pts
- Oral presentation summarizing and explaining the written review article: 50 pts
- Class participation (attendance, literature discussion, asking questions, etc): 30 pts

### **TOTAL CLASS POINTS: 250**

Grades will be calculated by dividing the total points received by the total points possible and multiplied by 100. The following scale will be used to assign a final grade. Grades will not be curved. If you feel an error has been made in the grading of any exercise, you have 48 hours from the time you received the grade to submit in writing to the instructor your reasoning for belief of an error.

93 to 100%	A	80 to 82%	B-	67 to 69%	D+
90 to 92%	A-	77 to 79%	C+	60 to 66%	D
87 to 89%	B+	73 to 76%	C	<60%	
83 to 86%	B	70 to 72%	C-		

Satisfactory completion of this 490 course ***REQUIRES*** the completion of the Biology Department's comprehensive exam. *The test is optional for Biochemistry majors.* Test scores are used to compare class averages among various populations of biology majors to assess general student learning. Scores will not be made available to you nor your instructor and **will have no bearing on your final grade for the course.** However, your 490 grade will be withheld until the exam is taken. The exam will take approximately 60 minutes and will be offered at the following times:

**Wednesday** May 1, 6pm, TNR 464

**Thursday** May 2, 6pm, TNR 464

### **Expectations**

You are responsible for attending all classes in order to ensure exposure to all the material covered. You are responsible for asking questions for clarification of topics that you do not fully understand. If you feel that you are falling behind in the class and not understanding the material as it is being presented, GET HELP IMMEDIATELY! Do not risk falling so far behind that catching back up is impossible.

UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document, and it is intended to help establish a positive living and learning environment at UWSP.

Academic integrity is central to the mission of higher education in general and UWSP in particular. Academic dishonesty (cheating, plagiarism, etc.) is taken very seriously. **Don't do it!** The minimum penalty for a violation of academic integrity is a failure (zero) for the assignment. For more information, see the UWSP "Student Academic Standards and Disciplinary Procedures" section of the *Rights and Responsibilities* document, Chapter 14.

### **Access for all Students**

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for students with disabilities.

If you have a disability and require classroom and/or exam accommodations, please register with the Disability and Assistive Technology Center and then contact me **AT THE BEGINNING OF THE COURSE**. I am happy to help in any way that I can, but you need to be registered. For more information, please visit the Disability and Assistive Technology Center, located on the 6th floor of the Learning Resource Center (the Library).

**TENTATIVE SCHEDULE**

<b>Week</b>	<b>Date</b>	<b>Assignments Due</b>	<b>Class Topic</b>
1	Jan 22 Jan 24		Syllabus, Class Expectations, and Science Communication (Chapter 1) Review vs Research Papers
2	Jan 29 Jan 31	Paper topic chosen	Reading, Summarizing, and Critiquing a Scientific Paper (Chapter 10) Using Appropriate and Clear Wording: Written Communication in the Sciences (Chapter 2)
3	Feb 5 Feb 7		How to Write Sentences and Paragraphs: Written Communication in the Sciences (Chapter 3) How to Cite Literature Sources: Written Communication in the Sciences (Chapter 4)
4	Feb 12 Feb 14	Thesis statements due	Term Paper and Review Articles (Chapter 11) Term Paper and Review Article Expectations
5	Feb 19 Feb 21		Research Paper Discussion (Instructor) Student Led Research Paper Discussions (1, 2, 3)
6	Feb 26 Feb 28	Annotated bibliography due	Student Led Research Paper Discussions (4, 5, 6) Student Led Research Paper Discussions (7, 8, 9)
7	Mar 5 Mar 7		Student Led Research Paper Discussions (10, 11, 12) Data Analysis and Presentation: Written Communication in the Sciences (Chapters 5 and 6)
8	Mar 12 Mar 14	Review article 1 <sup>st</sup> draft due	Oral Presentations (Chapter 13); Instructor Quant. Analysis Presentation Student Quantitative Analysis Presentations (1, 2, 3, 4)
9	Mar 19 Mar 21		Spring Break – NO CLASS
10	Mar 26 Mar 28	Peer Review 1 <sup>st</sup> draft Due	Student Quantitative Analysis Presentations (5, 6, 7, 8) Student Quantitative Analysis Presentations (9, 10, 11, 12)
11	Apr 2 Apr 4		Revising and Editing (Chapter 8) Student Led Research Paper Discussions (12, 11, 10)
12	Apr 9 Apr 11		Student Led Research Paper Discussions (9, 8, 7) Student Led Research Paper Discussions (6, 5, 4)
13	Apr 16 Apr 18	Review article 2 <sup>nd</sup> draft due	Student Led Research Paper Discussions (3, 2, 1) Oral Presentations (Chapter 13) Revisited
14	Apr 23 Apr 25	Peer Review 2 <sup>nd</sup> draft due	Final Oral Presentations (12, 11) Final Oral Presentations (10, 9)
15	Apr 30 May 2		Final Oral Presentations (8, 7) Final Oral Presentations (6, 5)
16	May 7 May 9		Final Oral Presentations (4, 3) Final Oral Presentations (2, 1)
17	May 14 May 16	Review article final draft due	Finals Week