



Oregon State University

Ecampus

Course Name: Microbial Influences on Human Health

Course Number: BHS 323

Credits: 3 Credits

Communication: Please post all course-related questions in the General Discussion Forum so that the whole class may benefit from our conversation. Please email your instructor for matters of a personal nature. The instructor will reply to course-related questions and email within 24-48 hours. I will strive to return your assignments and grades for course activities to you within one week of the due date.

Introduction: Infections by disease-causing microorganisms were once the most common cause of illness and death in human populations. Upon the advent of modern medicine, including antibiotics and vaccines, deaths due to infectious diseases caused by microorganisms have significantly decreased, particularly in developed countries. However, many of the current diseases that affect a large portion of the human population (heart disease, cancer, diabetes, etc.) are influenced by the interactions that humans have with microorganisms. Understanding these interactions is important in the context of disease mechanisms and epidemiology of human health.

The goal of this course is to learn the types of interactions microorganisms have with humans and the mechanisms by which they contribute to health and/or disease. We will focus primarily on microbial influences on cancer, gut diseases, chronic and autoimmune disorders, and the impact of the emergence of antibiotic resistance. We will use peer-reviewed research articles, clinical trials, case studies, review articles, and news articles to learn about these topics. Later in the course, you will independently research the contribution of a(n) microorganism(s) to human health or a disease that fits your particular interests. This research will culminate in a peer-reviewed final essay portfolio. Through this course you will gain an appreciation for the variety of ways in which we interact with microorganisms and the mechanisms by which microorganisms can contribute to or protect against disease development.

Through this course you will gain experience in writing about medically related topics in different formats, and how to strategically write to a variety of audiences. We will have daily informal journaling to reflect on the content we've discussed in class that day. There will also be a variety of out of class writing assignments, which will include writing article summaries and essays. These will culminate in a large research review paper on a topic of your choice.

By the end of this course, you will become confident in interpreting and evaluating the main points of a scientific paper and successfully communicating these to your intended audience, as well as being able to read and write in the various formats that are common in biohealth-related professions.

Course Learning Outcomes and Assessment

This class is designed to be part of the Writing Intensive Curriculum (WIC) and satisfies the requirement for a WIC course in the BioHealth Science (BHS) major. After completing this course, you will be able to:

OSU WIC Learning Outcomes:

- Develop and articulate content knowledge and critical thinking in the discipline through frequent practice of informal and formal writing.
- Demonstrate knowledge/understanding of audience expectations, genres, and conventions appropriate to communicating in the discipline.
- Demonstrate the ability to compose a document of at least 2000 words through multiple aspects of writing, including brainstorming, drafting, using sources appropriately, and revising comprehensively after receiving feedback on a draft.

Learning Outcomes:

- Explain how microorganisms contribute to human health in beneficial and detrimental ways, citing specific examples.
- Critically discuss and defend with evidence how humans can modify behaviors that can alter the interactions with microbes in a way that promotes individual and community wide health.
- Accurately, logically, and clearly communicate explanations and opinions on topics related to microbial influences on human health to a variety of audiences.
- Locate scientific information, and evaluate the reliability of sources.
- Differentiate between types of scientific information (e.g. primary research articles, clinical trials, case studies, review articles, news articles, press releases).
- Critically think about and interpret key findings from different scientific articles.
- Use writing to aid in your acquisition and retention of knowledge.

Assessment of Learning Outcomes: Learning outcomes will be assessed via the following activities:

1. Pre and post-course writing survey (<i>informal</i>)	5
2. Student journaling and blog (<i>informal</i>)	15
3. Group activities	4
4. Participation in discussion boards	5
5. Participation in readings discussion boards	6
6. Summary review articles (<i>formal</i>)	15
7. Mid-term audience essays (<i>formal</i>)	15
8. Peer review of final essays	10
9. Final opinion review essay/portfolio (<i>formal</i>)	25

Total **100**

Assignment of final grades based on point total in the course:

	A	94.0 or above	A-	90.0-93.9	
B+	87.0-89.9	B	84.0-86.9	B-	80.0-83.9
C+	77.0-79.9	C	74.0-76.9	C-	70.0-73.9
D+	67.0-69.9	D	64.0-66.9	D-	60.0-63.9

59.9 or less will result in a failing grade for this course

Learning resources:

- Canvas
- The Library, <http://guides.library.oregonstate.edu/BHS323>
 - Hannah Rempel, Hannah.Rempel@oregonstate.edu
- The Writing Center, Waldo 123, <http://writingcenter.oregonstate.edu>
- PubMed, Google Scholar (for finding/accessing scientific articles)
- Your instructor: brainstorming, interpreting papers, written feedback, etc.
- Your peers

Note to prospective students: Please check with the OSU Bookstore for up-to-date information for the term you enroll ([OSU Bookstore Website](#) or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Canvas:

This course will be delivered via Canvas where you will interact with your classmates and with your instructor. Within the course Canvas site you will access the learning materials, such as the syllabus, class discussions, assignments, projects, and quizzes. To preview how an online course works, visit the [Ecampus Course Demo](#). For technical assistance, please visit [Ecampus Technical Help](#).

Technical Assistance:

If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email osuhelpdesk@oregonstate.edu or visit the [OSU Computer Helpdesk](#) online.

Description of assignments and activities:

In general, informal assignments will be evaluated on a completion and effort basis. Formal writing assignments will be graded on content, with grading rubrics provided by the instructor. Formal writing assignments will be returned with instructor feedback in a timely manner (usually within one week) with comments and suggestions for future improvement.

For assignments to be turned in on Canvas, you will submit them in the appropriate assignment page by 11:59pm on the due date. Assignments submitted 24 hours past the due date will receive a 20% point penalty. Assignments submitted between 24 and 48 hours past the due date will receive a 50% point penalty. Assignments will not be accepted after 48 hours past the due date, and there will be no opportunity to make up lost points.

1. Pre and post-course writing survey (informal)

The purpose of this assignment is to allow you to assess and reflect on your writing abilities and knowledge of the content covered in this course as it relates to human health. You will be prompted to answer short questions, as well as quantify your experience and confidence in aspects relating to this course. The data obtained from these surveys will serve to demonstrate your perceived and actual growth through taking this course, as well as provide insight for the instructor for ways to improve this course in the future. As this is in an informal assignment, you will not be graded on correctness of content but by participation and completion of this assignment.

2. Student journaling and blog (informal)

We will think critically about the content in this course through the frequent use of writing. Each week there will be a list of journaling prompts that you will be prompted to respond to by creating submissions in your online blog. For more details on how to properly set up your blog and grading criteria, please refer to the journaling and blog description page on Canvas.

The types of writing assignments and prompts will vary on the topic discussed, but may include prompts such as:

- What are some of the pros and cons of probiotics?
- What was the most surprising thing you learned today?
- Which source did you find most helpful in understanding the material today, and why?
- Are you convinced with the main finding from this paper? Why or why not?
- How would you define a “pathogen”?

3. Group activities

Four weeks during the course (weeks 2, 4, 7 and 9) you will be assigned a group activity that will require you to work in groups (ranging from pairs of students, to the entire class) to complete an assignment related to the course content for that week. This may range from completing a writing exercise, to developing a scientific proposal. For more details for each group activity, refer to the activity description in Canvas.

4. Participation in discussion boards (informal)

Five weeks during the course (weeks 1, 3, 5, 6, and 10) you will be tasked with contributing to a larger conversation with your peers and your instructor through participation in guided discussion boards. For more details for each discussion board topic, refer to the discussion board descriptions on Canvas.

5. *Participation in reading discussion boards (informal)*

Most weeks will have a discussion board focused on the readings assigned for that week. You will be tasked with commenting on the discussion boards your thoughts, reflections, and questions that you came across as you read the required paper(s) for that week. Participation in each counts for 1 point out of 6, with an optional one for 1 point of extra credit. For more details, refer to reading discussion board descriptions on Canvas.

6. *Summary review articles*

You will be assigned a primary research article or clinical trial article to read, interpret, and identify the important findings. In response, you will write a 250-word summary article (no fewer than 250 words, not to exceed 275) that summarizes the key findings in the research article to an audience specified by the instructor. You will be assigned three summary articles throughout the course, each worth 5 points. These are due at the end of weeks 2, 4, and 6 during the term.

Optional: You have the option of writing a 4th summary review article (due week 8) on a primary research paper of your choosing. The points you receive (up to 5) on this summary article can be used to replace a score received on any of the prior 3 summary articles. You must include a copy of the article with your summary article. Be sure to check with the instructor if you are unsure about the type of article you choose for this assignment. Completing the fourth review cannot lower your overall grade.

7. *Mid term audience essay*

The purpose of this assignment is to give you an opportunity to explore the language and content needed to explain scientific concepts to different audiences. You will be given the option of picking one of three writing prompts, which will have you write two-500 word essays to two different audiences (as explained within the prompt). At the end of week 3, you will submit one draft of one essay with a reference list to the instructor for feedback and revisions before submitting both essays at the end of week 5. *Please refer to the assignment instructions on Canvas for grading rubric and more specific information pertaining to this assignment.*

8. *Peer review of final opinion review essays*

The purpose of peer review is two-fold: 1) you will get constructive feedback on your essays prior to the final draft, and 2) you will get experience critiquing others work, which will help you identify places to improve in your own writing. You will participate in a peer-review session with the final opinion essay in which you will read, critique, and discuss with a partner each other's drafts of the final opinion review essay through the use of provided rubrics. This is an informal assignment that will be based on participation and effort. This will be completed during week 8 of the term.

9. *Final opinion review essay/portfolio*

The final paper in this course will have you demonstrate your ability to find, read, critically interpret, evaluate, and communicate findings from scientific primary research articles and case studies on a controversial topic (of your choosing) that relates to microbial contributions to human health. This review essay must be a minimum of 2000 words, not to exceed 2200, and you will explain your topic of choice, what the controversy is, and what your stance is on the topic based on your interpretation of the current state of knowledge of that field from multiple references. This essay will be peer-reviewed and you will make significant revisions between first and final drafts.

As part of your grade for this essay, you will need to provide a reference list that has a minimum of 10 references with 3 different types (one of which needs to be a primary research article, and you must have at least half of your references be peer-reviewed primary research/clinical trial articles). This reference list will be due at the same time as the first draft at the end of week 7, and be worth 2.5 points out of the total 20 points possible for this assignment.

You also will be asked to write a 1-2 page “Response to Reviewer Comments” paper based on the comments you received from your peer review, which will be worth 2.5 points out of the total 20 points possible. This assignment is due at the end of week 9. You are expected to make substantial revisions to your draft based on the peer-review comments you received. *Please refer to the assignment instructions on Canvas for grading rubric and more specific information pertaining to this assignment.*

The final essay is due by 11:59pm the Wednesday of finals week. The same late point penalties apply, and essays submitted after 11:59 pm Friday of finals week will not be accepted for a grade.

A full, detailed schedule is provided at the end of the syllabus document.

Guidelines for a Productive and Effective Online Classroom

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university’s regulations regarding civility.

Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Accessibility of Course Materials

All materials used in this course are accessible. If you require accommodations please contact [Disability Access Services \(DAS\)](#). Additionally, Canvas, the learning management system through which this course is offered, provides a [vendor statement](#) certifying how the platform is accessible to students with disabilities.

Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the [Student Conduct Code](#).

Academic Integrity

Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit [Student Conduct and Community Standards](#), or contact the office of Student Conduct and Mediation at 541-737-3656.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:

- a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.
- b) It includes:
 - i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
 - ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
 - iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
 - iv) TAMPERING - altering or interfering with evaluation instruments or documents.
 - v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.
- c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

Conduct in this Online Classroom

Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the [university's regulations regarding civility](#).

Tutoring

[NetTutor](#) is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online writing lab where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.

OSU Student Evaluation of Teaching

Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the 19 multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. You will log in to "Student Online Services" to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.