



PubH6320, Online, Section 320

FUNDAMENTALS OF EPIDEMIOLOGY

FALL 2018, 3 CREDITS

GRADE OPTION: A/F

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Communication in Online Courses

This course is entirely web-based, delivered via Moodle at <http://moodle.umn.edu>. Communication is especially important in an online course. The course site announcement forums and email will be used to communicate with students. You are responsible for reading all course-related emails sent to your University email account and contacting us in a timely manner with any questions you may have. We strongly recommend that you check your U of M email daily. Our goal is to respond to emails within 24 hours, 7 days of the week.

	Contact Information	Role	When to Contact
Instructor	Dr. Judy Punyko, Email: puny0002@umn.edu Office locations: Off campus location. Please email for appointment	Creates course content, leads the class, provides help with content to groups of students and individual students, and makes final decisions regarding grades	With questions, concerns or suggestions about the course content or grades; to submit a letter from the Disability Resource Center; to request an extension or approval to submit work late (please look at the <i>Late Work</i> policy in this syllabus); to request a course incomplete; to schedule office hours (in person, by phone, Webex or Skype; the instructor is happy to help you.
Teaching Assistant	Christine Kunitz Gill0403@umn.edu Jennifer Geris Grimm074@umn.edu	Assigns grades and provides individual feedback on each assignment; provides help with content to groups of students and individual students.	Questions or concerns about course content, assignments, deadlines, etc. Your TA will respond promptly and is your first line of contact! The TAs are happy to help you.
Technical Support	Technical support options are available on the SPH website. https://z.umn.edu/sphquickhelp	Troubleshoots technical issues related to the Moodle site or course content.	Technical issues with the Moodle site, media, quizzes or assignments.

*Please save this Instructional Team contact information to your computer or print it. That way, you can still contact us in the event that you have difficulty connecting to the Internet or otherwise don't have access to this syllabus.

CEPH Competencies & Learning Objectives

Competency	Learning Objectives	Assessment Strategies
<p>1. Apply epidemiological methods to the breadth of settings and situations in public health (primary)</p>	<p>Lesson 1</p> <ul style="list-style-type: none"> Define and describe the definition and aims of epidemiology <p>Lesson 3/4</p> <ul style="list-style-type: none"> Calculate, interpret, and apply measures of disease frequency appropriately in a given situation. <p>Lesson 5</p> <ul style="list-style-type: none"> Interpret data, including graphical data, in terms of characteristics of descriptive epidemiology, i.e., person, place, and time, and indicate the uses of descriptive data. Explain the differences between etiologic and non-etiological associations. <p>Lesson 6</p> <ul style="list-style-type: none"> Calculate and interpret the results of direct and indirect standardization for the control of confounding; describe the appropriate situations for use of each method. <p>Lesson 7</p> <ul style="list-style-type: none"> Calculate and describe measures of excess risk and know when to use the various measures. <p>Lesson 8</p> <ul style="list-style-type: none"> Define and describe systematic and random error, including effect measure modification and the properties and type of confounders Outline the strengths and drawbacks of methods used to control confounding <p>Lesson 13</p> <ul style="list-style-type: none"> Define important terms and calculate common measures used in infectious disease epidemiology Describe the agent, host, and environmental factors which contribute to likelihood and emergence of infectious disease and identify exposures likely to have caused an epidemic <p>Lesson 14</p> <ul style="list-style-type: none"> Identify criteria for screening and calculate and interpret the characteristics of screening tests the criteria for screening. Describe biases and advantages and disadvantages of the various epidemiologic study designs used to evaluate efficacy of screening 	<ol style="list-style-type: none"> Laboratory assignments (worth 1.54% each) for Lessons 1, 3/4, 5, 6, 7, 8, 13, 14 Quizzes 1, 2, 4 (each worth 10% of the final grade) Two Roundtable discussion forum posts and responses, Lessons 3 and 7 (worth 1.67% each of the final grade) One small group laboratory assignment on descriptive epidemiology, Lessons 1-6 (worth 5% of the final grade for the assignment, and another 2% for group participation points) One Comprehensive final examination (worth 15% of the final grade) One short 'database exercise' reflection on relation of epidemiology to student's career interests (worth 1% of the final grade) One small group Manuscript critique (worth 10% of final grade)
<p>2. Select quantitative and qualitative data collection methods appropriate for a given public health context (primary)</p>	<p>Lesson 8</p> <ul style="list-style-type: none"> Define and describe systematic and random error, including effect measure modification and the properties and type of confounders Outline the strengths and drawbacks of methods used to control confounding <p>Lesson 9/10/11/12</p> <ul style="list-style-type: none"> Identify the objectives, features, advantages, and disadvantages of experimental and observational study designs Describe criteria for and the process of obtaining approval for studies involving 	<ol style="list-style-type: none"> Laboratory assignments (worth 1.54% each) for Lessons 8, 9, 10, 11, 12 Quizzes 2 and 3 (each worth 10% of the final grade) One 'Roundtable' discussion forum post and response for Lesson 10 (worth a 1.67% each of the final grade) Comprehensive final examination (worth 15% of the final grade)

	<p>human subjects from an Institutional Review Board</p>	
<p>4. Interpret results of data analysis for public health research, policy or practice (primary)</p>	<p>Lesson 2</p> <ul style="list-style-type: none"> Describe criteria for assessing causal and non-causal associations Illustrate and explain various causal models <p>Lesson 5</p> <ul style="list-style-type: none"> Interpret data, including graphical data, in terms of characteristics of descriptive epidemiology, i.e., person, place, and time, and indicate the uses of descriptive data. Explain the differences between etiologic and non-etiologic associations. <p>Lesson 6</p> <ul style="list-style-type: none"> Calculate and interpret the results of direct and indirect standardization for the control of confounding; describe the appropriate situations for use of each method. <p>Lesson 7</p> <ul style="list-style-type: none"> Calculate and describe measures of excess risk and when to use the various measures of excess risk <p>Lesson 8</p> <ul style="list-style-type: none"> Define and describe systematic and random error, including effect measure modification and the properties and type of confounders Describe methods used to control confounding and outline the strengths and drawbacks of each <p>Lesson 13</p> <ul style="list-style-type: none"> Define important terms and calculate common measures used in infectious disease epidemiology Describe the agent, host, and environmental factors which contribute to likelihood and emergence of infectious disease and identify exposures likely to have caused an epidemic <p>Lesson 14</p> <ul style="list-style-type: none"> Identify criteria for screening and calculate and interpret the characteristics of screening tests the criteria for screening. Describe biases and advantages and disadvantages of the various epidemiologic study designs used to evaluate efficacy of screening 	<ol style="list-style-type: none"> Laboratory assignments for Lessons 2, 5, 7, 8, 13, 14 (worth 1.54% each of the final grade) Quizzes 1, 2, 4 (each worth 10% of the final grade) One 'Roundtable' discussion forum posts and responses for Lesson 10 (worth a 1.67% of the final grade) One small group laboratory assignment on descriptive epidemiology, Lessons 1-6 (worth 5% of the final grade for the assignment, and 2% from participation points) Comprehensive final examination (worth 15% of the final grade) One small group Manuscript critique (worth 10% of final grade)
<p>11. Select methods to evaluate public health programs (secondary)</p>	<p>Lesson 5</p> <ul style="list-style-type: none"> Interpret data, including graphical data, in terms of characteristics of descriptive epidemiology, i.e., person, place, and time, and indicate the uses of descriptive data. Explain the differences between etiologic and non-etiologic associations. <p>Lesson 6</p> <ul style="list-style-type: none"> Calculate and interpret the results of direct and indirect standardization for the control of confounding; describe the appropriate situations for use of each method. <p>Lessons 9/10/11/12</p> <ul style="list-style-type: none"> Identify the objectives, features, advantages, and disadvantages of experimental and observational study designs; formulate the appropriate study design to address a given 	<ol style="list-style-type: none"> Laboratory assignments for Lessons 5, 9, 10, 11, 12, 13, 14 (worth a 1.54% each of the final grade) Quizzes 3 and 4 (each worth 10% of the final grade) One 'Roundtable' discussion forum posts and responses for Lesson 10 (worth 1.67% of the final grade) One small group laboratory assignment on descriptive epidemiology, Lessons 1-6 (worth 5% of the final grade for the assignment, and 2% from participation points) Comprehensive final examination (worth 15% of the final grade)

	<p>hypothesis; describe the basic outcome measure and predict a result.</p> <ul style="list-style-type: none"> Describe criteria for and the process of obtaining approval for studies involving human subjects from an Institutional Review Board <p>Lesson 13</p> <ul style="list-style-type: none"> Define important terms, calculate and interpret common measures used in infectious disease epidemiology Describe the agent, host, and environmental factors which contribute to likelihood and emergence of infectious disease and identify exposures likely to have caused an epidemic <p>Lesson 14</p> <ul style="list-style-type: none"> Identify criteria for screening and calculate and interpret the characteristics of screening tests the criteria for screening. Describe biases and advantages and disadvantages of the various epidemiologic study designs used to evaluate efficacy of screening 	
18. Select communication strategies for different audiences and sectors (secondary)	<p>Lesson 5</p> <ul style="list-style-type: none"> Interpret data, including graphical data, in terms of characteristics of descriptive epidemiology, i.e., person, place, and time, and indicate the uses of descriptive data. Explain the differences between etiologic and non-etiological associations. <p>Lesson 6</p> <ul style="list-style-type: none"> Calculate and interpret the results of direct and indirect standardization for the control of confounding; describe the appropriate situations for use of each method. <p>Lesson 13</p> <ul style="list-style-type: none"> Define important terms and calculate common measures used in infectious disease epidemiology Describe the agent, host, and environmental factors which contribute to likelihood and emergence of infectious disease and identify exposures likely to have caused an epidemic <p>Lesson 14</p> <ul style="list-style-type: none"> Identify criteria for screening and calculate and interpret the characteristics of screening tests the criteria for screening. Describe biases and advantages and disadvantages of the various epidemiologic study designs used to evaluate efficacy of screening 	<ol style="list-style-type: none"> Laboratory assignments for Lessons 5, 13, 14 (worth 1.54% of the final grade) Quiz 4 (worth 10% of the final grade) One small group laboratory assignment on descriptive epidemiology, Lessons 1-6 (worth 5% of the final grade for the assignment, and 2% from participation points) Comprehensive final examination (worth 15% of the final grade) One short 'database exercise' reflection on relation of epidemiology to student's career interests (worth 1% of the final grade)
21. Perform effectively on interprofessional teams (secondary)	<p>Small Group Laboratory & Manuscript Critique Work collaboratively on group assignments (small group laboratory and manuscript critique and identify contributions and roles for each individual)</p>	<ol style="list-style-type: none"> One small group laboratory assignment on descriptive epidemiology, Lessons 1-6 (worth 5% of the final grade for the assignment, and 2% from participation points) One small group 'manuscript critique' assignment (worth 10% of the final grade for the assignment, and 2% from participation points)

Course Description

Welcome to Fundamentals of Epidemiology Online! “Fundamentals” is an introductory course designed to provide graduate students who are not majoring in epidemiology with an understanding of the basic methods and tools used by epidemiologists to study the health of populations. We will cover all the same topics as the course taken by epidemiology majors, but in somewhat less depth. PubH6320 is a required course for obtaining an MPH in the School of Public Health. Although you may not want to become an epidemiologist, we hope that by the end of this course, you will have developed an excitement for the subject and an appreciation for the relevance of epidemiology to your own discipline and to everyday life.

Epidemiology Is Not a Black-and-White Discipline. In epidemiology there is not always a right answer or only one approach to a research question. Sometimes, we must choose among various alternatives the one that would seem to be most appropriate for the problem posed. Sometimes we choose the best answer, given the alternatives, although it is not necessarily the only answer. This makes epidemiology a difficult subject to teach and to learn. Because epidemiology is immersed in the gray areas of human health, it is possible that you may pose a question, which we are unable to answer immediately, or if we answer it, we may change our mind upon further reflection. We also expect that some of you will come up with answers that had not occurred to us. We welcome such an exchange of ideas and look forward to learning from you.

Course Prerequisites

ACADEMIC HEALTH CENTER (AHC) GRADUATE STUDENT, DUAL OR JOINT DEGREE STUDENT OR INSTRUCTOR CONSENT.

Basic algebra skills are needed for this class to perform simple calculations such as disease rates and risks. If you want to refresh your math skills, please visit: <http://www.sph.umn.edu/current/resources/math/>.

Methods of Instruction and Work Expectations

Fundamentals of Epidemiology Online is a 3-credit course with 15 lessons that are entirely online. It consists of textbook readings, instructor-created lectures (10 hours and 35 mins) and TA-graded laboratory assignments. Other activities designed to help students synthesize new material with previously learned material include practice problems, group projects, self-tests, discussion postings and a number of online resources, including readings, resource links, and motion-graphic modules (animations). There are online quizzes and a final exam.

It is estimated, based on the credit load and student experience, that this class requires about 12–13 hours per week during a 15-week semester and about 20 hours per week during the 10-week summer term. This is consistent with University Policy regarding Instructional time per course credit. <https://policy.umn.edu/education/instructionaltime>. Anyone working full-time is discouraged from taking more than one online course and everyone is discouraged from taking too many online classes at one time.

We've done our best to make the online course as complete and accurate as possible, but if you notice inconsistencies or misspellings, if you have trouble accessing anything, or if you'd simply like to propose improvements, please let us know by posting a note in the Course forum or by email.

Course Expectations

We expect students to follow the class calendar and to meet due dates posted on the syllabus. Our expectations and requirements for this course are like those for a graduate level course that is taught in-person, so you will need to properly pace yourself as you work through the **scheduled lessons, labs, discussion posts, other assignments, and quizzes.**

We expect students to read the required textbook and other assignments. The online recorded lessons are not sufficient to provide a thorough understanding of the course material. The lesson modules online will be most helpful to you if you have read the assigned materials first. In that way, the lecture material will have an air of familiarity about it.

We expect students to work with members of their study group. Collaborating with a team is an important skill in the workplace, and therefore, the course includes some group projects. (Details are below.)

We expect students to take quizzes and exams independently, without help from any other person, unless otherwise specified. You may be required to take the final exam in the presence of an online or in-person proctor. If so, details will follow.

Learning Community

In this course there are required group activities and you are strongly encouraged to communicate with your study partners during the course to exchange ideas and get help with lab assignments, practice problems and homework assignments. There are also several group assignments in the class. Students are also free to share helpful comments with the class as a whole using the Course forums. A portion of your grade is based on your consistent participation in your study group and discussion forums. This means responding to instructors and fellow student's questions, asking questions yourselves, bringing outside information to the group that may help others grasp the course content, participating in a discussion online, by phone, by email, by Webex, etc. as required.

School of Public Health courses ask students to discuss frameworks, theory, policy, and more, often in the context of past and current events and policy debates. We do not come to our courses with identical backgrounds and experiences and therefore we have much to share. Many of our courses ask students to work in teams or discussion groups. We expect students to listen and engage respectfully while collaborating with each other. This ability is critical to successful professional, academic, and scientific engagement with topics.

In group work, this can mean:

- Setting expectations with your groups about communication and response time during the first week of the semester (or as soon as groups are assigned) and contacting the TA or instructor if scheduling problems cannot be overcome.
- Setting clear deadlines and holding yourself and each other accountable.
- Determining the roles group members need to fulfill to successfully complete the project on time.
- Developing a rapport prior to beginning the project (what prior experience are you bringing to the project, what are your strengths as they apply to the project, what do you like to work on?)

In group discussion, this can mean:

- Respecting the identities and experiences of your classmates.
- Avoid broad statements and generalizations. Group discussions are a form of academic communication and responses to instructor questions are evaluated. Apply the same rigor to crafting discussion posts as you would for a paper.
- Consider your tone and language, especially when communicating in text format, as the lack of other cues can lead to misinterpretation.

Like other work in the course, all student to student communication is covered by the Student Conduct Code (<https://z.umn.edu/studentconduct>).

Course Text & Readings

Required Texts

The required text book is: ***Essentials of Epidemiology in Public Health, 4th Edition***, by Ann Aschengrau and George R. Seage II, published by Jones and Bartlett, Copyright 2018 (BN-13: 9781284128352).

The textbook is available at the University of Minnesota Bookstore, located in Coffman Memorial Union on the Minneapolis campus or via online services <https://www.bookstores.umn.edu/>. It is also available at online services such as Barnes and Noble (<http://www.bn.com>) and Amazon (<http://www.amazon.com>). Be sure to check for the best prices, as sometimes these services and others will offer the book used.

Supplemental Texts & Articles

There is no one perfect text for teaching epidemiology so we urge you to read other material as well. This course sometimes uses journal articles, which are available via the University Libraries' E-Reserves and will be linked from the Moodle course site.

Don't reread something five times in one book if it is not clear. Find another source to read. It may explain a topic in another way that is just what you need. Additionally, no one text satisfies everyone. If you find other materials that cover the required topics for this course that you like better than the textbook, go ahead and use them. On the website we have listed supplemental texts (available from the library) and articles (available as links on the class website) that you might find useful.

The University of Minnesota Bio-Medical Library provides information on how to evaluate web-resources: <http://hsl.lib.umn.edu/biomed/help/evaluating-web-resources>.

Course Outline/Weekly Schedule

Fundamentals of Epidemiology has specific deadlines. All coursework must be submitted via the Moodle course site before the date and time specified on the site. **Note: assignments are due by 11:55pm CST unless indicated otherwise.**

Week	Topic	Readings (Readings are from the Aschengrau text book unless otherwise indicated.)	Activities/Assignments (All Assignments are due at 11:55 pm, Central Time Zone)
Week 1 9.4-9.9	Lesson 1: Orientation and Scope of Epidemiology	Chapter 1	Math Review – Optional Syllabus Assessment - Access from Home Page Lab 1 – Consists of finding answers on the web, posting bio on the forum and describing a source of epi data on the forum Select a study group (use this group to ask and answer content related questions and for the group assignments)
Week 2 9.10-9.16	Lesson 2: Causality	Chapter 15	Lab 2
Week 3 9.17-9.23	Lesson 3: Measures of	Chapter 2	Lesson 3: Round Table Discussion: <ul style="list-style-type: none"> • Initial post: 9/20

	Disease Occurrence: Counts and Proportions		<ul style="list-style-type: none"> Response post: 9/23
Week 4 9.24-9.30	Lesson 4: Measures of Disease Occurrence: Rates	Chapter 2	Lab 3/4: This is one lab assessing Lessons 3 & 4.
Week 5 10.1-10.7	Lesson 5: Descriptive Epidemiology	Chapter 5	<i>Quiz 1 is due this week (available 10/4-10/7)</i> <i>Covers Lessons 1-4</i> Lab 5
Week 6 10.8-10.14	Lesson 6: Rate Standardization	Chapter 3 pp. 69-72	Lab 6 Small group laboratory assignment
Week 7 10.15-10.21	Lesson 7: Excess Risk	Chapter 3	Lab 7 Lesson 7 Round Table Discussion: Initial post: 10/18 Response post: 10/21
Week 8 10.22-10.28	Lesson 8: Confounding, Bias, and Error	Chapter 10, Chapter 11	<i>Quiz 2: Covers Lessons 5-7 (available 10/1-10/7)</i> Lab 8
Week 9 10.29-11.4	Lesson 9: Study Design	Chapter 6	Lab 9
Week 10 11.5-11.11	Lesson 10: Intervention Studies	Chapter 7	Lesson 10 Round Table Discussion: Initial post: 11/8 Response post: 11/11 Lab 10
Week 11 11.12-11.18	Lesson 11: Cohort Studies	Chapter 8	<i>Quiz 3: Covers: Lessons 8-10 (available 11/15-11/18)</i> Lab 11
Week 12 11.19-11.25 Campus closed 11.22 & 11.23	Lesson 12: Case Control Studies	Chapter 9	Lab 12
Week 13 11.26-12.2	Lesson 13: Infectious Diseases	Friis and Sellers, Chapter 12 (PDF on moodle)	Lab 13
Week 14 12.2-12.9	Lesson 14: Screening	Chapter 16	Database Exercise: "How Epi Applies to Your Field" Lab 14
Week 15 12.10-12.12 Last day of semester 12.12 Finals week 12.14-12.18			Manuscript Critique (<i>due 12/12</i>) <i>Quiz 4: Covers: Lessons 11-14 Opens (available 12/15 to 12/18)</i> Final Exam: comprehensive; Opens (<i>available 12/15 to 12/18</i>)

Evaluation & Grading

The teaching team will use a variety of Moodle tools to monitor and assess your progress through the course materials, including reports on the frequency and duration of your access to the lessons; your use of the assignment tool, discussion board, and other course components; and the start times and duration you need to complete online assessments or quizzes. All assignments are due by 11:55 pm (Central Time) on the date noted.

Grades will be based on class participation, completion of lab exercises, a manuscript critique exercise, a study group activity in Lesson 5, and quizzes and final exam scores. We plan to give a series of open-book quizzes and a comprehensive open-book final exam. All quizzes and the final exam must be completed individually without collaboration in groups or assistance from classmates.

NOTE: Self-tests available at the end of the lessons do **NOT** contribute to your grade. They are offered only to help you assess your understanding of the material. They do not provide extra credit.

- **Participation:** Your grade for participating in class will be based on the following: instructor evaluation of your participation in your study group on the Lesson 5 - Small Group Activity and on the manuscript critique; participation in Round Table Discussions; and your contribution to the database of student examples. Watch for announcements about information on these required participation activities.
 - **Study Group.** In the first week, you will select or be assigned to a study group, comprised of 4 to 6 students. Think of your group as a resource for help with difficult concepts or completing the Labs. We highly encourage group discussion and problem solving on Lab assignments for this class. **Further, the Small Group Activity on Descriptive Epidemiology (including Lesson 5 & 6) and the Manuscript Critique must be completed with your study group.** As a part of your submission for these group assignments, you will need to identify the role of each person played in the group, e.g., group leader, editor, researcher, etc., and whether and how each person contributed to the assignment. We will use this information to evaluate your participation on these two assignments as part of the study group as a part of your grade in the class.
 - **Round Table Discussions:** You are required to post to the Round Table Discussions that occur 3 times during the semester (Lessons, 3, 7, and 10). The Round Table Discussions are online posting assignments, consisting of two parts: an initial post, and a response post. The Round Table Discussion will relate to the epidemiologic topic of the lesson that week. Collectively these posts are worth 5% of your grade collectively (1.67% per Round Table) and demonstrate you are engaging the material. You must complete the Round Table Discussion assignment by reading the background including any included websites and reflecting on the Lesson from that week to, (1) initially post on Thursday of that week, and then (2) reviewing and responding to at least one other classmate's post by Sunday of that week. There is no minimum posting length, but your post should generally be at least a short thoughtful paragraph. The posting can of course be written well ahead of the due date for the initial post, but the response post must obviously be posted in response to another student's initial post. The TAs and instructor will monitor the discussions and will join in where necessary. Posts are due by 11:55pm on the due date.
 - **Contribute to the database of student examples.** The database exercise, due towards the end of the course, is an opportunity for you to provide an example of how a principle of epidemiology or a competency relevant to this course applies to your job or area of interest. Alternatively, you may provide a copy of a news story and explain how it illustrates a concept from the course.
 - **Other opportunities for participation.** We expect students to frequently visit the "Course Q&A/Announcements" forum to ask questions of other students and the teaching team, and to answer questions posted by other students. Students' activity in this forum is important for their success in the class.
- **Lab exercises:** Labs are due on Sunday nights. The labs provide students with practice problems and often offer applications **beyond** what's seen in the lessons. They are meant to be a learning experience, so thoughtful but incorrect answers are acceptable. Working together on labs with other students (e.g. in small groups) is acceptable and encouraged, but you need to use your own words when submitting your answers for your lab assignment. It is not acceptable to copy another student's work and submit it as your own.

Labs will be graded based on thoughtful answers, completeness and whether the work was submitted by the due date:

- **Completeness:** Full credit will be given if at least 90% of the answers were thoughtfully completed. If the lab is deemed incomplete or if it is clear that a student has put no thought into their answers, the lab will be penalized by 20%.
- **Late work/No work:** Late work will be penalized 20%, unless prior arrangements were made to submit your work at a later date. Labs will not receive credit if submitted after 11:55 p.m. on the last day of the corresponding quiz for that module. Exceptions may apply where permission is sought ahead of time or in cases of emergency.

The table below summarizes the grading rubric for the labs. The percentage in the last column, labeled 'Multiplier', when multiplied by 1.54 (the total number of percentage points for each lab) computes the number of percentage points earned on a particular lab. **Example:** If you submitted your work late without making prior arrangements, and your work was deemed complete, you would receive $80\% * 1.54 = 1.23$ percentage points for that lab.

Submitted Lab (Y/N)	Met Deadline* (Y/N)	Completed** (Y/N)	Multiplier
Yes	Yes	Yes	100%
Yes	Yes	No	80%
Yes	No	Yes	80%
Yes	No	No	40%
No	NA	NA	0%

* Deadline from weekly calendar or established by special arrangement.

** 90% of the lab answers must be thoughtfully completed.

Multiply this value by 1.54 to compute the number of percentage points earned for a particular lab.

Note: See the 'Grading Criteria' section below for how the total number of percentage points earned during the semester maps into a final letter grade.

- **Study Group Activity on Descriptive Epidemiology (including Lessons 5 & 6):** This assessment must be completed as a group effort with your study group; unless prior arrangements are made with the instructor, no credit will be given for work completed individually. Instructions detailing this assignment will be given in the week it is provided. It will only be available to complete during a one-week period.
- **Manuscript critique:** This is a group exercise to be completed with your study group. Detailed instructions and grading for the manuscript critique will be available on the class website. Note that late projects and critiques will be penalized by 20% (e.g., 20 points out of a starting value of 100) unless prior arrangements have been made with the TAs and the instructor. At the top of the submission, identify the role of each person in the group, e.g., group leader, editor, researcher, etc.

Quizzes and final exam: The quizzes and comprehensive final exam will be available to you in the Moodle site for a limited period of time. **ALL EXAMS AND QUIZZES and the final exam ARE TO BE TAKEN INDEPENDENTLY.**

All exams are offered as open-book exams. Check the times and dates on the course calendar for the time period where the quiz/exam is open for you to take it. Generally, the quizzes and exam are open for several days. We recommend that you have paper, pencil, and a calculator handy before you begin the quiz. Quizzes are timed: you will have about 1.5 hours to finish the questions in each quiz, but you can choose the specific time to take the exam within the multi-day period that the quiz remains available to the class. **NOTE: You will NOT be able to re-enter a quiz after you have submitted your answers or otherwise closed out of the Assessment Tool.**

- Assignments and quizzes will contribute to your total grade points, which will determine your letter grade for the class (see Grading Criteria below). To compute grade points for each activity, we multiply the percentage points earned for an activity by the points multiplier for that activity, as seen in the table below. Example: If you earned 86% on quiz 3, you would earn $86 \times 0.08 = 6.88$ grade points for quiz 3. The total grade points are computed as the sum of the grade points for all of the class activities. Note: These calculations do not include any extra credit points; if offered they will add to individual quizzes or the grade point total as indicated by the instructor.

Activity	% Contribution to Total Grade Points	Points Multiplier
Participation in class: -Small group participation, for Lesson 5 Activity and Manuscript Critique (4%) -Participation in Round Table Discussions (5%) -Contribution to student database of examples (1%)	10%	0.10
Labs (13 Labs)	20%	0.20
Small Group Activity on Descriptive Epidemiology (Lessons 1-6)	5%	0.05
Quiz 1 (Evaluating Lessons 1-4)	10%	0.10
Quiz 2 (Evaluating Lessons 5-7)	10%	0.10
Quiz 3 (Evaluating Lessons 8-10)	10%	0.10
Quiz 4 (Evaluating Lessons 11-14)	10%	0.10
Manuscript critique	10%	0.10
Final exam	15%	0.15

Grading Scale

The University uses plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following, and you can expect the grade lines to be drawn as follows:

% In Class	Grade	GPA
93 - 100%	A	4.000
90 - 92%	A-	3.667
87 - 89%	B+	3.333
83 - 86%	B	3.000
80 - 82%	B-	2.667
77 - 79%	C+	2.333
73 - 76%	C	2.000
70 - 72%	C-	1.667
67 - 69%	D+	1.333
63 - 66%	D	1.000

< 62%	F	
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- A = achievement that is outstanding relative to the level necessary to meet course requirements.
- B = achievement that is significantly above the level necessary to meet course requirements.
- C = achievement that meets the course requirements in every respect.
- D = achievement that is worthy of credit even though it fails to meet fully the course requirements.
- F = failure because work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I (Incomplete).
- S = achievement that is satisfactory, which is equivalent to a C- or better
- N = achievement that is not satisfactory and signifies that the work was either 1) completed but at a level that is not worthy of credit, or 2) not completed and there was no agreement between the instructor and student that the student would receive an I (Incomplete).

For additional information, please refer to: <http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html>.

Evaluation/Grading Policy	Evaluation/Grading Policy Description
<p>Scholastic Dishonesty, Plagiarism, Cheating, etc.</p>	<p>You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis (As defined in the Student Conduct Code). For additional information, please see https://z.umn.edu/dishonesty</p> <p>The Office of Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://z.umn.edu/integrity.</p> <p>If you have additional questions, please clarify with your instructor. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class- e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.</p> <p>ALL EXAMS AND QUIZZES ARE TO BE TAKEN INDEPENDENTLY. No collaboration or sharing with classmates is allowed; you should conduct yourself as you would for a proctored, in-class exam. The teaching team may monitor your performance on quizzes to ensure independent work. We may require online or in person proctoring.</p> <p>Indiana University offers a clear description of plagiarism and an online quiz to check your understanding (https://www.indiana.edu/~academy/firstPrinciples/index.html).</p>
<p>Late Assignments</p>	<p>If you anticipate having difficulty meeting any deadline(s), you must make prior arrangements with your TA or instructor at least 48 hours prior to the due date to be eligible for receiving full credit on your work (i.e., labs, assignments, quizzes, final exam).</p> <p>If prior arrangements were not made for schedule conflicts AND if the student is allowed to make up the assignment, we may apply a late penalty equal to 20% of the total possible points .</p>
<p>Makeup Work for Legitimate Reasons</p>	<p>If you experience an extraordinary event that prevents you from completing coursework on time and you would like to make arrangements to make up your work, contact your instructor within 24 hours of the missed deadline. Per University policy, legitimate reasons for making up work may include:</p> <ul style="list-style-type: none"> • illness • serious accident or personal injury • hospitalization • death or serious illness within the family • bereavement • religious observances • subpoenas • jury duty • military service

	<ul style="list-style-type: none"> • participation in intercollegiate athletic events <p>Because this course is entirely online and all materials are available to students from the first day of the term, we expect students to plan accordingly if travels or access to internet will cause them to miss a deadline. Note that our deadlines are generally set for 11:55 p.m. CST, so traveling to a different time zone will require additional planning. Further, circumstances that qualify for making up missed work will be handled by the instructor on a case-by-case basis; they will always be considered but not always granted.</p> <p>For complete information, view the U of M's policy on Makeup Work for Legitimate Absences (http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html).</p> <p>The instructor will provide make-up quizzes and incompletes, at no penalty, for documented family emergencies, illness, and other extraordinary circumstances. or by prior arrangement for work conflicts. For circumstances not listed in above, the instructor has primary responsibility to decide on a case-by-case basis if an absence is due to unavoidable or legitimate circumstances and grant a request for makeup work.</p>
Extra Credit	<p>Extra credit policy: If we offer opportunities for extra credit so that students may improve their grade, those opportunities will be announced and made available to all students. It is against University policy to offer extra credit after grades are submitted.</p>
Grade Disputes	<p>Grade disputes are accepted between the final day of class and until 5 p.m. CST for the 5 days following the final day of class. Grade dispute requests are only accepted for point allocations that would affect the final letter grade that a student would receive for the course.</p> <p>If you wish to dispute the number of points you receive on a class assignment, you must do so in writing. You must submit a request (500 words maximum) that includes a specific rationale for why the assignment deserves a higher grade and where additional points were earned but not allocated. The instructor reserves the right to either increase or decrease the final point allocation upon review, based upon the merits of the assignment and the request.</p> <p>The only exception to this policy is for a student to note a mathematical error in a grading rubric.</p>
Saving & Submitting Coursework	<p>Documents that students submit are considered final; students may not submit more than one version or draft of each assignment.</p> <p>While taking your quiz/exam, please save your answers frequently as you go along, to prevent you from losing your work if there is a computer or internet connectivity problem.</p> <p>To submit Moodle integrated labs, simply complete the Moodle activity. The Moodle lab activity can be attempted multiple times until the due date.</p>
Technical Issues with Course Materials	<p>You are expected to submit all coursework on time and it is your responsibility to ensure that your work is submitted properly before the deadline.</p> <p>Students are solely responsible for correctly entering their answers into the assessment (exam) tool. Allowances for students' entry errors will be made at the discretion of the teaching team.</p> <ul style="list-style-type: none"> • Open any document/file you are submitting prior to uploading it to the course to ensure that all of your answers are visible. • Double-check your quiz and assignment submissions right after you submit them by returning to your submission and scrolling down to the bottom of the instructions page: <ul style="list-style-type: none"> ○ Assignments successfully submitted will be attached on this page. ○ Quizzes will show as successfully submitted. <p>If you experience technical difficulties while navigating through the course site or attempting to submit coursework:</p> <ul style="list-style-type: none"> • Go to Quick Help: http://z.umn.edu/sphquickhelp. • Connect with the appropriate person or office within 30 minutes of the problem's occurrence. <ul style="list-style-type: none"> ○ Provide as much information as possible, so the tech team can best help you as soon as possible. ○ You can expect a response within 1-2 business days to help resolve the problem. • If you cannot access this course in Moodle, contact Moodle support (moodle@umn.edu) for help.

Incomplete Contracts	<p>A grade of incomplete “I” shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time.</p> <p>The assignment of an “I” requires that a contract be initiated and completed by the student before the last official day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student, in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. Extension for completion of the work will not exceed one year (or earlier if designated by the student’s college). The maximum time allowed for a student to fulfill incomplete course requirements is one year or as specified on the incomplete contract, agreed upon by the instructor and student.</p> <p>Students who fail to meet incomplete contract deadlines as determined by instructor and student will receive a grade of F or N (depending on grade option). For more information and to initiate an incomplete contract, students should go to SPHGrades (http://www.sph.umn.edu/grades).</p>
Course Evaluation	<p>Student feedback on course content and faculty teaching skills are an important means for improving our work. The SPH collects anonymous student course evaluations electronically using a software system called CoursEval (http://www.sph.umn.edu/courseval). Students who complete their course evaluations will be able to access their final grade as soon as the faculty member submits the grade in SPHGrades (http://www.sph.umn.edu/grades) before it is recorded on an official transcript. All students will have access to their final grades through MyU two weeks after the last day of the term regardless of whether they completed their course evaluation or not.</p> <p>Note: This is School of Public Health procedure—not a University-wide policy—and therefore applies to Public Health courses only.</p>
UMN Uniform Grading & Transcript Policy	Information about the UMN policy on grading and transcripts can be found at https://z.umn.edu/gradingpolicy
Grade Option Change	For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester courses) can be found at https://onestop.umn.edu/dates-and-deadlines .
Course Withdrawal	<p>Students should refer to the Refund and Drop/Add Deadlines for the particular term at https://onestop.umn.edu/dates-and-deadlines for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.</p> <p>Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at sph-ask@umn.edu for further information.</p>

Technology Readiness

Technology or Resource	Technology or Resource Description
Course Technologies	<p>The following technology tools may be useful to you in this course, but are not required. If you wish to make yourself familiar with them, URLs are listed below to help.</p> <ul style="list-style-type: none"> • Voicethread, information is available in your Moodle course site. • Microsoft Excel, note general functionality necessary to know, training is available at http://lynda.umn.edu. • Google Docs, training is available: https://it.umn.edu/self-help-guide/google-drive-work-files-folders. • <i>Note: if you need assistance compiling this list or require a resource that does not exist for a specific technology, please visit http://www.sph.umn.edu/academics/academic-technology/guides.</i>
Moodle	All course-related materials are on our Moodle course site. You are expected to access the course site at least once per week; be sure to check the announcements and discussion forums often for the most up-to-date course information.

	<p>To access the course site:</p> <ol style="list-style-type: none"> 1. Log into http://moodle.umn.edu using your UMN Internet ID and password 2. Scroll down the Moodle homepage to the link for this course; click it to access the course site. <p>If it has been more than 24 hours since you have registered and you have problems accessing the Moodle course site, email Moodle Support at moodle@umn.edu for help.</p>
Computer and Internet Expectations and Access	<p>Fundamentals of Epidemiology requires use of the Internet for access to the course site and University email. You are assumed to have reliable access to a computer and high-speed Internet. If you don't have reliable computer and/or Internet access at home, the University has many free, public computer labs on campus. Additionally, computers with reliable Internet for general use are available at most campus and community libraries. It is the responsibility of students to determine if they will have adequate internet access, particularly if they are in remote areas. Poor internet access will not be accepted as an excuse for late assignments.</p>
University of Minnesota Technology Support	<p>The University of Minnesota provides technical support services to students through the Office of Information Technology (OIT). UMN technical support (https://it.umn.edu/help) can help with any questions about your University accounts (Email/Google Apps, Moodle access, MyU Portal, passwords, etc.); you can also search for answers or chat live with a support staff member. You can also call the Help Desk (612-301-4357 or 1-HELP on campus) or stop by Tech Stop (locations and hours: http://www.oit.umn.edu/computer-labs/locations-hours/).</p> <p>Note: UMN Tech and Moodle support are not able to access or make any changes to our Moodle course site. If you have issues within the course site, visit SPH Quick Help at https://z.umn.edu/sphquickhelp.</p>
Web Browser	<p>SPH recommends using newer versions of Mozilla Firefox or Google Chrome as your web browser when accessing content via your Moodle course site. Both of these web browsers can be downloaded for free:</p> <ul style="list-style-type: none"> • Download the latest version of Firefox (http://www.mozilla.com/en-US/firefox/fx/) • Download the latest version of Google Chrome (https://www.google.com/chrome/browser/) <p>Note: We do not recommend using Internet Explorer as your web browser to view the online interactive lessons.</p>

Other Course Information & Policies

Policy	Policy Description
Student Conduct	<p>The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.</p> <p>As a student at the University you are expected adhere to Board of Regents Student Conduct Code (https://z.umn.edu/studentconduct).</p> <p>Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."</p>
Disability Accommodations	<p>The University of Minnesota is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.</p> <p>If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DRC at 612-626-1333 or drc@umn.edu to arrange a confidential discussion regarding equitable access and reasonable accommodations https://z.umn.edu/resourcesdisability.</p> <p>Please share your accommodation letter with the instructor as soon as possible during the semester in order to secure accommodations in a timely manner. In fairness to all students, instructors can only make accommodations for students with a letter from the DRC.</p>

Sexual Harassment	"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program https://z.umn.edu/harrassment
Mental Health and Stress Management	As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website https://z.umn.edu/mentalhlth .
Inclusive Language	Example: While, for the most part, our culture uses a gender-binary and sex-binary framework—thinking and functioning in terms of men and women when discussing gender, or male and female when discussing biological sex, we at the recognize that this doesn't encompass everyone's experience or identity and have therefore used inclusive language throughout the course. Such language consists of words and phrases that demonstrate respect for how a variety of individuals self-identify their gender and sexual orientation, describe their bodies and relationships, and express their sexuality. When we report research results, we use the same terms used by the researchers, recognizing that some of the research may not be inclusive. Despite its potentially exclusionary nature, we have chosen to include such research within the lessons because we believe that the data still has value in informing and supporting our discussions and may be the only or best data available on a given topic.
Appropriate Student Use of Class Notes and Course Materials	Respecting intellectual property. Students may not distribute instructor-provided notes or other course materials, except to other members of the same class or with the express (written) consent of the instructor. Instructors have the right to impose additional restrictions on course materials in accordance with copyright and intellectual property law and policy. Students may not engage in the widespread distribution or sale of transcript-like notes or notes that are close to verbatim records of a lecture or presentation. https://z.umn.edu/classnotes
The Office of Student Affairs at the University of Minnesota	The Office for Student Affairs provides services, programs, and facilities that advance student success, inspire students to make life-long positive contributions to society, promote an inclusive environment, and enrich the University of Minnesota community. Units within the Office for Student Affairs include, the Aurora Center for Advocacy & Education, Boynton Health Service, Central Career Initiatives (CCE, CDes, CFANS), Leadership Education and Development – Undergraduate Programs (LEAD-UP), the Office for Fraternity and Sorority Life, the Office for Community Standards, the Office of Multicultural Student Engagement, the Parent and Family Program, Recreation and Wellness,, Off-Campus Living,, the Student Conflict Resolution Center, the Student Parent HELP Center, Student Unions & Activities, Student Counseling Services,, and University Student Legal Service https://z.umn.edu/communitystand .
Academic Freedom and Responsibility	Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom and conduct relevant research in courses in which students are conducting research. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.* When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies. Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the program director or director of graduate studies, your adviser, the associate dean of the college, (Dr. Kristin Anderson, ander116@umn.edu , SPH Associate Dean for Learning Systems and Student Affairs), or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost. <i>* Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".</i>

UMN Student Resources

Resource	Resource Description
Important Dates	The University's academic calendar lists important University dates, deadlines, and holidays: http://www.onestop.umn.edu/calendars/index.html .
Student Academic Success Services (SASS)	Students who wish to improve their academic performance may find assistance from Student Academic Support Services http://www.sass.umn.edu .
Student Writing Support	<p>Student Writing Support (SWS) offers free writing instruction for all University of Minnesota students—graduate and undergraduate—at all stages of the writing process. In face-to-face and online collaborative consultations, SWS consultants from across the disciplines help students develop productive writing habits and revision strategies.</p> <p>Consulting is available by appointment online and in Nicholson Hall, and on a walk-in basis in Appleby Hall. For more information, visit the SWS website (http://writing.umn.edu/sws) or call 612-625-1893.</p> <p>In addition, SWS's web-based resources offer support on a number of topics such as avoiding plagiarism, documenting sources, and planning and completing a writing project. web-based resources . Additional information on how to avoid plagiarism is available from Indiana University https://www.indiana.edu/~istd/overview.html</p> <p>For more refresher options, see: http://www.sph.umn.edu/current/resources/?toggle=math-and-writing-refreshers .</p>
Housing and Financial Instability	<p>Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is encouraged to utilize local housing and financial resources (https://drive.google.com/file/d/0B4ZsPhqdEA_fbkJsd2dNUjRDT3YyUUJ5dkNVMIQ3bDVTamxj/view), the Nutritious U Food Pantry https://osa.umn.edu/nutritious-u, the Student Emergency Loan Fund (http://selfund.umn.edu/), or emergency funding through the Student Parent HELP Center (for students with a child/children) (http://www.sphc.umn.edu/undergraduate-child-care-assistance-grants-and-other-funding). Furthermore, please notify your instructor or TA if you are comfortable in doing so they can provide any other resources they may be aware of.</p>