NOTE to prospective students: This syllabus is intended to provide students who are considering taking this course an idea of what they will be learning. A more detailed syllabus will be available on the course Canvas site for enrolled students and may be more current than this sample syllabus.

Course Name: Principles and Practice of Epidemiology
Course Number: H 525
Term Offered: Winter 2016
Credits: 4
Instructor name: Susan Carozza, PhD
Instructor email: susan.carozza@oregonstate.edu
Instructor phone: 541-737-5949

Course Description
History of epidemiologic thought; measures of disease frequency and effect; etiologic fraction; design strategies; sources of imprecision and bias; basic epidemiological terminology.

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. I 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 five days of the due date.

Course Credits
This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

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.

Learning Resources
In order to reduce textbook costs for students, I am committed to using free, open-source educational materials for this course. Web links for materials are included throughout the course. I will be drawing from three open source online textbooks:

1) CDC online textbook “Principles of Epidemiology in Public Health Practice, Third Edition: An Introduction to Applied Epidemiology and Biostatistics”, which can be found at http://www.cdc.gov/ophss/csels/dsepd/ss1978/.
2) WHO Basic Epidemiology 2nd Edition textbook:
http://apps.who.int/iris/bitstream/10665/43541/1/9241547073_eng.pdf
3) A Short Introduction to Epidemiology by Neil Pearce:
https://vula.uct.ac.za/access/content/group/9c29ba04-b1ee-49b9-8c85-9a468b556ce2/DOH/Module%202%20(Bio_Epi)/Epidemiology/EPIDEMIOLOGY/Pearce.pdf
If you are interested in purchasing a textbook to supplement the course readings, I recommend *Epidemiology for Public Health Practice, Fifth Edition* (2014) by Robert H. Friis, PhD and Thomas A. Sellers, PhD, MPH. Jones and Bartlett Publishers (ISBN: 978-1-4496-5158-9).

**Note to prospective students:** Please check with the OSU Bookstore for up-to-date information for the term you enroll ([OSU Bookstore Website](http://osu-bookstore.oregonstate.edu) 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](http://ecampus.oregonstate.edu). For technical assistance, please visit [Ecampus Technical Help](http://ecampus.oregonstate.edu).

### Measurable Student Learning Outcomes
This course provides a broad introduction to the principles and methods of epidemiology, with particular emphasis on the role of this core discipline in public health practice and research. Upon completion of this course, students should be able to do the following:

1. Summarize the history and role of epidemiology in public health practice and research.
2. Explain the basic concepts and tools of epidemiology.
3. Calculate measures of morbidity and mortality in a defined community.
4. Describe potential sources of data on community health, noting their strengths and limitations.
5. Demonstrate the use of descriptive epidemiology in providing clues as to possible risk factors for disease.
6. Compare and contrast different study designs used in analytic epidemiology.
7. Explain the concept of causality and give examples of methods employed in epidemiology to establish causal relationships.
8. Identify the issues involved in presenting and interpreting epidemiologic data.
9. Calculate measures of validity and reliability of diagnostic and screening tests.
10. Outline the steps taken in an outbreak investigation.
11. Demonstrate the role of epidemiology in the formation and evaluation of public health practice and policy and related ethical and professional issues.

### Program Competencies in Epidemiology:
Upon satisfactory completion of the MPH degree in epidemiology, the student will have met the program competencies found at [http://health.oregonstate.edu/degrees/competencies](http://health.oregonstate.edu/degrees/competencies).

### Evaluation of Student Performance
Graded elements in this course include discussions, short quizzes, a five-part Applied Epidemiology homework series, a midterm exam and a final exam. The percentage distribution for each category is as follows (and is reflected in the Canvas grade book as a percent of total points):  

- Discussions – 10%
- Quizzes – 10%
- Homework – 30%
- Midterm Exam – 25%
- Final Exam – 25%
**Grading Scale**

An A in this course is earned if a student earns 90 – 100% of the total points for all graded activities, with the remaining grades also reflecting percentages of total points:

<table>
<thead>
<tr>
<th>Grade</th>
<th>% of total points</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
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<tr>
<td>B</td>
<td>80 – 89%</td>
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<td>C</td>
<td>70 – 79%</td>
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<tr>
<td>D</td>
<td>60 – 69%</td>
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<tr>
<td>F</td>
<td>&lt;=50%</td>
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**NOTE:** There are NO extra credit activities available for this course.

**Course Content**

<table>
<thead>
<tr>
<th>Week</th>
<th>Unit</th>
<th>Topic</th>
<th>Graded Learning Activities</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Unit 1: Epidemiology in Public Health</strong></td>
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<tr>
<td>1</td>
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<td>Introduction &amp; History of Epi</td>
<td>Online discussion</td>
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<td>Applied Epi Homework #1</td>
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<td><strong>Unit 2: Describing Public Health Problems</strong></td>
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<td>Measures of Disease Frequency</td>
<td>Online discussion</td>
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<td>2</td>
<td>Public Health Surveillance and Data Sources</td>
<td>Online discussion</td>
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<td>Descriptive Epidemiology: Person, Place, Time</td>
<td>Online discussion</td>
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<td>Online discussion Applied Epi Homework #2</td>
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<td><strong>Unit 3: Evaluating Risk Factors for Disease</strong></td>
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<td>4</td>
<td>3</td>
<td>Overview: Study Designs in Epi</td>
<td>Online discussion</td>
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<td>Ecologic, Cross-sectional studies</td>
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<td>5</td>
<td>3</td>
<td>Experimental, Cohort, and Case-Control studies</td>
<td>Wassell et al quiz</td>
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<td>Measures of Effect</td>
<td>Gawande et al quiz</td>
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<td>Online discussion Applied Epi Homework #3</td>
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<td><strong>MIDTERM EXAM!</strong></td>
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<td><strong>Unit 4: How to Interpret Epidemiological Studies</strong></td>
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<td>7</td>
<td>4</td>
<td>Causation and causal inference</td>
<td>Online Discussion</td>
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<tr>
<td>8</td>
<td>4</td>
<td>Evaluating bias, confounding and effect</td>
<td>Online Discussion Applied Epi Homework #4</td>
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<td>modification</td>
<td>Applied Epi Homework #5</td>
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<td>Evaluating random error</td>
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<td><strong>Unit 5: Applied Epidemiology</strong></td>
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<td>9</td>
<td>5</td>
<td>Screening for Disease</td>
<td>Applied Epi Homework #6</td>
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<td>Case Study: Neuroblastoma</td>
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<td>10</td>
<td>5</td>
<td>Outbreak!</td>
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<td>Case Study: Outbreak in TX University</td>
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<tr>
<td><strong>Finals</strong></td>
<td><strong>Week</strong></td>
<td><strong>FINAL EXAM!</strong></td>
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Course Policies

Discussion Participation
Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. Note that there are due dates for all graded discussions.

Proctored Exams
This course requires that you take exams under the supervision of an approved proctor. Proctoring guidelines and registration for proctored exams are available online through the Ecampus testing and proctoring website. It is important to submit your proctoring request as early as possible to avoid delays.

Makeup Exams
Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

Incomplete
Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final exam). If you are having any difficulty that might prevent you completing the coursework, please don’t wait until the end of the term - let me know right away.

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 NetTutor 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.