

Population Health Sciences 806
Advanced Epidemiology: The Practice of Epidemiology (3 credits)
Spring 2016, Tuesdays & Thursdays 1:00–2:15, WARF 758

Syllabus version 2.0

Course goal – The primary goal of the course is to apply and extend methodologic knowledge learned in prior courses in the Population Health Sciences epidemiology methods sequence (**797, 798, 805; these are prerequisites**) to selected key activities of a practicing epidemiologic researcher, including:

- Study implementation
- Scientific writing and presentation
- Manuscript and grant peer-reviewing
- Measurement validation and sensitivity analyses
- An overview of commonly-used epidemiology field instruments and methods.

Instructor

Paul E. Peppard, PhD, Associate Professor, Population Health Sciences
WARF room 611A
Tel: 26 2-2680
ppeppard@wisc.edu
Office hours: by appointment

Statistical/dataset support for methods project

Laurel Finn, MS, Researcher and biostatistician, Population Health Sciences
WARF room 620
lafinn@wisc.edu

Grading

- ★ 10% Attendance/participation: 100 total points
 - Attendance: points per class —
Absent=0, “Excused absence”=2, Present=3
(Absence due to illness, family emergency or similar won’t affect attendance grade, i.e., points will be imputed based on non-sick attendance record).
 - Remaining points will be based on class participation.
- ★ 30% Two-three homework assignments: 300 points total
- ★ 30% Methods project: 300 points (100 for presentation, 200 for paper)
- ★ 15% Manuscript review assignment: 150 points
- ★ 15% In-class quizzes: 150 points (2 @ 75 each)

- Please notify me within the first two weeks of class of specific dates on which you may need to miss class for religious observances.
- Late assignments will be deducted 5 points for each day late.

Collaborative Environment & Academic Misconduct: Students are encouraged to discuss course material and content with each other. However, unless otherwise indicated, assignments, exams, and quizzes should be representative of your own work. Please refer to this website if you have questions about student misconduct:

<http://www.wisc.edu/students/saja/misconduct/misconduct.html>

Non-Discrimination Policy: The UW–Madison is committed to creating a dynamic, diverse and welcoming learning environment for all students and has a non-discrimination policy that reflects this philosophy. Disrespectful behaviors or comments addressed towards any group or individual, regardless of race/ethnicity, sexuality, gender, religion, ability, or any other difference is deemed unacceptable in this class.

Special Needs or Disabilities: We wish to fully include persons with special needs or disabilities in this course. Please let Dr. Peppard know if you need any special accommodations in the curriculum, instruction, or assessments of this course to enable you to fully participate.

Civility Policy: Members of the University of Wisconsin-Madison community are expected to deal with each other with respect and consideration. The civility policy for this course promotes mutual respect, civility and orderly conduct among the faculty, teaching assistants, and students. We do not intend this policy to deprive any person of his or her right to freedom of expression. Rather, we seek to maintain a safe, harassment-free work-place for the students, faculty, and teaching assistants. Positive communication is encouraged and volatile, hostile, or aggressive actions and language will not be tolerated. If the civility policy for this course is violated, then the individual is subject to removal from the class and possibly the course altogether. In addition, the proper authorities at the UW Departmental, School, and University levels will be notified of such behavior accordingly and further action may be taken if necessary.

Learn@UW: Course information, required readings and other helpful materials will be distributed on the course website at <http://learnuw.wisc.edu>. All students are expected to routinely log into the course site. The course site will contain the updated syllabus as well as other course information. (If you notice inconsistencies or misspellings, if you have trouble accessing anything, or if you would like to propose improvements, please email me—ppeppard@wisc.edu).

Readings

- The following textbooks are required:
 - “WA&S” – White E, Armstrong BK, Saracci R. Principles of Exposure Measurement in Epidemiology: Collecting, Evaluating, and Improving Measures of Disease Risk Factors, 2nd Ed. Oxford University Press, 2008.
 - “S&N” – Szklo M and Nieto FJ. Epidemiology: Beyond the Basics, 3rd edition; Jones and Bartlett Learning, 2014.
- Also recommended:
 - “RG&L” – Rothman KJ, Greenland S, Lash TL. Modern Epidemiology, 3rd ed. Lippincott Williams & Wilkins, 2008.
- Some of the required and recommended readings—typically journal articles—will be available on the course website. Please check the course website for these materials.

Schedule (likely to undergo minor revisions)

<p>Week 1: Tues, Jan. 19 & Thurs, Jan. 21</p> <p>Module: Introduction</p> <p>Topics: Syllabus-Intro-Quiz; Limits of epi; Epi. as part of a larger process</p>	<p>Instructor: Peppard</p> <p>Readings: R,G&L: Ch.2; Taubes: Epidemiology at the limits</p> <p>Assignment: Prepare to discuss Taubes article</p>
<p>Week 2: Tues, Jan. 26 & Thurs, Jan. 28</p> <p>Module: Following Cohorts Over Time</p> <p>Topics: Period, cohort, selection effects</p>	<p>Instructor: Peppard</p> <p>Readings: Newshaffer (cholesterol); Vaupel (survival); Howard (RR's in elderly)</p> <p>Assignment: Selection simulation (HW#1)</p>
<p>Week 3: Tues, Feb. 2 & Thurs, Feb. 4</p> <p>Module: Measurement Validity</p> <p>Topics: Characterizing validity, validation studies, regression to the mean</p>	<p>Instructor: Peppard</p> <p>Readings: S&N-8.4 (indices of validity); WA&S-Ch.4,5; Validation study readings (4); Barnett et al (regression to the mean)</p> <p>Assignment: Validation study write-up (HW#2)</p>
<p>Week 4: Tues, Feb. 9 & Thurs, Feb. 11</p> <p>Topics: Course project description and overview of sleep epidemiology (for course project);</p> <p style="text-align: center;">Sampling (Dr. Palta);</p>	<p>Instructor: Peppard (2/9); Palta (2/11)</p> <p>Assignment: Choose project topic</p>
<p>Week 5: Tues, Feb. 16 & Thurs, Feb. 18</p> <p>Topics: Presenting scientific data (Dr. Nieto)</p> <p style="text-align: center;">Authorship, grants</p>	<p>Instructor: Nieto (2/16); Peppard (2/18)</p> <p>Readings: S&N Ch. 9. Background articles for project</p>
<p>Week 6: Tues, Feb. 23 & Thurs, Feb. 25</p> <p>Topics: Gender & bias in academic settings (Dr. Carnes);</p> <p style="text-align: center;">Authorship, grants continued; Peer-reviewing manuscripts</p>	<p>Instructors: Carnes (2/23), Peppard (2/25)</p> <p>Readings: Articles from Dr. Carnes; Manuscript to review in week 7; How-to-peer-review articles</p> <p>Assignment: Project analysis</p>
<p>Week 7: Tues, Mar. 1 & Thurs, Mar. 3</p> <p>Topics: Peer-reviewing manuscripts continued</p>	<p>Instructor: Peppard/students</p> <p>Assignment: In-class manuscript review (3/3) Project analysis;</p>

<p>Week 8: Tues, Mar. 8 & Thurs, Mar. 10</p> <p>Module: Study Implementation 1 (start 2)</p> <p>Topics: Personnel, budgets, etc</p> <p>Quiz on first 7 weeks (3/10);</p>	<p>Instructor: Peppard</p> <p>Readings: Background for course project; R,G&L: Ch. 24 (field methods)</p> <p>Assignment: Written manuscript review (3/8) Study for quiz</p>
<p>Week 9: Tues, Mar. 15 & Thurs, Mar. 17</p> <p>Module: Study Implementation 2</p> <p>Topics: Recruitment, retention, special populations</p>	<p>Instructor: Peppard</p> <p>Readings: Background material for project; Edwards et al (increasing response rates meta-analysis); WA&S-Ch.11</p> <p>Assignment: Project analysis</p>
<p>Week 10: Spring Recess</p>	
<p>Week 11: Tues, Mar. 29 & Thurs, Mar. 31</p> <p>Module: Study Implementation 3</p> <p>Topics: Survey/questionnaire design</p>	<p>Instructor: Peppard</p> <p>Readings: WA&S-Ch.6,7; Background for course project</p> <p>Assignment: Project presentation preparation</p>
<p>Week 12: Tues, Apr. 5 & Thurs, Apr. 7</p> <p>Students' project presentations</p>	<p>Instructors: Peppard, Students</p> <p>Assignment: Project presentation</p>
<p>Week 13: Tues, Apr. 12 & Thurs, Apr. 14</p> <p>Modules: mHealth;</p> <p>International epidemiology research</p>	<p>Instructors: Sethi</p> <p>Readings: TBD;</p> <p>Assignment: Project paper preparation</p>
<p>Week 14: Tues, Apr. 19 & Thurs, Apr. 21</p> <p>Module: Common Instruments 1 & 2</p> <p>Topics: Electronic health records, vital records; biomarkers</p>	<p>Instructors: Peppard</p> <p>Readings: TBD; Selections from WA&S</p> <p>Assignment: Project paper preparation</p>
<p>Week 15: Tues, Apr. 26 & Thurs, Apr. 28</p> <p>Module: Common Instruments 3 & 4</p> <p>Topics: Physical activity, sedentarism, sleep, habitus, diet</p>	<p>Instructors: Peppard</p> <p>Readings: TBD; Selections from WA&S</p> <p>Assignment: Project paper preparation; Study for final quiz</p>
<p>Week 16: Tues, May 3 & Thurs, May 5</p> <p>Module: Quality Assurance/Control, Quiz on weeks 8-16</p>	<p>Instructor: Peppard</p> <p>Assignment/Read: S&N: 8.2, 8.3; Quiz (55); (Upload project paper May 12 or earlier)</p>