

Injury Epidemiology
Spring 2017
OEH:6520 / EPID:6510

Time/Location: Monday and Wednesday, 11:00am – 12:15pm
Room C301 CPHB

Instructor: Carri Casteel, MPH PhD
S314 CPHB
(319) 384-4388
carri-casteel@uiowa.edu

Office Hours: By appointment only

Department Head: Peter Thorne, PhD
S341A CPHB
(319) 335-4216
peter-thorne@uiowa.edu

Course Description: This course will introduce students to the principles of injury epidemiology, study designs used in injury research, and epidemiologic concepts used in designing, analyzing and interpreting injury studies. Students will learn to critically review and apply epidemiologic methods in injury research. Specific topics include study designs, populations and sampling, measures of frequency and association, sources of bias, effect measure modification, sample size calculations and practical statistical applications. The course will include colloquial-style lectures, small group exercises and student-led discussion. It is a skills-based course where students will develop an R01-level NIH proposal.

Course Objectives and Competencies: The objectives of the course are to: (1) familiarize students with research methods used in injury epidemiology, (2) improve students' ability to critically review and apply epidemiologic methods used in injury research, and; (3) develop skills in writing a grant proposal, including developing specific aims and designing a study and analytic plan. At the end of the course, students will be able to:

1. Apply epidemiologic methods to examine the association between a risk/protective factor and injury outcome.
2. Apply analytical methods to examine the association between a risk/protective factor and injury outcome.
3. Demonstrate in writing and through oral presentation the ability to synthesize the significance and innovation of an injury research study.
4. Demonstrate in writing and through oral presentation a knowledge of epidemiologic concepts used to design and analyze an injury research study.

Expectations of Student Attendance and Performance

1. Regular class attendance is required. Attendance will be taken during each class period. For each class missed without prior correspondence with the instructor, five (5) points will be deducted from the student's final grade.
2. Arriving to class on time is required. For each late arrival, one (1) point will be deducted from the student's final grade. If special circumstances must be considered, please discuss them with the course instructor.

3. Students are asked to mute or turn cell phones off during class.
4. Students are expected to complete all readings before class and actively participate in class discussions. The readings and subsequent class discussion are essential to achieve the objectives of this course. Readings will be posted on the ICON course site.
5. Assignments must be turned in on time unless otherwise negotiated with the course instructor. Due dates and times will be provided on each assignment outline. Two (2) points per day will be deducted for each day the assignment is late.
6. Class communication will be handled through the ICON course site. Students are expected to regularly check the site for updates, schedule changes and announcements. If you use an e-mail address other than that listed in ICON, please provide it to the instructors.
7. You may call or email the instructor using the contact information above. A typical response time will range between 1 and 3 days.

Expectations of Course Assignments: All assignments will be evaluated using the following criteria:

1. The extent to which the stated requirements of the assignment are met; students will receive an outline for each assignment that articulates the required components of the assignment.
2. Clarity and quality of organization and writing; all assignments should be proofread for typographical, spelling and grammatical errors.
3. Appropriate application, analysis and synthesis of course content.
4. Use of citations, where appropriate, to avoid plagiarism. If you are not sure how to properly cite material, please consult with the course instructors.

Grading: Grading will be based on the assignments listed below. Letter grades will be assigned as follows: A= 90-100%, B= 80-89%, C= 70-79%, D= 60-69%, F= < 60%; “+” and “-” grades will be assigned. A final exam will not be given.

| <u>Assignment</u> | <u>Percentage</u> |
|---|-------------------|
| Proposal Sections | |
| Specific Aims | 10 |
| Significance / Innovation | 10 |
| Approach | 15 |
| Final Proposal | 35 |
| Peer Review Write-Up and Participation | 20 |
| Class Participation and Professionalism | 10 |

Availability of Accommodations for Students with Disabilities: Any student eligible for and needing academic adjustments or accommodations under the Americans with Disabilities Act is requested to notify the instructor as soon as possible to make appropriate arrangements. For more information please visit: [Student Disability Services - The University of Iowa](#)

Schedule of Topics

| WEEK | DATE | TOPICS | ASSIGNMENTS |
|------|-------------|---|--|
| 1 | January 16 | MLK Jr. Day- NO CLASS | |
| | January 18 | Syllabus and Assignment Review Overview of Injury and Violence Prevention | |
| 2 | January 23 | Introduction to Injury Epidemiology | Reading assigned |
| | January 25 | Introduction to Injury Epidemiology | |
| 3 | January 30 | Cohort Study Design; Class Exercise | Readings assigned |
| | February 1 | Cohort Study Design (cont'd) Proposal-Writing: Preparation | |
| 4 | February 6 | Proposal-Writing: Specific Aims | Specific Aims assignment distributed |
| | February 8 | Case Control and Nested Case Control Study Designs; Class Exercise | |
| 5 | February 13 | Conducting a Literature Review | Specific Aims due |
| | February 15 | Peer Review of Specific Aims | |
| 6 | February 20 | Review of Specific Aims | Readings assigned |
| | February 22 | Proposal-Writing: Significance and Innovation | Significance and Innovation assignment distributed |
| 7 | February 27 | Cross-sectional and Ecologic Study Designs; Class Exercise | Reading assigned |
| | March 1 | Directed Acyclic Graphs; Confounding | Significance and Innovation due |
| 8 | March 6 | Effect Measure Modification; Class Exercise Proposal-Writing: Approach Section | |
| | March 8 | Review of Significance and Innovation Sections | |
| 9 | March 13 | Spring Break | |
| | March 15 | Spring Break | |
| 10 | March 20 | Proposal-Writing: Approach Section Class Worksheet | Approach Section assignment distributed |
| | March 22 | Proposal-Writing: Approach Section Class Worksheet | |
| 11 | March 27 | | |
| | March 31 | Selection and Misclassification Biases | |
| 12 | April 3 | Analytic Methods | |
| | April 5 | Analytic Methods | |

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|-----------------------|----------------------|---|---------------------------------------|
| 13 | April 10 | Power/Sample Size Calculations <u>Guest Lecturer:</u> Kari Harland, PhD Emergency Medicine | Approach Section due |
| | April 12 | Proposal-Writing: Biosketch, Project Summary, Project Narrative Peer Review Process | Peer Review assignment distributed |
| 14 | April 17 | Review of Approach Section | |
| | April 19 | Preparing a Proposal Budget Components of Facilities and Resources | |
| 15 | April 24 | Special Topic: Directed Acyclic Graphs | Proposal Due |
| | April 26 | Special Topic: Questionnaire Development | |
| 16 | May 1 | Peer Review Panel | Peer Review due |
| | May 3 | Peer Review Panel | |
| 17- Finals Week | Wednesday, May 10 | | Final Proposal due |

Additional Required UI and Policy and Procedures

Administrative Home: This course is given by the College of Public Health. This means that class policies on matters such as requirements, grading and sanctions for academic dishonesty are governed by the College of Public Health. Students wishing to add or drop this course after the official deadline must receive the approval of the Associate Dean for Academic and Student Affairs in the College of Public Health.

Electronic Communication: University policy specifies that students are responsible for all official correspondences sent to their standard University of Iowa e-mail address (@uiowa.edu). Students should check this account frequently.

Academic Misconduct: Academic misconduct is defined by the University of Iowa in its Code of Student Conduct located here: [Policies & Regulations Affecting Students](#). Please take the time to read this short description. Academic misconduct refers primarily to plagiarism or cheating. It is the student's responsibility to seek clarification from the course instructor of any situation in which he/she is uncertain whether academic misconduct is/has been involved.

Plagiarism includes but is not limited to the following:

- presentation of ideas of others without credit to the source;
- use of direct quotations without quotation marks and without credit to the source;
- paraphrasing without credit to the source;
- participation in a group project which presents plagiarized materials;
- failure to provide adequate citation for material obtained through electronic research;
- downloading and submitting work from electronic databases without citation;

- submitting material created/written by someone else as one's own, including purchased term/research papers.

Cheating includes but is not limited to the following:

- copying from someone else's exam, homework, or laboratory work
- allowing someone to copy or submit one's work as his/her own;
- accepting credit for a group project without doing one's share;
- submitting the same paper in more than one course without the knowledge and approval of the instructors involved;
- using notes or other materials during a test or exam without authorization;
- not following the guidelines specified by the instructor for a "take-home" test or exam.

Academic misconduct is a serious matter and is reported to the departmental DEO and to the Associate Dean for Education and Student Affairs. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. For example, an incident involving plagiarism will result in consequences to the student ranging from a grade of 0 for that assignment to being terminated from his/her graduate program. Egregious acts of misconduct, such as cheating on a final exam, may result in the course grade being reduced to an F. Additional details concerning the consequences associated with acts of plagiarism, including a student appeals process, is provided in the Graduate College Manual.

Concerns about Faculty Actions: At the beginning of each course, students should be informed of departmental and collegiate complaint procedures and services of the Office of the University Ombudsperson. Complaints should be initiated at the faculty or departmental level. If a complaint cannot be resolved at faculty, departmental and/or collegiate level, students may file a formal complaint utilizing the procedure specified in the Operations Manual.

Students who have a concern about a faculty action should first address the issue with the instructor, then the course supervisor (if there is one), and then the departmental DEO. Students may also contact the Associate Dean for Education and Student Affairs in the College of Public Health. Another resource for students is the Office of the University Ombudsperson. If a complaint cannot be resolved at the departmental and/or collegiate level, students may file a formal complaint utilizing the procedure specified in the Operations Manual.

Sexual Harassment: Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. The policy in its entirety may be found in the Operations Manual.

If you or someone you know may be a victim of sexual assault, sexual harassment, dating/domestic violence, stalking, or any other behaviors prohibited under this policy, you are strongly encouraged to seek assistance and support. Assistance is available 24 hours a day, 7 days a week, from:

- Rape Victim Advocacy Program (RVAP) -- confidential, certified victim advocacy services, 319-335-6000
- Domestic Violence Intervention Program (DVIP) -- confidential, certified victim advocacy services, 319-351-1043 or 800-373-1043

- Emergency Department, University of Iowa Hospitals and Clinics -- confidential medical services, 319-356-2233
- University of Iowa Department of Public Safety -- law enforcement services, 319-335-5022, or 911 from any campus phone

During business hours, you may also seek assistance from the University of Iowa Office of the Sexual Misconduct Response Coordinator at 319-335-6200.

Reacting Safely to Severe Weather: In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit [Hawk Alert](#).