

HS 395 Fundamentals of Epidemiology

Spring 2020

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A. Course description

Fundamentals of Epidemiology (HS 395 – 3 credits)

Epidemiology is often referred to as “the basic science of public health”. This class introduces the principles and methods of epidemiology as it applies to health promotion and healthcare delivery. The course will cover a historical perspective of epidemiology, measures of disease occurrence and association, clinical epidemiology, major epidemiological study designs, disease screening, causal inference and common methods for identifying and controlling infectious disease outbreaks. Prerequisite: Math 355 or HS301 or equivalent.

B. Format

Three hours lecture per week for sixteen weeks. *Lecture format with out-of-class narrated lectures and in-class discussions.*

C. Textbook

Epidemiology (4th Edition) by Leon Gordis

D. General goals and objectives

At the conclusion of this course, students will able to:

1. Articulate the basic epidemiologic study designs and statistics used for measuring risk factor/disease associations.
2. Apply knowledge of epidemiology to identify the strengths and weaknesses of published studies.
3. Demonstrate the importance of using epidemiologic data to design disease prevention programs.
4. Appreciate the scope of epidemiology and its potential application for health promotion and improving healthcare delivery.

E. Grading system

93 – 100	A	77 – 79	C+
90 – 92	A-	73 – 76	C
87 – 89	B+	70 – 72	C-
83 – 86	B	67 – 69	D+
80 – 82	B-	60 – 66	D
		Below 60	F

“A” reflects exceptional work (going beyond the basics, integrating material well, displaying professionalism in individual and group work, application and demonstration of knowledge and skills, showing initiative, using creativity, writing is reflective of multiple drafts).

“B” reflects good work (valuable teamwork skills, active in class, ability to grasp basic concepts and apply to new situations, some participation in class, completes all assignments with a degree of proficiency but may not demonstrate initiative, creativity or reflection consistently, writing contains errors or lacks conciseness and completeness).

“C” reflects average work (assignments are completed at the minimum, basic concepts are grasped but cannot be applied, some difficulty in group work, spelling and grammar mistakes are common, writing is conversational in tone with little attention paid to detail, word choices, organization (rough draft quality), little participation in class).

Student responsibilities for successful coursework:

Attendance: Students should plan to attend all classes and are responsible for all information presented in class. Notify the instructor in person, by telephone or email if an absence is anticipated. Class begins promptly at the scheduled times.

Reading Assignments: Additional readings will be posted in D2L. Students will be more successful in the class if the text and other handouts are read before the class period during which a given topic will be covered. The course is focused on discussion and analysis of topics. Readings will prepare you for participation in class.

Written work must be computer-printed (12 point font, double-spaced, 1 inch margins) and written in complete sentences with proper punctuation, spelling and grammar. Student names should be printed in the upper right hand corner of the paper. All assignments are due at class time on the day specified. Students must submit one copy of their homework in the drop box of D2L before class and also bring a copy for review in class. Late assignments may be accepted but these will receive a lower grade. *If you have any concern about meeting the requirements of this course, please see me.*

G. Derivation of course grade

Three 1-hour exams (15% each - multiple choice and short answer)	45%
Quizzes / Activities	15%
Attendance	5%
Final exam (comprehensive)	35%

H. Other class information

Cell phone policy - please don't use your cell phone during class!

No text messaging.

Email – please note that you are responsible for anything I send you via email.

Remember, class attendance is very important!

I. Communicating with your instructor via email

I check my email frequently during the day. However, I receive a lot of email and I sometimes delete emails which do not have the subject specified. If you have not received a response to your email within 24 hours, please resend your email. I do check email routinely at home and on weekends. Please remember that these are professional communications so please use full sentences and complete words.

J. Students with special needs

UWSP is committed to providing reasonable and appropriate accommodations to students with disabilities and temporary impairments. If you have a disability or acquire a condition during the semester where you need assistance, please contact the Disability and Assistive Technology Center on the 6th floor of Albertson Hall (library) as soon as possible. DATC can be reached at 715-346-3365 or DATC@uwsp.edu.

The contents of this syllabus are as complete and accurate as possible. The instructor reserves the right to make any changes necessary to the syllabus and course material. The instructor will make every effort to inform the students of changes as they occur. It is the responsibility of the student to know what changes have been made in order to successfully complete the requirements of the course. Any in-class announcement, verbal or written, is considered official addendum to this syllabus.

HS395 Spring 2019 Course Calendar

Date	Topics
Tues, Jan 21	Lesson 1: Course Overview / What is Epidemiology?
Thurs, Jan 23	Lesson 1: Overview of Epidemiology (continued)
Tues, Jan 28	Lesson 2: The Role of Chance: Probability, Fallacies and Monty Hall
Thurs, Jan 30	Lesson 3: History of Epidemiology – from limes to pump handles
Tues, Feb 4	Discuss Levels of Prevention and study designs
Thurs, Feb 6	Lesson 4: Descriptive Studies / case reports, case series and cross-sectional surveys: incidence and prevalence
Tues, Feb 11	Lesson 5: Rates and Demography
Thurs, Feb 13	Lesson 6: Ecological Studies and Causality
Tues, Feb 18	Lesson 7: Case Control Studies
Thurs, Feb 20	Lesson 8: Sampling
Tues, Feb 25	Lesson 9: Cohort Studies
Thurs, Feb 27	Lesson 10: Odds Ratios and Relative Risks
Tues, Mar 3	Exam 1
Thurs, Mar 5	Review Exam 1 Lesson 11: Randomized Controlled Trials (RCTs)
Tues, Mar 10	Discuss Randomized Controlled Trials Methods
Thurs, Mar 12	Lesson 12: Community Intervention Studies and Meta Analysis and Evidenced Based Medicine
Tues Mar 17	<i>Spring Break – No class</i>
Thurs Mar 19	<i>Spring Break – No class</i>
Tues Mar 24	Lesson 13: Meta Analysis and Evidenced-Based Medicine
Thurs, Mar 26	Lesson 14: P-Values and 95% Confidence Intervals
Tues, Mar 31	Lesson 15: Screening: sensitivity and specificity Discuss: RCT paper
Thurs Apr 2	Review for Exam 2
Tues, Apr 7	Exam 2
Thurs, Apr 9	Review Exam 2
Tues, Apr 14	Lesson 16: Overview of Infectious Disease Epidemiology
Thurs, Apr 16	Lesson 17: Outbreak Investigation Methods
Tues, Apr 21	Lesson 18: Oswego Outbreak Investigation and Discussion: The great Milwaukee Crypto outbreak
Thurs, Apr 23	Exam 3
Tues, Apr 28	Review Exam 3
Thurs, Apr 30	Lesson 19: Diabetes Pandemic talk
Tues, May 5	Review for Final
Thurs, May 7	Review for Final
Monday May 11	Final Exam (10:15-12:15pm)