



RHODE ISLAND COLLEGE

FEINSTEIN SCHOOL OF EDUCATION AND HUMAN DEVELOPMENT

HED 507-01 EPIDEMIOLOGY AND BIostatISTICS (3), SPRING 2010

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1. COURSE INFORMATION

Catalog: Focus is on the causes, frequencies, and distribution of diseases and health issues in various populations. The methods of epidemiology allow the student to collect, tabulate, analyze, and interpret statistical facts about the occurrence of health problems, risk factors, disease and death in a community. *3 semester hours. Offered spring.* Prerequisites: HED 303, Graduate status or consent of instructor.

Relationship to Professional Program: This is a required course for all students enrolled in the M.Ed. program in Health Education. It is designed to introduce students to basic principles of epidemiology and biostatistics. Students will examine factors associated with disease causation and the statistical analysis of these conditions. This course will provide the student with the skills needed to understand how diseases are caused, spread, and distributed within human populations and how to use current computer technologies to statistically measure the impact of disease on a variety of human populations.

<i>Learning Objective</i>	<i>Standards (RIPTS, SPA or NCATE, FSEHD Conceptual Framework)</i>	<i>How is it assessed?</i>
1 Understand the historical developments, which have shaped the current nature of epidemiology.	RIPTS. 1,2,5 AAHE. 1.A. 6.8 CF A.4	Written test
2 Explain the various models of disease causation.	RIPTS- 1,2,5 AAHE- 4.B, 6.A, 7.B CF A.4	Written test Project #1
3 Understand the various classification schemes for diseases.	RIPTS- 1,2,5 AAHE -4.B, 6.A, 7.B CF A.4	Written test
4 Explain the natural history and spectrum of diseases in human populations.	RIPTS-1,2,5 AAHE 1.B, 6.A-B CF A.4	Written test Project #1
5 Understand the role of demography and demographics in epidemiology.	RIPTS- 5 AAHE – 1.B, 6A-B CF A.4	Written test Project 2 and 5

6	Compute various biostatistical measures of mortality, morbidity, and natality.	RIPTS- 5,9 AAHE- 1.A,B, 6.A-B CF- A.4	Written test Project 2 & 3
7	Explain the role that person, place and time play in disease occurrence and distribution.	RIPTS-,2 AAHE- 1.B, 6.A-B CF- A.4	Written test Project #6
8	Discuss how different cultures view disease causation and practices for disease prevention	RIPTS- 1,2,8 AAHE- 1.A-B, 6.A-B CF- A.4	Written test Project #6
9	Understand the nature of various research activities associated with significant epidemiological events.	RIPTS- 1,2,8 AAHE- 1.A-B, 6.A-B CF- A.4	Written test
10	Explain the various strategies for disease prevention which incorporate cultural and global concerns.	RIPTS- 5,8 AAHE- 1.A-B, 6.A-B CF - A.4	Written test Homework activity Project #6
11	Apply basic principles of epidemiology in constructing an epidemiological investigation.	RIPTS- 5,8 AAHE- 1.B, 6.A-B CF - A.4	Written test Homework Activity
12	Explain the global impact of selected diseases on society.	RIPTS- 5,8 AAHE- 1.B, 6.A-B CF - A.4	Written test Project 6
13	Demonstrate the ability to access health information and data from on-line databases, indexes, and other retrieval systems.	RIPTS- 5,8 AAHE-1.B, 6.A-B CF - A.4	Written test Project 3 & 4
14	Demonstrate the ability to collect, organize, and display health information using computer technology.	RIPTS- 6,8 AAHE- 1.B, 6.A-B CF - A.4	Written test Projects #2,3,4,5

2. COURSE TEXTS AND MATERIALS

RequiredText: Ainley, K.I. (2010) *Principles of Epidemiology and Biostatistics*. Rhode Island College, Providence, RI.

Reference Materials:**

Aronson, Stanley. (2008 and 2009) [www. Projo.com](http://www.Projo.com). Selected Articles.

Chin, J., (2002) *Control of Communicable Diseases in Man*. Report of the American Public Health Association. (17th edition), Washington, DC.

Department of Health and Human Services. (1991). *Health Status of Minorities and Low Income Groups*, 3rd edition. U.S. Government Printing Office, Washington, D.C.

Duncan, D.F., (1988). *Epidemiology: Basis for Disease Prevention and Health Promotion*. MacMillan Publishing Company, New York

Hamann, B.P. (2005). *Disease: Identification, Prevention, and Control*. Mosby Publishing Company, St. Louis, MO.

McKeown, T. (1997). *Social and Cultural Determinants of Health*. *The Nation's Health*. Jones and Bartlett Publishers. Boston, MA.

Page, R.M., G.E. Cole, and T.C. Timmreck. (1995). *Basic Epidemiological Methods and Biostatistics: A Practical Guidebook*. Jones and Bartlett Publishers, Boston, MA.

Pagano, M. and Gauvreau, K. (2000). *Principles of Biostatistics*. Duxbury Publishers. Florence, KY.

Snider, D.E., L. Salinas and G.D. Kelly. (1989). *Tuberculosis: An Increasing Problem among Minorities in the United States*. Public Health Reports. Nov-Dec.104:646-653.

Timmreck, T.C. (2005). *An Introduction to Epidemiology*. Jones and Bartlett, Publishers, Inc. Boston, MA.

** Other articles/supplemental material may be added as needed.

3. COURSE CALENDAR

<i>Day/week</i>	<i>Class topic</i>	<i>Readings</i>	<i>Assignments</i>
1	Introduction to Course, Requirements and Assignments	Ch. 1	Study questions
2	Historical Developments in Epidemiology	Ch. 2,3	Study questions
3	Models of Disease Causation	Ch. 4,5	Study questions
4	Epidemiological Disease Concepts	Ch. 6	Study questions Class activity
5	Exam-1 & Lecture: Epidemics & Pandemics	Ch. 7	Study questions
6	Emerging Infectious Diseases	Ch. 8	Study questions
7	Classifying and Reporting Diseases	Ch. 9,10	Study questions
	Spring Break – No Class		
8	Vital Statistics and Demography	Ch. 11,12	Study questions Class activity
9	Demographic Measures	Ch. 13,14	Study questions Internet activity
10	Exam-2 & Lecture: Morbidity and Risk	Ch. 15	Study questions
11	Fertility, Natality, and Mortality	Ch. 16	Study questions
12	Determinants of Health: Person/Place/Time	Ch. 17-20	Study questions Class activity
13	Open/TBA		
14	Research in Epidemiology	Ch. 21	Study questions
15	Strategies for Disease Prevention	Ch. 22	Study questions
15	Exam-3		

4. REQUIREMENTS

Course Requirements:

1. **Regular attendance and active participation.** It's essential that you attend class in order to actively participate in class discussion.
2. **Examinations.** There will be 3 examinations. Each examination will be worth 100 points.
3. **Assignments.** There will be several out of class assignments that will coincide with lecture and discussion. They include, but are not limited to the following

Assignment	Points	RIPTS	AAHE	CF
1- Disease map	50	5,8	1,4,7	A.1, A.4, B.2-3
2- Vital statistics	50	5,8	1,4,7	A.1, A.4, B.2-3
3- Data analysis	50	5,8	1,4,7	A.1, A.4, B.2-3
4- Health risks	50	5,8	1,4,7	A.1, A.4, B.2-3
5- Population pyramids	50	5,8	1,4,7	A.1, A.4, B.2-3
6- Place & Time factors	50	5,8	1,4,7	A.1, A.4, B.2-3

4. Expectations:

- In order to benefit from this course, you are expected to come prepared (i.e. read assignments, do homework and assigned readings) for each class. Since this is a seminar class, you will be expected to actively participate in each class. It is not possible to actively participate in this course if you are not in class. Please remember that if you are not in the class to get handouts, notes, and assignments you must make arrangements with another student to get these materials for you. Absence, however, is not a legitimate excuse for failing to fulfill class responsibilities and obligations. *You are still responsible for what takes place in class even if you are not in class!* Please do not ask me to send you my class lecture notes.
- Please be mindful of the fact that this is a 2.5 hr. class. It is important that you attend class; arrive on time; and not leave early. Each time you miss class you are missing about 7% of the course. So, you can see what the impact 2 or 3 absences (14% and 21% respectively) will have. If you are planning on several class absences (including vacations), we need to talk early in the course so that you understand the implications of these absences and what impact they may have on your participation and grade. Attendance is taken for each class.
- Unless an exemption is obtained from the instructor, all homework assignments are to be turned in (and presented) when due. You are also expected to do your own work and cite all work properly. If a project requires a presentation you will have that portion of the project deducted from the total point value of the course if you are not in class to make the presentation. (Please see student handbook regarding Academic Honesty) It is up to the instructor's discretion to accept late assignments. So, please let the instructor know if you plan to submit a project -assignment late.
- It is not a common practice to give incompletes. They are only given in extenuating circumstances and only after the student and the instructor develop a written contract. The usual procedure is for incompletes to be resolved (made up) within three weeks. (To be discussed in class).

- If you have any learning disabilities, special needs, or requirements for tests, class projects, or class lectures as determined by the counseling center please let the instructor know so that necessary accommodations can be made. Please refer to Americans with Disabilities Act for further information.
- NO active cell phones in class. Please turn off when in class.

5. Evaluation and Grades:

- Examinations. There will be 3 examinations that will cover text and lecture material. The combined value of the 3 examinations will be 300 pts.
- Assignments. 300-350 pts. (approximately)
- Grading. (Values represent percent of total points accumulated)

A	94+	C+	77-80
A-	90-94	C	74-77
B+	87-90	C-	70-74
B	84-87	D	< 70
B-	80-84		

5. RIC POLICIES

- Academic Dishonesty Policy (*Rhode Island College Handbook of Policies, Practices, and Regulations* (Spring 2010), Chapter 3: Academic policies and procedures. Pp. 32-34, section 3.9.1.): http://www.ric.edu/administration/pdf/College_handbook_Chapter_3.pdf#28
- Request for Reasonable Accommodations for Students with Disabilities: <http://www.ric.edu/disabilityservices/faq.php>
- The instructor reserves the right to change the syllabus at any point in the semester to accommodate learners' needs and pace of progress. Students will be notified in class of any changes.
- Students' assignments may be duplicated and utilized anonymously for the Department's program folios, for purposes of accreditation. All information that identifies a document as belonging to a particular student will be removed before it is used.