



**RHODE ISLAND COLLEGE  
FEINSTEIN SCHOOL OF EDUCATION AND HUMAN DEVELOPMENT  
DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION**

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**COURSE NUMBER:**    HEALTH EDUCATION 307

**COURSE TITLE:**        DYNAMICS AND DETERMINANTS OF DISEASE  
                                  [Section 01 / Fall-2010 / Tues. & Thurs. 11-12.20 / MC 201]

**Instructor:**            Dr. Kenneth Ainley  
**Office Location:**      MC 131  
**Office Phone:**        456-8046 or 456-9693   **E-Mail:** kainley@ric.edu  
**Office Hours:**        Tues. and Thurs. 10-10.45am & 1-1.45pm (other times by appointment)

**1. COURSE INFORMATION**

**Catalog:** This course Focuses is on the causes and impact of selected chronic and infectious diseases in specific human populations and environments. Emphasis is also placed on prevention strategies and resources for health care. *3 semester hours. Offered fall or spring.*  
**Prerequisites:** HED 233 and HE 303

**Relationship to Professional Program:** This is a required course for all health education majors. The course is designed to introduce students to basic principles of Epidemiology, biostatistics and disease prevention strategies. 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 computer technologies to statistically measure the impact of disease occurrence on a variety of populations.

**2. COURSE TEXTS AND MATERIALS**

<b>Required</b>	Ainley, K.I. (2010) <i>Dynamics and Determinants of Disease</i> ( Primary text
<b>Supplementary</b>	Perlin, D., and Cohen, A., (2002) <i>The Complete Idiot's Guide to Dangerous Diseases and Epidemics</i> . Alpha Books, Indianapolis, Indiana. (Reference. Not required)

### 3. COURSE SCHEDULE, TOPICS, AND ASSIGNMENTS

#### Schedule

#### TENTATIVE CLASS AGENDA – FALL SEMESTER 2010

Class	Topic	Reading
1	Introduction to course and requirements	Ch. 1
2	Historical Foundations of Disease and Illness I	Ch. 1
3	Historical Foundations of Disease and Illness II	Ch. 1
4	History of Disease I	Ch. 2
5	History of Disease II	Ch. 2
6	Assessing Health-Disease Status I	Ch. 3
7	Assessing Health-Disease Status II	Ch. 3
8	Health Status of Americans I	Ch. 4
9	Health Status of Americans II	Ch. 4
10	<b>Exam #1 [Chapters 1-4, lecture, and handouts]</b>	
11	New and Emerging Diseases	Ch. 5
12	<u>No Class: Monday's class meets</u>	
13	Agents of Disease I	Ch. 5
14	Agents of Disease II	Ch. 5
15	TBA	
16	Host Factors Associated with Disease I	Ch. 6
17	Host Factors Associated with Disease II	Ch. 6
18	Environmental Factors Associated with Disease I	Ch. 7
19	Environmental Factors Associated with Disease II	Ch. 7
20	<b>Exam #2 [Chapters 5-7; lecture and handouts]</b>	
21	Place Factors Associated with Disease	Ch. 8
22	Special Places/Cruise ships/Vacation Destinations	Ch. 8
23	Time Factors Associated with Disease	Ch. 9
24	Food-borne Illnesses I.	Ch. 10
	<u>No Class: Thanksgiving Recess</u>	
		Ch. 10
25	Food-borne Illnesses II.	
26	Epilog-Disease Prevention Strategies	Ch. 11
27	Final Class- Wrap up	
28	TBA	
	<b>Exam #3: During Exam Period [Chapters 8-11; lecture &amp; handouts]</b>	

\* Denotes a test date. Tests will take approximately 90 minutes. Please note that dates are tentative. The instructor reserves the right to make changes if circumstances dictate.

**Topics**

1. Historical Foundations to Disease and Illness
2. History of Disease
3. Assessing Health Status
4. Health Status of Americans
5. Health Status of Minorities
6. Agents of Disease
7. Host, Agent, Time Factors
8. Environmental Health Issues
9. Food-borne illnesses
10. Disease Prevention

**4. OUTCOMES**

**STANDARD(S)**

		<b>AAHE</b>	<b>RIPTS</b>	<b>Conceptual Framework</b>
	At the conclusion of the course, the student will/be able to:			
1	Understand the nature, scope and uses of Epidemiology	VI-A	1.0;2.0	Knowl. 1,4
2	Understand the historical developments that have shaped epidemiology	VI-A	1.0;2.0	Knowl. 1
3	Assess the health status of individuals, groups, and countries	VI-A	1.0;2.0	Knowl. 1
4	Explain the various models of disease causation.	VI-A	1.0;2.0	Knowl. 1
5	Explain the natural history and spectrum of diseases.	VI-A	1.0;2.0	Knowl. 1
6	Compute various biostatistical measures of mortality, morbidity, and natality.	VI-A	1.0;2.0	Knowl. 1
7	Compute absolute, relative, and attributable risk	VI-A	1.0;2.0	Knowl. 1
8	Compute life expectancy, healthy life years, and measures of quality of life years	VI-A	1.0;2.0	Knowl. 1
9	Explain the role that person, place and time plays in epidemiology	VI-A,B,C	1.0;2.0	Knowl. 1
10	Explain how cultural and ethnic issues are related to disease.	I-C,D	1.0;2.0	Knowl. 1 Div.1
11	Explain the various political, cultural, and global strategies for disease prevention	VI-A	1.0;2.0	Knowl. 1
12	Apply basic principles of Epidemiology to an epidemiological investigation.	IV-A,E	1.0;2.0	Knowl. 1

13	Understand the global impact of a specific disease on society.	I-C	1.0;2.0	Knowl. 1
14	Access vital health data via computer based-electronic databases, indexes, and retrieval systems	I-A,B	1.0;2.0; 9.0	Knowl. 1; Pedag. 2; 3.
15	Use computer technology to collect, organize, and display health information	I-A,B	1.0;2.0	Knowl. 1 Pedag. 2,3
16	Understand the basic types of epidemiological studies	IV-E	1.0;2.0	Knowl. 1
17	Understand the natural history and spectrum of disease	IV-E	1.0;2.0	Knowl. 1
18	Understand how environmental factors affect disease and health	I-A,B	1.0;2.0	Knowl. 1
19	Understand the causes of food borne illnesses and protective strategies	IV-A	1.0;2.0	Knowl. 1
20	Understand how epidemiologists deal with (investigate) bioterrorist events	IV-A	1.0;2.0	Knowl. 1

## 5. COURSE REQUIREMENTS:

### Course policies.

- **Preparation for class.** 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.
- **Attendance.** It is not possible to actively participate in this course if you are not in class. You are expected to attend all classes. There may be circumstances where lecture may contain information that is not in the reading material. Attendance is taken for each class.
- **Missing class.** 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.
- **Absences.** Each absence means you miss about 3.5% of the course. You are allowed 3 absences (10%) from class without penalty. Once you exceed three unexcused absences from class you will not be eligible for any grade adjustments. (See grading – also to be explained more fully in class) Also, sleeping in class = absence
- **Leaving Early-Arriving Late.** Class begins at 11 am. and ends at 12.20. Two times late for class or leaving early twice (or one of both) = 1 absence. Class begins when I start with the announcements).

- **Make-up exams.** Make-up exams are not automatic. Please consult with your instructor regarding arrangements for a makeup. The course policy is that the make-up exam (if offered) must be taken within 24 hours unless there is a documented medical reason for an extension. If the exam is given on a Thursday then the makeup must be taken the next day and completed before noon. There is no scaling or grading adjustments on makeup exams. The instructor reserves the right to give a different type of exam covering the same material.
- **Turning in homework late.** Unless an exemption is obtained from the instructor, all homework or class assignments are to be turned in (and presented) when due. You are also expected to do your own work. If the project requires a presentation, you must be in class to receive credit. (Please see student handbook regarding academic honesty). All assignments are to be turned in – in class unless you and the instructor make alternate plans
- **Course Incompletes.** It is not a common practice to give incompletes. They are only given in extenuating circumstances and only after the student and the instructor agree on a plan develop a written contract for removing the incomplete. The usual procedure is for incompletes to be resolved (made up) within three weeks. (To be discussed in class).
- **Academic Dishonesty.** It is paramount that you do your own work; provide appropriate references to all assignments; and abide by the college's academic honesty policy. Students who violate this policy will be subject to disciplinary action. If you have ANY questions please see the instructor or read the policy on line (or both). I have attached some information at the end of this syllabus.
- **Special Needs.** 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.
- **Some NO-NOs:**
  - Cheating in any form (see handout on academic dishonesty)\*
  - Using cell phone in class including text messaging
  - Cell phone ringing during class – please turn off
  - Rudeness to other students
  - Being late for class or leaving early
  - Not turning in homework or project when due
  - Gum chewing
  - Eating in class
  - Sleeping in class
  - Other??

\*To be discussed in more detail, including use of “Turn-it-in”

**Expectations:**

- Academic honesty! (See last page)
- Regular attendance.
- Arrive on time/Don't leave early
- Don't leave class to make or receive phone calls
- Respectful behavior
- Active participation.
- Completion of all homework assignments and readings on time.
- All work type written and appropriately documented unless otherwise noted.

**6. COURSE EVALUATION**

The students' final grade will be based both formal and informal assessments and will involve three criterion-referenced examinations, one project, and approximately 5-6 graded homework assignments.

**Exams**

There are three (3) exams each of which cover about 4 chapters each and have point value of 100 points. Each exam consists of selected and constructed response questions. Total point value of the exams is 300 points.

**Class project**

The purpose of this project is to develop a research paper on the epidemiology of a selected vector-borne disease. The disease will be analyzed in terms of agent, host, time, and place factors. The project will have a value of 150 points and is intended to address the course outcomes on page 3 of syllabus: 5, 9,10,14,15, and 18

**\*\* The above information is intended as a general description of the project. The specific details will be given out in class.**

**Homework**

There will be several Homework Assignments (refer to in-class handout for additional information). Unless indicated otherwise, all projects must be typewritten. There may also be quizzes in class. The instructor reserves the right to give unannounced quizzes.

**Examples of homework**

- Longevity-life expectancy
- Health myths-misconceptions
- Locate a population pyramid
- Calculate a 2x2 risk matrix for data provided
- Compute contemporary quality of life problems
- Compute basic natality, morbidity and mortality problems

- Dangerous occupations?
- Healthy and unhealthy places to live
- Scoring-grading cruise ships

### Grading

Final grades will be based on a percent of approximately 500 total points accumulated as follows:

Assessment Tool	Number of	Point Value	Percent of Course
Examinations	3	300	60%
Project	1	150	30%
Homework	5	50	10%
		500	100%

### Grading Scale

The grade is based on a percent of the total points accumulated. The following scale is used:

A = (94%); A- = (90-93.9%), B+ = (87-89.9%), B = (84-86.9%) etc.

**For Example.** Of a maximum of 500 pts. a grade of

A- =450 to 469.5 points;

B- = 400 to 419.5 points

Grades may be adjusted (scaled) at the discretion of the instructor. However, the instructor is not obligated to scale any grade. For example: a grade of 86.5 is an 86. Typically, if a student has more than 3 unexcused absences (that includes being late or leaving early) the grade would most likely NOT be scaled upward.

## 7. REFERENCES

### Books and Articles

1. Chin, J., (Ed.). (2000). Control of Communicable Diseases in Man. Report of the American Public Health Association. (15<sup>th</sup> edition), Washington, DC.
2. Bartlett, J.G., (2002). Bioterrorism and Public Health: An Internet Resource Guide. Thomson Medical Economics, 1<sup>st</sup> edition.

3. Braithwaite, R.L., and Taylor, S.E. (1992). Health Issues in the Black Community. Jossey-Bass. San Francisco, Calif.
4. Garrett, Laurie. (1995). The Coming Plague: New Emerging Diseases in a World Out of Balance. Penguin Publishers, New York.
5. Hamann, B.P. (1994). Disease: Identification, Prevention, and Control. Mosby Publishing Company, St. Louis, MO.
6. McEvedy, Colin. (1988). The Bubonic Plague. Scientific American. Feb. 258:118-123.
7. Pagano, M., and Gauvreau, K., (2000). Principles of Biostatistics, Duxbury Publishers, 2<sup>nd</sup> edition.
8. 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.
9. Perlin, D., and Cohen, A., (2002) The Complete Idiot's Guide to Dangerous Diseases and Epidemics. Alpha Books, Indianapolis, Indiana.
10. 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.

\*\* Other articles may be added if necessary.

### On-line refernces

Students are responsible for becoming familiar with and using the following on-line sources of information

1. World Health Organization. (<http://www.who.org>)
2. Pan American Health Organization. (<http://www.paho.org>)
3. Food and Agriculture Organization of the United States. (<http://www.fao.org>)
4. Centers for Disease Control and Prevention. (<http://www.cdc.gov>)
5. Indian Health Service. (<http://www.ihs.gov/>)
6. Office of Minority Health. (<http://www.omhrc.gov>)
7. Rhode Island Department of Health ( <http://www.health.state.ri.us/> )

### OTHER:

- For purposes of accreditation students' assignments may be duplicated and utilized anonymously for the Health and Physical Education Department's Program Folios. All information that identifies a document as belonging to a particular student will be removed before it is used to ensure student confidentiality.

- *The instructor reserves the right to change the syllabus at any time during the semester.* Students will be advised of any changes in class and are responsible for obtaining any information provided in class.
- Please read carefully the following information regarding academic honesty