DRAFT
Principles of Epidemiology (HS261)
Spring 2006
San Jose State University
Health Science Department

Description: Introduction to epidemiologic concepts and methods with applications to public health practice for students intending to engage in, collaborate in, and interpret epidemiologic studies in the appraisal of public health.

Website: www.sjsu.edu/faculty/gerstman/hs261

Class: The class meets each Wednesday from 1500 to 1845
Location determined by Schedule of Classes

Final Exam: Set by the Schedule of Classes.

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Office hours www.sjsu.edu/faculty/gerstman


Additional materials: TI-30XIIS calculator

Topics: The topics list and course calendar are posted on www.sjsu.edu/faculty/gerstman/hs161

Objectives

1. To define basic terms used in epidemiology, list uses of epidemiology, and describe demographic and epidemiologic transitions of the 20th century.

2. To define and apply the following concepts of cause and prevention: primary-, secondary-, and tertiary-prevention, the iceberg metaphor, induction and latency, agent/host/environmental interaction, sufficient/component cause model (causal pies), the causal-web, levels of cause

3. To apply principles of screening (sensitivity, specificity, predictive value) in the routine and special collection of population-based surveillance data.

4. To calculate and interpret incidences and prevalences in open and closed populations; to adjust rates for age using direct and indirect standardization methods.

5. To compare rates and risks in groups using absolute and relative measures of association.

6. To understand the design and interpretation of epidemiologic trials, cross-sectional studies, cohort studies, and case-control studies.
7. To learn about the infectious disease process (agent, reservoir, portals, transmission, host factors) and apply these to an outbreak investigation.

Grades

Your course grade is based on a weighted average of:

- **Assignments and quizzes (30%)** – Assignments are in the form of exercise sets, case studies, and narrative reports. Quizzes may be delivered in class and online.

- **Midterms (40%)** – There are two midterms. The format for midterms includes Format: multiple choice questions, short answer, analytic problems, and brief essays.

- **Final exam (30%)** – There is a 2¼ hour cumulative final. The date of the final is set by the schedule of classes. The final includes short answer questions, analytic problems, and brief essays.

*Example of Grade Calculation*

<table>
<thead>
<tr>
<th>Component</th>
<th>% Earned</th>
<th>×</th>
<th>Weight</th>
<th>=</th>
<th>Points earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>HWs and quizzes</td>
<td>94</td>
<td>×</td>
<td>0.30</td>
<td></td>
<td>28.2</td>
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<tr>
<td>Midterm 1</td>
<td>90</td>
<td>×</td>
<td>0.20</td>
<td></td>
<td>18.0</td>
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<tr>
<td>Midterm 2</td>
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<td>×</td>
<td>0.20</td>
<td></td>
<td>18.0</td>
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<tr>
<td>Final</td>
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<td>×</td>
<td>0.30</td>
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<td>25.5</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<td>1.00</td>
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</tbody>
</table>

89.7 rounds to 90, so the grade is an A-

Grade cutoffs are as follows:

- 100–97% A+
- 96–93% A
- 92–90% A–
- 89–87% B+
- 86–83% B
- 82–80% B–
- 79–77% C+
- 76–73% C
- 72–70% C–
- 69–67% D+
- 66–63% D
- Below 60% F

**Academic integrity** is essential to the mission of San José State University. As such, students are expected to perform their own work (except when collaboration is expressly permitted by the course instructor) without the use of any outside resources. Students are not permitted to use old tests, quizzes when preparing for exams, nor may they consult with students who have already taken the exam. When practiced, academic integrity ensures that all students are fairly graded. Violations to the Academic Integrity Policy undermine the educational process and will not be tolerated. It also demonstrates a lack of respect for oneself, fellow students and the course instructor and can ruin the university’s reputation and the value of the degrees it offers.

We all share the obligation to maintain an environment which practices academic integrity. Violators of the Academic Integrity Policy will be subject to failing this course and being reported to the Office of Judicial Affairs for disciplinary action which could result in suspension or expulsion from San José State University.

*The course calendar and assignments are online and are part of this syllabus by reference.*