Principles of Epidemiology (HS261)
Spring 2007
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.

Pre-requisite: HS 167 or equivalent

Website: [www.sjsu.edu/epi](http://www.sjsu.edu/epi) → click HS 261 (direct URL: [www.sjsu.edu/faculty/gerstman/hs261](http://www.sjsu.edu/faculty/gerstman/hs261))

Class: The class meets every Wednesday from 3:00 – 5:45 in HB 407
Professor: B. Gerstman, Phone: (408) 924-2978, Office: MH514, [gerstman@email.sjsu.edu](mailto:gerstman@email.sjsu.edu)
Office hours: Tu & Th 10:30 – 11:45 and We 2:00 – 2:45 and by appointment.

Required materials:
2. TI-30XIIS calculator or equivalent.
3. Reliable internet access.


The calendar and assignments are posted on the website and are included in as part of this syllabus by reference.

Objectives

The following essential objectives meet CEPH accreditation expectations:

1. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health problems (e.g., defines fundamental epidemiologic terms, list uses of epidemiology, describe demographic and epidemiologic transitions and trends).

2. To apply epidemiologic concepts of disease (e.g., iceberg metaphor, induction/latency, agent, host, and environmental interaction, causal-webs, and causal pie theory) in primary, secondary, and tertiary prevention.

3. To apply epidemiologic principles of screening for disease and risk factors in the routine and special collection of population-based morbidity and mortality data and community diagnosis.

4. To calculate and interpret incidences and prevalence in open- and closed-populations applying direct and indirect adjustments for age and other factors as necessary.

5. To compare rates and risks in population and subgroups using absolute and relative measures of association and measures of potential impact.

6. To interpret and analyze clinical and community trials, ecological studies, cohort studies, and case-control studies, including the comprehension of basic ethical principals involved in the study of human subjects.

7. To identify and assess systematic errors in epidemiologic research.

8. Communicate epidemiologic information to lay and professional audiences.
Grades

Your course grade is based on a weighted average of:

- **Assignments, quizzes, and in-class problem-solving in the form of case-studies (30%)** – Homework exercises, quizzes, and or in-class case studies are assigned each week. These require analysis, calculation, interpretation, and discussion. Please do not be shy about submitting questions about exercises to the online discussion board. Reports should conform to APA Publication Style Guidelines for text and numbers. Faxed and emailed assignments cannot be accepted without prior arrangement.

- **Midterm(s) (20%)** – We will have either one or two midterms. Midterms will include multiple choice questions, calculations, open-ended questions, and brief essays.

- **The Studying-A-Study Assignment (20%)** – One of the goals of this course is to help you better understand the epidemiologic research upon which many public health and biomedical decisions are made. To accomplish this, it helps to have a practical step-by-step approach for reading and analyzing epidemiologic literature. People who can critically read epidemiological literature while understanding and accepting its limitations are better able to draw meaningful conclusions and integrate these conclusions into their practice. The assignment is described in detail in the Studying-A-Study assignment handout, available on the course website.

- **Final exam (30%)** – Multiple-choice, short answer, brief essay, and open-ended questions covering materials from the entire semester.

### Example of a 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>Assignments, quizzes, etc.</td>
<td>94</td>
<td>×</td>
<td>0.30</td>
<td>=</td>
<td>28.2</td>
</tr>
<tr>
<td>Midterm(s)</td>
<td>90</td>
<td>×</td>
<td>0.20</td>
<td>=</td>
<td>18.0</td>
</tr>
<tr>
<td>Studying-a-study</td>
<td>90</td>
<td>×</td>
<td>0.20</td>
<td>=</td>
<td>18.0</td>
</tr>
<tr>
<td>Final</td>
<td>85</td>
<td>×</td>
<td>0.30</td>
<td>=</td>
<td>25.5</td>
</tr>
<tr>
<td><strong>∑</strong></td>
<td><strong>1.00</strong></td>
<td></td>
<td></td>
<td>=</td>
<td><strong>89.7</strong></td>
</tr>
</tbody>
</table>

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

### Grade cutoffs:

<table>
<thead>
<tr>
<th></th>
<th>A+</th>
<th>B+</th>
<th>C+</th>
<th>D+</th>
<th>Below 60%</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-97%</td>
<td>A+</td>
<td>89-77%</td>
<td>C+</td>
<td>69-67%</td>
<td>D+</td>
<td>Below 60%</td>
</tr>
<tr>
<td>96-93%</td>
<td>A</td>
<td>86-83%</td>
<td>B</td>
<td>76-73%</td>
<td>C</td>
<td>66-63%</td>
</tr>
<tr>
<td>92-90%</td>
<td>A−</td>
<td>82-80%</td>
<td>B−</td>
<td>72-70%</td>
<td>C−</td>
<td>62-60%</td>
</tr>
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</table>

**Academic integrity.** 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). Students are not permitted to use consult with students who have already taken an. 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 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. Faculty are required to report all infractions to the Office of Student Conduct & Ethical Development (S04-12).

The course homepage ([www.sjsu.edu/epi](http://www.sjsu.edu/epi) → click HS 261) is “page 3” of this syllabus.