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EPID 7133 - Epidemiologic Research Methods I

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Georgia Southern University
Jiann-Ping Hsu College of Public Health

EPID 7133 – Epidemiologic Research Methods I (3 credits)
Spring 2017

<u>Instructor:</u>	Kelly Sullivan, Ph.D.
<u>Office:</u>	Hendricks Hall, Suite 2040
<u>Phone:</u>	912.478.7902 (best to contact me by email)
<u>E-Mail Address:</u>	ksullivan@georgiasouthern.edu
<u>Office Hours:</u>	Tuesday and Thursday 9:00 AM – 10:30 AM; 2:00 PM – 4:00 PM and by appointment (Students are highly encouraged to make an appointment)
<u>Class Meets:</u>	Tuesday/Thursday, 12:30 pm – 1:45 pm

Course Catalog available at:

<http://students.georgiasouthern.edu/registrar/pdf/catalogs/GraduateCatalog/index.htm>

under Jiann-Ping Hsu College of Public Health Programs

Prerequisites: PUBH6533 or permission of the instructor

Catalog Description:

This course will focus on epidemiologic methods - primarily methods used in observational studies, cohort studies, case-control studies and randomized controlled trials. With respect to cohort studies, topics covered include cohort identification, ascertainment of exposure status, follow-up of cohort members, measuring outcomes, sources of bias and interpretational issues. Case-control topics include issues around defining cases and controls, control of confounding, and sources of bias/systematic error. Topics around randomized trials include randomization procedures, defining and assembling treatment/intervention arms, selecting study subjects and approaches to data collection. Other topics covered in this course include surveillance and ecologic studies. Pros and cons of all study designs will be discussed, in part through readings of published papers. Fundamentals of data analysis will also be addressed, but a detailed discussion is reserved for Epidemiology Research II (EPI 7134).

Required Textbook:

Cody RP and Smith JK. *Applied Statistics and the SAS Programming Language (5th Ed)* Upper Saddle River, NJ: Pearson Prentice Hall. (ISBN: 0-13-146532-5).

Required readings posted on Folio

Recommended Software:

SAS 9.4 – available for purchase at discounted price from GSU and is available for free through vLab. Purchase of software is optional as students can choose to complete assignments on classroom computers and on campus computers equipped with SAS.

Epidemiology Concentration Student Learning Outcomes:

At the completion of this program the student will be able to:

1. Demonstrate proficiency and effectiveness in the communication of core public health principles and practices, both oral and written.
2. Demonstrate proficiency in the integration of the core public health disciplines (Biostatistics, Epidemiology, Environmental Health, Health Policy/Management, and Social/Behavioral Science) in practice and research.
3. Demonstrate proficiency in problem solving, critical thinking, and public health leadership.
4. Formulate population-based hypotheses and develop appropriate research designs to test these hypotheses.
5. Collect, analyze, and interpret data derived from population-based research.
6. Create and implement public health surveillance systems for population-based studies.
7. Recommend evidence-based interventions and control measures in response to epidemiologic findings.
8. Communicate epidemiologic principles and concepts to lay and professional audiences through both oral and written communication.

Course Learning Objectives:

At the completion of this course the student will be able to:

1. Understand the basic designs of epidemiological study. (4)
2. Understand validity and threats to validity in epidemiologic studies. (3)
3. Handle threats to validity at the stages of study design and data analysis. (3-7)
4. Use SAS to do basic data management and basic statistics. (2, 3)
5. Write a review article of scholarly literature. (1, 2, 8)

Mid-term Exam: A mid-term exam will be given in class. You are required to complete your mid-term exam independently.

Final Exam: A final exam will be given in class. You are required to complete your Final exam independently.

IRB training certificate: All researchers, including students – are expected to satisfy institutional stewardship obligations and to perform their research and scholarship pursuits in compliance with federal, state, and local laws, as well as the policies and procedures of the Georgia Southern University. Research compliance encompasses a wide variety of subjects including human and animal subjects; pre- and post-award management; access to and retention of data; environmental and workplace safety; intellectual property; conflicts of interest; and scholarly integrity in research. As a part of the research preparation for your future research, including both your class project in EPID 7134 (Epidemiological Research Method II) and your capstone, you are requested to obtain an IRB training certificate on the basic course. The training will be performed online using self-learning module (<https://www.citiprogram.org>), it is your responsibility to carefully manage your pace, follow the instructions, obtain the certificate and submit the electric copy to the instructor before the due date. The IRB certificate, which is in fail/pass format, contributes 5% of the final grade.

Review paper: The instructor will teach students the basic requirements of writing a review paper. The emphasis will be on the proper procedures of keyword selection, bibliographic database search, paper

retrieval (including inter-library loan), as well as data retrieval, summary and presentation. A topic will be announced to the class.

Grading:

Weighting of assignments for the purposes of grading will be as follows:

Component	%
IRB training certificate (pass/fail)	5
Review paper	20
Mid-term exam	20
Final exam	25
Practicals & Assignments	30

The following point scale will be utilized in grading:

- A: 90- 100%
- B: 80% - 89.9%
- C: 70% - 79.9%
- D: 60% - 69.9%
- F: < 60.0%

All assignments will be graded and returned promptly so that students may accurately calculate their grades at any point in time during the semester.

Due time:

All homework assignments and training certificate should be electronically submitted to *dropboxes provided in FOLIO*, by 11:59 pm on the due date. Early submission is welcome.

See Course Outline for specific topics and dates.

NO EXTRA CREDIT PROJECTS WILL BE ASSIGNED!

Late submission:

Reduction of 5% for every 24 hours. For example, for an assignment that is due on Thursday at 7:00 pm, if someone submits it on the coming Saturday at 6.59pm, then:

$$\text{Final Grade} = \text{Grade} * 90\%$$

There are times when extraordinary circumstances occur (e.g., serious illness, death in the family, etc.). In such circumstances, please consult with the instructor within a reasonable amount of time. The instructor will consult the college administrators and verify the reported circumstances before any exemptions or extensions can be granted. Extensions are not guaranteed and will be granted solely at the discretion of the instructor.

Expectations:

This course will involve the completion of a number of written assignments. Writing as a means of effective communication, argumentation, and presentation of ideas is extremely important as a public health professional, or a professional of any sort. It is expected that students will turn in assignments that express their ideas thoughtfully, with attention to organization, spelling, grammar, and supporting evidence. Content, readability, and presentation matter for publication and report writing. Work that fulfills beyond minimum requirements and displays evidence of enhanced investigative writing; proper formatting and style will result in a higher grade even if required content is missed. Conversely, should work display the characteristics of a rush job, the opposing grade will be earned.

Proper citation and quotation of references in writing is absolutely critical, and failure to do so can have serious repercussions both in the academic and professional realms. Failure to give credit as required by academic and professional standards will result in a failing grade on assignments. If you have questions about citation, please seek help from Dr. Sullivan or another source (i.e. Chapter 6 page 170 of APA sixth edition). If you would like assistance in developing your writing skills, the University Writing Center (912-871-1413) is an excellent resource.

The quality of the experience students have in this class will depend heavily upon completion of assigned readings and participation in class discussion. If you feel uncomfortable speaking up for any reason, please let me know. We want to create an environment in which all students can feel safe to express their ideas.

Academic Misconduct:

As a student registered at this University, it is expected that you will adhere to only the strictest standards of conduct. It is recommended that you review the latest edition of the *Student Conduct Code* book, as well as the latest *Undergraduate & Graduate Catalog* to familiarize yourself with the University's policies in this regard. Your continued enrollment in this course is an implied contract between you and the instructor on this issue; from this point forward, it is assumed that you will conduct yourself appropriately.

Academic integrity relates to the appropriate use of intellectual property. The syllabus, lecture notes, and all materials presented and/or distributed during this course are protected by copyright law. Students are authorized to take notes in class, but that authorization extends only to making one set of notes for personal (and no other) use. As such, students are not authorized to sell, license, commercially publish, distribute, transmit, display, or record notes in or from class without the express written permission of the instructor.

Plagiarism:

According to the Academic Dishonesty Policy of GSU, plagiarism includes but is not limited to:

- A. Directly quoting the words of others without using quotation marks or indented format to identify them.
- B. Using published or unpublished sources of information without identifying them.
- C. Paraphrasing material or ideas without identifying the source.
- D. Unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic material.

If you are accused of plagiarism, the following policy per the Judicial Affairs website (<http://students.georgiasouthern.edu/judicial/faculty.htm>) will be enforced:

PROCEDURES FOR ADJUDICATING ACADEMIC DISHONESTY CASES

First Offense - In Violation Plea

1. If the professor and the Dean of Students agree that the evidence is sufficient to warrant a charge of academic dishonesty, the professor should contact the Office of Judicial Affairs to determine if this is a first violation of academic dishonesty. The incident will be reported via the following website: <http://students.georgiasouthern.edu/judicial/faculty.htm>
2. If it is a first violation, the professor should talk with the student about the violation. If the student accepts responsibility in writing and the professor decides to adjudicate the case, the following procedures will be followed:
 - a. The student will be placed on disciplinary probation for a minimum of one semester by the Office of Judicial Affairs.
 - b. The student will be subject to any academic sanctions imposed by the professor (from receiving a 0 on the assignment to receiving a failing grade in the class).
 - c. A copy of all the material involved in the case (Academic Dishonesty Report Form and the Request For Instructor to Adjudicate Form) and a brief statement from the professor concerning the facts of the case and the course syllabus should be mailed to the Office of Judicial Affairs for inclusion in the student's discipline record.

First Offense - Not In Violation Plea (student does not admit the violation)

1. If the professor and the Dean of Students agree that the evidence is sufficient to warrant a charge of academic dishonesty, the professor should contact the Office of Judicial Affairs to determine if this is the first or second violation of academic dishonesty. The student will be charged with academic dishonesty and the University Judicial Board or a University Hearing Officer would hear the case. If the student is found responsible, the following penalty will normally be imposed:
 - a. The student will be placed on Disciplinary Probation for a minimum of one semester by the Office of Judicial Affairs.
 - b. The student will be subject to any academic sanctions imposed by the professor.

Second Violation of Academic Dishonesty

1. If the professor and the Dean of Students agree that the evidence is sufficient to warrant a charge of academic dishonesty, and if it is determined this is the second violation, the student will be charged with academic dishonesty and the University Judicial Board or a University Hearing Officer would hear the case.
2. If the student is found responsible, the following penalty will normally be imposed:
 - a. Suspension for a minimum of one semester or expulsion.
 - b. The student will be subject to any academic sanctions imposed by the professor.

NOT RESPONSIBLE FINDING

When a student is found not responsible of academic dishonesty, the work in question (assignment, paper, test, etc.) would be forwarded to the Department Chair. It is the responsibility of the Department Chair to ensure that the work is evaluated by a faculty member other than the individual who brought the charge and, if necessary, submit a final grade to the Registrar. For the protection of the faculty member and the student, the work in question should not be referred back to the faculty member who charged the student with academic dishonesty.

In the case of a Department Chair bringing charges against a student, an administrator at the Dean's level will ensure that the student's work is evaluated in an appropriate manner.

Academic Handbook:

Students are expected to abide by the Academic Handbook, located at <http://students.georgiasouthern.edu/sta/guide/>. Your failure to comply with any part of this Handbook may be a violation and thus, you may receive an F in the course and/or be referred for disciplinary action.

University Calendar for the Semester:

The University Calendar is located with the semester schedule, and can be found at: <http://www.georgiasouthern.edu/current.php>.

Attendance Policy:

Federal regulations require attendance be verified prior to distribution of financial aid allotments. Regular attendance is expected and will be recorded. *Failure to attend class will negatively impact your participation grade.*

Portfolio Inclusion:

Samples of your work may be reproduced for research purposes and/or inclusion in the professor's teaching portfolio. You have the right to review anything selected for use, and subsequently ask for its removal.

Retaining of Original Work:

All original examinations, papers, etc. may be retained by the instructor for documentation and accreditation purposes. If you wish to obtain a copy of your graded work that has been retained, come by the instructor's office and we will make a copy for your records.

Expectation of hours of work outside class time:

For this course, students are expected to spend **at least 6 hours per week** outside class time, to read their textbooks and other reading materials and to complete their assignments and other required tasks. Some students may need more time, depending on each student's abilities and circumstances.

Office hours:

Students are **highly recommended to make an appointment** with the instructor, even if they plan to meet during office hours. The instructor may be meeting another student when you arrive at the office. Making appointments allow you to have priority over any students who do not make an appointment. This also allows the efficient use of your time and the instructor's time.

One Final Note:

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 announce any such changes in class. It is the responsibility of the student to know what changes have been made in order to successfully complete the requirements of the course.

