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Spring 2018

### EPID 8230 – Observational Study Design and Analysis

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**Georgia Southern University**  
**Jiann-Ping Hsu College of Public Health**

EPID 8230 – Observational Study Design and Analysis  
Spring 2018

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<b><u>E-Mail Address:</u></b>	<a href="mailto:ksullivan@georgiasouthern.edu">ksullivan@georgiasouthern.edu</a> (to set up an appointment)
<b><u>Office Hours:</u></b>	Tuesday and Thursday 9am – 12pm and by appointment

Course Catalog available at: <a href="http://students.georgiasouthern.edu/registrar/pdf/catalogs/GraduateCatalog/index.htm">http://students.georgiasouthern.edu/registrar/pdf/catalogs/GraduateCatalog/index.htm</a> under Jiann-Ping Hsu College of Public Health Programs
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**FOLIO address:** <http://my.georgiasouthern.edu>

**Catalog Description**

This course will focus on the design and conduct of observational research designs including cohort, case-control and cross-sectional approaches. This course will provide instruction related to issues specific to observational research approaches. Students will develop and present detailed study plans for each research approach.

**Required Textbook:**

Critical Appraisal of Epidemiological Studies and Clinical Trials 4th Edition  
by Mark Elwood (Author)  
ISBN-13: 978-0199682898

Additional Required readings will come from journal articles.

### **Response times:**

During a normal work week (i.e., Monday 9:00 AM through Friday 5:00 PM) students can expect responses as follows:

- Email: within 48 hours
- Discussion posts: within 72 hours
- Assignment grades: within 72 hours of submission date.

Exceptions: I do not check FOLIO or GSU email over the weekends. If you send me an email after 5:00 PM on Friday, please do not expect a response until the following Monday.

### **Student Learning Outcomes:**

Students will:

1. Express understanding of cross-sectional, case-control and cohort study designs (prospective and retrospective)
2. Demonstrate knowledge regarding exposure and outcome assessment in cross-sectional, case-control and cohort studies
3. Assess risk and impact of bias in cross-sectional, case-control and cohort studies
4. Demonstrate knowledge of methodological issues in cross-sectional, case-control and cohort studies
5. Understand techniques to minimize bias in cross-sectional, case-control and cohort studies
6. Understand strengths and limitations of cross-sectional, case-control and cohort studies
7. Critically evaluate observational study designs

### **DrPH Cross-cutting Competencies**

1. Apply evidence-based practice, generation of practice-based evidence, and leadership positions that apply and synthesize translational and implementation science findings in governmental, non-profit, and private-sector settings as well as teaching, research, and service in academic roles at the undergraduate and graduate level.
2. Demonstrate the ability to generate products that discover, apply and synthesize evidence from a broad range of disciplines and health-related data sources, in order to advance programs, policies, or systems addressing population health. Learning products may be created in a range of formats.
3. Demonstrate leadership in increasingly interdisciplinary, interprofessional, and crosssectoral roles and settings.
4. Develop innovative, current, and proactive approaches to adapt to the ever-changing public health systems and health care landscape.
5. Explain a core, interdisciplinary orientation toward evidence-based public health practice, leadership, policy analysis and development, evaluation methods, and translational and implementation research to generate practice-based evidence.
6. Demonstrate an ability to work in a global context, recognizing the relationships among domestic and global issues.

### **DrPH Epidemiology Concentration Competencies**

1. Design a public health and epidemiological investigation in terms of experimental design, data to be collected that reflect the research objectives, and specification of appropriate methods of analysis.
2. Analyze public health and epidemiological data using appropriate statistical software such as SAS and R.
3. Develop new epidemiological methods and new ideas for applying existing epidemiological methods to applications in public health and the epidemiological sciences.
4. Develop written and oral reports to communicate effectively with research investigators the pivotal aspects of a study, including: design, study objectives, data analysis methodology, results, and conclusions.
5. Create a collaborative environment for working on written and oral reports.
6. Employ basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiological measures.

### **Course Structure**

This course will consist of lectures and discussion. The course is fast-paced and will require students to read prior to class each week, complete homework assignments, and contribute to class discussions. Students should keep up with all assignments and should not allow themselves to fall behind since it will be very difficult to catch-up.

### **Class Attendance and Participation Policy**

Federal regulations require attendance be verified prior to distribution of financial aid allotments. Regular attendance is expected. Your attendance will be verified at the first regular class session.

For in-person class meeting, please come to class on time and be prepared to stay until the end of class. Cell phones should not be used in class. Please set them to “vibrate” in case of emergency or if you have an urgent personal or professional reason for expecting a call. “Side” conversations among students are not acceptable unless your conversation is a course-related one.

## Assignments/Evaluations

The following assignments will be used to evaluate the performance of students in the course. The requirements for each assignment will be posted on Folio or handed-out in class. Students who are absent for a class period in which an assignment was given are responsible for obtaining the assignment from a classmate, Folio, or the instructor(s). There will be no opportunity for "extra credit" in this course. Grades will not be "curved". There will be no opportunity for "extra credit" in this course. The specific grading events for this course are as follows:

See Course Outline for specific topics and dates.

<u>Assignment</u>	<u>% of Final Grade</u>
Topic	Not Graded
Cohort Study Design	10
Midterm exam	30
Case-control study design	10
Cross-sectional study design	10
Observational studies vs. clinical trials	10
Final Exam	30

### Scoring

90+% =A,

80-89%=B,

70-79%=C,

60-69%=D,

Below 60%=F

### 1. ASSIGNED READINGS

Assigned readings should be done before class to enhance students' learning. The readings are important for completion of course assignments and class discussion.

### 2. HOMEWORK ASSIGNMENTS

Homework assignments are designed to allow the student to demonstrate their understanding of the key concepts presented in class. Instructions for each homework assignment will be posted on Folio.

Although many assignments will not be given an individual grade, each assignment is due on the date specified. The Instructor will only make comments and provide feedback on assignments submitted on time. Therefore, it is beneficial to you to turn in all assignments on time. Students are not permitted to work in groups on homework assignments unless it is specifically stated in the instructions of the assignment. Each assignment is an individual assignment and students are expected to turn in their own original work. Plagiarism is a serious offense. If the course instructors feel that academic dishonesty may have occurred related to ANY grading event, the instructors will/may conduct an additional oral examination or other method of evaluation for the

material covered. If plagiarized material is detected or it is found that the student has cheated on an assignment, the student may FAIL the course.

Assignment Due Dates: Assignments are expected to be turned in by being uploaded into Folio not later than the due date/time posted on the Folio dropbox/quiz.

Late submission of assignments will result in a grade reduction of 5% for every 24 hours, unless there is a documented personal or family emergency or illness. 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: Final Grade = 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.

Following Directions: In order to receive full credit for each assignment, they must be turned in on time and all sections completed. Detailed instructions for completion of these exercises will be provided on Folio.

Failure to follow directions for the assignment (excessive spelling or grammatical errors, etc.) may result in the loss of 5 points from the final grade for each occurrence.

### 3. EXAMINATIONS

Examinations may include, but are not limited to, essay questions, multiple choice questions, matching and fill-in the blank. All exams will be held during the regular class session. Examinations will cover assigned readings and lecture material.

Course grading depends heavily on the student's ability to convey his or her thoughts in writing. Papers that are poorly written and/or have errors in spelling or grammar will not effectively convey the student's ideas. Thus, students who have difficulty with writing should seek help from a writing specialist and/or private tutor.

#### **Expectations:**

1. This is a 3-credit hour class. One credit is generally defined as the equivalent of roughly 3 hours of learning effort outside the classroom each week. Thus, for a course like this that meets 3 hours/week, you should expect approximately 6 hours of weekly coursework beyond the classroom. Since there are 15 classes (excluding Thanksgiving Break), you should expect approximately 90 hours of work outside of class this semester.
2. Students are expected to keep up with the class, to read the required material, and to submit assignments and activities by due dates and times.

3. Students are expected to independently complete all activities, exercises, assignments, and the final exam.
4. This course is fast-paced and students should not allow themselves to fall behind since it will be very difficult to catch-up. Students are also encouraged to contact the Instructor through email or Folio, if questions arise regarding presented material or course format.
5. To receive maximum points for any assignment, activity, exercises, or quiz questions, students need to follow the instructions carefully, follow word limits as instructed and use Spell Check. There will be deductions if these guidelines are not followed.
6. Remember to check when assignments are due. It is recommended that you stay ahead of schedule on the assignments, so if an emergency happens, your assignment will be completed and ready to submit within the designated time frame. It is your responsibility to keep track of the due dates for each assignment.

All assignments will be graded promptly so that students may accurately calculate their grades at any point in time during the semester. There are times when extraordinary circumstances occur (e.g., serious illness, death in the family, etc.). In such circumstances, and/or if you need additional time to satisfactorily complete any course requirement, please consult with the instructor within a reasonable amount of time.

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. Extensions are not guaranteed and will be granted solely at the discretion of the instructor.

### **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.

### **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 by a JPHCOPH, the following policy, as 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)**

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**

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.

**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 Discipline Coordinator. It is the responsibility of the Discipline Coordinator 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 Discipline Coordinator 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.

### **CONFIDENTIALITY**

In accordance with provisions of the Family Educational Rights and Privacy Act of 1974 and the Georgia Open Records Act, any information related to a violation of academic dishonesty or the outcome of a judicial hearing regarding academic dishonesty, is prohibited and must be treated as confidential by members of the faculty.”

### **Academic Handbook**

Students are expected to abide by the Academic Handbook, located at

<http://admissions.georgiasouthern.edu/pdf/orientation/documents/Eagle%20Eye/EagleEye.pdf>

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://students.georgiasouthern.edu/registrar/resources/calendars>

### **Portfolio Inclusion**

Samples of your work may be reproduced for search 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.

### **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.