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Fall 2017

### PUBH 6533 - Epidemiology

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**Georgia Southern University**  
**Jiann-Ping Hsu College of Public Health**  
PUBH 6533– Epidemiology  
Fall 2017

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<b><u>E-Mail Address:</u></b>	lcowan@georgiasouthern.edu
<b><u>Office Hours:</u></b>	Tuesdays and Thursdays: 9:30-10:30, 1:00-2:30*
<b><u>Class Meets:</u></b>	Info Technology Bldg – 2205

Course Catalog available at:  
<http://students.georgiasouthern.edu/registrar/pdf/catalogs/GraduateCatalog/index.htm>  
under Jiann-Ping Hsu College of Public Health Programs

**\*Office Hours:**

I am also happy to schedule another meeting outside of this period to accommodate your schedule when possible.

**Prerequisites:**

N/A

**FOLIO Address:**

<http://my.georgiasouthern.edu>

**Catalog Description:**

This course provides an introduction to many important topics in epidemiology for public health practice, including but not limited to the evolution of the discipline, causal concepts in the natural history of disease, critical features of infectious and chronic diseases, elements of public health screening, basic measures used in epidemiology, design of epidemiologic investigations, consideration of random error and systematic bias, calculation and interpretation of confidence intervals and  $p$  values, discussion of confounding and interaction, criteria for evaluation of cause and effect relationships and the implications for ethical public health practice. Students are expected to gain a foundation in epidemiologic methods for exploration of the causes and conditions that influence the origin, propagation, mitigation, and prevention of diseases that impact population health.

**Required Textbook:**

Friis RH and Sellers TA. *Epidemiology for Public Health Practice (5<sup>th</sup> Ed.)* Boston, MA: Jones and Bartlett Publishers. (ISBN: 978-1-4496-1361-7).

**Required Resources:**

Calculator

Computer/Internet access

**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
- Assignment grades/evaluation: within 1 week

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

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**Competencies and Learning Outcomes Addressed:****MPH Core Student Learning Outcomes (CORE)**

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.

**MPH Epidemiology Student Learning Outcomes (EPID)**

1. Formulate population-based hypotheses and develop appropriate research designs to test these hypotheses.
2. Collect, analyze, and interpret data derived from population-based research.
3. Create and implement public health surveillance systems for population-based studies.
4. Recommend evidence-based interventions and control measures in response to epidemiologic findings.
5. Communicate epidemiologic principles and concepts to lay and professional audiences through both oral and written communication.

**Cross-Cutting Competencies for the MPH Degree**

1. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities. (Communication and Informatics)

2. Use information technology to access, evaluate, and interpret public health data. (Communication and Informatics)
3. Describe the roles of history, power, privilege and structural inequality in producing health disparities. (Diversity and Culture)
4. Explain how professional ethics and practices relate to equity and accountability in diverse community settings. (Diversity and Culture)
5. Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served. (Diversity and Culture)

#### *MPH Concentration Competencies in Epidemiology*

1. Identify key sources of data for epidemiologic purposes.
  2. Identify the principles and limitations of public health screening programs.
  3. Describe a public health problem in terms of magnitude, person, time and place.
  4. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
  5. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.
  6. Apply the basic terminology and definitions of epidemiology.
  7. Calculate basic epidemiology measures.
  8. Communicate epidemiologic information to lay and professional audiences.
  9. Draw appropriate inferences from epidemiologic data.
  10. Evaluate the strengths and limitations of epidemiologic reports.
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#### **Performance-Based Objectives (linked to activities discussed below):**

1. Students will demonstrate competence in the basic terminology associated with epidemiology. (Activities 1, 2, 3)
2. Students will demonstrate competence in the ability to calculate and interpret basic epidemiologic measures including, but not limited to, incidence, prevalence, odds and risk ratios, sensitivity, specificity, and predictive values. (Activities 1, 2, 5)
3. Students will demonstrate the ability to integrate basic concepts of epidemiology through the thoughtful consideration of proper study design and methodology. (Activities 1, 2, 4, 5, 6)
4. Students will demonstrate the ability to communicate epidemiologic concepts through writing and presentation to lay and professional audiences. (Activities 3, 4, 6)

#### **Assessment of Student Learning:**

Activity 1: Exams. Comprehensive examinations covering multiple topic areas will be utilized to allow the student to demonstrate summative competency in terminology, common epidemiologic measures, and study design. These examinations will utilize a variety of questions, including true/false, multiple choice, matching, short answer, & discussion in a timed, monitored environment.

Activity 2: Module Quizzes. End-of-module quizzes will gauge students' knowledge and measure formative progress through a single topic area. Quizzes will be used to assess what the

students learn in a short-time frame regarding epidemiology terminology, measurements and study design in order to prepare for the larger examinations.

Activity 3: Discussions and Writing Assignments. Competence in writing and presenting epidemiologic concepts to different audiences will be evaluated using brief writing assignments and reflective discussions. Through written word and visual presentations in specific topic areas, students will also demonstrate the use and understanding of epidemiology terminology.

Activity 4: Article Critique. Integration and subsequent application of basic epidemiology concepts will be measured through the article critique, as the ability to adequately understand, critically analyze and communicate findings from a peer-reviewed journal article is the cornerstone of conducting evidence-based research and practice in public health. Students will present their findings to the class.

Activity 5: Problem Sets. Problems sets will be constructed to allow the student to demonstrate competence in epidemiologic measures through both word problems and direct calculations. Problem sets will also be presented within the framework of various epidemiologic study designs in order to provide the opportunity to integrate concepts across topic areas.

Activity 6: Case Studies will designed so students can display integration of numerous epidemiologic concepts in the context of complex public health issues seen in the field. Case studies will also provide an opportunity for the student to demonstrate mastery of these concepts through the communication of case study findings to an outside audience.

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### **Course Structure:**

This course will use a combination of in-class sessions combined with FOLIO online learning modules to help you during the learning process and evaluate your progress. Tutorials for Folio are located on your Folio main page, and there is a help link located in the upper right-hand corner of the Folio course. If you are having particular issues with FOLIO we can address them before or after class.

### **Assignments/Evaluations:**

#### **Examinations (3): 60% of Final Grade**

Exams may be any combination of true/false, multiple choice, matching, short answer, & discussion (Activity 1). The examination will be closed book and closed notes. Exams will be administered during the class period indicated on the course schedule. Make-up exams will not be administered unless the absence is deemed excused. The validity of excused absences will be determined by the instructor and will be individually assessed. Each examination will include the material covered in the outlined section of the course specified in the course schedule. Even though the exam will predominately consist of material learned in that portion of the class, it should be viewed as *cumulative* since many concepts covered in the following portions build upon a foundation constructed in the beginning of the course. The examination questions will include course content as well as all the text material (including handouts and readings) assigned.

*Module Quizzes (14): 10% of Final Grade*

Quizzes on the reading assignments will be administered each week to assess overall preparation in terms of material covered previously (Activity 2). The quizzes are designed to facilitate exam preparation and hold the student accountable for assigned reading. While points per quiz are minimal, inadequate preparation will have an adverse impact on student grades. All quizzes are due by 11:59 PM on the due date shown in FOLIO and on the course schedule.

*Module Tasks (12): 20% of Final Grade*

There will be various tasks (i.e. discussions/writing assignments, problem sets, case studies, etc.) to be completed over the course of the semester (Activities 3, 5, 6). These assignments will be due each non-exam week. Tasks may be discussed in a group setting, but each student is responsible for their individual work. Assignments will be due by 11:59PM on the due date stated in FOLIO and will not be accepted late.

*Article Critique and PowerPoint Presentation: 10% of Final Grade*

Please select a journal article on a topic of interest, published within the past 5 years, from a public health, epidemiology, or medical journal. The article must be submitted to me in the designated FOLIO discussion area and approved by me. Each journal article will be posted on FOLIO so other members may read it and comment in the student discussion forum if desired. Using the “Appendix A – Guide to the Critical Appraisal of an Epidemiologic/Public Health Research Article” in the required textbook, you will write a paper critiquing the article. The paper should be double-spaced, 12-pt font, 1-inch margins and prepared in APA or AMA style.

You will also prepare a 10-minute PowerPoint presentation describing your article, the research involved, the findings and your evaluation of the article and the research. This will be presented in class.

**Grading:**

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

Exam 1	20%
Exam 2	20%
Exam 3	20%
Module Quizzes	10%
Module Tasks	20%
Article Critique/Presentation	10%

The following scale will be utilized in grading:

89.5% - 100%	A
79.5% - 89.4%	B
69.5% - 79.4%	C
59.5% - 69.4%	D
< 59.4%	F

No extra credit will be offered.

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### **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. All students are expected to listen and to actively engage in all online material within each stated module time frame and contact the professor with any potential questions immediately.

### **Expectations of the Student:**

Students must pass with a minimum score of 70%. Course grades are awarded based upon the conventional method outlined above. Failure to achieve a final grade of 70% will result in a failure of the course. Students are responsible for the learning outcomes, competencies and objectives presented above. In addition to these measures, students are also responsible for the specific learning objectives which are set forth at the beginning of each chapter and module. Students are expected to listen to all course materials and complete all examinations, and check the course website *daily* for updates. To facilitate learning and comprehension of the material presented, students are expected to read the assigned material and text chapters. Students are expected to participate in course activities, such as discussion, and to complete any assignments as defined by the professor. Each student also should develop proficiency in scientific report writing and critique. One example is the organization of thought and clarity of expression. Other examples are the ability to criticize and assess research published in professional journals, to formulate hypotheses and operationalize concepts, to synthesize research and knowledge, and to set forth a theoretical point of view or conceptual orientation. If you have any difficulties, please see the professor by appointment.

While learning epidemiology will involve a considerable amount of mathematical calculations, epidemiology is not just numbers. Understanding what the numbers you calculate *mean* and how they are interpreted is *critical* to your success in this course and as a public health professional. How I present numbers with labels and interpretation in the lectures is how I expect for you to do the same in your assignments. Your answer should have meaning when separated from the work leading up to the final answer. Similarly, on assignments and exams, when I ask for an interpretation I expect that you will provide an interpretation that is relevant to the problem you are working on. It is not enough to say “people with the exposure were 2.5 times more likely to have disease.” Your interpretation should be stated as (e.g., in a smoking and lung cancer

question) “People who smoked were 2.5 times more likely to develop lung cancer than people who never smoked,” for example.

As some calculations in this course will require multiple steps leading to a final number, it is strongly suggested that you carry FIVE decimal places after the decimal throughout the calculation. Rounding up/down at every step can result in very different answers than what I have in my answer keys and is a source of propagation of error. Once you get to the final step, round to one/two decimal places depending on the magnitude of the association reported.

If you have ANY questions about how to report your results, write out your answers, carry decimal places, round off answers, select a constant, or anything else relevant to turning in assignments or writing exams, ask me **before** turning in the assignment or exam to avoid losing points.

### **Learning Commitment Expectations:**

Students must be motivated and responsible for keeping up with understanding what is expected and stay on task with due dates for quizzes, assignments, and other activities. Do NOT wait until the last minute to do work that requires you to submit by a due date. Please know, too, that Folio goes down for maintenance on a regular basis; you'll find that information--Folio Maintenance Schedule--on the Folio home page where your courses are listed. Additionally, it is always important to provide time for the unexpected when working with technology. Keep in mind you have an extended period to complete a module, so having an excused absence for one day does not keep you from completing the module assignments for the week.

### **Netiquette:**

Because online communication generally lacks visual cues common to face-to-face interactions, you are expected to follow these standards. Netiquette is a combination of Network Etiquette. Please abide by the following netiquette rules when communicating with your instructor and peers in this class.

- Be sensitive and reflective to what others are saying.
- Don't use all caps. It is the equivalent of screaming.
- Don't flame - These are outbursts of extreme emotion or opinion.
- Think before you hit the post (enter/reply) button. You can't take it back!
- Don't use offensive language.
- Use clear subject lines.
- Don't use abbreviations or acronyms unless the entire class knows them.
- Be forgiving. Anyone can make a mistake.
- Keep the dialog collegial and professional.

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### **Students With Disabilities:**

Georgia Southern University believes academically qualified individuals with disabilities should have equal opportunity and access to a quality education. In order to receive services, students must be registered with the Student Disability Resource Center (SDRC), which requires they provide current documentation of their disability from a qualified health professional. Students



who have or think they may have a disability are invited to contact SDRC for a confidential discussion.

Students registered at the SDRC Office and approved for accommodations at GSU must follow all time deadlines and procedures necessary to receive specific academic accommodations as established by the SDRC prior to the beginning of each semester in order to discuss any necessary changes in accommodations and to establish accommodations for current classes. Please ensure the professor is notified no later than the beginning of each semester of recommended accommodations or upon approval of new or changed accommodations. Once a student has arranged for an accommodation letter from the SDRC, it is the student's responsibility to schedule an appointment with his or her instructor to discuss accommodations.

If the student does not initiate this meeting, it is assumed no special accommodations or modifications will be necessary to meet the requirements of this course. For additional information, please visit the SDRC Website at: <http://students.georgiasouthern.edu/sdrc/> The SDRC is located on the second floor of Cone Hall and the phone number is (912) 478-1566.

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### **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 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 Department Chair. It is the responsibility of the 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.

### **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.

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**University Calendar for the Semester:**

The University Calendar is located with the semester schedule, and can be found at:

<http://em.georgiasouthern.edu/registrar/>

**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.

**Course Changes:**

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.