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Fall 2019

EPID 9132 – Epidemiology of Infectious Diseases Transmitted via Bodily Fluids (aka “Infectious Disease 2” listed in FOLIO)

(Isaac) Chun Hai Fung

Georgia Southern University, Jiann-Ping Hsu College of Public Health, cfung@georgiasouthern.edu

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Georgia Southern University
Jiann-Ping Hsu College of Public Health

EPID 9132 – Epidemiology of Infectious Diseases Transmitted via Bodily Fluids
(aka “Infectious Disease 2” listed in FOLIO)

Fall 2019

Version as of August 14, 2019

<u>Instructor:</u>	(Isaac) Chun Hai Fung, PhD
<u>Office:</u>	Hendricks 2029
<u>Phone:</u>	(912) 478-5079
<u>E-Mail Address:</u>	cfung@georgiasouthern.edu
<u>Office Hours:</u>	Wednesday 11am – 4pm
<u>Class Meets:</u>	Monday/Wednesday/Friday 9am – 10am; IT building 3216.

Course Catalog available at:
<http://em.georgiasouthern.edu/registrar/resources/catalogs/>
under Jiann-Ping Hsu College of Public Health Programs

Prerequisites: *A minimum grade of “C” in EPID 9131.*

FOLIO Access: <https://my.georgiasouthern.edu/portal/portal.php>

Access to course materials are available for up to one year after graduation.

Catalog Description

This course covers advanced topics in epidemiology of infectious diseases transmitted via bodily fluids, primarily sexually transmitted infections and bloodborne infections. Important themes may include outbreak preparedness and response, surveillance, and interventions that prevent and control transmissions. Computational, mathematical and statistical tools relevant to the practice of infectious disease epidemiology will be introduced.

Required Textbook:

Eric D. Kolaczyk & Gabor Csardi (2014). **Statistical Analysis of Network Data with R**. New York: Springer.

Required Resource:

- Teaching materials from Network Modeling for Epidemics workshop at the University of Washington written by Martina Morris, Steven M. Goodreau, Samuel M Jenness and Darcy Rao

(<http://statnet.github.io/nme/index.html>) Notes: They are used with written permission by Prof. Samuel Jenness of Emory University.

- In this course, we will use free software R and RStudio for programming. You are advised to install R and RStudio into your own computers. For programming classes, you are advised to bring your own laptop computers to class. If you do not have a laptop computer, then you may share a computer while in class.

For DrPH students: DrPH in Epidemiology Concentration

1. Demonstrate the ability to identify deficiencies in scientific knowledge or public health practice using existing sources of epidemiologic data.
2. Construct a public health and epidemiologic research question from ideas, conditions, or events using critical thinking skills.
3. Utilize advanced epidemiologic research methods to inform public health action.
4. Select appropriate statistical tools and methodology to analyze and summarize epidemiological data.
5. Disseminate information based on advanced epidemiologic studies to lay or professional audiences.

For DrPH students: CEPH DrPH Competencies

Data & Analysis

1. Explain qualitative, quantitative, mixed methods and policy analysis research and evaluation methods to address health issues at multiple (individual, group, organization, community and population) levels.
2. Design a qualitative, quantitative, mixed methods, policy analysis or evaluation project to address a public health issue.
3. Explain the use and limitations of surveillance systems and national surveys in assessing, monitoring and evaluating policies and programs and to address a population's health.

Leadership, Management & Governance

4. Propose strategies for health improvement and elimination of health inequities by organizing stakeholders, including researchers, practitioners, community leaders and other partners.
5. Communicate public health science to diverse stakeholders, including individuals at all levels of health literacy, for purposes of influencing behavior and policies.
6. Integrate knowledge, approaches, methods, values and potential contributions from multiple professions and systems in addressing public health problems.
7. Create a strategic plan.
8. Facilitate shared decision making through negotiation and consensus-building methods
9. Create organizational change strategies

Create organizational change strategies

10. Propose strategies to promote inclusion and equity within public health programs, policies and systems

11. Assess one's own strengths and weaknesses in leadership capacities including cultural proficiency
12. Propose human, fiscal and other resources to achieve a strategic goal
13. Cultivate new resources and revenue streams to achieve a strategic goal

Policy & Programs

14. Design a system-level intervention to address a public health issue
15. Integrate knowledge of cultural values and practices in the design of public health policies and programs
16. Integrate scientific information, legal and regulatory approaches, ethical frameworks and varied stakeholder interests in policy development and analysis
17. Propose interprofessional team approaches to improving public health

Education & Workforce Development

18. Assess an audience's knowledge and learning needs
19. Deliver training or educational experiences that promote learning in academic, organizational or community settings
20. Use best practice modalities in pedagogical practices

Performance-Based Objectives Linked to Course Activities (Note: Assessment Activities Described in Next Section)

At the end of the course, students will be able to:

1. Describe and explain basic concepts of network analysis to an audience in an educational setting. (Assignment 1)
2. Perform network analysis using R and RStudio. (Assignments 2 & 3)
3. Program epidemiologic models of sexually transmitted infections and apply these models to other health-related questions and data using R and RStudio. (Assignments 2 & 3)

Assessment of Student Learning

Detailed descriptions of assessments that are linked to student learning outcomes and or competencies.

Assignment 1. To deliver a presentation on the introduction to network analysis to MPH students in EPID 7135 (Individual assessment & group assessment)

Students will present in EPID 7135 a presentation on the introduction to network analysis. Deliverables: (a) a PowerPoint presentation (group assessment) to be submitted to FOLIO; (b) presenting in a classroom (individual assessment); (c) a 1-page class plan (group assessment).

Assignment 2. Manuscript critique: written assignment & verbal presentation (Individual assessment)

Students will each select and present a peer-reviewed research article, that is appropriate to the topics and materials presented this course and is pre-approved by the instructor. Deliverables: (a) a PowerPoint presentation; (b) a written manuscript critique; both to be submitted to FOLIO; and (c) presenting in a classroom.

Assignment 3. Research project presentation (Group assessment & peer individual assessment)

Network data will be provided to students. Students will analyze the data in R as a class project as a group. Deliverable: will be a draft of a research article to be submitted to peer-review journals; to be submitted to FOLIO.

Students may vary in their ability to achieve levels of competence in this course. Students can expect to achieve course competence only if they honor all course policies, attend classes regularly, complete all assigned work in good faith and on time, and meet all other course expectations of them as students.

Overview of the content to be covered the semester:

See Appendix (separate Word document) for the detailed class schedule and course outline that will be provided to students in class and will be subject to change depending on the actual progress of the course.

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.

Instructional Methods

Class meetings will be a combination of lecture, class discussion, and active participation in computer programming. Computer-generated presentations may be used in the lecture portion of this course. R and RStudio will be used for programming experience. Prior to each class, the student is encouraged to complete the recommended readings and actively participate in class discussions. In this way, it is hoped that the learner will be better prepared to successfully accomplish the learning objective of each class experience.

Grading

Assignments		Points	
Assignment 1	Presentation on the introduction to network analysis to EPID 7135	100	
	PowerPoint (group assessment)		40
	Verbal presentation in class (individual assessment)		50
	Class plan (group assessment)		10
Assignment 2	Manuscript critique (individual assessment)	100	
	Written submission		50
	PowerPoint		25
	Verbal presentation in class		25
Assignment 3	Research project	100	
	Written submission (group assessment)		90
	Peer individual assessment		10
Total		300	

Points	Percent	Grade
270 – 300	90 – 100	A
240 – 269	80 – 89	B
210 – 239	70 – 79	C
180 – 209	60 – 69	D
0 – 179	0 – 59	F

Assignment 1. Presentation on the introduction to network analysis to EPID 7135.

Students are expected to work as a group to create their own PowerPoint presentation and a class plan for their presentation in EPID 7135. The materials will be the same as what will be taught in Week 1 of this course. Students will presented a simple version of our course materials to the MPH student audience. Each student will take turns to present some parts of the presentation. The PowerPoint file and the class plan will be evaluated as a group assessment. Each student’s verbal presentations will be assessed individually.

Assignment 2. Manuscript critique.

Students are expected to each select a paper pertinent to the course materials taught in this course, and submit it to FOLIO for pre-approval by the instructor. They will submit a written critique of the manuscript and a PowerPoint presentation to FOLIO. They will verbally present their PowerPoint in class.

Assignment 3. Research project.

Students are expected to work as a group to conduct a research project. A set of data of network nature will be shared with the students. Students are expected to develop their own research question, apply network analysis to the data, interpret and present their results in the form of a draft of a research article to be submitted to a peer-reviewed journal. Students will submit their (final) draft to FOLIO at the end of the semester.

Late submission (excluding exams) Reduction of 5% for every 24 hours. For example, for an assignment that is due on Wednesday at 11.59pm, if someone submits it on the coming Friday at 11.59pm, then: Adjusted Points = Points * 90%

General Expectations

1. For every one-credit hour, you should expect to work roughly two hours outside the classroom each week. For example, for a three credit hour course, during a regular fifteen week semester, you should expect approximately ninety hours of work outside of class.
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 assessments including exams.
4. Students are expected to produce quality work. Typos and grammar errors should be kept to a minimum. The format and readability of submissions will be taken into consideration when assigning a grade.
5. 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.

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 2 workdays
- Assignment grades: within one week of submission date.

Exceptions: I may 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.

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

Course Expectations

This course is an advanced doctoral epidemiology course. In this course, the instructor aims to introduce the class to network analysis and network modeling and their applications to data pertinent to sexually transmitted infections (and other relevant health issues). The instructor also

intends to bring the class up-to-speed to the latest development of the field of epidemiology of sexually transmitted infections and bloodborne infections through recommended readings.

The course is going to be information intensive. The instructor plans to adopt the **“flip-the-classroom” pedagogical design** and expects the students to **review the relevant materials ahead of the class**, so that we can discuss the materials in person, and can practice R programming in class.

If network analysis and network models are new to you, then you should expect to **spend more time** that you are expected according to the “General Expectations” aforementioned.

At the end of the day, you select this elective because you want to learn more and to be challenged intellectually. The instructor is here to do his part to facilitate your learning process and help you become competitive in the job market when you graduate from our DrPH program.

Texting and Use of Cell Phones (and Other Technologies)

Please do not text in class or use your cell phone during class! Texting during class (or in a meeting) is disruptive and rude...at least to me. My preference is that you put cell phones away during class meetings so they are not a source of temptation. Offenders will be asked to leave.

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.

It is the policy of the University to permit students, faculty, and staff to observe those holidays set aside by their chosen religious faith. The faculty should be sensitive to the observance of these holidays so that students who choose to observe these holidays are not seriously disadvantaged. It is the responsibility of those who wish to be absent to make arrangements in advance with their instructors.

Students participating in authorized activities as an official representative of the University (i.e., athletic events, delegate to regional or national meetings or conferences, participation in university-sponsored performances, and **JPHCOPH funded**) will not receive academic penalties and, in consultation with the instructor of record, will be given reasonable opportunities to complete assignments and exams or given compensatory assignment(s) if needed. The student must provide written confirmation from a faculty or staff advisor to the course instructor(s) at least 10 days prior to the date for which the student will be absent from the class. The student is responsible for all material presented in class and for all announcements and assignments. When possible, students are expected to complete these assignments before their absences. In the event of a disagreement regarding this policy, an appeal may be made by either the student or the instructor of record to the corresponding college dean. (*University Graduate Catalog*)

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 Georgia Southern University, 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 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."

Accommodations for Individuals with Disabilities

In compliance with the Americans with Disabilities Act (ADA), Georgia Southern University will honor requests for reasonable accommodations made by individuals with disabilities. Students must self disclose any disability for which an accommodation is being sought to the Student Disability Resource Center (SDRC) before academic or other accommodations can be implemented. For additional information, please call the Director of EEO and Title IX at (912) 478-5136 / TDD (912) 478-0273 or the SDRC Director at (912) 478-1566 / TDD (912) 478-0666. The TDD phone numbers are intended for individuals with hearing impairments.

University Calendar for the Semester

The University Calendar is located with the semester schedule, and can be found at: <http://em.georgiasouthern.edu/registrar/resources/calendars/>

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 to ensure better student learning. 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.

This syllabus, my lecture notes, and all materials distributed and presented during this course are protected by copyright law. You are authorized to take notes in this class but that authorization extends to only making one set of notes for your personal use and no other use. You are not authorized to sell, license, commercially publish, distribute, transmit, display, or record notes from this class unless you have my written consent to do so.

STUDENT CONDUCT CODE

The Student Conduct Code is the official University publication governing student conduct and behavior. It is the responsibility of each student to become familiar with the rules and regulations governing student life. Student conduct procedures, appeal procedures, and disciplinary sanctions are found in the Student Conduct Code at <http://students.georgiasouthern.edu/conduct>. I acknowledge that I have read and understand this statement referencing the Student Conduct Code.

ACADEMIC DISHONESTY

The University goal is to foster an intellectual atmosphere that produces educated, literate people. Because cheating and plagiarism are at odds with that goal, they shall not be tolerated in any form. Students are expected to adhere to the rules and regulations as set forth in the Student Conduct Code. Therefore, all work submitted by a student must represent that student's own ideas and effort; when the work does not, the student has engaged in academic dishonesty. Plagiarism occurs when a person passes in another person's work as his or her own, borrows directly from another person's work without proper documentation, and resubmits his or her own work that has been previously submitted without explicit approval from the instructor. For example, academic dishonesty occurs whenever a student participates in any of the following: Cheating submitting material that is not yours as part of your course performance; using information or devices that are not allowed by the faculty; obtaining and/or using unauthorized materials; fabricating information, research, and/or results; violating procedures prescribed to protect the integrity of an assignment, test, or other evaluation; collaborating with others on assignments without the faculty's consent; cooperating with and/or helping another student to cheat; demonstrating any other forms of dishonest behavior. Plagiarism directly quoting the words of others without using quotation marks or indented format to identify them; using sources of information (published or unpublished) without identifying them; paraphrasing materials or ideas without identifying the source; self-plagiarism - resubmitting work previously submitted without explicit approval from the instructor; unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic material. NOTICE: The list above is intended only to provide general guidelines for recognizing and avoiding common types of academic dishonesty. It is in no way an exhaustive or comprehensive list of all the types of academic dishonesty. For more information about academic honesty, see the Student Conduct Code at <http://students.georgiasouthern.edu/conduct>. I acknowledge that I have read and understand the Academic Dishonesty Policy.

I have read the syllabus and understand the contents and course requirements.

Student Name (print)

Student Signature

Date