University of Florida
College of Public Health & Health Professions

PHC 6000: Epidemiology Methods I
(3 credit hours)

Syllabus
Spring 2022

Delivery Format: On campus
Thursdays, 10:40 AM – 1:40 PM, HPNP G-101

Instructor Name: Kelly K. Gurka, MPH, PhD
Room Number: Clinical and Translational Research Building (CTRB), Room 4219
Phone Number: 352-273-5362
Email Address: kgurka@ufl.edu
Office Hours: Mondays, 5:00 – 6:00 PM, CTRB 4219
Tuesdays, 8:00 – 9:00 PM, Zoom
By appointment.

Teaching Assistants: Upuli Dissanayake, MS, CPH Emily Klann, MPH
upulid@ufl.edu emilyklann@ufl.edu
By appointment. By appointment.

Preferred Course Communication: E-mail is the preferred mode of communication. Use the e-mail
function in Canvas, selecting Dr. Gurka (as well as the TAs, if desired)
as the recipient(s). Include “PHC 6000:” in the subject line. Messages
sent business days prior to 4:00 PM will generally receive a response
by 09:59 PM ET that day. Otherwise, messages will generally receive
responses by 09:59 PM ET the next business day. If you do not receive
a response in these stated timeframes, re-send the message (with the
daily volume of e-mail, messages are missed occasionally). See
Communication Guidelines for more information.

At any time during the semester, corrections and/or addenda to the course syllabus are made at the
discretion of the instructor. Updated versions of the syllabus will be linked in Canvas and
communicated to students via Canvas notification, taking effect immediately. Dates for examinations
and the way in which the course grade is calculated will not change.
**PREREQUISITES**

PHC 6001 and PHC 6052, or permission from the instructor.

**PURPOSE, OUTCOMES**

**Course Overview**

This course extends the concepts covered in principles of epidemiology, conducting an in-depth examination of the theory of epidemiology and its application to epidemiologic research, including problem conceptualization, sound study design, research conduct, and interpretation of findings.

**Course Objectives**

Upon successful completion of this course, students should be able to:

1. Identify and integrate principles of causal inference into designing and interpreting studies,
2. Understand epidemiologic theory and use it to guide the application and interpretation of epidemiologic methods related to epidemiologic measures; random error and bias (including confounding), and their role in internal and external validity; and effect measure modification.
3. Select appropriate study designs to answer specific scientific questions and design sound, rigorous approaches to conducting those studies,
4. Critically appraise published research studies,
5. Integrate and interpret epidemiologic evidence resulting from multiple studies, and
6. Communicate epidemiologic methods in writing and orally.

**COURSE CULTURE**

**Inclusion**

Public health is rooted in the belief of human dignity. Diversity in background, experience, and opinion is valued and believed to provide a rich learning environment. Our goal is to promote openness and tolerance of differences in identity and culture in this course, as well as respect differing personal, spiritual, and political values. We strive to create an inclusive and welcoming classroom for students of all races, ethnicities, sexes, gender identities, sexual orientations, religions, physical ability/disability, and neuro-typical/atypical status. If you feel unwelcome in the classroom environment or are experiencing harassment, we welcome you to talk to Dr. Gurka or a TA; we also can direct you to additional resources. We welcome you sharing your preferred pronouns and/or name; we do our best to address students as they wish.

Necessarily, the content of PHC 6000 includes concepts that will relate to race, sex assigned at birth, gender identity, sexual orientation, and other characteristics related to human health. As a member of only one category of each of these characteristics, Dr. Gurka is likely to make some mistakes when talking about sex, gender identity, sexuality, race, ethnicity, and the intersections thereof, at some point in the semester. When she does, she hopes you feel empowered to provide feedback on what
did not work for you, and how she can do better – in person or on paper, identifying yourself or anonymously. It is not your job to educate her, but if you choose to, she will do her best to receive feedback with an open mind, gratitude, and as little defensiveness as possible.

Expectations

To foster a culture of inclusion, we also expect each of you to come to the course with an open, curious mind and respect for differing ideas and opinions. Everyone is expected to actively engage in the course throughout the semester, including active participation in course activities such as discussions. Your participation fosters a rich course experience for everyone, including the instructional team, and a rich course experience facilitates overall mastery of the course objectives. Specifically, students are expected to:

- Respect the ideas and opinions of peers and the instructional team,
- Adhere to ethical principles including academic integrity,
- Complete the assigned reading prior to class,
- Attend every class session in its entirety and arrive on time,
- Actively participate in class discussions and group activities, and
- Submit assignments by the due date and time.

Pandemic

Things are difficult right now in many ways. Some of you (or loved ones) may become sick or need to manage long-term effects of a SARS-CoV-2 infection; many of you moved here only a semester or so ago and may be feeling isolated given the largely virtual environment in which we find ourselves. Dr. Gurka is committed to doing her best to support each of you and hopes that you will support each other, so that we can get through this together. Talk to her if needed. You've all got this!

COURSE CONTENT

Instructional Methods

Readings. Textbook reading is assigned weekly and should be completed prior to class. Arrive in class ready to discuss and apply concepts presented in the textbook. Additional reading will include supplemental materials posted to Canvas. Students are responsible for material included in readings.

Lectures. Multiple, short lectures will be utilized during each session to complement reading assignments. These lectures will be delivered live in the classroom, and students are responsible for the material presented during course lectures.

Group Work. Small-group discussions and activities are intended to reinforce concepts introduced in the reading, providing opportunities to explore and apply methods in real-world context.

Supplemental on-line content. Additional course content, utilized throughout the semester, is posted to the course website in Canvas.
# PHC 6000: Epidemiologic Methods I

## Spring 2022

### Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th><em>Modern Epidemiology, 4th Edition</em></th>
<th>Assignments*</th>
</tr>
</thead>
<tbody>
<tr>
<td>06 January 2022</td>
<td>Course Introduction</td>
<td>Chapter 1</td>
<td></td>
</tr>
<tr>
<td>13 January 2022</td>
<td>Causal Inference</td>
<td>Chapters 2, 3</td>
<td>Baseline Assessment Due</td>
</tr>
<tr>
<td>20 January 2022</td>
<td>Causal Inference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 January 2022</td>
<td>Causal Inference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03 February 2022</td>
<td>Measures of Occurrence, Association &amp; Effect</td>
<td>Chapters 4, 5</td>
<td>Exercise 1 Due</td>
</tr>
<tr>
<td>10 February 2022</td>
<td>Measures of Occurrence, Association &amp; Effect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 February 2022</td>
<td>Measures of Occurrence, Association &amp; Effect</td>
<td></td>
<td>Exercise 2 Due</td>
</tr>
<tr>
<td></td>
<td><strong>Mid-Term Examination: 24 February 2022 @ 10:40 AM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03 March 2022</td>
<td>Cohort and Case-Control Studies</td>
<td>Chapters 6, 7, 8</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Spring Break: 05 – 12 March 2022</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 March 2022</td>
<td>Confounding and Confounders</td>
<td>Chapter 12</td>
<td></td>
</tr>
<tr>
<td>24 March 2022</td>
<td>Studies Relying on Secondary Data</td>
<td>Chapter 11</td>
<td>Exercise 3 Due</td>
</tr>
<tr>
<td>31 March 2022</td>
<td>Effect Measure Modification Measurement and Measurement Error*</td>
<td>Chapter 26, pages TBA Chapter 13 Chapter 13</td>
<td>Exercise 4 Due</td>
</tr>
<tr>
<td>07 April 2022</td>
<td>Selection Bias and Generalizability</td>
<td>Chapter 14</td>
<td></td>
</tr>
<tr>
<td>14 April 2022</td>
<td>Precision and Statistics in Epidemiologic Studies</td>
<td>Chapter 15</td>
<td>Exercise 5 Due</td>
</tr>
</tbody>
</table>

**Final Examination: 29 April 2022 @ 07:30 AM**

*Exercises will be due before 10:40 AM. The weeks during which topics are covered are subject to change. Due dates for exercises may be extended. Dates of the examinations are final and not subject to change.*
ACADEMIC REQUIREMENTS AND GRADING

Course Materials and Technology

Course materials – other than the textbook – will be provided through the course website. The course website is located in Canvas: https://ufl.instructure.com/courses/447097.

For technical support for this class, please contact the UF Help Desk at:
- Available 24 hours a day, 7 days a week
- (352) 392-HELP - select option 2
- helpdesk@ufl.edu (email)
- helpdesk.ufl.edu (website)

Additional Academic Resources
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.
- Student Complaints On-Campus: Visit the Student Honor Code and Student Conduct Code webpage for more information.

ACADEMIC REQUIREMENTS AND GRADING

Assignments

Required Course Activities – 60 total points, 10% of the course grade

There are two “quizzes” associated with the Getting Started module. The first is a tool designed to assess your baseline understanding of epidemiologic concepts (covered in Principles of Epidemiology in Public Health). The results of the assessment for the class, as a whole, are used to tailor the course content covered throughout the semester. Do not prepare for the quiz in any way; the assessment is intended to gauge current understanding. The baseline assessment is worth 40 points and assessed based on the proportion of questions completed, not accuracy of the responses.

In addition to the baseline assessment, there is a quiz regarding the mechanics of the course, based on information shared in the first course session, course website, syllabus, course schedule, and due dates document. Not only will the quiz assess your knowledge of the contents of the course syllabus and Canvas site but also afford the opportunity to take another proctored quiz through Honorlock in Canvas. You will need to take the quiz until you score 20 out of 20 points.
Attendance and Participation – 120 total point, 20% of the course grade

Attendance and active participation are required and assessed as part of the course grade.

Attendance of Sessions
2 points = Prompt arrival and full attendance of session (or pre-authorized absence)
1 point = Partial attendance of session
0 points = Absence from session
24 possible points (12 sessions)

Participation in Class Activities and Discussions
Assessed by instructional team and peer evaluation throughout semester.
96 possible points (8 possible points / session; 12 sessions)

Exercises – 240 total points (varies by exercise); 40% of the course grade

In-class, group exercises and take-home, individual exercises will be required throughout the course. The exercises are intended to be active-learning opportunities that foster engagement with the course material during which students can practice applying the principles presented in the course. Students are encouraged, and at times required, to work together on exercises, but each student’s responses must be his/her/their own work.

The exercises will vary in format throughout the semester. Formats include, but are not limited to, problem sets; diagrams; open-ended, short-answer questions; and group activities.

Examinations – 180 points (90 points each), 30% of the course grade

Two closed, book examinations will be administered in this course to assess depth of understanding of the material. The examinations will consist of quantitative problems and questions of different formats, potentially including multiple choice, short answer, and quantitative problems intended to assess depth of understanding of the material. Examinations will focus on the course content covered since the previous examination; however, due to the nature of the discipline, you will be responsible for content presented earlier in the course as well.

Grading

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Due Date</th>
<th>Points (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation &amp; Introduction</td>
<td>See Assignment Due Dates Document</td>
<td>60 (10%)</td>
</tr>
<tr>
<td>Attendance &amp; Participation</td>
<td>See Assignment Dues Dates Document</td>
<td>120 (20%)</td>
</tr>
<tr>
<td>Exercises</td>
<td>See Assignment Dues Dates Document</td>
<td>240 (40%)</td>
</tr>
<tr>
<td>Examinations</td>
<td>See Course Schedule</td>
<td>180 (30%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>
Point System Used (i.e., how course points translate into letter grades).

<table>
<thead>
<tr>
<th>Total Points Earned</th>
<th>% of Total Points Earned</th>
<th>Letter Grade</th>
<th>Grade Point Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 558</td>
<td>≥ 93%</td>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>540 – 557</td>
<td>90 – 92.99%</td>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>522 – 539</td>
<td>87 – 89.99%</td>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>498 – 521</td>
<td>83 – 86.99%</td>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>480 – 497</td>
<td>80 – 82.99%</td>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>462 – 479</td>
<td>77 – 79.99%</td>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>438 – 461</td>
<td>73 – 76.99%</td>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>420 – 437</td>
<td>70 – 72.99%</td>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>402 – 419</td>
<td>67 – 69.99%</td>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>378 – 401</td>
<td>63 – 66.99%</td>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>360 – 377</td>
<td>60 – 62.99%</td>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>&lt; 360</td>
<td>&lt; 60%</td>
<td>E</td>
<td>0.00</td>
</tr>
<tr>
<td>--</td>
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<td>WF</td>
<td>0.00</td>
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<tr>
<td>--</td>
<td>--</td>
<td>I</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Be aware that a C- is not an acceptable grade for graduate students. In addition, a grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A. For detail on the meaning of letter grades and university policies related to them, see the Registrar’s Grade Policy regulations: http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

Examination Policy

Two, in-class examinations will be administered during the course, a mid-term examination (see course schedule) and a final examination, to be administered during the University designated time for this course. During examinations, students will be allowed to have a non-programmable, scientific calculator such as the Texas Instruments TI-30X IIS, available online or in stores such as Target and Walmart for about $9. In addition, students may have blank scratch paper and a pen or pencil during examinations.

Policy Related to Make-up Examinations or Other Work

As stated above, attendance is required in the course to facilitate learning, and will be assessed. If you are withheld from campus or unable to attend class due to illness, you may have the opportunity to join the course session via zoom. To take advantage of this option, you must email Dr. Gurka – not the TAs – to request zoom access no later than 9:10 am the morning of class. If you are granted an excused absence, you will be sent a link to a zoom room. You may not share this link with anyone. You are expected to attend the entire session and fully participate in small-group activities to earn all of the available points, just as though you were present in the physical classroom.
If you are unable to attend class due to attendance of a professional conference, severe illness, or emergent event, please communicate with Dr. Gurka as soon as possible to explore options for making up points associated with attendance and small-group work.

If you have a scheduling conflict with the date of any of the course examinations, please discuss it with Dr. Gurka as soon as you are aware of the conflict. For rare and acceptable situations, arrangements may be made for an alternative time at which to take the examination. These arrangements need to be made as soon as possible in the semester but no later than two weeks prior to the scheduled examination date. Late examinations will only be permitted at the discretion of the instructor (advanced notice in writing required and per applicable University of Florida policies). For unforeseen and exceedingly-rare circumstances, taking a make-up examination after the scheduled examination may be permitted.

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Classroom Behavior

The classroom role of both instructors and students involves demonstrating attitudes, values, and behaviors consistent with professional standards. In the classroom, an environment conducive to learning is fostered through mutual respect among students and faculty members. Behavior that jeopardizes that environment is inconsistent with professionalism and will not be tolerated. To ensure a focused learning environment, all personal communication devices must be turned off or switched to silent mode during class. Laptops or other portable electronic devices may be used for course purposes only.

Communication Guidelines

E-mail is the preferred mode of communication. Use the e-mail function Communication: in Canvas, selecting Dr. Gurka (as well as the TAs, if desired) as the recipient(s). Include “PHC 6000:” in the subject line. Messages sent on business days prior to 4:00 PM will generally receive a response by 09:59 PM ET that day. Otherwise, messages will generally receive responses by 09:59 pm ET the next business day. If you do not receive a response, this was an oversight, and you should send the message again to the instructor (and teaching assistant(s)). In all correspondence related to this course, type “PHC 6000:” in the subject line of your message followed by a more specific subject to be discussed in the body of the e-mail message. This will assist Dr. Gurka and the teaching assistants quickly identify messages that relate to the course and facilitate timely feedback.

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:
“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

- [https://www.dso.ufl.edu/sscr/process/student-conduct-honor-code/](https://www.dso.ufl.edu/sscr/process/student-conduct-honor-code/)
- [http://gradschool.ufl.edu/students/introduction.html](http://gradschool.ufl.edu/students/introduction.html)

Remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. This includes obtaining materials from past iterations of the course.

**Online Faculty Course Evaluation Process**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at [https://gatorevals.aa.ufl.edu/students/](https://gatorevals.aa.ufl.edu/students/). Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu by clicking on GatorEvals, or via [https://ufl.bluera.com/ufl/](https://ufl.bluera.com/ufl/). Summaries of course evaluation results are available at [https://gatorevals.aa.ufl.edu/public-results/](https://gatorevals.aa.ufl.edu/public-results/).

**SUPPORT SERVICES**

**Inclusive Learning Environment**

Public health and the health professions are based on the belief in human dignity and respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious, and political values. We further believe that celebrating such diversity enriches the quality of the educational experience we provide students and enhances our personal and professional relationships. We embrace The University of Florida’s Non-Discrimination Policy, which reads, “The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is
committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.” If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please contact Dr. Gurka or refer to the Office of Multicultural & Diversity Affairs website: www.multicultural.ufl.edu.

**Accommodations for Students with Disabilities**

If you require classroom accommodation because of a disability, you must register with the Dean of Student’s Office (http://www.dso.ufl.edu), preferably within the first week of class. The Dean of Student’s Office will provide documentation of suggested accommodations for you. Please provide this letter to Dr. Gurka, as the instructor of the course, as soon as possible. Following receipt of the accommodation letter, Dr. Gurka will arrange a time during which she will meet with you to discuss the accommodations needed to overcome barriers to success in the course. Please make sure you provide this letter to Dr. Gurka as soon as possible. The College is committed to providing reasonable accommodations to assist students in their coursework.

**Counseling and Student Health**

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- **U Matter We Care.** Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team, which is staffed by Dean of Students and Counseling Center personnel, can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center.

- **The Counseling and Wellness Center** (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information (http://www.counseling.ufl.edu). On-line and in-person assistance available.

- The **Student Health Care Center** at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic (352-392-0627 or https://shcc.ufl.edu/).
Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789 or http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx).

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.