GPH-GU 2410 Global Burden of Infectious Disease

Class Schedule: Mondays, 4:55pm – 6:35pm  
Class Location: 194M (194 Mercer St.) Rm. 202  
Semester and Year: Fall 2017  
Professor: Christiana Coyle, ScD, MHS  
Office: n/a  
Email: cc5172@nyu.edu, ccoyle1@tulane.edu  
Office Hours: by appointment

COURSE DESCRIPTION:  
Infectious diseases, especially HIV, tuberculosis, malaria, and acute respiratory infections, contribute substantially to the global burden of disease. This course will focus on the biology, epidemiology and control of these and other critical infectious diseases. This is essential training for practitioners of global public health. Using the framework of the Millennium Development Goals, and their successors, the Sustainable Development Goals, the class will explore the prevalence and burden of the “big three,” along with certain neglected tropical diseases, Hepatitis viruses, and water-borne and vector-borne infectious diseases. The course will also cover successful, completed, and ongoing infectious disease eradication campaigns, and discuss why these are necessary to promote and ensure global health equity. It will conclude with a unit on public health approaches to infectious disease, touching on historic and current practices, and future projections of global infectious disease burden.

COURSE LEARNING OBJECTIVES AND RELATED SESSIONS:

<table>
<thead>
<tr>
<th>Learning Objective</th>
<th>Course Sessions</th>
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<tr>
<td>1. Describe the burden of major infectious diseases in the context of global disease control and mitigation programs</td>
<td>2 – 11</td>
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<tr>
<td>2. Develop an understanding of the factors that contribute to the perpetuation and entrenchment of neglected tropical diseases in marginalized populations</td>
<td>5 – 10</td>
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<td>3. Learn public health history of infectious disease eradication campaigns, and project potential designs and successes of future campaigns</td>
<td>10 – 12</td>
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<td>4. Contextualize the phenomena of emerging infectious diseases and subsequent outbreak response within the larger scheme of global health</td>
<td>1, 13, 14</td>
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<td>5. Describe effective infectious disease prevention interventions at the strategic, tactical, and operational levels</td>
<td>2 – 11, 14</td>
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<td>6. Effectively absorb, process, and communicate information and data from peer-reviewed publications to classmates, with original analytic input</td>
<td>3, 4, 6, 7, 9, 10</td>
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PRE-REQUISITES: GPH-GU 2106

COURSE REQUIREMENTS AND EXPECTATIONS:
1. Students are expected to attend all lectures. On-time attendance is greatly appreciated, in order to prevent disrupting the lecture and classroom activities.
2. Complete reading assignments prior to class.
3. Students will be graded based on their class participation during the lecture and discussions sessions.
4. If planning to miss a class, alert the instructor ahead of time. Make-up assignments must be completed within one week.

GRADING RUBRIC:

<table>
<thead>
<tr>
<th>Item:</th>
<th>Description</th>
<th>Percentage:</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>Class will begin with a short, closed-book quiz covering the overarching themes from assigned readings</td>
<td>50%</td>
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<tr>
<td>Class Presentation</td>
<td>Students working in small groups will make a presentation to the class on a chosen disease or topic of interest</td>
<td>20%</td>
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<tr>
<td>Executive Summary</td>
<td>Each student will write an executive summary (≤300 words) of an assigned article, focusing on material analysis and synthesis</td>
<td>20%</td>
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<tr>
<td>Class Participation</td>
<td>Students are expected to attend every class, to demonstrate knowledge of the readings, and to engage in discussion</td>
<td>10%</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100%</strong></td>
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QUIZ GUIDELINES:

- Students will take a short quiz (10 – 15 minutes) at the beginning of the first class of each topic.
- Questions are typically short-answer, but may be true/false or multiple choice as appropriate.
- Each quiz will be based on the assigned readings, as indicated on the course outline.
- All quizzes will focus on “big picture” concepts, such as risk factors, disproportionately-affected populations, underlying disease burden, and social justice.
- Quizzes will NEVER cover technical details, such as rates, statistical methods, or laboratory tests.
- The purpose of the quizzes is to demonstrate the students’ grasp of the foundations of the material, and to alert the instructor to topics that need more exploration.
- Quizzes will be graded and returned to students the following week.
PRESENTATION GUIDELINES:

- Each student will lead an in-depth discussion of one of the assigned topics, either alone or with one other student.
- Students will choose their topics during the first week of class.
- Presentations should begin with a brief overview of the disease – transmission, global distribution, clinical presentation, risk factors, and other epidemiological details which would help explain the dynamics. There will likely be some overlap between the topics in the overview and those covered by the week’s quiz.
- Some questions student should consider for examining the article and leading the presentation:
  - Is the methodology sound?
  - Are the topics relevant to public health in the US? To global health?
  - What are the authors’ goals in publication?
  - Do any of the authors have conflicting interests, and could these have affected the work?
  - Are the connections biologically plausible?
  - What are the underlying social and economic conditions that promote/inhibit the spread of the diseases?
  - What are the burdens of the diseases? Consider both conventional burdens (lives lost, DALYs lost, loss of employment or wages, cost of care, etc.) and unconventional burdens (social stigma, inhibition of personal choices, etc.)
  - Discuss the relationship of these diseases to equity, as appropriate.
  - Students who have a personal connection to or interest in the topics are invited to include these, as personal experiences and beliefs can stimulate good discussion.
- Students will be evaluated on demonstrated understanding of the article, ability to convey information to classmates, and efforts toward fostering and sustaining discussion. Students will receive detailed feedback on these points directly from the instructor.
- The purpose of the presentations is for students to practice the necessary skills of reading, analyzing, and presenting material from peer-reviewed literature.
- The presentation and discussion should last for at least 30 minutes, and longer if needed: we will always cede lecture time to an interesting class discussion.
- The grading rubric found online can act as a guide for presentation structure and content, and will also detail the point value assigned to each component.
EXECUTIVE SUMMARY GUIDELINES:

- Choose one of the three papers provided by the instructor.
- Write a concise executive summary (no more than 300 words) which communicates the most important points of the paper.
  - If appropriate, you may follow the general model of an abstract: hypothesis/problem statement, methods, results, conclusions. If this is not applicable to your chosen paper, focus instead summarizing the paper in a manner consistent with its form.
- More details on executive summaries can be found on the NYU Classes site, under Resources, under the Lectures tab, in “Executive Summary Assignment.” In addition, we will discuss the nature of executive summaries throughout the semester, and will cover examples in class.
- This assignment will take the place of the traditional final paper, and is due on the final day of class (12/12/17) before midnight.

GRADING SCALE:

<table>
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<tr>
<th>Grade</th>
<th>Minimum Score</th>
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<tr>
<td>A</td>
<td>93-100</td>
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<tr>
<td>A-</td>
<td>90-92</td>
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<tr>
<td>B+</td>
<td>87-89</td>
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<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
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<tr>
<td>C+</td>
<td>77-79</td>
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<tr>
<td>C</td>
<td>73-76</td>
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<tr>
<td>C-</td>
<td>70-72</td>
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<tr>
<td>D+</td>
<td>67-69</td>
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<tr>
<td>D</td>
<td>60-66</td>
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<tr>
<td>F</td>
<td>&lt;60</td>
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NYU CLASSES:
NYU Classes will be used extensively throughout the semester for assignments, announcements, and communication. NYU Classes is accessible through at https://globalhome.nyu.edu/group/nyu-home/academics.

TECHNOLOGY POLICY:
Laptops and electronic devices are only allowed as they pertain to the course: taking notes, reading articles, making presentations, and so on. Personal phone calls are not allowed; please step outside to make personal calls. Excessive use of personal phones, tablets, or laptops during class will result in a lowered grade for class participation.
### COURSE OUTLINE:

<table>
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<tr>
<th>Date</th>
<th>Topics</th>
<th>Readings Due</th>
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<tr>
<td></td>
<td>Critical Review of the MDGs: Successes, Challenges, Current Epidemiology and Burden of Target Diseases, and Outlook for Sustainable Development Goals (SDGs)</td>
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<td>10/2/17</td>
<td>“Other communicable diseases”: Cholera, Waterborne Disease, Acute Respiratory Infections</td>
<td>*WHO-TDR Chapter One (2012)</td>
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<td><strong>Neglected Tropical Diseases (NTDs)</strong></td>
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<td>10/16/17</td>
<td>Introduction to the NTDs; Schistosomiasis (Snail Fever)</td>
<td>*Lo (2017) *King (2009)</td>
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<td>10/30/17</td>
<td>Ilan Moss, MSc, Drugs for Neglected Diseases initiative – Onchocerciasis and Human African Trypanosomiasis (Sleeping Sickness) in DRC</td>
<td>*Dunn (2015) *Simarro (2008)</td>
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<td><strong>Infectious Disease Eradication Campaigns</strong></td>
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<td>12/4/17</td>
<td>Film: Every Last Child</td>
<td>*Bhutta (2014)</td>
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<td><strong>Public Health Approaches to Infectious Diseases</strong></td>
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<tr>
<td>12/12/17</td>
<td>The Epidemiologic Transition, BRICS and LMICS, and Future Global Burden of Infectious Disease</td>
<td>*Dye (2014)</td>
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</tbody>
</table>
Each class will begin with a short quiz covering the reading materials for that day, followed by student presentations on the readings, and finally by a lecture on the diseases and topics of interest.

READING/VIEWING LIST:


STATEMENT OF ACADEMIC INTEGRITY:
The NYU College of Global Public Health values both open inquiry and academic integrity. Students in the program are expected to follow standards of excellence set forth by New York University. Such standards include respect, honesty and responsibility. The CGPH does not tolerate violations to academic integrity including:

- Plagiarism
- Cheating on an exam
- Submitting your own work toward requirements in more than one course without prior approval from the instructor
- Collaborating with other students for work expected to be completed individually
- Giving your work to another student to submit as his/her own
- Purchasing or using papers or work online or from a commercial firm and presenting it as your own work

Students are expected to familiarize themselves with the CGPH and University’s policy on academic integrity as they will be expected to adhere to such policies at all times – as a student and an alumni of New York University.

Plagiarism

Plagiarism, whether intended or not, is not tolerated in the CGPH. Plagiarism involves presenting ideas and/or words without acknowledging the source and includes any of the following acts:

- Using a phrase, sentence, or passage from another writer’s work without using quotation marks
- Paraphrasing a passage from another writer’s work without attribution
- Presenting facts, ideas, or written text gathered or downloaded from the Internet as your own
- Submitting another student’s work with your name on it
- Submitting your own work toward requirements in more than one course without prior approval from the instructor
- Purchasing a paper or "research" from a term paper mill.

Students in the CGPH and CGPH courses are responsible for understanding what constitutes plagiarism. Students are encouraged to discuss specific questions with faculty instructors and to utilize the many resources available at New York University.

Disciplinary Sanctions

When a professor suspects cheating, plagiarism, and/or other forms of academic dishonesty, appropriate disciplinary action is as follows:

- The Professor will meet with the student to discuss, and present evidence for the particular violation, giving the student opportunity to refute or deny the charge(s).
If the Professor confirms that violation(s), he/she, in consultation with the Program Director may take any of the following actions:

- Allow the student to redo the assignment
- Lower the grade for the work in question
- Assign a grade of F for the work in question
- Assign a grade of F for the course
- Recommend dismissal

Once an action(s) is taken, the Professor will inform the Program Director and inform the student in writing, instructing the student to schedule an appointment with the Associate Dean for Academic Affairs, as a final step. The student has the right to appeal the action taken in accordance with the CGPH Student Complaint Procedure.

**STUDENTS WITH DISABILITIES:**
Students with disabilities should contact the Moses Center for Students with Disabilities regarding the resources available to them, and to determine what classroom accommodations should be made available. More information about the Moses Center can be found here. must appear on the syllabus. Information about the center can be found here: [https://www.nyu.edu/life/safety-health-wellness/students-with-disabilities.html](https://www.nyu.edu/life/safety-health-wellness/students-with-disabilities.html). Students requesting accommodation must obtain a letter from the Moses Center to provide to me as early in the semester as possible.