Course Title: Survey Research Methods in Epidemiology

Course Number: EPID 0621

Course Pre- and Co-requisite(s): Successful completion of PHCO0504 Introduction to Biostatistics and PHCO0502 Principles of Epidemiology

Course Location: Online

Course Date & Time: September 3 – December 15, 2019

Course Instructor: Marian R. Passannante, PhD, Professor Department of Biostatistics and Epidemiology marian.passannante@rutgers.edu

Office Hours: by appointment, in person and online

Course Assistant: Riddhi Babel (PhD student) rab364@sph.rutgers.edu

Course Website: canvas.rutgers.edu

Required Course Text:
Nardi, Peter M. Doing Survey Research: A Guide to Quantitative Methods, Fourth Edition, 2018 and The Sage Handbook of Survey Methodology eBook accessed freely through the George Smith Library (enter the book title in the quick search box for full access, click on the title and then choose SAGE knowledge)

NOTE: Reading/ Listening assignments include journal articles that are available online via the Smith Library, or on the course Canvas website, and YouTube videos.

Course Description: The purpose of the course is to introduce students to the basics of survey research and to provide them with the skills necessary to conduct their own survey research.

Selected Concentration Competencies Addressed:
Each Concentration identifies competencies for each degree offered. The competencies addressed in this course for the MPH Epidemiology Concentration include:

- Critique epidemiologic literature, assess its strengths and weaknesses and determine if conclusion(s) are supported.
- Formulate a specific hypothesis and determine an appropriate study design and analysis plan.
- Design, implement and assess ordinary data collection systems for public health research.
- Design and implement basic quality control methods during data entry and analysis.
- Appropriately analyze and interpret epidemiologic data, including large national and state level datasets.
- Communicate and present study findings to professional audiences.

The competencies addressed in this course for the MPH Urban Public Health Concentration include:

- Evaluate the scientific evidence related to urban public health issues.
- Apply methods to develop and assess programs and strategies that protect or endanger the health and well-being of urban populations.

Please visit the Concentration webpages on the School of Public Health’s website at sph.rutgers.edu for additional competencies addressed by this course for other degrees and concentrations.
Course Objectives: By the completion of this course, students will be able to:
- Describe the basic elements of survey research
- Describe the major modes of survey administration
- Calculate a survey response rate and describe factors that can influence survey response rates
- Conduct a critical review of the literature
- Develop survey items
- Measure validity and reliability of a survey instrument
- Pre-test and pilot test a survey instrument
- Identify an appropriate epidemiologic study design for a survey project
- Develop a sampling and analysis plan for survey project
- Describe human subjects protections in survey research
- Assess the quality of a survey manuscript
- Create a codebook/data dictionary
- Administer a simple survey
- Collect and clean survey data
- Conduct basic statistical analysis of survey data using a statistical package
- Develop charts and graphs to explicate data
- Present study results in writing and through graphical displays

Course Requirements and Grading:

• This is a fully asynchronous, online course that will be completed in 15 weeks (modules) during the fall 2019 semester. Modules will open up no later than Monday morning of that week.

• Most modules will include assigned readings and videos, a self-assessment quiz and at least one graded homework assignment and/or graded quiz. Some modules or items within modules must be completed before being able to advance to the next module, even if no points are assigned for a particular activity. Please note that there are a number of individual assignments as well as group assignments that will be completed with groups of 2 or more students. Assignment rubrics and some sample assignments will be posted on the Canvas course site in order to assist you.

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<tr>
<th>Assignment/Assessments</th>
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<th>Due Date</th>
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| Assignment I - Your Independent Survey Project Proposal | • EPID Critique epidemiologic literature, assess its strengths and weaknesses and determine if conclusion(s) are supported;  
  • EPID Formulate a specific hypothesis and determine an appropriate study design and analysis plan;  
  • URPH Evaluate the scientific evidence related to urban public health issues. | 15      | 10/6     |
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| Assignment II- Individual (hypothetical) health survey project. | 1. Revisions to Assignment I (if necessary)  
2. A clear description of your chosen:  
   - Study design  
   - Independent and dependent variables and how they will be measured;  
   - Sampling Plan and Power Calculation  
   - A brief survey instrument (5 pages maximum) that could be used to address your research question. | • EPID Design, implement and assess ordinary data collection systems for public health research;  
• URPH Apply methods to develop and assess programs and strategies that protect or endanger the health and well-being of urban populations. | 15      | 11/10    |
| Assignment III- Critiquing a Survey Article                | Read Best Practices article (#1 below) and use it to critique the paper presented below (#2 below), using Criteria 1-10 found at the end of the Best Practices article. Students will independently prepare and submit responses to all 10 criteria.  
1. JoLaine Reierson Draugalis, PhD, Stephen Joel Coons, PhD, and Cecilia M. Plaza, PharmD, PhD, Best Practices for Survey Research Reports: A Synopsis for Authors and Reviewers American Journal of Pharmaceutical Education 2008; 72 (1) Article 11  
2. Critique of a Survey Article title: Diana Paksarian, PhD, MPH, Kara E. Rudolph, PhD, MPH, MHS, Jian-Ping He, MSc, and Kathleen R. Merikangas, PhD, School Start Time and Adolescent Sleep Patterns: Results From the US National Comorbidity Survey—Adolescent Supplement, (Am J Public Health. 2015;105:1351–1357. | • EPID Critique epidemiologic literature, assess its strengths and weaknesses and determine if conclusion(s) are supported;  
• URPH Evaluate the scientific evidence related to urban public health issues. | 15      | 11/17    |
| Assignment IV- Group Survey Data Analysis                  | You will be supplied with survey data from our class group project. You will be assigned a research question that must be answered. Analyze your data and present a written description of the results along with a graphical display of your findings. Grading for this assignment: 10 points for the written presentation and 5 points for the graphical displays. | • EPID Design and implement basic quality control methods during data entry and analysis;  
• EPID Appropriately analyze and interpret epidemiologic data, including large national and state level datasets; and  
• EPID Communicate and present study findings to professional audiences | 15      | 12/15    |
Class Survey

- The class will develop a group web-based survey research project. Students are expected to fully participate in the process. This process will include reviewing the relevant literature, creating multiple drafts of the instrument (using a Wiki) and a final codebook (using a Wiki), developing an analysis plan (using a Wiki), collecting the data (via a SurveyMonkey survey), cleaning the data, conducting preliminary data analysis on the pilot data and presenting your results.

- Because the purpose of the class project is educational, it is not clear that this data collection exercise meets the technical definition of "research" in 45 CFR 46.102 (d). According to 45 CFR 46 research is defined as "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge". However, to be on the safe side the Rutgers IRB asked that I submit an IRB for this project and that we follow the criteria for exemption. Based upon the guidelines for exemption, two constraints will be followed: survey respondents will be anonymous, and the content of the survey will not address sensitive or threatening topics. We will also submit our final survey to the IRB for their review.

The course is organized in 15 Modules/Weeks. By the end of each week, you should have completed the following:

1) Reading/Viewing the assigned materials. PowerPoint slides for instructor created videos are included.

2) A self-assessment (formative assessment) quiz, if assigned. These quizzes will be automatically graded by Canvas, the learning management system. No points will be assigned to these quizzes, rather they are to help you to see how well you understand the course material.

3) Graded homework assignments and/or quizzes, if assigned for that week. You are expected to follow the honor code and complete these homework assignments and quizzes independently, unless instructions specify that you may/should work with a partner or group. These assignments are due by 11:59pm on Sunday EST during the week that it is assigned.

All assignments and quizzes will have closing dates listed in Canvas (see Syllabus tab on the left side of the Canvas course screen for a list of assignments and dates).

Communication:

Discussion Boards and E-mails
You can ask and answer questions by posting them on Canvas in the Peer to Peer Discussion Boards provided for each module or in the Questions for the Instructor about the Course or Questions for the Course Assistant about the Course in General Course Resources. Students are encouraged to get to know each other and contribute their particular strengths, expertise, and experience to enrich the class. Working with your classmates, explaining concepts to each other, and interacting with your instructor and course assistant are the most effective ways to understand the principles of survey research and succeed in this course. By posting questions on Canvas (rather than via email) the entire class has the benefit of learning from the discussions, so please consider posting as a first option.

Students may also use Rutgers or Canvas e-mail to send questions to the instructor or other students. When sending an email to the instructor or course assistant, please include “EPID 0621” in the subject line. The instructor and course assistant will make every effort to respond within 24 hours, either directly to the student or by posting to the discussion section for the entire class. Students who would like to speak to the instructor by phone, WebCT or in-person should make an appointment via e-mail at marian.passannante@rutgers.edu. Office hours may be scheduled by appointment for in-person, phone or online meetings.

Announcements
Canvas also has an announcements option, which we will use to highlight information or to send reminders. Announcements should go directly from the course Canvas site to your Rutgers e-mail, but please be sure to check the Announcements tab at least once each week.

Grading
Assignments will be graded using SpeedGrader and students will be able to view course grades by clicking on Grades on the left side of the Canvas course screen. Answers for self-assessments will be posted immediately as the students are taking these assessments, as will grades for any multiple choice graded quizzes. Correct answers for graded quizzes will be posted for a limited time on the Wednesday of the week following the quiz. For other type of assignments (e.g. Assignment I-IV), every effort will be made to grade assignments within 1 week of the assignment due date. Students can expect to receive numeric scores and instructor comments on all non-multiple choice assignments. Grades for these assignments will be released once all student assignments are graded. Late assignments will not be accepted. There will be no extra credit assignments in
this course. However, each student will receive 1 extra point if 75% or more of the class completes the anonymous end of courses evaluation. The school-wide uniform grading scale appears below:

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<th>Grading Policy</th>
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<td>90 – &lt;94</td>
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<td>87 – &lt;90</td>
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<td>84 – &lt;87</td>
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<td>77 – &lt;80</td>
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<td>70 – &lt;77</td>
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<td>&lt;70</td>
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**Course Schedule:**

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<tr>
<th>Week/Module #</th>
<th>Module Title</th>
<th>Module level learning objectives. At the end of this module students should be able to:</th>
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<th>Activities, Assignments and Quizzes (% of final grade)</th>
</tr>
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</table>
| Sept 3 Module 1 | Introduction to the Course | 1. Navigate the Canvas course site  
2. Describe the Academic Honesty Policy  
3. Create a video using Canvas | View Instructor’s Videos  
• A tour of the course site (on Canvas Home Page)  
• Welcome to the Course Video  
• Three Major Assignment Videos  
• Sample Introduction Video (see Week 1 Homework)  
Textbook: Nardi, Chapter 1: Why We Do Research, pp.1-25. | • Create your Own Introduction Video and Discussion Post on Week 1 Homework (1)  
• Honor Code Quiz (1) |
| Sept 9 Module 2 | Introduction Survey Research Terminology | 1. Describe the difference between a census and a survey  
2. Differentiate between the target population, sampling frame and sample  
3. Define basic survey terminology  
Articles:  
• Complete Week 2 Homework NY Times Survey (3)  
• Complete Week 2 Homework: Post your idea for Individual Assignment I survey |
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| Sept 16 Module 3 | Self-Administered Surveys (one to one, group administered, mail, web-based) | 1. Describe the advantages and disadvantages associated with self-administered surveys  
2. Calculate a survey response rate  
3. Describe methods to maximize the survey response rate for self-administered survey | View Module 3 Videos  
Textbook: Nardi, Chapter 4: Developing A Questionnaire, pp. 71-78.  
View 2000 US Census Form | • Participate in Voice Thread Discussion of Assigned Scenarios  
• Self-Administered Survey Quiz (formative assessment)  
• Week 3 Homework: Group Administered, Mail and Web-based Surveys Discussion (3)  
• Begin to work on your MEDLINE or SCOPUS literature search and begin to write your Literature Review.  
• Continue to search for literature on food choices for Group Survey Assignment. |
| Sept 23 Module 4 | Interview Surveys (telephone and in-person) and Mixed-Mode Survey | 1. Describe the advantages and disadvantages associated with interview surveys  
2. Write an introductory statement for a telephone or in-person interview  
3. Design an eligibility screen for an interview survey  
4. Describe methods to maximize the survey response rate for interview surveys  
5. Describe the advantages and disadvantages of Mixed Mode Surveys  
6. Describe the major forms of computer assisted interviewing technology | Review Week 3 Discussion Assignment Instructor's Suggested Answers  
View Module 4 Videos  
Textbook: SAGE Handbook of Survey Methodology Chapter 11: Survey Mode or Survey Modes? Edith de Leeuw & Nejc Berzelak  
View examples of Interview Survey NHANES 2015-2016 Screening Questionnaires and mixed mode survey NSF Survey of Earned Doctorates | • Complete PlayPosit exercise for introductory statements and eligibility screen (ungraded)  
• Interview Survey Quiz (formative assessment)  
• Week 4 Homework: Telephone, In person and Mixed Mode Surveys (3)  
• Work on Group Wiki for Class Survey  
• Continue to work or MEDLINE or SCOPUS literature search and writing Literature Review Assignment I |
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| Sept 30 Module 5 | Conducting a literature search for a literature review | 1. Develop a research question  
2. Conduct a MEDLINE or SCOPUS literature search  
3. Prepare a literature review  
4. Write and edit class survey questions | View Module 5 Videos  
Textbook: Nardi, Chapter 3: Concepts, Hypotheses and Measurement, pp.46-52 | • Submit Assignment I (15)  
• Continue to work on Group Wiki for class survey  
• Begin to work developing questions for Assignment II |
| Oct 7 Module 6 | Developing the Instrument: Asking Questions | 1. Develop valid questions | View Module 6 Videos  
Textbook: Nardi, Chapter 3: Concepts, Hypotheses and Measurement, pp.53-60  
Textbook: SAGE Handbook of Survey Methodology, Chapter 16: Designing Questions and Questionnaires, Jolene D. Smyth  
Review supplementary material from R Neff Article  
S1368980017004190sup001.docx S1368980017004190sup002.docx | • Week 6 Question Development Quiz (Formative Assessment)  
• Post questions to Class Survey Wiki (2 pts for 3 weeks)  
• Week 6 Homework: Question Topic Areas and Sources for Individual Survey Assignment II (3) |
| Oct 14 Module 7 | Developing the Instrument: Choosing Responses | 1. Provide valid response options | View Module 7 Videos  
Textbook: Nardi, Chapter 4: Developing A Questionnaire, pp. 78-102.  
Article: CDC Evaluation briefs No. 23 | updated August 2018 Likert Scale Examples for Surveys Iowa State University  
Review Likert Scale Examples for Surveys | • Week 7 Response Options Development Quiz (Formative Assessment)  
• Week 7 Homework: Questions and Responses for Individual Assignment II (3)  
• Post edits to Class Survey Wiki (graded)  
• At the end of this week I will combine all of the questions and post them by Tuesday of next week. You will have until the end of week 8 to finalize the survey. |
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<td>Nov 4 Module 10</td>
<td>Study Designs, Sampling Plan and Power Analysis</td>
<td>1. Describe the characteristics of commonly used study designs 2. Describe the most commonly used probability and non-probability sampling methods 3. Described the information needed to conduct a sample size calculation</td>
<td>View Module 10 videos Textbook Nardi, Chapter 5: Sampling, pp. 114-134. Articles: Draugalis and Plaza, Best Practices in Survey Research Reports-Revisited Price, JH, et. al Power Analysis in Survey Research: Importance and Use for Health Educators, American Jour of Health Education, July/August 2005, Vol 36, No. 4. Review Sample Assignment II</td>
<td>• Week 10: Sampling Plan, Study Design and Power Analysis Quiz (3)  • Complete Week 10 Exercise: Worked Example of a Sample Size Calculation  • Submit Assignment II (15) Note: Assignment III opens up at the beginning of this week and will remain open for 2 weeks</td>
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<td>Nov 25 Module 13</td>
<td>Creating a Codebook Collecting and Cleaning Data</td>
<td>1. Create a codebook 2. Describe how a codebook is used prior to data collection 3. Describe how a codebook is used after data collection 4. Begin to use JMP statistical package 5. Conduct data cleaning activities</td>
<td>View Module 13 Videos Textbook: Nardi, Chapter 4: Developing A Questionnaire, pp. 103-113. Review JMP tutorials <a href="#">JMP tutorials</a> (as needed) View Data Coding Rules</td>
<td>• Post to Week 13 WIKI Codebook (2)  • Week 13 Codebook Quiz (3)  • Week 13 Homework: Data Cleaning Assignment (3)</td>
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Read Information Sheet on How to Generate Cronbach's alpha in JMP  
Review View Assignment IV Guidelines |
| Dec 9 Module 15 Data Presentation 1. Communicate Study Findings in writing 2. Communicate Study Findings graphically | View Module 15 Videos  
Textbook: Nardi, Chapter 9: Presenting Results, Making Conclusions, and Writing Reports, pp. 227-246.  

**Learning Management System:** Canvas will be used extensively throughout the semester for course syllabus, assignments, announcements, communication and/or other course-related activities. It is the student’s responsibility to familiarize themselves with Canvas and check it regularly. If you have difficulties accessing Canvas, please inform the instructor and Canvas Support ([help@canvas.rutgers.edu](mailto:help@canvas.rutgers.edu)). Canvas is accessible at [canvas.rutgers.edu](http://canvas.rutgers.edu).

**School of Public Health Honor Code:** The School of Public Health Honor Code is found in the School Catalog ([sph.rutgers.edu/academics/catalog.html](http://sph.rutgers.edu/academics/catalog.html)). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the School community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.

**Students with Disabilities:** Rutgers University welcomes students with disabilities into all of the University’s educational programs. In order to receive consideration for reasonable accommodations, a student must apply for Services by first completing a Registration Form with the Rutgers Office of Disability Services (ODS) at [ods.rutgers.edu](http://ods.rutgers.edu). The student will
Commitment to Safe Learning Environment: The Rutgers School of Public Health is committed to helping create a safe learning environment for all students and for the School as a whole. Free expression in an academic community is essential to the mission of providing the highest caliber of education possible. The School encourages civil discourse, reasoned thought, sustained discussion, and constructive engagement. Provocative ideas respectfully presented are an expected result. An enlightened academic community, however, connects freedom with responsibility. The School encourages all students to disclose any situations where you may feel unsafe, discriminated against, or harassed. Harassment or discrimination of any kind will be not tolerated and violations may lead to disciplinary actions.

Reporting Discrimination or Harassment: If you experience any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking, know that help and support are available. You may report such incidents to the RBHS Title IX Office or to the School of Public Health’s Office of Student Affairs. Rutgers University has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. If you experience any other form of discrimination or harassment, including racial, ethnic, religious, political, or academic, please report any such incidents to the School’s Office of Student Affairs. The School strongly encourages all students to report any incidents of discrimination or harassment to the School. Please be aware that all Rutgers employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers as listed in Appendix A to Policy 10.3.12) are required to report information about such discrimination and harassment to the School and potentially the University. For example, if you tell a faculty or staff member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty or staff member must share that information with the RBHS Title IX Coordinator. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can find a list of resources in Appendix A to University Policy 10.3.12. For more information about your options at Rutgers, please visit Rutgers Violence Prevention and Victim Assistance.

Graduate Student Computer Policy: Students are required to possess a personal laptop, no older than approximately two years, that must meet minimum requirements which may be found online at: sph.rutgers.edu/student-life/computer-support.html

Policy Concerning Use of Recording Devices and Other Electronic Communications Systems: When personally owned communication/recording devices are used by students to record lectures and/or classroom lessons, such use must be authorized by the faculty member or instructor who must give either oral or written permission prior to the start of the semester and identify restrictions, if any, on the use of mobile communications or recording devices.

Policy Concerning Use of Turnitin: Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (directly or via learning management system, i.e. Canvas) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. Students who do not agree should contact the course instructor immediately.

Withdrawal/Refund Schedule: Students who stop attending their course(s) without submitting a completed Add/Drop Course form will receive a failing grade. Furthermore, students dropping to zero credits for the semester are considered withdrawn and must submit a completed Leave of Absence form from the School of Public Health’s Office of Student Affairs. The School of Public Health refunds tuition only. Administrative and technology fees are non-refundable. You may find the Withdrawal/Refund Schedule on the School of Public Health website at: sph.rutgers.edu/academics/academic-calendar.html

Date: September 26, 2019