Course Title: Survey Research Methods and Questionnaire Design

Course Number: EPID 0621

Course Location: SSB 744

Course Date & Time: Thursdays 6-9pm

Course Instructor: Marian R. Passannante, PhD
Professor, Department of Epidemiology
Office Address: 65 Bergen Street, SSB 743 Newark, NJ 07101
Office number: 973 972-4775
marian.passannante@rutgers.edu

Office Hours: by appointment, in person and via Adobe Connect


Additional/Supplemental Readings/Resources: Reading assignments include journal articles that are available online, via the Smith Library, or on the class Moodle 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 Department Competencies Addressed: Each Department identifies competencies for each degree offered. The competencies addressed in this course for the “legacy” MPH for the Department of Quantitative Methods: Epidemiology and Biostatistics include:

- QNME 3. Critically evaluate epidemiological data and findings
- QNME 4. Communicate results from epidemiologic studies
- QNME 5. Demonstrate proficiency in the use of a variety of software packages used in epidemiology (e.g., JMP, SAS and Epi-Info)
- QNME 8. Conceptualize public health or clinical research questions using quantitative methods

The competencies addressed in this course for the MPH for the Department of Epidemiology 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; and
- Communicate and present study findings

Please visit the Department webpages on the School of Public Health’s website at http://sph.rutgers.edu/ for additional competencies addressed by this course for other degrees and departments.
Course Objectives: By the completion of this course, students will be able to:

- 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
- Create a codebook/data dictionary
- Administer a simple survey
- Collect and clean survey data
- Conduct basic statistical analysis of survey data using the JMP statistical package
- Develop charts and graphs to explicate data
- Present results orally to an audience

Course Requirements and Grading:

<table>
<thead>
<tr>
<th>Assignment/Assessments</th>
<th>% of grade</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Assignment I - Your Independent Survey Project Proposal</td>
<td>25%</td>
<td>Oct 5</td>
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Note: All submitted word documents will be evaluated by Turnitin.com to check for “improper citation or potential plagiarism by comparing it against the world's largest academic database”.

Assignment I - Your Independent Survey Project Proposal
Each student will develop his/her own individual (hypothetical) health survey project. Think of these 2 Assignments (I and II) as the first few sections of a proposal to conduct a survey that might be submitted to a granting agency or to the IRB. You need to convince the reviewer that this is a well thought out project and that it will provide important new information that will advance the field. All information should be presented in paragraph form, as if it were part of a formal proposal.

1. Prepare and submit a word document that includes:
   a. A statement of your research question and survey objective;
   b. A description of your target population, your sample, and the proposed survey mode. Include a description of who will be included in your sample (with justification) and the proposed survey mode (provide a justification for your choice of survey mode);
   c. A critical review of the relevant literature (2-3 pages maximum), with citations (must use APA format). The literature review should include information on the content/subject area as well as a discussion of other surveys which have been conducted on this topic. You want to conduct a survey that will advance what has already been done in the field either by collecting new information or by conducting a survey in a new population.

2. You will also prepare and submit a 5-minute PowerPoint presentation that describes items 1a, b & c above. Submit Word and PowerPoint files electronically through the Moodle Class Website prior to coming to class (no later than 3pm). You will present this to the class for critique and suggestions.

Useful resources for this assignment appear on the next page.
APA format resource: http://owl.english.purdue.edu/owl/resource/560/01/

Writing a literature review resources:
Online video resources for conducting a literature review:
https://www.youtube.com/watch?v=daUL3Js rqTw
http://writingcenter.fiu.edu/resources/synthesis-matrix-2.pdf

<table>
<thead>
<tr>
<th>Assignment II - Individual (hypothetical) health survey project.</th>
<th>25%</th>
<th>Nov 2</th>
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<tbody>
<tr>
<td>Prepare and submit a word document that includes:</td>
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<tr>
<td>1. (If necessary) A revised statement of your research question and survey objective;</td>
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<td>2. (If necessary) A revised description of your target population, proposed sample and proposed survey mode, with justifications;</td>
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<td>Note: If items 1 and 2 above have not changed since the prior assignment, simply re-state the research question.</td>
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New for this assignment:
3. A clear description of your chosen:
   a. Study design
   b. Independent and dependent variables and how they will be measured;
   c. Sampling Plan - include how the sample will be selected (please refer to your textbook on sampling and we will cover this in class as well), a power calculation and a justification for your choices;
4. A brief survey instrument (5 pages maximum) that could be used to address your research question. Do your best to present a high quality final draft survey with all necessary questions, instructions and introductory letter/e-mail. The 5 page limit does not include the introductory letter/e-mail, which should include all necessary aspects of informed consent (review slide set from Weeks 2 & 3). You do not need to create follow-up letters/e-mails for this assignment. If you are using survey items from a previously developed survey, please footnote the source(s) for the question items. Note that this should be a final draft survey, not a preliminary one, so that it should look like it would to someone who is a member of the sample.

<table>
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<tr>
<th>Assignment III- Critiquing a Survey Article</th>
<th>20%</th>
<th>Nov 21</th>
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<tr>
<td>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. Both articles are available free online. Students will independently prepare and submit responses to all 10 criteria. Responses should be presented in full sentences or in paragraph form, not in bullets.</td>
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<tr>
<td>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</td>
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Assignment IV
You will be supplied with survey data from our class group project. You will be assigned a research question(s) that must be answered. Analyze data and present the results of a survey using graphics. Prepare a 10-15 minute PowerPoint presentation of the analysis for class presentation. Please also submit a word document that fully describes all elements of your analysis and results. Submit an electronic version of your PowerPoint presentation and the word document by 3pm on the day of the presentation.

When preparing your PowerPoint slides consider the following:
- Present the research question(s) being addressed
- Describe data source(s)- the names of the variables described
- Present and describe your independent and dependent variables and their measurement scales (nominal, ordinal, numeric)
- Present the data in tabular and graphic form (e.g. r x c tables and mosaic plots for proportions, summary statistics, box plots, stem and leaf diagrams or histograms) Make sure that graphics are easy to read and interpret; if possible, make them interesting as well.
- When presenting results:
  - For proportions
    - provide 95% Confidence Intervals and Interpretation of results in words
  - For significance testing
    - provide name(s) of test with justification for choice and pre-set alpha level, p value & Interpretation of results in words
- Rules of Thumb for Slide Presentation
  - Try to keep to no more that 5 lines per slide and 5 words per line
  - For a 10 minute presentation- try to keep it to 10 slides (1 per minute)

Grading for this assignment: 10% for presentation and 10% for your written document.

Class Participation
Students are expected to participate in class. If students have too many absences, this will be reflected in their class participation grade.

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<tr>
<th>Class Participation</th>
<th>10%</th>
<th>During class</th>
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<tr>
<td>Total</td>
<td>100%</td>
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Class Survey
The class will develop a group web-based survey research project. Students are expected to participate in the process fully both during and outside of class. This process will include reviewing the relevant literature, creating multiple drafts of the instrument and a final codebook, collecting the data, 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. In following 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 2017 group survey project will be to create and administer a survey of Newark Campus Rutgers School of Public Health students regarding their perception of health disparities.
- All students should begin by downloading and reviewing the following documents:
  - [https://minorityhealth.hhs.gov/assets/pdf/checked/1/HHToplines2010.pdf](https://minorityhealth.hhs.gov/assets/pdf/checked/1/HHToplines2010.pdf)
  - [http://content.healthaffairs.org/content/30/10/1860](http://content.healthaffairs.org/content/30/10/1860)

### Class Attendance
If you are unable to attend class, e-mail me to let me know BEFORE class or the MORNING AFTER class, at the latest. Even excused absences should be kept to a minimum.

### Late Assignments
Late Assignments will not be accepted, unless prior arrangements have been made with the instructor.

### Course Schedule:
Beginning on page 7, you will find a week by week schedule of the topics that will be covered in class. Please note for most weeks you will have a reading assignment (which should be completed prior to coming to class) and a homework assignment (which should be completed before the next class session). The final examination may contain information that is specifically covered in class as well as material covered in the reading and homework assignments.

Class Location SSB 744. Students will be required to bring a laptop to class on evenings where we will be using the computer. These nights are designated in the syllabus. Students will need to have the JMP program installed on their computer. You may install a 30 day free trial by going to: [http://www.jmp.com/en_us/offers/free-trial.html?gclid=COzos_uaus4CFVRahgod2CgPw](http://www.jmp.com/en_us/offers/free-trial.html?gclid=COzos_uaus4CFVRahgod2CgPw), just be sure not to do this until November 3rd. If you wish to have access to JMP on your laptop for more than 30 days, please see link below to Rutgers Software Store.

Graduate Student Computer Policy
*Described below are the minimal computing requirements for incoming students in all School of Public Health certificate and degree programs, effective Fall 2016.*

- All students are required to possess a personal laptop, no older than approximately two years, that must meet the following requirements:

  **Windows Laptops:**
  - Operating System: 64 bit version of Windows 7 SP1 *(except Starter and Home Basic Editions)*. Windows 7 is recommended as all statistical software is being verified to be compatible with Windows 10. Windows 10 is NOT supported, do NOT purchase Windows 10.
  - CPU Processor: Intel Core i5, Dual Core 2.7 GHz or better (5th or 6th Generation CPU is recommended)
RAM: 4GB or greater
Hard Drive: Minimum 128GBs, 500GBs is recommended (Traditional or Solid State are acceptable.)
Screen Resolution must be 1024x768 or higher
Integrated Webcam with Microphone
Integrated or USB Connectable CD Drive

Macintosh Laptops:
MacBook Pro recommended; MacBook Air is acceptable
Operating System: 64 bit Mac OS X 10.10 or higher (Yosemite or El Capitan)
RAM: 4GB or greater (MacBook Pro comes standard with 8 GB)
Hard Drive: Minimum 128GBs
Screen Resolution must be 1024x768 or higher
Integrated Webcam with Microphone
Integrated or USB Connectable CD Drive

Other Requirements:
Privacy: Strong login passwords; hardware encrypted USB keys and external drives
Administrator level account permissions – students should only login as the administrator when running updates to reduce risk of viruses
Automatic backup utility for all files
Note: iPads, tablets, and Netbooks, as well as virtual operating systems, do NOT satisfy the graduate student computer requirement

Software Requirements:
Microsoft Office (Word, Excel, Power Point) for Windows or Mac
VirtualBox for Mac only (This will allow you to install and run Windows 7 or Higher on a OS X Machine and run programs that work only with the Windows Operating System.)
Software: Internet connection for email and to download and upload files and software
Adobe Reader (Version 9 or 11)
Anti-Virus Software: RADS (Rutgers Antivirus Delivery Service – Symantec Endpoint Protection, free download for all Rutgers students)
Statistical Software, depending on your courses and department. (Statistical software can be purchased from the Rutgers Software Store. There is a fee for most software downloads.)
  * SAS 9.3/9.4 (SAS 9.4 is not yet compatible with Windows 10)
  * Stata 14
  * IBM SPSS 23
  * JMP 12 for SAS

Please refer to the class Moodle website weekly at https://moodle.rutgers.edu/login/index.php for important class material.
<table>
<thead>
<tr>
<th>Week #</th>
<th>Date</th>
<th>Topic/Assignment</th>
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</table>
| Week # 1 | September 7 | **Overview of the Course** <br>**Overview of Survey Research Methods and Modes of Administration**  
**Homework Assignment:**  
- View this YouTube Video on Conducting a Literature Review:  
  https://www.youtube.com/watch?v=daUL3JsrqTw  
- Begin to think about your individual survey topic by reviewing the literature.  
- Begin to work on class survey topic by downloading and reviewing the following documents:  
  - http://content.healthaffairs.org/content/30/10/1860  
- Please add your picture to your Moodle profile. This will help me to get to know you sooner. |
| Week #2 | September 14 |  
- **Self-Administered Surveys** (group administered, computer-assisted, mail, web-based)  
- **Interview Surveys** (telephone and in-person)  
**Reading Assignments:**  
**Textbook:** Fink, Chapter 1, *Conducting Surveys: Everyone is Doing It*, pp1-28.  
(group administration) “Methodology of the Youth Risk Behavior Surveillance System”  
(mail) National Immunization Survey (provider’s survey)  
http://www.cdc.gov/vaccines/imz-managers/nis/about.html  
(telephone) About BRFSS http://www.cdc.gov/brfss/about/  
(in-person) National Health and Nutrition Examination Survey (NHANES) history  

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<tr>
<th>Week #3</th>
<th>September 21</th>
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<td>Bring laptop to class.</td>
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6-8pm **Guest Presenter:**
Roberta Bronson Fitzpatrick, Associate Director and Sarah Jewell Information & Education Librarian, George F. Smith Library of the Health Sciences, University Libraries

**Searching the Literature Session**
8-9pm Search the literature for your individual survey topic.

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<tr>
<th>Week #4</th>
<th>September 28</th>
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<tbody>
<tr>
<td><strong>Developing the Instrument: Asking Questions and Choosing Responses</strong></td>
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| **In class activity:**
| Break up into groups. Review, edit and add to the NORK survey. Send edits to Instructor by October 4th. Instructor will create Draft 1 Survey |

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<th>Week #5</th>
<th>October 5</th>
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<tr>
<td><strong>Assignment I Due today- Class Presentations</strong></td>
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<tr>
<td>Note: All students are expected to attend this session and critique the proposals. Active participation in this session is expected and will be part of the class participation grade.</td>
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| **In class activity:**
| Break up into groups. Review, edit and add to the Draft 1 Survey. Send edits to Instructor by October 11. Instructor will create Draft 2 survey |

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<tr>
<th>Week #6</th>
<th>October 12</th>
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<tbody>
<tr>
<td><strong>Developing the Instrument: Validity and Reliability</strong></td>
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<tr>
<td><strong>Reading Assignment:</strong> Fink Text Chapter 3 and Benz Appendix: Creating an Awareness Index &amp; Survey Questionnaire</td>
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<tr>
<td><strong>In class activity:</strong> Revise Draft of Class Survey</td>
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</table>
| **Homework Assignments:**
| • Review DRAFT2 of survey
• Use assigned articles when evaluating questions
• Be sure that you have instructions and transition statements for new sections
• Prepare pre-letter and reminder letters
• If you know content experts, ask their opinion of questions
| Submit all revised survey materials by October 18. Instructor will combine to create Draft 3. |

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<tr>
<th>Week #7</th>
<th>October 19</th>
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<tr>
<td><strong>Developing the Instrument: Pre-testing and Pilot testing the questionnaire</strong></td>
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</table>
| **Reading Assignment:** “How to Conduct Effective Pretests” [http://www.fsnnetwork.org/sites/default/files/conducteffectivepretestenhv.pdf](http://www.fsnnetwork.org/sites/default/files/conducteffectivepretestenhv.pdf)
Edwin R. van Teijlingen and Vanora Hundley, *The importance of pilot studies,* [http://srusoc.surrey.ac.uk/SRU35.html](http://srusoc.surrey.ac.uk/SRU35.html)
### Week #8
October 26

**Sampling Plan, Study Design and Power Analysis**

Reading Assignment: Fink Text, Chapter 4 and Chapter 5  
*Draugalis, Coons and Plaza* Best Practices in Survey Research Reports  
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2254236/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2254236)  
*Draugalis and Plaza, Best Practices in Survey Research Reports- Revisited*  
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2828303/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2828303)

**Important Dates (Tentative Partial Study Timeline):**
- IRB will be submitted on Oct 27
- Preletter sent Nov 6
- Round 1 of class survey Nov 9
- Round 2 of class survey Nov 14
- Round 3 of class survey Nov 21
- Close data collection Nov 29
- Post codebook and study data Nov 30
- Analysis of study data Dec 1- Dec 6
- Presentation of Results: Dec 7

**Final Draft of the Class Survey completed in class today. Final survey items submitted by the end of class.**

**Homework:** Complete JMP tutorials [http://www.jmp.com/academic/learning_library.shtml](http://www.jmp.com/academic/learning_library.shtml)

### Week #9
November 2

**Assignment II due tonight before class**

**Developing a Timeline and Data Analysis Plan for our Class Project**

Reading Assignment: Developing a Quantitative Data Analysis Plan for Observational Studies  

### Week #10
November 9

**Bring laptop with JMP installed**

**In Class:**
- Creating a Codebook
- Brief Look at JMP computer program

### Week #11
November 16

**6-7:30 pm Human Subject Research**

**Guest Presenter:**
Carlotta M. Rodriguez, MS, CIP, CHRC, Director, IRB  
Rutgers Health Sciences Campus at Newark  
Office of Research & Economic Development  
Office of Research Regulatory Affairs

**Reading Assignment:**  

**7:30-9pm Finalizing Data Analysis Plan**

### Week #12
Tuesday
November 21

**Bring laptop with JMP installed**

**Assignment III Due Tonight before Class**

**Data Cleaning and Data Analysis I**

**Cleaning and Analyzing Quantitative Survey Data**

**Reading Assignment:** Fink Text Chapter 6
Week #13
November 30
Bring laptop to class with JMP installed

Data Analysis II
Cleaning and Analyzing Quantitative Survey Data
Class project data and codebook available on Dec 1 on Moodle site.
Reading Assignment: Fink Text Chapter 7

Week#14 Dec 7
Presenting Quantitative Survey Data-Assignment IV due today

School of Public Health Honor Code: The School of Public Health Honor Code is found in the student bulletin (sph.rutgers.edu/academics/catalog/index.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 rather than another’s 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.

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.

Some Important Days to Remember:

<table>
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<tr>
<th>September 18, 2017</th>
<th>Last day to add a course to existing schedule. Last day to drop course w/o &quot;W&quot; grade if not withdrawing in full.</th>
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<tbody>
<tr>
<td>October 16, 2017</td>
<td>Last Day to withdraw from a course with a “W”</td>
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Note: It is SPH policy that students who stop attending their courses without processing a withdrawal and a drop form will receive a failing grade.

Date: Updated October 20, 2017