

## Course Syllabus – TRBIO 501

### Course Information

Course Number: TRBIO 501 WI23

Course Name: Social and Behavioral Science Principles for Biomedical Research

Term: Winter 2023

Start Date: 01/04/2023

End Date: 03/24/2023

Credits: 3.0

### Meeting Days /Times

Mondays and Wednesdays, 11:00am-12:30pm PT / 2:00-3:30pm ET

(See Calendar in Canvas for the most up-to-date schedule.)

### Location

CA: Seminar Room (Hazen Theory Building)

FL: C212

#### \*\*Holidays and Schedule Changes\*\*

New Year's Day day off Monday, 01/02 -> Friday, 01/06 at 1:00pm-2:30pm PT/4:00pm-5:30pm ET

MLK Jr Day Monday, 01/16 -> Friday, 01/20 at 1:00pm-2:30pm PT/4:00pm-5:30pm ET

President's Day Monday, 02/20 -> Friday, 02/24 at 1:00pm-2:30pm PT/4:00pm-5:30pm ET

### Course Managers

Role	Last Name	First Name	Email Address
Course Director	San Diego	Emily	<a href="mailto:esandiego@scripps.edu">esandiego@scripps.edu</a>
TA	Colom-Lapetina	Jose	<a href="mailto:jcolom-lapetina@scripps.edu">jcolom-lapetina@scripps.edu</a>
TA	Shankar	Kokila	<a href="mailto:kokila@scripps.edu">kokila@scripps.edu</a>

### Course Description

Science is becoming more interdisciplinary, requiring researchers to collaborate with others from different disciplines. This course on social and behavioral sciences complements the biomedical courses offered at Scripps Research and is designed to help students develop and enhance their skills when working with key stakeholders (e.g., clinicians, community members, funders, etc.) and their ability to design more competitive grant proposals, especially for interdisciplinary work. This introductory course will provide a basic understanding of the larger

context around topics, including a general knowledge of major public health issues, health disparities, social determinants of health, and theories and research methodologies in social and behavioral sciences. Overall, the skills offered in this class will help prepare students to become more well-rounded and competitive researchers.

### **Program Learning Outcomes**

By the end of the program, students will have accomplished these objectives:

PLO1: Original Research – graduate students are expected to develop the skills critical for generating high-quality research output. This would include absorbing, recalling, and contextualizing scientific knowledge, evaluating scientific information and data, creating testable hypotheses and investigating hypotheses, mastering scientific tools and techniques, displaying ethical behavior, and receiving and giving feedback.

PLO2: Communication – graduate students are expected to demonstrate the oral, written, and media skills to effectively communicate the impact of a study or a body of work to the greater scientific community and to the public at large using a number of methods.

PLO3: Critical Thinking – graduate students are expected to develop a self-directed process to analyze information, form opinions or judgments, and use this process to improve the quality of their scientific thoughts, navigate problems, and make informed decisions.

PLO4: Intellectual Curiosity – graduate students are expected to acquire the capacity to build their intellectual curiosity and demonstrate problem solving approaches that serve their professional growth and ability to impact a field.

PLO5: Career and Professional Development – graduate students are expected to develop a variety of transferable skillsets throughout their graduate experience, including management and leadership, inclusiveness, resilience, scientific rigor, collaboration, accountability, time management, teamwork, networking, and career planning.

### **Course Learning Outcomes**

Upon completion of this course students will be able to:

CLO1: Define and describe a public health issue, including its prevalence or incidence, populations most affected, and major outcomes associated with it.

CLO2: Identify behavioral risk factors and social/environmental determinants related to the identified public health issue.

CLO3: Describe an intervention program to address the identified public health issue at multiple levels of influence (i.e., individual, interpersonal, and community).

CLO4: Demonstrate understanding and ability to apply ethical standards in social and behavioral science-related research.

CLO5: Use a qualitative data collection and analysis methodology to explain a public health issue and community impact.

CLO6: Demonstrate understanding of the literature related to social and behavioral science theories and its application to a public health topic and community as well as other public health issues and communities.

## **Background Preparation (Prerequisites)**

None. This course is intended to be an introductory course on the social and behavioral sciences for biomedical researchers and clinicians

## **Course Materials**

Required reading: Peer-reviewed journal articles, policy briefs, text chapters, and/or reports will be provided by the instructor. All required and optional readings are listed in the Modules on Canvas. Additional readings may be assigned at the discretion of the course director and/or guest speakers as the term progresses.

Useful to consult: McKenzie, J.F., Pinger, R.R. & Seabert, D. (2016). An introduction to community and public health. ISBN: 978-1284108415.

## **Class Format**

This course is offered in a traditional classroom setting. Most class sessions will involve a lecture on the topic listed, with explicit opportunities for class discussion. Please remember to turn off cellphones during class and avoid bringing food that may be disruptive.

## **Personal Conduct**

As a community of scholars, it is expected that the course director and students will work together at all times to create an atmosphere that fosters shared discovery and mutual respect. Students are expected to handle feedback from the course director and other classmates in a constructive manner. Students are expected to complete all assigned readings and writing assignments, and to participate in class discussions. Comments in class discussions that are insensitive or irrelevant to the weekly topics are considered disruptive and disrespectful to the course director and other students and are not acceptable.

## **Class Attendance and Participation (10% of your grade)**

Attendance and participation are critical parts of the learning process in this course. As such, students are expected to be present for all classes, arrive on time, stay for the entire class session, and participate actively. All students are expected to share their insights on the readings and projects on which they are working on. Students are encouraged to discuss the relevant issues they find challenging or interesting while reading or exploring materials for this course. Students should be prepared to synthesize and analyze concepts from the readings during class discussions.

Active engagement during class will be monitored by the course director. Students who engage in discussion and in-class exercises will be given full points. Each class where students do not attend, do not engage, or are not able to engage due to lack of preparation for the class will be awarded 0 points for their participation score.

## **Make-Up and Absentee Policy**

Students missing class are responsible for the content presented and are not excused from assignment due dates. You may be asked to make up for the missed class in the form of written critical commentaries on the readings, additional assignments, or tests. Please let the course director know in advance if you will be absent on a given class day.

## **Electronic Communication and Resources**

The best way to reach the course director is via email ([esandiego@scripps.edu](mailto:esandiego@scripps.edu)). When doing so, please provide specific information in the subject line and text. Please allow 24 hours to receive a response. In the event that you do not, please resend the email. If you have questions, comments, or concerns about the course, please email the course director (Dr. San Diego).

Importantly, announcements, readings, assignments, and other class information may be emailed to the class by the course instructor. Official correspondences should be sent using the Scripps Research email address (@scripps.edu). It is the student's responsibility to check his or her Scripps Research email account daily as information related to the class will be disseminated through this channel. Materials also will be uploaded to Canvas

## **Three Exams (25% of your grade)**

All exams are take-home and will be administered through Canvas. The format of these exams will be a combination of multiple-choice, short-answer, and essay questions, and will cover material from lectures, class discussions, and assigned readings. The exams are designed to assess students' knowledge of key concepts from the course and to assess students' ability to apply course concepts to realistic public health scenarios. While entirely open book, all students should take the exam on their own and contact only the course director for any questions or assistance.

Exam 1 will be released on Friday, 01/20 at 12:30 pm PT/3:30 pm ET. Students may take the exam and upload to Canvas by 2:30 pm/5:30 pm ET.

Exam 2 will be released on Friday, 02/24 at 12:30 pm PT/3:30 pm ET. Students may take the exam and upload to Canvas by 2:30 pm/5:30 pm ET.

Exam 3 will be released on Wednesday, 3/15 at 10:30 am PT/1:30 pm ET. Students may take the exam and upload to Canvas by 12:30 pm PT/3:30 pm ET

**CITI Training (5% of your grade)** (CITI Certificate due Monday, 1/30 no later than 11:59 pm PT on Canvas)

Each student must complete training in research with human subjects through CITI as part of demonstrating your understanding and ability to apply ethical standards in social and behavioral science research. Documentation of the completion of the CITI training is required. You must upload your completion certificate to Canvas by Monday, 1/30 no later

than 11:59 pm PT to receive credit. Directions for completing your CITI training can be found under "01.30.23 Ethics in Social and Behavioral Sciences Research" in the Modules on Canvas.

### **Photovoice and Theory Presentation (10% of your grade)**

During Week 3, an overview of SBS theories as well as the use of the qualitative data collection and analysis methodology known as Photovoice will be given. Groups of 2-3 students will select a SBS theory of interest and create a presentation, which includes three parts:

1. Public Health Topic and Community Impact: 1-2 photos that capture an aspect of your group's public health topic and the community it impacts. Use the SHOWed method to analyze the qualitative data (i.e., pictures) and explain the concern and community impact.
2. Theory Description: Each theory has slide templates (Week 6). Answer the questions on slide 1. Use pictures with rich descriptions to provide examples of the theory constructs and how they relate to your public health topic. (See slide templates/overview of theories slides for important theory constructs.)
3. Literature: Provide the class with an understanding of what the literature says about your group's theory and its application to your public health topic and community as well as other public health issues and communities. (Selected readings for each theory are posted under Week 4)

In class on Week 4, students will provide a 20-min group presentation. The course director must have access to your slides in case of any technical difficulties on the day of your presentation. Thus, presentation slides should be uploaded to Canvas by 11:00 am PT/2:00 pm ET on the day of your presentation.

### ***How is the Photovoice and Theory Presentation graded?***

Points will be earned based on the overall group presentation, each student's role in the presentation, and ability of the group to adequately describe their assigned theory, its constructs, and application. The course director and each class member (not presenting) will use the Photovoice and Theory Grading Rubric below to evaluate each group's ability to demonstrate their understanding of the public health topic, use of the SHOWed Method, theory concepts and application. In addition, each group member will use the Peer Evaluation Rubric to assess your peers' participation and contributions, and to provide feedback to each other on their work. Grades will be averaged to provide each student a grade for this assignment.

### **Public Health Intervention and Evaluation**

At the beginning of the semester, groups of 2-3 students will select a public health topic and community of interest. Each group will select a public health topic and community of interest. The following project pieces will be conducted with this group and your selected public health topic and community in mind.

## Part 1: Short Papers (10% of your grade)

In preparation for your final paper, three writing assignments will be due throughout the semester to stimulate regular writing and promote accountability. Each paper should be no more than two pages in length (double spaced, Times New Roman, 12-point font, 1-inch margins) excluding references.

The topics of these papers are:

### Short Paper 1: Background (Due Wednesday, 01/11 no later than 11:59 pm PT on Canvas)

- List and describe major causes and trends of morbidity and mortality in the US or other community relevant to your selected health topic.
- Present racial/ethnic and/or socioeconomic disparity data of the selected health topic.
- Describe the population of interest (e.g., age range, geography, urbanicity).
- Provide supporting evidence from reputable sources (i.e., peer-reviewed manuscripts; CDC, BRFSS, NIH databases) explaining the importance of morbidity and mortality data in advancing public health knowledge for the selected health topic. **Use correct in-text and reference list documentation.**
- **Writing Plan:** Attach to this draft a plan for which group members will do what on each paper. This will indicate how each member of the group will contribute equally to each writing assignment and to the final paper as a whole.

### Short Paper 2: Risk Factors & Theory (Due Monday, 01/30 no later than 11:59 pm PT on Canvas)

- Identify behavioral risk factors and social/environmental determinants related to the selected health topic.
- Discuss the main modifiable behavioral risk factors associated with the selected health topic. Cite literature on the feasibility of changing modifiable risk factors using evidence-based public health programs/interventions.
- Discuss how a specific health behavior theory (or theories) might be applied in an intervention/program to prevent or treat selected health topic by addressing behavioral and social factors. Cite examples from the literature of your selected SBS theory (or theories) applied to advance public health knowledge.
- All citations must be from reputable sources (i.e., peer-reviewed manuscripts; CDC, BRFSS, NIH databases) and **you must use correct in-text and reference list documentation.**
- **Writing Plan:** Include each group member's name and how they contributed to the assignment.

**Short Paper 3: Intervention/Program & Evaluation (Due Wednesday, 03/01 no later than 11:59 pm PT on Canvas)**

- Describe an intervention/program you would develop to adequately address the topic at multiple levels of influence (i.e., individual, interpersonal, and community) and the modifiable risk factors described in paper Part 2.
- Align intervention/program goals and objectives with the modifiable risk factors and theory constructs you describe in paper Part 2.
- Select methods to evaluate the public health intervention/program selected. Select appropriate quantitative and qualitative data collection methods to evaluate the public health intervention/program selected.
- Align your evaluation outcomes with the intervention/program goals and objectives you have selected.
- Propose a detailed budget and provide a budget justification that explains the basic principles and tools of budget and resource management needed to carry-out the project. (1-2 pages for the budget and justification is allowable above the 2-page limit)
- Cite evidence from public health literature explaining the importance of evaluation and data collection methods in advancing public health knowledge for your health topic. All citations must be from reputable sources (i.e., peer-reviewed manuscripts; CDC, BRFSS, NIH databases) and **you must use correct in-text and reference list documentation.**
- **Writing Plan:** Include each group member's name and how they contributed to the assignment.

**References:** Given the importance of using evidence to advance public health knowledge, the Final Paper must cite at least 15 peer-reviewed journal articles, in addition to other sources such as books and websites (government or professional organizations only)

**Part 2: Final Paper (30% of your grade) (Due Monday, 03/20 no later than 11:59 pm PT on Canvas)**

The Final Paper will consist of each group's three writing assignments combined into a cohesive paper presenting your group's public health topic, a proposed public health intervention/program, an evaluation plan, and a budget. This paper should reflect your critical thinking about major issues in the application of social and behavioral sciences to public health. The Final Paper also must include revision of writing assignments based on feedback from the instructor as well as the Writing Center (see below). The following sections must be included, and section headers used in the Final Paper (See Part 1: Writing Assignments (Paper in Three Parts) above for what should be included in each section

1) Background

2) Risk Factors

3) Theory

4) Intervention (or Program)

5) Evaluation

6) Budget and Justification

7) References

### **Page Limits and Formatting**

- The final paper should be 6 to 8 pages, double-spaced, formatted in 12 point, Times New Roman font with one-inch margins. The 6- to 8-page requirement does not include graphs or illustrations (optional), a Cover Page, Budget and Justification section, or Reference section.
- Include your group members' names and their actual contributions to the paper on a Cover Page.
- Include page numbers on each page except for the cover page.
- All content should follow the citation format and scientific writing style as exemplified in the publication manual of the American Psychological Association, 6th Edition (APA style) or American Medical Association (AMA). See below for guidelines and instructions on APA and AMA writing styles
  - APA style  
[https://owl.purdue.edu/owl/research\\_and\\_citation/apa\\_style/apa\\_style\\_introduction.html](https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html)
  - AMA style  
[https://owl.purdue.edu/owl/research\\_and\\_citation/ama\\_style/index.html](https://owl.purdue.edu/owl/research_and_citation/ama_style/index.html)
- Given the importance of using evidence to advance public health knowledge, at least 15 peer-reviewed journal articles, in addition to other sources such as books and websites (government or professional organizations only), must be incorporated.
- **Be diligent about not plagiarizing the work of others. Plagiarism is a serious academic misconduct and will be treated as such.** Papers will be submitted to "turnitin.com" or a similar resource to verify the originality of content. Refer to the Academic Content section below for specific guidelines.
- As a professional document, your paper should be free of spelling and grammar errors.

### **Part 3: Presentation (10% of your grade)**

Each group will provide a PowerPoint presentation of their Final Paper. Students must plan on at least 15 minutes of presenting and are expected to generate/facilitate a class discussion for an additional 5 minutes. The course director must have access to your slides in case of any technical difficulties on the day of your presentation. Thus, presentation slides should be uploaded to Canvas by 11:00 am PT/2:00 pm ET on the day of your presentation.



## **Late Assignments**

Any assignment turned in after the due date and time will be downgraded 10% for the first 24 hours, then 5% for each subsequent day. Late assignments will not be accepted after 5 days (including weekends and holidays). Assignment deadlines should be reviewed, and any concerns discussed with the instructors during the first week of class. Anticipate technological problems such as slow or malfunctioning e-mail servers/websites and do not wait until the last minute to submit your papers and projects.

## **Attendance Statement**

Attendance to all lectures is mandatory. The progression of lectures requires consistent attendance, as the course is designed to build on fundamental principles taught in previous lectures. Students are responsible for their own work and must have permission from the instructor if they must miss a class.

## **Scientific and Professional Ethics**

The work you do in this course must be your own. Feel free to build on, react to, criticize, and analyze the ideas of others but, when you do, make it known whose ideas you are working with. You must explicitly acknowledge when your work builds on someone else's ideas, including ideas of classmates, professors, and authors you read. If you ever have questions about drawing the line between others' work and your own, ask the course professor who will give you clear guidance. Exams must be completed independently. Any collaboration on answers to exams, unless expressly permitted, may result in an automatic failing grade and possible expulsion from the Graduate Program.

## **Technology Requirements and Support**

For issues related to Canvas, please contact the Graduate Office by email at: [gradprgm@scripps.edu](mailto:gradprgm@scripps.edu) or by phone at: 858-784-8469.

## **Course Grading**

Grading is in accordance with the academic policies of the Skaggs Graduate School. The breakdown of grading is as follows:

- Class Attendance and Participation 10%
- Three Exams 25%
- Theory Presentation 10%
- CITI Training 5%
- Short Paper Assignments ( $n=3$ ) 10%
- Final Paper 30%
- Final Presentation 10%

<b>Letter Grade</b>	<b>Percent (%)</b>	<b>GPA</b>	<b>Description</b>
A	93 - 100	4.00	Outstanding achievement. Student performance demonstrates full command of the course subject matter and evinces a high level of originality and/or creativity that far surpasses course expectations.
A-	90 - 92	3.67	Excellent achievement. Student performance demonstrates thorough knowledge of the course subject matter and exceeds course expectations by completing all requirements in a superior manner.
B+	87 - 89	3.33	Very good work. Student performance demonstrates above-average comprehension of the course subject matter and exceeds course expectations on all tasks as defined in the course syllabus. There is notable insight and originality.
B	83 - 86	3.00	Satisfactory work. Student performance meets designated course expectations and demonstrates understanding of the course subject matter at an acceptable level.
B-	80 - 82	2.67	Marginal work. Student performance demonstrates incomplete understanding of course subject matter. There is limited perception and originality.
C+	77 - 79	2.33	Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course subject matter. There is severely limited or no perception or originality. Course will not count toward degree.
C	73 - 76	2.00	Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course subject matter. There is severely limited or no perception or originality. Course will not count toward degree.
P	73 - 100	0.00	Satisfactory work. Student performance demonstrated complete and adequate understanding of course subject matter. Course will count toward degree.
F	0 - 72	0.00	Unacceptable work/Failure. Student performance is unacceptably low level of knowledge and understanding of course subject matter. Course will not count toward degree. Student may continue in program only with permission of the Dean

I 0.00 Incomplete is assigned when work is of passing quality but is incomplete for a pre-approved reason. Once an incomplete grade is assigned, it remains on student's permanent record until a grade is awarded.

W 0.00 Withdrew from the course with Dean's permission beyond the second week of the term.

- All courses will be recorded and maintained in the student's permanent academic record; only courses that apply towards the degree will appear on the academic transcript. Non-credit or audited courses will not appear on the transcript.
- 4 core courses taken for a letter grade (pass = B- or higher for a core course)
- 2 elective courses taken pass/fail (pass = A, B, C for an elective)

### Course Summary

Date	Details
Mon Jan 2, 2023	No Class (New Year's Day day off)
Wed Jan 4, 2023	Introduction and Course Overview
Fri Jan 6, 2023	Public Health Principles
Mon Jan 9, 2023	Behavioral Risk Factor
Wed Jan 11, 2023	Health Disparities and Social Determinants of Health
	DUE Short Paper 1: Background
Mon Jan 16, 2023	No Class (Martin Luther King Jr. Day)
Wed Jan 18, 2023	Social and Behavioral Theories in Public Health: An Overview
Fri Jan 20, 2023	DUE Exam 1
Mon Jan 23, 2023	DUE Photovoice and Theory Presentation for Presenters
Wed Jan 25, 2023	DUE Photovoice and Theory Presentation for Presenters
Mon Jan 30, 2023	Ethics in Social and Behavioral Science Research
	DUE CITI Certificate
	DUE Short Paper 2: Risk Factors & Theory
Wed Feb 1, 2023	Introduction to Survey Research
Mon Feb 6, 2023	Observational Research Design
Wed Feb 8, 2023	Experimental Research Design
Mon Feb 13, 2023	Principles of Sampling
Wed Feb 15, 2023	Measurements in Social and Behavioral Science Research
Mon Feb 20, 2023	No Class (Presidents' Day)
Wed Feb 22, 2023	Statistical Considerations in Study Design
Fri Feb 24, 2023	DUE Exam 2
Mon Feb 27, 2023	Community-Based Participatory Research and Other Community Approaches to Health Promotion
Wed Mar 1, 2023	Planning Health Promotion and Disease Prevention Programs

<b>Mon Mar 6, 2023</b>	<b>Evaluation Programs</b>
	<b>DUE Short Paper 3: Intervention/Program &amp; Evaluation</b>
<b>Wed Mar 8, 2023</b>	<b>Dissemination and Implementation</b>
<b>Mon Mar 13, 2023</b>	<b>DUE Final Presentation for Presenters</b>
<b>Wed Mar 15, 2023</b>	<b>DUE Final Presentation for Presenters</b>
<b>Mon Mar 20, 2023</b>	<b>Review day (No in class meeting)</b>
	<b>DUE Final Paper</b>
<b>Wed Mar 22, 2023</b>	<b>DUE Exam 3</b>