

STS 205: Intro to Research Methods – Honors



Tuesday/Thursday 8:30-9:50
Class Location: CKB 341

Facilitator: Dr. Theresa Hunt

Email: thunt@njit.edu

Office: 115 Cullimore Hall

Office Hours: by appointment

Prerequisites: HUM 101 and 102 or equivalent

Faculty Mentors:

[Dr. Jay Meegoda, Civil and Environmental Engineering](#)

[Dr. Margarita Vinnikov, Informatics](#)

[Dr. Shahriar Afkhami, Math and Data Science](#)

[Dr. Julia Hyland-Bruno, Cyberpsychology](#)

[Dr. Eugene Snyder, HCI and Cyberpsychology](#)

[Dr. Yao Sun, Cyberpsychology](#)

[Dr. Burcak Ozludil, Architecture and Digital Humanities](#)

Course Description:

This course is intended to give first and second year undergraduate honors students an understanding of what research is, what it is used for, how it is conducted, and how it is reported. It provides an overview of applying the scientific method to real-life research, including ethical concerns, qualitative and quantitative methods (and how and when they should be used), and how to critically evaluate published research findings. Students work with faculty mentors on research projects, while writing proposals for the support of future research.

Learning Objectives:

By the end of this course students will be able to:

- Identify a research problem
- Identify and mitigate ethical issues associated with a research project
- Conduct a thorough literature review and critique published research
- Develop research questions and hypotheses
- Determine which type of data is most appropriate to answer the research questions
- Assess multiple formats for organizing, developing, and presenting research
- Develop a research network and understand how to communicate with faculty, graduate students, peers, etc. about research

Required Readings:

Excerpts from the following text, as well as several other articles and book chapters available on Canvas, will be assigned periodically throughout the class:

[Dixon, Jeffrey, Singleton, Royce, and Straits, Bruce \(2019\). *The Process of Social Research*. New York: Oxford UP. ISBN 9780190876654](#)

Course Requirements:

Research Project: 50%

- Peer Review Activities 5%
- Presentation 15%
- Final Draft (Poster OR Proposal) 25%
- CITI Responsible Conduct in Research Cert 5%

Lab Practicum Faculty Mentor Evaluation: 20%

Writing Assignments: 20%

- Citation Chaining: 10%
- Research Sketch: 10%

Classwork and Attendance: 10%

Late Paper Submissions: Papers and other tasks will lose one grade for every day late (A to A-, A- to B+). Assignments will not be accepted more than 1 week late.

Paper Formatting: All papers should be typed, double-spaced, 12 pt standard font (Times, Helvetica, Arial, etc), 1" margins. For digital submission, only the following file types are accepted: pdf, doc, docx.

Grading Scale (for assignments only, course grades will not include: A+, A-, B-, C-, D+):

96-100:A+; 93-95: A; 89-92: A-; 86-88:B+; 83-85:B; 79-82:B-; 76-78:C+; 73-75:C; 69-72:C-
66-68:D+; 60-65:D; 0-60: F

Academic Integrity:

Students are expected to follow the University Code on Academic Integrity. Plagiarism will not be tolerated. All cases of suspected plagiarism/cheating will be reported for investigation. For details, see: <http://www.njit.edu/academics/integrity.php>

Technology Rules and Participation Expectations:

Students may use technology (ie laptops, tablets, phones) in this course for class-related activities only. Texting, playing games, etc. interrupts the flow of discussion, distracts other students, and will inevitably embarrass you when I have to call you out. During our conversations in class, students are expected to be **actively engaged**, and various methods will be employed to assess engagement during the class period.

Students with Learning Differences:

Students who have disabilities or special needs should contact NJIT's Student Disability Services to help procure accommodations in completing coursework. The center can be found at <http://www.njit.edu/counseling/services/disabilities.php>.

Class Schedule **subject to change if needed**

- **BOLD** days in the schedule indicate in-person class meetings
- Weeks with ** in the schedule are spent conducting research with your faculty mentor, and no T/TH in-person class meeting is required
- **RED** notifications below indicate an assignment is due

Week 1: Introduction – MEET IN CLASSROOM

1/16: Course Intro & Overview (Weather Cancellation)

1/18– Introduction to Research and Class Procedures; **Classwork Assignment #1: Semester Goals**; Small Group Session 1

Week 2: Research Foundations – MEET IN CLASSROOM

1/23 – Small Group Session 2

1/25 – Literature Reviews and the Scientific Method

Required Reading: Pautasso, “[Ten Simple Rules for Writing a Literature Review](#)”; **Classwork Assignment #2: Methods in My Field**

Week 3: Mentor Guest Lectures – MEET IN CLASSROOM

1/30 – Guest Lecture: Dr. Hyland-Bruno and Dr. Vinnikov

2/1 – Guest Lecture: Dr. Snyder

CITI Certifications Due by 5 PM on Friday, 2/3

Week 4: Mentor Guest Lectures – MEET IN CLASSROOM

2/6 – Guest Lecture: Dr. Ozludil

2/8 – Guest Lecture: Dr. Afkhami and Dr. Meegoda

Classwork Assignment #3: Mentor Survey & Interest Letter due by Friday, 2/9

Week 5: Ethics & Building a Research Network– MEET IN CLASSROOM

2/13 – Preparing for Practicum & On-Campus URI Opportunities

Required Reading: [Barwich, “The Value of Failure in Science”](#); [Eise, “What Institutions Can Do To Improve Science Communication”](#) ; Choose a project of interest from the [2023 URI Symposium Book of Abstracts](#) & be ready to summarize it during class!

2/15 – Class Activity TBA; **Citation Chaining Assignment Due by 5 PM on Friday, 2/16**

****Week 6****: Lab Practicum

****Week 7****: Lab Practicum

****Week 8****: Lab Practicum

Week 9: SPRING BREAK

****Week 10****: Lab Practicum

Week 11: OPTIONAL Research Proposal Workshop

3/26 – Writing a Research Proposal

Required Reading:

- [Sample Research Proposal 1 \(with comments\)](#)
- ["Organizing Your Social Sciences Research Paper: Writing a Research Proposal."](#) University of Southern California Libraries, Jan. 15, 2019.
- [“How To Prepare a Research Proposal.”](#) Al-Riyami, *Oman Medical Journal* 2008 PMID: [22379539](#).

****3/28: Practicum****

Week 12: OPTIONAL Poster Workshop

****4/2: Practicum****

4/4 – Preparing a Conference Poster

Required Reading: [“Preparing and Presenting Effective Research Posters.”](#) Miller, *Health Services Research* 2007.

Week 13: OPTIONAL Poster Workshop

4/9 – Lab Practicum; **OPTIONAL Presentation or Proposal Review (meet in classroom)**

4/11 - Lab Practicum

Week 14: ADHC Interdisciplinary Research Forum

4/16 & 4/18: Draft, Practice, & Prep; Session Date TBA

Week 15: Proposal Presentations

4/23 – Session 1: Presenters TBD

4/25 – Session 2: Presenters TBD

Final Proposal/Poster and Literature Review Due by midnight on Friday, May 3