STS 205H: Intro to Research Methods - Honors
Monday &Wednesday 10-11:20AM
Honors College 210 (IDS 1)

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Office: Honors College, Rm. 229
Office Hours: Tuesdays 1-3PM or by appointment
Prerequisites: ENGL (HUM) 101 and 102 or equivalent.

Faculty Mentors:

See Canvas

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.

Objectives:
By the end of this course students will be able to:
- Define science
- 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 (qualitative or quantitative) 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:
  Dixon, Jeffrey, Singleton, Royce, and Straits, Bruce (2019). *The Process of Social Research*. New York: Oxford UP. **ISBN 9780190876654**
- Articles and/or book chapters assigned by faculty mentors
- Independent reading for research project

Course Requirements:

Research Project: 80%

- Faculty Mentor Reading Response - 5%
- Lab notebook - 10%
- Research Proposal - 35%
    - Background section draft - 10%
    - Significance section draft – 5%
    - Methodology section draft – 5%
    - Expected Outcomes/Deliverables section draft – 5%
    - Complete Proposal draft – 10%
    - Peer review – 5%
    - Revised final Proposal – 10%
- HIRF Poster Presentation - 15%
- Faculty Mentor Evaluation – 10%
- Project Reflection – 5%

Students will write a standard research proposal, following URI/HIRF proposal guidelines, for their own original research project. Students will select a research topic at the beginning of the semester. During the practicum, students will work with their faculty mentors, in collaboration with the course instructor, to design a research project that explores a particular area of interest within their selected topic. Students will have the opportunity to present their research proposals at the Honors Interdisciplinary Research Forum (HIRF) in December, 2025.

CITI Responsible Conduct of Research course: 5%

Course Participation / Attendance: 15%

Late Assignment Submissions: All late assignments will be accepted only if an extension is requested *prior* to the due date. Assignments will not be accepted more than 1 week late.

Paper Formatting: All papers should be written in APA style, including the following criteria: 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

Generative AI Use
Student use of artificial intelligence (AI) is permitted in this course for certain assignments and activities at the instructor's discretion. If and when students use AI in this course, the AI must be cited as is shown within the NJIT Library AI citation page for AI. If you have any questions or concerns about AI technology use in this class, please reach out to your instructor prior to submitting any assignments.

Laptops and other technology rules:
Students may use laptops, tablets, cell phones, or other technology in this course for class-related activities only. Texting, using Twitter, playing games, etc. interrupts the flow of discussion, distracts other students, and will inevitably embarrass you when I have to call you out. Students are prohibited from using headphones. Be present and prepared when you are here. If you would rather text or surf the internet, please do not come to class.

Students with Disabilities or Special Needs:
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.

Land Acknowledgement
I acknowledge and honor that I am teaching on the ancestral homeland and territory of the Munsee Lenape peoples, communities, and nation and recognize the longstanding significance of these lands for these nations past and present.

WEEKS 1-5: RESEARCH FOUNDATIONS				
WK	**CLASS DATE**	**TOPIC**	**READING**	**ASSIGNMENT Due Sunday by 11:59PM unless otherwise noted**
1	***9/3**	**Introduction to Class and Overview of Scientific Research** **Introduction of CITI Training**	Dixon, Singleton, and Straits, chapter 2 ("Science and Social Research")	Bring any scientific article of your choice to class on 9/8 (paper or electronic copy)
2	***9/8**	**Choosing a research project** Faculty mentor guest lectures	Guest lecturer articles	Work on CITI Training
	***9/10**	**Choosing a research project** Faculty mentor guest lectures	Guest lecturer articles	Complete CITI Training
3	***9/15**	**Choosing a research project** Faculty mentor guest lectures	Guest lecturer articles	Brainstorm Project Topics
	***9/17**	**Choosing a research project** Faculty mentor guest lectures	Guest lecturer articles	Brainstorm Project Topics
4	***9/22**	**Overview of Research Methods** Research Design: Research questions, hypotheses, and methods	Dixon et al., 2019 (chap. 4)	Meetings with prospective mentors
	***9/24**	**Research Proposal Workshop #1:** Research Topic Selection Background Section (Intro. & Literature Review)	Dixon et al., 2019 (chaps. 5 & 7)	Meetings with prospective mentors; submit mentor Preference Form
Schedule meetings with prospective mentors				

5	***9/29**	**Research Proposal Workshop** **$2:** Literature Review cont.: Knowledge gaps and directed reading Research ethics	Dixon et al., 2019 (chap. 3) AI Bias articles	Background Research for proposal
	***10/1**	**Preparing to join labs** Introduction to Lab Practicum	Background Research for proposal	Background Research for proposal; Research plan draft & peer reviews

WEEKS 6-15: LAB PRACTICUM				
WK	**CLASS DATE**	**TOPIC**	**READING**	**ASSIGNMENT** **Due Sunday by 11:59PM unless otherwise noted**
6	10/6	No class (independent research)	Independent reading	
	10/8	No class (independent research)	Independent reading	
				Lab notebook: Week 6 activities
7	10/13	No class (independent research)	Independent reading	
	10/15	No class (independent research)	Independent reading	
				Lab notebook: Week 7 activities
8	10/20	**Lab practicum check-in** Lab notebook show and tell • Peer support/troubleshooting	Independent reading	
	10/22	No class (independent research)	Independent reading	Background Section Draft
				Lab notebook: Week 8 activities
9	10/27	**Optional Class – Option 1 (choose 1)** **Research Proposal Workshop – Part 3** Significance, Methods, Expected Outcomes/Deliverables, Peer Review guidance	Independent reading	
	10/29	**Optional Class – Option 2 (choose 1)**	Independent reading	Significance,

		Research Proposal Workshop – Part 3 Significance, Methods, Expected Outcomes/Deliverables, Peer Review guidance		Methods, and Expected Outcomes/ Deliverables - Draft
				Lab notebook: Week 9 activities
10	11/3	No class (independent research)	Independent reading	
	11/5	No class (independent research)	Independent reading	Proposal Draft & Peer Review
				Lab notebook: Week 10 activities
11	11/10	No class (independent research)	Poster prep.	
	11/13	No class (independent research)	Poster prep.	Poster Draft
				Lab notebook: Week 11 activities
12	***11/17**	**HIRF Poster Workshop**	Poster revisions	
	11/19	No class (independent research)	Poster Presentation	Poster Abstract & Draft Poster
				Lab notebook: Week 12 activities
13	***11/24**	**HIRF Poster Presentation Practice Session**	Poster Presentation	
	11/26	No class – Friday schedule		Final Poster

14	12/1	**Optional Class – Practice Poster Presentations**		
	12/3	**Optional Class – Practice Poster Presentations** Individual meetings		
15	12/8	**Last Day of Class – Research Project Reflection**		Research Project Reflection; Final Draft Research Proposal; Faculty Mentor Evaluations
Final Practicum Meetings & Faculty Mentor Evaluations HIRF, Friday, December 5th 11:30 AM -1:00 PM				

Helpful Links

• The NJIT Undergraduate Research and Innovation Program's website has information aimed at the undergraduate researcher. The research proposal assignment for this course will follow the formatting and content instructions for the NJIT Provost Summer Undergraduate Research and Innovation Program. Alternatively, with permission of the instructor, the proposal can follow the guidelines for the Undergraduate Research and Innovation Student Grant. http://centers.njit.edu/uri/programs/index.php

• To participate in research at NJIT, certain safety-related training courses offered by Environmental Health and Safety may be required. Students are encouraged to attend both the "Lab Safety Training" AND the "Biological Safety and BBP Training" at the beginning of the Spring 2020 semester. The course schedule can be found at the following link: http://www.njit.edu/environmentalsafety/training-o/

• NJIT offers the Collaborative Institutional Training Initiative (CITI) Program to provide online, interactive courses on topics related to research (administration, ethics, safety). The CITI course on the "Responsible Conduct of Research" (https://about.citiprogram.org/en/series/responsible-conduct-of-research-rcr/) is required as a way of providing thorough training on research ethics.