

ORI 384
Emerging Trends in ORIE
Spring 2023

Professor

Dr. Benjamin D. Leibowicz
bleibowicz@utexas.edu
ETC 5.128D

Course Description

This course introduces students to the full breadth of ORIE research areas by bringing in distinguished seminar speakers working at the forefront of various methodologies and application domains. These speakers include professors from other universities; researchers from national laboratories and research institutes; practitioners who use ORIE methods in the private sector; and experts from the UT community. The course emphasizes information literacy, effective written communication of research concepts, critical analysis of academic research, direct engagement with ORIE researchers, and active preparation for thesis and dissertation research.

Seminar Time and Location

The weekly ORIE seminar will be held on Fridays from 2:00 – 3:00 PM in ETC 5.132. After each seminar, ETORIE students will stay from 3:00 – 3:30 PM for a conversation with the seminar speaker.

Office Hours

I will hold office hours on Tuesdays from 1:00 – 2:00 PM and Thursdays from 4:00 – 5:00 PM in ETC 5.128D. If you need to meet with me outside these office hours, then please email me stating the specific problem or topic you wish to discuss.

Readings

There is no required textbook for this course. Readings will primarily consist of journal articles from the academic literature that correspond to the research studies and topics that are presented during the seminar.

Materials and Equipment

You will likely find it useful to bring a notebook or laptop to all the seminar sessions in order to take notes.

Course Website

All course materials will be posted on *Canvas*.

Grading

Your final grade will be calculated using the following weights:

Attendance and Participation – 25%

Paper Summaries – 30%

Referee Reports – 20%
Final Research Proposal – 25%

Letter grades will be determined according to the following conversion:

A	93% or greater
A-	90% to <93%
B+	87% to <90%
B	83% to <87%
B-	80% to <83%
C+	77% to <80%
C	73% to <77%
C-	70% to <73%
D+	67% to <70%
D	63% to <67%
D-	60% to <63%
F	<60%

I may choose to raise your final grade by curving or some other method. However, these adjustments will never lower your grade.

Attendance

I will formally take attendance at the weekly seminar meetings. In order to receive credit for taking this course, you can miss at most three seminar meetings. Furthermore, Attendance and Participation count as 25% of your final grade. To earn full points for Attendance and Participation, you must do more than merely attend the seminars. You are expected to ask the speakers insightful questions and actively participate in the conversations that immediately follow the presentations. This course is a wonderful opportunity to interact with preeminent researchers and practitioners from the ORIE field, as well as your classmates.

Paper Summaries

Prior to each seminar meeting, I will share a research paper that describes the research study or topic that will be covered during the upcoming seminar. Your assignment is to read the paper carefully and write a Summary, which you will submit electronically via Canvas prior to the beginning of the seminar on Friday at 2:00 PM.

You must write your Summary using the template *ETORIE-Summary-Template.docx*, which is available in Canvas. Your Summary should be a maximum of two pages in length, single spaced with size 12 font. As included in the template, your Summary must have sections that answer the following questions:

1. What is this paper about? What issue does it address and/or what problem does it solve?
2. What are the paper's most significant contributions? What do the authors do that is new and why is it important?
3. What methodologies do the authors use to carry out their study?
4. What are some notable assumptions that the authors make and what limitations do they entail? Do you think that their assumptions are valid?

5. Come up with three questions that you have for the authors. You are encouraged to ask questions during the seminar and the conversation that follows!

These questions are designed to help you get better at reading ORIE research papers, focus on their most important aspects, think critically about ORIE research, and engage in informed discussions with the seminar speakers.

Referee Reports

Twice during the semester, I will replace your normal weekly Paper Summary with a Referee Report assignment. To write a Referee Report, you will read the research paper as if you have been summoned by the editor of a scholarly journal to review the paper for possible publication. The assignment thus simulates serving as a peer reviewer (a.k.a. referee) for a submitted journal paper, which is an important responsibility in the research community. In the process, you will learn to critically analyze academic research and communicate strengths and weaknesses.

Your Referee Report should be roughly two to three pages in length, single spaced with size 12 font. It should include Comments to the Editor and Comments to the Author(s). The Comments to the Editor should very briefly summarize the paper, recommend a decision that you think the editor should make, and list your major reasons for that recommendation. Typical recommendations include Accept, Minor Revisions, Major Revisions, or Reject. The Comments to the Author(s) should be more extensive, and roughly follow the outline below:

- Briefly summarize the paper.
- State the overall recommendation you are making to the editor.
- Explain what you like about the paper and what it does well.
- Share your major concerns about the paper. These are criticisms that are important and really need to be addressed if the paper is going to be published. You would be unlikely to provide a more favorable recommendation unless the author addresses these concerns in a revision. Each major concern could be worthy of its own paragraph in your Report.
- Share your minor criticisms of the paper. These are less significant than the major concerns and often refer to specific elements of the analysis or passages in the paper. They do not drive your overall recommendation, but are nevertheless aspects of the paper that should be improved before it is published.

Final Research Proposal

At the end of the semester, your final assignment will be to write a Research Proposal that outlines a research project you would like to do in the near future. You should use this opportunity to propose a project you are excited about, that could form the basis of your M.S. thesis or Ph.D. dissertation. I encourage you to reflect on the seminar presentations throughout the semester and consider proposing a project in one of the research areas that was highlighted during one or more seminar meetings. Your Research Proposal should be roughly ten pages in length, single spaced with size 12 font. It should address the following:

- State the goal of your project. What are the research questions you intend to address and why are they important?
- Review the existing literature on relevant methods and/or application domains. What are the critical gaps in the literature? How will your project go beyond what has already been done?

- Outline your methods in detail. What concepts and methodologies will you employ? Do you foresee any major obstacles? How might you overcome them?
- Anticipate the eventual results. What hypotheses do you have about what you will likely find? How would various outcomes be interpreted, and what would be their implications?
- Explain how you could carry out this research at UT. Which faculty members could you work with? What resources are already available here? Are there additional resources you would need to complete the work?

Late Submission Policy

The default policy for late submissions of all assignments is a penalty of 10% for each day that the assignment is late, up to a maximum of 72 hours late. No credit can be earned for any assignment submitted more than 72 hours after its deadline. Please note that I reserve the right to modify this default policy for any specific assignment as long as I notify you in advance.

Exams

There are no exams in this course.

Honor Code

I expect everyone to follow the UT Honor Code, which states:

“The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.”

All suspected violations of the Honor Code will be referred to the Administration for adjudication. The written assignments in this course are all to be completed individually. Stealing ideas or copying text from a classmate, the internet, or other external resources will be treated as a violation of the Honor Code. I have formally disciplined students for Honor Code violations in the recent past, and I will do so again without hesitation if any incidents occur in this course. Violating the Honor Code undermines the quality and integrity of your academic experience and degree, and is unfair to the majority of students who go about their work the right way. Cheating can easily result in probation, suspension, or expulsion from the University. Trust me – it’s not worth it!

Disability Statement

Students with disabilities who require special accommodations need to get a letter that documents the disability from the Disability and Access office within the Division of Diversity and Community Engagement (contact information below). This letter should be presented to me at the beginning of the semester and necessary accommodations should be discussed at that time.

Disability and Access
512-471-6259
access@austin.utexas.edu
<http://diversity.utexas.edu/disability/>

Feedback

I am always interested in receiving constructive feedback that helps me enhance your learning experience, improve the course, and be the most effective instructor I can be. Please feel free to attend office hours or schedule a meeting with me at any time to discuss your own learning experience in the course and whether there are any changes that would enhance it. Near the end of the semester you will have an opportunity to anonymously evaluate the course and myself using the standard Course Evaluation survey. Your feedback and suggestions are greatly appreciated and I promise to give them careful consideration.

Seminar Schedule

The seminar schedule below is subject to change and will be updated as frequently as possible.

Date	Seminar Speaker	Assignment Type
January 13	Alexander Zolan National Renewable Energy Laboratory	Paper Summary
January 20	Hao Zhu UT Austin ECE	Paper Summary
January 27	Marvin May Karlsruhe Institute of Technology	Paper Summary
February 3	Max Brozynski FTI Consulting	Paper Summary
February 10	Yongpei Guan University of Florida	Paper Summary
February 17	Andrew Liu Purdue University	Referee Report
February 24	Sarah Ryan Iowa State University	Paper Summary
March 3	Arkajyoti Roy UT San Antonio	Paper Summary
March 10	Maria De-Arteaga UT IROM	Paper Summary
March 24	Ashutosh Shukla UT Austin ORIE	Paper Summary
March 31	Erin Mayfield Dartmouth College	
April 7	Mustafa Kilinc ExxonMobil	
April 14	Beste Basciftci University of Iowa	
April 21	Lina Sela UT Austin CAEE	