Prep-Doctoral Qual Exams

Course Information

- **Instructor:** Justin Romberg (jrom@ece.gatech.edu)
- **Course Prefix and Number:** CS 7999 ML
- **Term:** Fall 2026

Course Description

The purpose of the Qualifying Examination is to judge the candidate's potential as an independent researcher. The ML PhD qualifying exam consists of a focused literature review that will take place over the course of one semester. It is not a presentation of the student's research.

The student's knowledge of the literature is evaluated by a faculty committee. At the beginning of the semester, the student works with this committee on a curriculum of 4-5 influential papers, books, or other intellectual artifacts relevant to the student's research field. At the end of the semester, the student defends their knowledge of their chosen curriculum by submitting a written report to the committee, and through a closed oral exam with the committee.

Course Learning Outcomes

By enrolling in this course, students will:

1. Expand their understanding of fundamental papers in the machine learning literature.
2. Gain experience by articulating, both in writing and orally, the context and importance of fundamental technical results in their field.
3. Gain experience by articulating, both in writing and orally, the mathematical, algorithmic, and computational innovations behind fundamental technical results in their field.

Required Course Materials

No textbooks or materials are required. Resources for research are determined in consultation with the thesis advisor.

Grading Policy

This course is graded on a **Satisfactory (S) / Unsatisfactory (U)** basis.

- A grade of **Satisfactory (S)** indicates that the student exhibited sufficient understanding of the context, importance, and innovations behind the chosen artifacts in their curriculum.
- A grade of **Unsatisfactory (U)** indicates that the student did not exhibit sufficient understanding of their curriculum.

Attendance Policy

This course does not include scheduled class meetings. Students conduct independent research under the supervision of a thesis advisor. The frequency and format of student–advisor contact are determined by mutual agreement.

Academic and Research Honesty/Integrity Statement

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review the Student Code of Conduct and the Academic Honor Code, especially Appendix A: Graduate Addendum to the Academic Honor Code.

Students are expected to perform research in an ethical and responsible manner. All Doctoral and Master's Thesis students are required to take the Responsible Conduct of Research training, and it is expected that students abide by the principles taught in that training while performing research for this thesis course.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct.

Core IMPACTS

Not applicable.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Expectations of Advisors and Advisees

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Expectations of Advisors and Advisees articulates some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.