

ISyE 4803 Syllabus

Responsible AI

Fall 2026

Instructor Information

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Course Information

Course Prefix and Number: ISYE 4803 ZIA

Term: Fall 2026

Course Description

This course aims to provide mathematical frameworks to understand how to use tools taught in ISyE and the CoE, and in particular AI tools, responsibly. The class will go beyond a technical discussion of these tools to understand how AI tools shape and affect society. The class will cover a variety of machine learning techniques (but may include other techniques from optimization and engineering depending on the class composition) and how they are used in high-stakes decision-making that affects humans.

Course Learning Outcomes

During the course, students will learn:

1. To understand the failure modes of technical and AI tools when it comes to real-life deployment and how they impact humans and society;
2. How to identify and anticipate the potential impact of technical, algorithmic, and AI tools on humans;
3. Technical and algorithmic tools to make algorithms more responsible;
4. How to build their own pipelines of responsible, human-aware decision making;

5. How to communicate techniques in research in Responsible AI to technical audiences.

Required Course Materials

No textbooks or materials are required. Optional/additional material will be provided during the course.

Grading Policy

Homeworks: 20%

Midterm: 20%

Class presentations: 20%

In-class case studies: 10%

Final project: 30%

Attendance Policy

Students will be expected to participate in person, due to the active nature of the class, including case studies and in-class presentations.

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](#).

Students suspected of cheating or plagiarism will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations, as per Georgia Tech policy.

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.

Student-Faculty Expectations Agreement

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.

Pre and/or co-Requisites

ISYE 3030 or equivalent
ISYE 4301 or equivalent
ISYE 4034 or equivalent

Collaboration, Group Work, and Use of Generative AI

You are allowed to work in groups on all homeworks, but any work you turn in must be written in your own hand. Case studies, class presentations, and projects will be group-based.

Exams will be open notes, but notes must be physical (for example, a cheat sheet); laptop and phone access will not be permitted.

Use of generative AI tools is strictly forbidden in homeworks and exams. Generative AI may be used as a writing help for projects, but all project ideas and techniques must be original and driven by the students.

Extensions, Late Assignments, and Re-Scheduled/Missed Exams

For homeworks, each student has 3 tokens throughout the semester. Each token provides a 24h-extension. Students must mark when a token is used on their submissions.

Make-up exams will be handled on a case-by-case basis. Please check in with the instructor at least 2 weeks before any exam if you think we may need to take a make-up exam instead.