

# Machine Learning for Trading (CS 7646) Syllabus

**Course Prefix and Number:** CS 7646  
**Course Title:** Machine Learning for Trading  
**Semester and Academic Year:** Summer and Fall 2026

## Course Description

**Machine Learning for Trading** introduces students to the application of machine learning methods in financial markets and trading. The course combines machine learning, data analysis, financial market concepts, and trading strategy development in an applied setting. Students learn to work with market data, implement selected learning algorithms, evaluate performance, and analyze trading-related problems through code, written reports, and exams.

## Course Learning Outcomes

Upon successful completion of this course, students should be able to:

1. Analyze financial data using appropriate statistical and computational methods.
2. Apply selected machine learning techniques to problems related to trading and investment analysis.
3. Design, implement, and evaluate trading-related models and experiments.
4. Interpret results and communicate findings clearly in written form.
5. Demonstrate understanding of the strengths, limitations, and practical considerations of machine learning approaches in trading contexts.

## Required Course Materials

Required course materials may include selected video lessons, readings, book chapters, papers, and course-provided resources published in Canvas.

Required readings are drawn from selected chapters and excerpts rather than requiring students to read every assigned book cover to cover. Course materials also include

required instructional platforms and technologies used to participate in the course and submit work.

Students should refer to the Canvas page ***Video Lessons, Textbooks, and Other Resources*** for the current list of required and supplemental materials for the term.

Required platforms and tools include:

- Canvas
- Ed Discussion
- Gradescope
- Python 3.10
- A Linux or macOS-compatible development environment consistent with course guidance. (Our course does not support development on Windows).
- A Windows or macOS-compatible environment for course exams.

## **Grading Policy and Weighting**

Final grades are based on the weighted performance of graded course components. The course uses the following grading categories:

- Projects: **71%**
- Exams: **25%**
- Course Content Quizzes: **2%**
- Course Surveys: **2%**

Final letter grades are assigned using the following scale:

- **A:** 90% or higher
- **B:** 80% to less than 90%
- **C:** 70% to less than 80%
- **D:** 60% to less than 70%
- **F:** Below 60%

Georgia Tech does not use plus/minus final grades in this course. Final grades are based on the overall weighted course average. Our course does not grade on a curve.

## Description of Graded Components

- **Projects** evaluate students' ability to apply course concepts through programming and, where applicable, written analysis.
- **Exams** evaluate students' understanding of course concepts and their ability to apply them in the context of machine learning, trading, and financial analysis.
- **Course Content Quizzes** reinforce understanding of course readings, videos, and other required instructional material.
- **Course Surveys** provide structured opportunities for student feedback and contribute to the final grade as indicated above.

## Attendance and Participation Policy

Because this course is delivered online, students are expected to engage consistently with the course and remain current with course materials, announcements, and assigned work.

Attendance at live sessions, office hours, or discussion sessions may be encouraged, but unless explicitly stated otherwise in Canvas, attendance at such live events is not itself required for successful completion of the course.

Students are responsible for:

- monitoring Canvas, Ed Discussion announcements, and official Georgia Tech email for course communications;
- completing graded work by the published deadlines; and
- following any participation expectations associated with graded activities.

If participation affects a student's grade in a given term, the graded participation component and its weighting will be identified in Canvas and reflected in the course grading structure.

## Additional Criteria for Successful Completion of the Course

Successful completion of the course requires students to do all of the following:

- submit work through the designated course systems and formats;
- submit work "on-time" as the course does not, with limited exceptions, accept late assignments;
- complete quizzes and exams within their assigned availability windows;

- comply with course technology requirements and platform requirements;
- follow published course procedures that affect grading, submissions, and assessments; and
- adhere to course academic integrity, conduct, and communication expectations.

Detailed operational procedures, assignment instructions, schedules, and submission requirements are maintained in Canvas.

## **Academic Integrity**

Academic integrity is fundamental to this course. Students are expected to uphold the Georgia Tech Honor Code and complete all graded work in a manner consistent with Institute expectations and course-specific requirements.

Unless explicitly authorized, students may not submit work that is not their own, may not use unauthorized assistance, and may not engage in prohibited collaboration. This includes inappropriate use of generative AI, unauthorized sharing of assignment materials, and use of another person's code, text, or solutions.

Any student suspected of academic misconduct may receive a grade penalty up to and including a zero on the assignment or an F in the course, and the matter may be referred to the Office of Student Integrity.

Students should review the full Georgia Tech Honor Code as well as the detailed course academic integrity policies published in Canvas.

## **Acceptable Student Conduct / 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 Student-Faculty Expectations Agreement preserves these principles and establishes standards for student and faculty conduct. Students are expected to contribute to a respectful learning environment in all course interactions.

## **Accommodations for Students with Disabilities**

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services for information on appropriate accommodations. Students

with approved accommodations should follow applicable Georgia Tech procedures and course procedures to ensure those accommodations can be implemented appropriately.

## **Additional Course Information in Canvas**

To keep this syllabus relatively stable across terms, detailed operational and term-specific information is maintained in Canvas. Students are responsible for reviewing those materials as applicable.

Canvas materials may include, but are not limited to:

- Course Schedule and Details
- Course Policies
- Exam Instructions
- Video Lessons, Textbooks, and Other Resources
- Development Environment / Technology Guidance
- Assignment instructions and project-specific requirements

These materials provide detailed information such as weekly schedules, readings, assignment instructions, exam procedures, technology expectations, and other course processes.