# ME 3340B Syllabus

Fluid Mechanics ME 3340, Section B, 3 Credits

Fall 2026

## Instructor Information

**Instructor: Ari Glezer**

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## General Course Information

### Description

This is the first course in fluid mechanics for students of mechanical engineering, a very exciting subject which has applications in nearly every field of science and engineering. The course draws on much of the material learned in previous courses and requires creative thinking to solve problems. Following an introduction that covers basic definitions of fluid mechanics and fluid characteristics, the course material includes: fluid statics and buoyancy, rigid body motion, fluid kinematics, applications of Bernoulli's equation, control-volume analysis, pipe flow, similitude and dimensional analysis, and differential analysis of fluid motion and the Navier Stokes Equations.

### Course Learning Outcomes

Students will learn the basic principles and simplifying assumptions commonly used for analysis of fluid mechanics phenomena.

Learn how fluid mechanics problems are mathematically modeled and solved.

Develop ability to analyze and determine internal structural forces effected by static fluid volumes.

Learn how to analyze hydrostatic loads on submerged and buoyant bodies.

Develop ability to use dimensional analysis to model and scale fluid-flow phenomena.

Learn methods of using control volume analysis to solve fluid mechanics problems found in a broad range of engineering systems.

Learn simplifying approaches for using the differential continuity and momentum equations for analysis of basic fluid fluid-flow phenomena.

**Required Course Materials**

Fundamentals of Fluid Mechanics, 9th Edition, B. R. Munson, D. F. Young & T. H. Okiishi, A. L. Gerhart, J. I. Hochstein, P. M., Gerhart, available at Georgia Tech Barnes and Noble Bookstore

**Grading Policy:**

Option A: Top 3 (out of 4) exam grades each 26.6%, Homework 10%, Participation 10%.
Option B: Top 2 (out of 4) exam grades each 20%, Homework 10%, Participation 10%, Final Exam 40%.
Grading scale: 100-90: A, 90-80: B, 80-70: C, and 60-50:D.

**Description of Graded Components**

All exams are in class and closed books and notes. Optional equation sheet.

Extra Credit: Because your feedback about the class is very important, a couple of surveys during the semester will be conducted. If each of the surveys including the CIOS survey at the end of the semester has over 80% participation from the class, the assessments of the grade for Homework and Participation will be raised to their full values.

## Course Policies

**Attendance and/or Participation**

Because of the fast-paced nature of this course, attendance and participation are expected. Participation credit will be determined, in part, by occasional monitoring of attendance and by occasionally using the Canvas response system on a smart device during lectures to gauge without grading class understanding. Arrangements will be made if you do not have access to a smart device.

**Academic Integrity**

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 Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

**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 articulate 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.

**Accommodations for Students with Disabilities**

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) 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.

**Pre- &/or Co-Requisites**

ME2202 or AE2220 or NRE2110 or NRE3301or MSE3005 or PTFE2200 and ME3322 or CHE3411 or MSE3001 and Math2401 or Math2411 or Math24X1 or Math2551 or Math2X51 or Math2561 and Math2403 or Math2413 or Math24X3 or Math2552 or Math2562 or Math2X52 and COE 2001.

**Collaboration, Group Work, and Use of Generative AI**

You are allowed to work in groups on all homework and out-of-class assignments (and you may use the given solutions), but any work you turn in must be written in your own hand. In-class tests and exams are to be your own work. All in-class tests and exams will be closed book and notes, but an equation sheet is optional.

**Extensions, Late Assignments, & Re-Scheduled/Missed Exams**

Late homework will be penalized accordingly. Make-up exams are given for illness, approved Institute activities or religious observances.