ISYE 3025 Engineering Economy

Engineering Economy, C09, 1 credit

CRN: 81610

Fall 2026

220 George Tower, 9:30-10:20 Friday

Instructor Information

Instructor: Valerie M. Thomas

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General Course Information

Description

Methods of economic analysis in engineering, including time value of money, equivalence, economic measures of worth, selection rules for alternatives, income taxes and equipment depreciation, inflation, and uncertainty.

Course Learning Outcomes

To enable the student to characterize the cash flows associated with engineering projects and evaluate them from the viewpoint of after-tax-cash flows.

At the end of this course, students will be able to:

1. Manipulate cash flows to obtain equivalent values for different times.
2. Understand engineering economic decision criteria, including net present value, internal rate of return, and benefit cost ratio.
3. Form alternatives and derive valid cost/benefit estimations from available data.
4. Compare alternatives having unequal economic lives.
5. Perform after tax cash flow analysis, applying standard depreciation accounting rules.
6. Reflect inflation and uncertainty in analyses.

Required Course Materials
Materials provided on the Canvas web site for GT students:
https://gatech.instructure.com/

Grading Policy:

Grading scale will be [90-100] = A, [80-90) = B, [70-80) = C, [60-70) = D, and <60 = F. If you score in the appropriate range, you are guaranteed at least that grade.

Attendance is expected in every class. The attendance grade will be calculated as the fraction of classes attended on non-test days. Attendance on tests days is also required.

Contribution of Graded Components to Class Grade

Attendance	*5%*
Test 1	*20%*
Test 2	*25%*
Test 3	*20%*
Final	*30%*

Module	Date	Topic
1 and 2	28-Aug	Introduction; Making Economic Decisions
3 and 4	4-Sep	Engineering Costs & Estimating; Interest
Test 1	11-Sep	Modules 1, 2, 3, and 4
5	18-Sep	Single Payment
6	25-Sep	Uniform Series
7	2-Oct	Complicating Factors
8	9-Oct	Present Worth Analysis
Test 2	16-Oct	Modules 5, 6, 7, and 8
9	23-Oct	Annual Cash Flow Analysis
10	30-Oct	Rate of Return Analysis, Incremental Analysis
Test 3	6-Nov	Modules 9, and 10
11	13-Nov	Depreciation
12	20-Nov	Income Taxes
	27-Nov	Thanksgiving Break, no class
13	4-Dec	Inflation
Final	16-Dec, 8-10:50 am	Comprehensive, all modules

Course Policies

Attendance and Participation

In-person attendance and participation is expected for each class. The tests and final exam are in-person.

Re-Scheduled or Missed Tests and Exams

Make-up exams will be given only if you have an official or pre-approved reason or medical emergency. If you have a personal medical emergency and miss an exam, in-class exercise, or assignment due date, you must submit valid proof (no later than 7 days after absence). Incomplete grades will be given only if you have a valid medical reason and proof for not completing the requirements of the course (following the Institute's rules).

Student Use of Mobile Devices in the Classroom

Use of electronic devices during class is limited to (i) taking notes, (ii) carrying out in-class exercises, and, if allowed during a test or exam, (iii) working on and answering tests questions in an approved online test environment.

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) to discuss your special needs and to obtain an accommodations letter. Please also e-mail me to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we 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. Respect for knowledge, hard work, and cordial interactions will help build the environment we seek. I encourage you to remain committed to these ideals.

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 tests or exam will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.