

**CTC/MTC 374**  
**Economic Analysis in Technology**  
**Fall 2025**

**Coordinator: Jayne Baran**  
**Classroom: Donovan G102**  
**Time: MW 4:00-4:50 pm**

### Course Description:

Methods for choosing between alternatives based on the time value of money. Analytical costs, models and techniques as applied to engineering technology and manufacturing. Replacement studies, depreciation and after-tax analysis, risk, uncertainty and sensitivity analysis.

### Required Text and Materials:

Course materials are available through the [SUNY Poly Online Bookstore](#)

Optional: "Engineering Economic Analysis-Study Guide" ISBN: 9780199778195

### Learning Outcomes:

The object of this course is to introduce students to the theory and applications of engineering economics. Upon completion of this course, students should have the ability to select the best project/equipment/materials through economic justification.

Projects emphasize teamwork and communication, as well as the application of industry-standard word-processing and spreadsheet software. The need for professionalism and excellence is reinforced through the requirement for assignments to be completed on time and in a neat and well-organized manner.

### Office Hours and Contact Info:

Mon 2-4 pm; Wed 9-11 am  
(Or by appointment)  
Email: Jayne.Baran@sunypoly.edu

Donovan Hall, 1197  
Phone: (315) 792-7542

### Prerequisite by topic:

1. Basic understanding of algebra
2. Basic understanding of differential calculus
3. Ability to use spreadsheet, word processing, and presentation software

### Topics:

Topics:	Description	Hrs	HW Assignments/Projects
1	Foundations of Engineering Economy	2	Chapter 1 / Review Excel Software
2	How Time and Interest Affect Money	2	Chapter 2
3	Nominal and Effective Interest Rates	2	Chapter 3
4	Present Worth/Bonds	2	Chapter 4 / Software Application Project
5	Annual Worth	2	Chapter 5

6	Rate of Return	2	Chapter 6	Software Application Project
7	Benefit/Cost and Public Sector Projects	4	Chapter 7	Software Application Project
8	Breakeven, Sensitivity and Payback	2	Chapter 9	Software Application Project
9	Replacement and Retention Decisions	2	Chapter 10 /	Software Application Project
10	Effects of Inflation	2	Chapter 11	
11	Estimating Costs	2	Chapter 12 /	Software Application Project
12	Depreciation Methods	2	Chapter 13	
13	After-Tax Economic Analysis	2	Chapter 14	
14	Multiple Attributes and Risk	2	Chapter 15 /	Sustainability Report
	Project Presentations/Activities	6		
	Mid-Term/Final/Reviews	8		

### Computer Usage:

1. The syllabus, project assignments, and tentative class schedule will be posted on the web at <https://people.sunypoly.edu/~barans/classes/ctc475/main.html>
2. Spreadsheet software will be used to complete the projects.

### Projects:

1. Develop a spreadsheet that explores simple versus compound interest.
2. Develop a spreadsheet that calculates annuities and continuous compounding rates.
3. Develop a spreadsheet that can determine financial measures of merit.
4. Develop a spreadsheet that can solve linear breakeven problems.
5. Develop a spreadsheet that explores an after-tax cash flow.

### Methods of Evaluation:

#### **Homework:**

Homework shall be typed or neatly handwritten in pencil on engineering graph paper. There is no provision for make-up of homework assignments. A missed homework assignment is a zero and will be factored into the final grade.

#### **Examinations:**

There will be one midterm and one final exam scheduled during the semester. Students are expected to take the exams at the scheduled times. Generally, no make-up test will be given except for medical emergencies or other valid reason for which prior approval has been obtained.

#### **Projects:**

Applied design projects and reports emphasize teamwork and communication, as well as the application of industry-standard hydraulic, word-processing, spreadsheet, and presentation software. The need for professionalism and excellence is reinforced through

the requirement for assignments to be completed on time and in a neat and well-organized manner

**Attendance/Participation:**

Students are expected to attend every class period and have homework and project assignments completed and ready to present. A missed class does not excuse responsibility for the work covered in class and the homework assignments. No late assignments will be accepted. Generally, no make-up test will be given unless prior approval has been obtained. Students will be held to the standards set forth in the *Student Handbook*, stated as the College’s “Code of Academic Conduct.”

Homework	25%
Projects	25%
Mid-Term Exams	25%
Final Exam	25%
<b>TOTAL</b>	<b>100%</b>

**Technical Assistance for Students:**

The [SUNY Poly Help Desk](#) is in the Cayan Library on the first floor. You can contact them by phone at 315-792-7440, by email at [helpdesk@sunypoly.edu](mailto:helpdesk@sunypoly.edu), or by submitting an online help ticket on their website.

If the SUNY Poly Help Desk is closed, you can obtain assistance from the [Open SUNY Help Desk](#) by calling 1-844-OPENSUNY (673-6786). The Open SUNY email is [OpenSUNYHelp@suny.edu](mailto:OpenSUNYHelp@suny.edu) or you can [submit an online help ticket](#).

The SUNY Poly ITS website has [information about software and hardware](#) that you can access as a student, as well as links to software you may need in your classes. Students are encouraged to save all work in multiple locations. MS Office OneDrive is available for use. For assistance, please contact the ITS Help Desk, [helpdesk@sunypoly.edu](mailto:helpdesk@sunypoly.edu) or 315-792-7440.

## **Cancellation of Classes Due to Inclement Weather or Other Emergency:**

SUNY Poly has a 24-hour hotline, called Snowline, to inform students, faculty, and staff when severe weather prompts the cancellation of all classes. Snowline can be reached by calling 315-792-7385. In the event of severe weather, Snowline will announce only the cancellation of ALL classes. The cancellation of all classes will also be posted online and broadcast on radio and television stations in the Utica-Rome and Syracuse areas. The SUNY Poly website also maintains a list of [individual class cancellations](#).

In addition, all SUNY Poly students and employees are enrolled in the Rave Alert emergency alert service. You can visit the [SUNY Poly Rave Alert website](#) to learn more and to adjust your notification preferences.

## **Accommodations for Students with Accessibility Needs at SUNY Polytechnic Institute:**

Your access in this course is important to me. In compliance with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973, SUNY Polytechnic Institute is committed to ensuring comprehensive educational access and accommodations for all registered students seeking access to meet course requirements and fully participate in programs and activities. Students with documented disabilities, temporary, or medical conditions are encouraged to request services by contacting Student Accessibility Services (SAS) or filling out the Request for Accommodations form. Please note, requesting accommodations is only the first step. You must provide documentation (the request form may count) to SAS and meet with staff before receiving accommodations. Please do this as early as possible 1) because accommodations are never retroactive and 2) so that we have adequate time to arrange your approved academic accommodation/s.

Once SAS creates your accommodation plan, it is your responsibility to provide me a copy of the accommodation plan. If you experience any access barriers in this course, such as with printed content, graphics, online materials, etc., reach out to me or SAS right away. For information related to these services or to schedule an appointment, please contact SAS using the information provided below.

### **Office of Student Accessibility Services**

[SAS@sunypoly.edu](mailto:SAS@sunypoly.edu)

(315) 792-7170

Kunsela Hall, B101

## **Pregnancy Statement**

SUNY Poly is committed to fostering an inclusive and supportive environment for all students and it does not discriminate against any student based on the student's pregnancy

or related conditions. If you have questions or concerns related to pregnancy or related conditions, please contact the Title IX Coordinator, Kathie Artigiani at [artigik@sunypoly.edu](mailto:artigik@sunypoly.edu).

*Prepared By S. Jayne Baran on August 6, 2025*