



Cuyahoga Community College
Metropolitan Campus
Engineering Technology Department
MET-2421, Fundamentals of Engineering Economics, CRN: 16079
Spring 2016

Faculty Information

Faculty	Humayun Arif, MS Mechanical Engineering, MBA
Office	
Phone	
Email or Course Correspondence	Humayun.Arif@tri-c.edu (preferred contact method)
Office Hours	By appointment via email – can meet in ATTC before class

Course Information

Course Title	MET-2421, Fundamentals of Engineering Economics (CRN: 16079)
Class time	Mondays (3/21 to 5/15/2016): 5:30 PM to 9:30 PM
Classroom	ATTC 241
Prerequisites	Eligibility for MATH-1280 Advanced Intermediate Algebra; or departmental approval: work experience.
Drop Date	Monday, May 2, 2016 – Withdraw with “W” Grade Monday, April 4, 2016 – Withdraw with NO RECORD
Credit Hours	2
Lecture Hours	2
Lab Hours	0
Other Hours	0

Course Catalog Description

Analysis of cost elements in manufacturing operations; comparison of manufacturing options; options selection applying Benefit/Cost Analysis; practical application of cost concepts and the analysis applicable to design, development, implementation of phase of manufacturing operations.

This course is an in-person, class-based course. There will also be a Blackboard site so that the students can easily communicate with the instructor but students will be expected to send an email to the instructor to set up an appointment for a desired meeting before class.

Course Outcomes & Objectives

Upon satisfactory completion of MET 2421 – Fundamentals of Engineering Economics, the student should be able to perform the following outcomes and supporting objectives:

1. Explain Benefit/cost Ratio Evaluation Methods
2. Plan and conduct cost analysis of given manufacturing options
3. Determine the depreciation values of manufacturing resources and taxes
4. Conduct Benefit/cost Ratio evaluations

Text and Required Supplies

Required Instruments/Tools:

- Computer/Internet Access
- Printing capabilities
- Engineering or Scientific Calculator
- Yellow graph paper or engineering paper
- Ruler or engineering scale

Sullivan, William G. et al. Engineering Economy, 16th Edition. Upper Saddle River. Pearson Educational, Inc. 2015. ISBN-13: 978-0-13-343927-4

Academic Credit

According to the Ohio Board of Regents Operating Manual, one (1) semester hour of college credit will be awarded for each lecture hour. Students will be expected to work at out-of-class assignments on a regular basis which, over the length of the course, would normally average two hours of out-of-class study for each hour of formal class activity. The number of credit hours for lecture hours are listed at the beginning of the syllabus. **Make sure you can prioritize your time accordingly. Proper planning, prioritization and dedication will enhance your success in this course.**

Accessibility (ADA) Policy

If you need accommodations because of a documented disability, or issues of accessibility to online, blended, or web-enhanced classes, please contact the ACCESS office at one of the campuses listed below as soon as possible. Visit on the web at <http://www.tri-c.edu/apply/specialinterest/disabilities>.

Eastern	(216) 987-2052	TDD (216) 987-2230*
Metropolitan	(216) 987-4344	TDD (216) 987-4048*
Western	(216) 987-5079	TDD (216) 987-5117*
Westshore	(216) 987-5079	TDD (216) 987-5117*
Brunswick	(216) 987-5079	TDD (216) 987-5117*
Off-Site	(216) 987-5079	TDD (216) 987-5117*

If you have emergency medical information to share, or if you will need assistance in the event of an evacuation, please discuss this with me in private or contact the Access Office.

Attendance/Participation

This is an in-class structured course with a specific course schedule and corresponding modules 1 through 13. There will be assignments and projects that will be assigned, which can be done at own pace but delivered on or before the specific date as specified by the instructor for each assignment. It is expected that students will not miss a single class, as each class will develop the steps necessary for the understanding and comprehension for the next class. This is a fast-paced course that will require a deep involvement and understanding during the class, completion of assignments, reading of chapters and interaction with the instructor. Students are expected to access the course site at least three times per week. Blackboard is capable of tracking the days and time

of your participation on the course sites. Students must inform the faculty member as soon as possible if they will be unable to actively participate online for any week. You are still required to make up any missed assignments.

Methods of Evaluation/Grading Policy

EVALUATION METHOD	Percent of Final Grade
Modules (1-13)	50% (2100 points)
Midterm Exam	25% (1050 points)
Final Exam	25% (1050 points)
Total	100% (4200 points)

GRADING	SCALE
A	90 -100% (3780-4200)
B	80 - 89% (3360-3779)
C	70 -79% (2940-3359)
D	60 - 69% (2520-2939)
F	Under 60% (2519 and below)

Course Schedule

Week	Date	Corresponding Chapter – Subject – Topic	Modules
1	3/21 - 3/27	Chapter 1 – Introduction to Engineering Economy, Chapter 2 – Cost Concepts and Design Economics, Chapter 3 – Cost Estimation Techniques	1/2
2	3/28 - 4/3	Chapter 4 – The Time Value of Money	3/4
3	4/4 - 4/10	Chapter 5 – Evaluating a Single Project	5/6
4	4/11 - 4/17	MIDTERM EXAM Chapter 6 – Comparison and Selection among Alternatives	7
5	4/18 - 4/24	Chapter 7 – Depreciation and Income Taxes, Chapter 9 – Replacement Analysis	8/9
6	4/25 – 5/1	Chapter 10 – Evaluating Projects with the Benefit – Cost Ratio Method	10/11
7	5/2 - 5/8	Chapter 11 – Breakeven and Sensitivity Analysis	12/13
8	5/9 - 5/15	FINAL EXAM	

*This schedule is tentative and subject to change at the discretion of the faculty member. All changes will be announced.

****ASSIGNMENTS FOR EACH MODULE ARE DUE ON THE FOLLOWING CLASS DAY (MONDAYS AT 5:30 PM IN CLASS)**

***Students will be allowed to work ahead BUT all modules are due by their respective due date.

Late Work & Assignments

Assignments will be issued with specific instructions and due dates. For each day late, 20% will be deducted and no three day late will be accepted.

Supplemental Help

Contact instructor via email for setting an appointment to meet before class. If additional help is needed, tutoring is available through the Learning Center. Before seeking the Learning Center for assistance, contact the instructor first.

Technology & Technology Skill Requirements

You will need basic computer skills and should be comfortable using a word processing program, browsing for files, copying and pasting between programs.

You will need a computer that connects to the Internet. Your student ID number and password are required for access. If you do not own a computer OR if your computer malfunctions during the semester, you will be expected to identify a computer to use. Computers are available at the Public Library and in the Tri-C Technology Learning Centers (TLC) on each campus. Technology problems are not an excuse for missed or late work.



The Office of eLearning and Innovation offers Blackboard Orientation. Visit <http://dlc.tri-c.edu/learnbb> for more information. Computer hardware and software specifications for Blackboard can be found at: <http://www.tri-c.edu/onlinelearning>

Technical Help

If you experience a technical problem, you should call the 24/7 Customer Care Technical Support at 216-987-HELP to receive technical phone support in the following areas:

- Blackboard
- Internet Explorer
- Login issues (password resets) for My Tri-C Space
- Microsoft Office (Word, Excel, PowerPoint)
- Navigation of My Tri-C Space
- Tri-C email

Some technical support issues may not be able to be resolved over the phone. While the Customer Care Technical Support team will work diligently to assist students, it is possible that personal computer problems may require the student to contact outside technical support for assistance.

There are computers available for student use at each Campus Technology Learning Center (TLC) and your local public library. These resources should be used to keep up with your coursework while you work to resolve a computer problem.

Incompletes/Grading System

<http://www.tri-c.edu/student-resources/documents/studenthandbook.pdf>

Pass/No Pass Statement

<http://www.tri-c.edu/student-resources/documents/studenthandbook.pdf>

Withdrawal Statement

<http://www.tri-c.edu/student-resources/documents/studenthandbook.pdf>

Regular class attendance is expected. Tri-C is required by law to verify the enrollment of students who participate in Federal Title IV student aid programs and/or who receive educational benefits through other funding sources. Tri-C is responsible for identifying students who have not attended or logged into a class for which they are registered. At the conclusion of the first two weeks of a semester, instructors may report any registered students who have "Never Attended" a class so that those reported students will be administratively withdrawn from that class. However, it is the student's responsibility to withdraw, using the appropriate Tri-C form, from any class which she/he is no longer attending or risk receiving a failing grade in that class. Student's wishing to withdraw must complete and submit the appropriate Tri-C form by the established withdrawal deadline.

Grade Reporting

<http://www.tri-c.edu/student-resources/documents/studenthandbook.pdf>

Student Conduct and Academic Honor Code

Any student found to have committed or to have attempted to commit any act of dishonesty, including cheating, plagiarism, or other forms of academic dishonesty, is subject to the disciplinary sanctions outlined in the Student Judicial System.

Refer to the [Student Conduct Code 3354:1-30-03.5](#) and [Student Judicial System 3354:1-30-03.6](#) for more information about violations and College disciplinary procedures. The Student Conduct and Academic Honor code can be accessed via My Tri-C Space on the Student Services tab. The policies are located in the College Guidelines channel located near the bottom of the page.

- Penalties for Academic Dishonesty are defined in the [Student Judicial System 3354:1-30-03.6](#) - *(D) Sanctions*.
- Plagiarism as Academic Dishonesty is defined in **Tri-C Student Handbook** via My Tri-C Space on the *Student Services* tab under *College Guidelines*.



You may be closer to GRADUATION than you think

If you began your studies before Fall 2012, this information is for you.

Tri-C's degree requirements have been updated to provide more flexibility and reduce barriers so you can achieve your goal of graduation. These changes can also help those pursuing an Associate of Arts or Science degree to be better prepared to transfer to a 4-year school after completing your degree at Tri-C.

What do you need to do? 1. Run your DARS (Degree Audit Report) using Fall 2012 as the catalog term.

2. Run your DARS report using other catalog terms. 3. Determine which catalog term would be best for you. 4. Make a plan to graduate and use DARS to stay on track!

To run DARS: Log in to my Tri-C Space, Click on My Info tab, under Student Records, click on "Run a Degree Audit Report (DARs). For specific degree information, schedule an appointment with a counselor. Call 800-954-8742.

Course Correspondence

All communication in this course will be made via your Tri-C email account. Include your name, and course name, in the Subject Line of the email. Check your e-mail regularly throughout the semester. Official announcements and communication regarding your course will be made by e-mail and via Blackboard Announcements. Tri-C email can be accessed via My Tri-C Space. If you check another email account regularly, you can configure your Tri-C email to forward all messages to your other account. Additional information is found on Tri-C's technical help forum.

If you do not hear from me within 24 hours, try resending the message. If still no reply, please call. Usually I try to reply (including weekends and holidays) within a few hours. I try to reply when I am near a computer.

Discussion Board Grading

How the discussion board will be graded will be included in the section modules.

Netiquette – Policy on Online Communications

etiquette *n.* forms of proper or polite behavior in society; good manners

net *n.* an abbreviation for internet

netiquette *n.* proper or polite behavior on the internet

Communication is very important a course. To maintain a positive online environment, each of us is expected to follow these netiquette guidelines. Be advised that rules for student conduct apply in the online environment. Any use

of electronic communication on Tri-C's network, which includes Blackboard, Tri-C email, etc. for flaming or other kinds of harassment may be treated as a student conduct violation in the [Student Handbook](#) (accessible via [My Tri-C Space](#) on the Student Services tab).

- Show respect for the instructor, other students, and for the privacy of those in the online environment. Nothing threatening is ever appropriate.
- Express differences of opinion in a polite and rational way, maintaining a supportive academic environment.
- Stay focused by avoiding irrelevant topics in discussion or collaborative activities
- Use proper capitalization and punctuation rules. Use of all uppercase in a message is the equivalent of shouting and is considered offensive. *(Adapted from Barrington 220 Community Unit School Netiquette Policy)*

Campus Security and Student Safety

Campus Police and Security Services are dedicated to protecting life and property, while detecting and preventing crime. The department includes police officers, detective bureau, K-9 patrol, security officers, dispatchers, administrative staff, and student patrols.

<http://www.tri-c.edu/administrative/campuspolice/Pages/default.aspx>

When on campus always take note of the two nearest exits and emergency signs in all classrooms. If there is an emergency please call 216-987-4911 (instead 911) to assist outside emergency vehicles to be directed to the needed area on campus by the campus police.

FOR ASSISTANCE OR TO REPORT A CRIME CALL:

Non-emergencies: 216-987-4325

Emergencies: 216-987-4911

If there is an emergency alarm informing all to evacuate or a fire alarm, immediately take your personal belongings with you. Do not reenter the building until notified by emergency personnel. If there is an alarm for seeking shelter due to inclement weather, go to the lowest level and stay away from windows. Follow the directions of the announcements. A "Lock Down" announcement will require all campus members to stay in the building and not to evacuate/leave.

Cell Phone Use

Cell phones should be put into vibration mode during class and the student should leave the classroom to answer the phone and come back in when completed. Not texting and web surfing will be allowed during class.

Lab Safety

There is no specific lab safety requirement for this course. If anything would change, the instructor will notify students of changes.

Recycling on Campus

Please use the recycling bins located on campus to dispose of your cans, bottles, and paper. Do not place trash or non-recyclable materials into the recycling bins. Be a part of this important effort to conserve resources and reduce pollution.

Testing Statement

All exams will be done in class.

Exams are closed book and notes. A calculator and writing utensil are allowed.

Completed homework assignments are to be submitted in class as this is an in-class course