

**1. Course Title:**

**Engineering Project Cost Analysis**

**IET 301 – 4 Credits**

EET Program Requirement

Prerequisite: MATH153

This is a Technical content course under ABET Criterion 5

**2. Faculty Member Information:**

Instructor: Darren Olson, Ph.D.

Office: Hogue Hall Room 303

Phone: 509-963-1913

E-mail: [olsondar@cwu.edu](mailto:olsondar@cwu.edu)

**3. Course Description:**

Techniques of economic cost analysis applied to engineering projects: interest, present value, annual equivalence, rate-of-return, payout criteria, and breakeven modeling

**4. Textbook and other required materials for the course:**

Newnan, D. G., Lavelle, J. P., & Eschenbach, T. G., *Engineering Economic Analysis, 10<sup>th</sup> Ed.*, New York: Oxford University Press, 2009.

**5. Specific Learner and Expressive Outcomes and Assessment Strategies:**

ABET Outcome Criteria #	Learner Outcomes	Assessment
9.b. 3.i.	1. Demonstrate an understanding of the theoretical and conceptual basis upon which the practice of financial project analysis is built.	The Student will be able to participate in class discussions and activities, complete individual assignments, and exams.
	2. Demonstrate a proficiency in using Microsoft Excel to solve engineering economics problems	The Student will be able to participate in class discussions and activities, complete individual assignments, and exams.
	3. Demonstrate a basic knowledge of project cost analysis tools	The Student will be able to participate in class discussions and activities, complete individual assignments, and exams.

**6. Course Topics and Schedule:**

Week of	Reading Assignments and Other Information
	Course Introduction Chapter 1: Making Economic Decisions Chapter 2: Engineering Costs and Cost Estimating
	Chapter 3: Interest and Equivalence Chapter 4: More Interest Formulas
	<b>April 13-15: Dr. Olson will be out of town. There is no class on April 13 and 14. An outside assignment will be given, and <u>Exam 1 will be on April 15.</u></b> Chapter 5: Present Worth Analysis

	Chapter 5: Present Worth Analysis
	Chapter 6: Annual Cash Flow Analysis
	<b>Exam 2 will be on Monday, May 4</b> Chapter 7: Rate of Return Analysis
	Chapter 8: Choosing the Best Alternative Chapter 9: Other Analysis Techniques
	<b>Exam 3 will be on Wednesday, May 20</b> Chapter 10: Uncertainty in Future Events
	<b>Monday May 25 is Memorial Day, no class</b> Chapter 11: Depreciation Chapter 12: Income Taxes
	Chapter 13: Replacement Analysis Chapter 14: Inflation and Price Change
	<b>Final exam is on Wednesday June 10, from 8:00 – 10:00 A.M. The exam will not be comprehensive.</b>

## 7. Grading:

Student Assessment Criteria

Assignments .....	30%
Exams .....	60%
Participation/Involvement** .....	10%

≥ 92.0	A	≥ 80.0	B-	≥ 68.0	D+
≥ 90.0	A-	≥ 78.0	C+	≥ 62.0	D
≥ 88.0	B+	≥ 72.0	C	≥ 60.0	D-
≥ 82.0	B	≥ 70.0	C-	< 60.0	F

## 8. ADA Statement:

Students who have special needs or disabilities that may affect their ability to access information and or material presented in this course are encouraged to contact me or Robert Harden, ADA Compliance Officer, Director, ADA Affairs and Students Assistance on campus at 963-2171 for additional disability related educational accommodations.