

IE2111 ISE Principles & Practice II

Assignment #5

Due: 18 March 2025, 5 pm

Read these Instructions

You may use Excel or any computing tools to generate the ATCF table and copy them to your final submission. Make sure that cash flows of different types that occur in the same year are presented in different rows of the table. Submit your completed assignment into the Drop Box outside the ISEM Department Office at E1A-06-25, or to the professor/tutor at the end of the lecture/tutorial.

Assignment #3 Revisited

Consider again the new manufacturing plant investment problem in Assignment 3. After a preliminary before-tax cash analysis the company decides to eliminate Alternative *C* from further consideration. Relevant data for the two remaining alternatives is reproduced below:

	Alternative A Invest Large	Alternative B Invest Medium
Initial Investment Cost	\$1,800,000	\$1,200,000
Annual Revenue	\$450,000	\$370,000
Annual Operation Cost	\$30,000	\$20,000
Useful Life	9 years	6 years
Market value at EoY 3	\$900,000	\$450,000
Market value at EoY 6	\$450,000	\$120,000
Market value at EoY 9	\$180,000	-

The corporate tax rate is 17% and the company's after-tax *MARR* is 8%. The capital investment is subject to 3-year capital allowance claims.

- (a) If the study period is 6 years what are the after-tax *PW* of the two alternatives? Which alternative should be chosen? State the main assumptions made. (10 marks)
- (b) If the study period is 9 years, what are the after-tax *PW* of the two alternatives? Which alternative should be chosen? State the main assumptions made. (10 marks)