ENG 106 Homework #7 (due 1 Mar)

**This is a long assignment that will probably take several hours to complete.**

After-Tax Analysis

Use a spreadsheet for these problems. With a spreadsheet, you can more easily make the changes needed to solve the following problem with and without inflation.

10.40 (partial answers: lease ATCF0 = -$6600;

purchase Tax1 = inflow of $5600, ATCF1 = -$8769, ATCF3 = -$9749, ATCF4 = -$2717)

10.45: Use most of the data given, but with the following changes:

- Assume the general inflation rate f = 6% would affect all cash flows that change with inflation, so ignore the item-specific inflation rates.

- Assume the $80k salvage is in today’s (constant) dollars, and that the actual-dollar value at time of sale would be higher due to inflation.

- Assume that the given interest rate of 20% is the market MARR.

- Recall that market MARR = MARR’ + f + MARR’ \* f.

1. First set up the cash flow table in constant dollars, i.e., ignoring inflation. Calculate the PW of the project using MARR’.
2. Redo the analysis, this time taking inflation into account by using actual dollars in the table1. Calculate the PW with the market MARR.
3. Explain why the present worths are different.

1 The first working capital investment comes at the beginning of the first year (EOY 0). With inflation, the working capital must be adjusted upwards to compensate for inflation. At the end of the last year, all the remaining working capital is recovered.

(partial answers: ignoring inflation: ATCF1 = $56574, Gains Tax3 = outflow of $515;

including inflation: ATCF1 = $58854 in yr1$, Gains Tax3 = outflow of $6628 in yr3$)