Quiz # 3

MSE 304 ENGINEERING ECONOMIC ANALYSIS

Fall Session
2014

Name: ____________________
Student #: ____________________

This is an open textbook, open slides quiz. Other resources are **NOT** allowed. Read carefully all questions before providing an answer. Use only the paper provided (exam sheets). You must provide your answer directly beneath the question. Be sure to **SHOW ALL YOUR WORK.** No credit will be given for answers that do not provide specifically how the response was obtained. Good luck.

1.(5 pts) ACME Construction Co. is planning to build a bridge over the Yukon River in Alaska. The state of Alaska has specified that the bridge must last forever. What is the present worth (capitalized cost) for the bridge? Assume i=10%. In the table below, you can find all the associated costs for the project. You must draw cash flow diagram.(use other side of the sheet.)

	Cost	Year
Initial Investment	$250,000,000	Year 0
One time reinvestment	$150,000,000	Year 10
Annual O&M Costs	$50,000	Per year, for n=∞
Major Maintenance Costs	$100,000	First one on year 15, then every 15 years

2. (5 pts) Ross Inc. is considering two mutually exclusive equipment alternatives to increase its production volume. The respective financial estimates for each alternative are as follows.

	Equipment A	**Equipment B**
Initial Cost	$50,000	$100,000
Annual Benefit	$16,000	$24,000
Salvage Value	$9,000	$12,000
Useful Life (Years)	10	5

If the interest rate is 10%, which equipment should Ross Inc. select based on annual worth analysis? You must draw cash flow diagram.(use other side of the sheet.)