

Objective

The purpose of this assignment is twofold. First, you will get yet another chance to practice your skills in developing simple engineering spreadsheets for civil engineering applications - you can use the spreadsheet to help you with your concrete mix design in the project. Second, you will write a mix proportioning description for the Project #2 report and practice your skills in writing and formatting equations.

You **must** hand in the cover sheet for the assignment, a printout of the spreadsheet for Part 1, and a printout of the Word document for Part 2. Also, submit your Excel file for Part 1 and your Word file for Part 2 to the dropbox in Canvas.

Part 1: Develop a spreadsheet to compute the mix proportions for a given mix ratio and w/c to produce a specified number of cylinder and beam specimens. The values in the yellow boxes are the design variables, the data in the gray boxes are the design parameters, and the results are displayed in the green boxes. Your spreadsheet should resemble the one shown below. Use the data given below as a check for your spreadsheet calculations. Hint: your Excel formulas for this analysis should only be in the green boxes.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Pat Student								10/17/2019			
2	CIVL 1101 - Civil Engineering Measurements											
3	Assignment #6											
4												
5												
6			Mix ratio:	1.0	:	2.0	:	2.0	w/c:	0.35		
7			(cement:sand:rock)									
8												
9			Unit weight of concrete:	150	lb/ft ³							
10										Make Sure You Have Enough Factors		
11			Number of 3"x6" cylinders:	5						1.5	cylinders	
12			Number of concrete beams:	2						1.2	beams	
13			volume (LxHxW)	30	X	6	X	4	in ³			
14												
15												
16			Volume:	1.18	ft ³							
17			Weight:	177.61	lb							
18												
19			Cement:	35.52	lb							
20			Sand:	71.04	lb							
21			Rock:	71.04	lb							
22			Water:	12.43	lb							
23												
24												

Please submit your spreadsheet via Canvas. Your name and assignment number should appear in the top left corner of the spreadsheet. The date should appear in the top right corner of the spreadsheet.

Part 2: Use WORD and the equation editor object to transcribe a document. Click on the following link to download a copy of the document. Please submit your document via the dropbox on Canvas.

Part 3: Read Chapter 2 in *Strategies for Creative Problem Solving* by Fogler and LeBlanc