

Midterm 1 Comprehensive Study Guide

Class 1 Introduction to Engineering/Teamwork/COAM Learning Objectives:

- Be able to identify and describe the “How, What, When, Who and Why” of Engineering
- Be able to list four benefits of teamwork
- Be able to list and define the stages of team development

Class 2 Problem Solving

- Be able to define accuracy, precision, and bias
- Be able to determine the number of significant figures in a number
- Be able to determine the right number of significant figures to report in an answer
- Be able to report a value in standard notation, scientific notation, and engineering notation
- Be able to convert between units
- Be able to check units using unit analysis
- Be able to identify the five steps in problem solving
- Be able to understand strategies for problem solving
- Be able to apply the five steps of problem solving to a new problem
- Be able to identify a problem and solve using DRPIE
- Understand when to utilize percent error and percent difference equations
- Be able to calculate percent error and percent difference

Class 3 Introduction to Excel/ Excel Graphing

Be able to:

- Create a new spreadsheet
- Input formulas into Excel
- Utilize relative, absolute, and mixed absolute cell referencing in Excel
- Utilize good graphing practices: axis labels and units, good descriptive title
- Be able to define mean, median, mode, and standard deviation
- Be able to compute mean, median, mode, and standard deviation in Excel