

# Engineering Homework Format

Unless otherwise directed by your instructor, you should use **engineering paper** or the equivalent for all homework assignments. Write **ONLY** on the front side of the paper (the dark green grid should be on the back). An example is given below. The example was completed in pen in order to scan well; **YOU** must use a mechanical pencil.

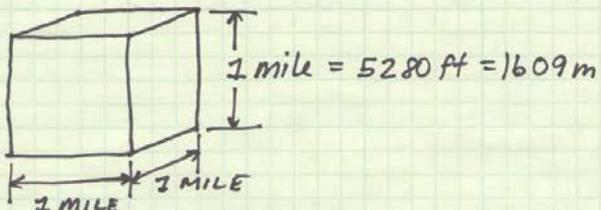
Staple	JOHN SMITH	Name	FRESHMAN CLINIC 1 SECTION 3	Class/Section	20 SEPT. 2012	Date	2/5	Page
Problem Number	2-8 METEOROLOGISTS OFTEN REFER TO AIR MASSES WHEN FORECASTING WEATHER.							
Problem Statement	<p><u>FIND:</u> MASS OF 1 MILE<sup>3</sup> OF AIR, IN SLUGS &amp; Kg. MAKE REASONABLE ASSUMPTIONS W/ REGARD TO ATMOSPHERIC CONDITIONS</p> <p><u>SOLUTION:</u></p>							
Schematic								
Assumptions	<p><u>SIMPLEST APPROACH:</u></p> <ul style="list-style-type: none"> <li>• DENSITY IS CONSTANT IN CUBE</li> <li>• CONDITIONS ARE STP (STAND. TEMP. &amp; PRES.)</li> <li>• DENSITY AIR, <math>\rho</math>, IS             <ul style="list-style-type: none"> <li>• 1.29 Kg/m<sup>3</sup> (CEREF. MANUEL, 6<sup>TH</sup> ED.)</li> </ul> </li> </ul>							
Equation	$M_{AIR} = \rho V = \frac{1.29 \text{ Kg}}{\text{m}^3} \cdot (1609 \text{ m})^3 = 5.37 \times 10^9 \text{ Kg}$							
Unit Conversion	$5.37351 \times 10^9 \text{ Kg} \times \frac{1 \text{ slug}}{14.5939 \text{ Kg}} = 3.68 \times 10^8 \text{ slugs}$							
Answer	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math display="block">M_{AIR} = 5.37 \times 10^9 \text{ Kg} = 3.68 \times 10^8 \text{ slugs}</math> <p>assuming constant density &amp; STP</p> </div>							
Commentary	<p>DENSITY IS <u>NOT</u> CONSTANT, VARIES W/ TEMP. &amp; PRES., WHICH VARY W/ ELEVATION</p>							

Figure 5: Rowan University College of Engineering Homework Format

1. Headers - The five boxes at the top of each sheet of a homework assignment must contain the following PRINTED information from left to right.
  1. A staple in the first (small) box, only if multiple pages are included.
  2. Your full name in the second (large) box. If this is a team homework, print the team leaders name in this box and the names of each participating team member below.
  3. The course and section number in the third (large) box.
  4. The date that the assignment was completed in the fourth (large) box.
  5. The page number / total number of pages in the fifth (small) box.
2. Writing Mechanics - All homework should be:
  1. Carefully printed and not written in cursive. Block lettering is often used;
  2. Printed in pencil and not in ink; and
  3. Neat and clean, i.e. printed legibly on the lines with no smudges or cross-outs.
3. Calculations - All homework calculations should be consistent with the following.
  1. Include at least one complete sample calculation for every type of calculation presented (to demonstrate how results were obtained). Where tables of results are given, sample calculations can be given below the table for a representative row.
  2. Include all units for each term in each equation. The units must balance.
  3. Use the appropriate number of significant figures (often two or three) for all results (but use at least two extra significant figures in calculations).
  4. Clearly indicate the final solution by boxing it in with a rectangle.
4. Problem Order - Problems should be presented:
  1. In the order assigned (one, two, three, etc.);
  2. With the designated problem number, from textbook or professor, under box 2;
  3. Using only the front side of each sheet of engineering paper; and
  4. With new problems starting on a new page of engineering paper, UNLESS THEY CAN BE COMPLETED IN THE SPACE REMAINING BELOW THE PREVIOUS PROBLEM.

5. Problem Essentials - Problem solutions should include the following items in order.
  1. Homework problem number listed at beginning of problem.
  2. The problem statement. A printout of a problem statement can be used. In the case where a printed problem statement includes multiple problems, it can be the first page of the homework. Just put your name in the upper left (no course/section number, date, or page numbers).
  3. The required information - the information or solution that we are looking for.
  4. A straight-edge or carefully drawn diagram(s) that clearly illustrates the problem. Optional, but often needed.
  5. The solution of the problem including all required steps and calculations.
6. Evaluation - Double-check all of your calculations to make sure that:
  1. All calculations are correct, i.e., you made no errors in using calculator or computer;
  2. All equations are correct, i.e., you made no errors in manipulating equations; and
  3. All units balance, i.e., you derived the correct units for the desired solution.
7. Computers - Homework Assignments using Computers must comply with the following.
  1. Show sample calculations (with units) for each spreadsheet calculation. A typical printout of a spreadsheet is not sufficient because of the difficulty in inferring formulas from the numbers. Spreadsheet formulas can be shown in Excel using [Ctrl] [~]. The spreadsheet of formulas can then be printed. This can be turned in with the typical printout. Some teachers will want sample calculations instead, as discussed above.
  2. Do not include raw data from data acquisition experiments, unless requested by the professor. A graphical presentation of this data is usually sufficient.