

Guidelines for Problem Presentation

STATICS (MATH 2610), FALL 1998, Robert Gardner

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An engineer is judged on the basis of the work produced. Since this work is usually in written form, and because the work must be easily followed by other individuals, it is imperative that each engineering student learn to communicate effectively by documenting clearly each step of all calculations. One of the goals of this class is to reinforce proper methods of presenting the solutions to engineering problems. This guide is intended to aid the student in achieving that goal.

1. Use only $8\frac{1}{2} \times 11$ inch "Engineer's Computation Pad" paper - no legal sizes or pages torn from composition books. Use only the front sides of the pages. Upon completion of the problem set, place a staple (no paper clips or dog ears) in the upper left-hand corner and write your name, course, and due date on the first page as shown on the sample problem (attached). Put your name on each subsequent page. Place the (page number)/(total number of pages) at the upper right of every page. Submit your problem sets unfolded.
2. Use a pencil (no pens) and print neatly. Use a straight edge and templates for diagrams, or free-hand if they are neat.
3. Begin each problem on a new page. Do not crowd your work.
4. Vector quantities should be clearly identified with a standard notation, such as underlines, over-arrows, under squiggles, etc. Failure to distinguish vectors from scalars is a bad practice which usually leads to catastrophic thinking errors.
6. The following points are to be observed in the solution of individual problems:
 - (a) Although rewriting the entire problem statement is unnecessary, a statement of the given and required quantities should be made. The following format is suggested:
GIVEN: (including diagram, if required)
FIND:
SOLUTION:
 - (b) There should be a clear statement of the method(s) utilized. This could be in the form of a governing equation (in variable form). Show enough steps in your solution to allow the reader to easily follow your thinking.
 - (c) If equations are used, first indicate the equation in variable form (symbolic form). Then substitute known magnitudes into the equation. Indicate intermediate steps as desired. Display the final answer clearly marked with double underline or in a box. Proper units are part of the answer.
 - (d) Final answer:
 1. Three significant figures if the first non-zero number begins with 2 through 9.
 2. Four significant figures if the first non-zero number begins with a one.Carry intermediate results in calculator registers so as to avoid round-off errors.