

## Guidelines for Homework Preparation

All homework should be submitted by 10:00 a.m. due-date. Homework should be submitted in a 'paper' form and should have all sections as described in **Outline For Homework Problem Format** below. We strongly suggest that you use word processor to write homework assignments. More importantly all equations should be generated by equation editor (MathType is really good).

- Use clean, A4 size paper. Engineering paper is OK.
- Write/print on only one side of the paper.
- Write/print the following in the upper right-hand corner of each page
  - Your Name
  - Due Date, Assignment No
  - Page number/total pages
- Securely staple all pages; do not fold or paper clip together.
- Show all of your work. Draw a block around your final answer(s).
- For graphical solutions, use graph paper, only. Label the axes of your graph and include units.
- Use computer generated plots; or a straight edge when making figures and graphs.
- Provide computer program listings, if used, on a separate sheet.
- You may use spreadsheet program whenever appropriate.
- Start a new problem on a new sheet of paper.
- Neatness is important and appreciated.

# Outline For Homework Problem Format

## **Problem Statement**

Contains a statement of the problem to be solved. Usually, the problem statement will be given by your instructor.

## **Illustration**

Illustrate the physical system; draw in the system boundary.

## **Assumptions**

List assumptions and conditions that are used in problem formulation.

List simplifying assumptions that reduce unnecessary problem complexity.

List mathematical assumptions that facilitate analytical solution.

## **List of Variables**

Provide an alphabetical list of variables used in your model. Give a brief description and units of each variable.

## **Mathematical Model**

Develop a mathematical description of the physical system, i.e. formulate the model equations. Perform shell balance on differential element of space and/or time if required. Reduce shell balance to the differential model equations. Select boundary and/or initial conditions.

## **Solve the Model**

Use appropriate analytical technique to solve obtained algebraic/differential equation(s). If necessary or required solve the model numerically.

## **Brief Discussion of Results**

Verify model results/predictions. Discuss the results of your solution. How well did your solution/algorithm work? Include comments on any particular difficulties and how they might be alleviated.