

**MA30118: MANAGEMENT STATISTICS**  
**Assessed Coursework: Quality Control**

**Preamble**

The purpose of this assignment is to make you aware of the possible disadvantages of the 'standard' method of setting up control charts and of possible alternatives. The assessment will be based on your ability to explain in simple terms the principles and issues involved.

**Set:** Tuesday 20th April, 2004.

**Due in:** Please hand the work in to the Mathematical Sciences Department Office, 1W3.12 by 12 noon on Tuesday 18th May, 2004. The work should be accompanied by a completed Coursework Cover Sheet, available either in lectures or from the Departmental Office.

**Time:** The average student should spend approximately eight hours on this assignment.

**Length:** No more than 2000 words.

**Conditions:** The assignment should be your own work, though you are free to discuss it with your peers. You may also consult me for general advice. It should be completed in your own time.

**Value:** This assignment carries 100% of the total marks for coursework, and 40% of the total marks for the course.

**The Task**

You are a Management Trainee in a manufacturing company that uses mean and range charts, with mixed success, to control several different production lines. Your boss has heard about the following article:

Caulcutt, R. (1995) The Rights and Wrongs of Control Charts. *Appl. Statist.*, **44**, 279-288.

The article makes some interesting observations on the setting up of charts. Your boss, knowing that you studied Statistics in your degree course, asks you to read the paper and summarise its findings.

Write a report, in your own words, summarising what you consider to be the main points made by Caulcutt and explaining the principles involved. You may assume that your boss has some, but not an extensive, knowledge of Statistics. Your boss is a busy person, so you should aim to be as concise as possible, and rambling answers should be avoided. Moreover, you have not been asked to write a general account of process control. Your boss does not expect that you will know every technical term or concept, which is used in the paper, but expects that you can meet the challenge of producing a good report even though there may be a few things in the paper you are not familiar with.

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