Fox Module 2 Basics of regression analysis

- Naive non-parameteric regression
- Local averaging

Read the introduction to Chapter 2, “What is regression analysis,” on pages 13-15; the box on page 14 defines regression analysis. You must know what scatterplots show, though the details of each scatterplot in the text are not tested.

Read Section 2.1, “Preliminaries,” on pages 15-17. Know the five bullet points beginning with “skewness” at the bottom on page 15.

Read Section 2.2, “Naive non-parameteric regression,” on pages 17-21. Know the two bullet points on bias and variance on page 19.

Read Section 2.3, “Local averaging,” on pages 21-24. Lowess curves are used for non-parametric smoothing. The description of lowess smoothing is brief; you won’t have to form lowess curves for the final exam.

Years ago, people drew regression lines to see relations in scatterplots. Now people use lowess curve, or non-parametric estimators. The lowess curves are weighted average regression lines, whose weights depend on the empirical data.

Forming a lowess curve is complex, and the final exam does not ask you to draw one. If you have a set of data, R forms a lowess curve for you.