

Advanced Statistical Methods in Space and Time

The following is an example of a structure for a course that might be delivered to statistics or mathematical graduate students who have an interest in spatio-temporal methods and how they might be applied in epidemiological analyses. Students would be expected to be familiar with Bayesian analysis.

Reference is given to the material in the chapters in the book together with suggested times that might be dedicated to that material.

Chapter	Sections	Suggested timing
CHAPTER 1 - WHY SPATIO-TEMPORAL EPIDEMIOLOGY?	All	0.5 week plus background reading
CHAPTER 2 - MODELLING HEALTH RISKS	2.1, 2.8 – 2.12 inclusive	0.5 weeks
CHAPTER 3 - THE IMPORTANCE OF UNCERTAINTY	All	0.5 week
CHAPTER 5 - THE BAYESIAN APPROACH IN PRACTICE	All	1 week
CHAPTER 7 - IS 'REAL' DATA ALWAYS QUITE SO REAL?	All	1.5 weeks
CHAPTER 8 - SPATIAL PATTERNS IN DISEASE	All	1.5 weeks
CHAPTER 9: FROM POINTS TO FIELDS: MODELLING ENVIRONMENTAL HAZARDS OVER SPACE	9.1 – 9.11, 9.13, 9.14 inclusive	2 weeks
CHAPTER 10 - WHY TIME ALSO MATTERS	10.1 – 10.8 inclusive	1 week
CHAPTER 11 - THE INTERPLAY BETWEEN SPACE AND TIME IN EXPOSURE ASSESSMENT	11.1 – 11.5 inclusive,	1 week
CHAPTER 13 - BETTER EXPOSURE MEASUREMENTS THROUGH BETTER DESIGN	All	1.5 weeks
CHAPTER 14 - NEW FRONTIERS	All	2 weeks