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Instructor: [Dr. Paul Tupper](#)

Prerequisite:

STAT 270 and MATH 310 or MACM 316 or STAT 380. This course is taught in conjunction with MATH 495.

Textbook:

Handbook of Stochastic Methods, 3rd ed., by C.W. Gardiner, Springer-Verlag 2004. ISBN: 3-540-20882-8

The text is out of print at present, but new and used copies are available from many online bookstores. The website bookfinder.com can provide you with a list of such bookstores along with the price they are selling the text for. Any edition of the text will suffice for the class.

Outline:

This course is an introduction to stochastic differential equations (SDEs) and related topics. My goal is to get students comfortable with SDEs for modelling and simulation purposes. Homework will involve both analytical and computational work. The application areas I know best are physics and chemistry, so the course will be tilted this way. However, the tools we'll learn are useful in many different areas, particularly fi