WARWICK
THE UNIVERSITY OF WARWICK

Welcome to MA933
Stochastic Modelling and Random Processes

Susana Gomes

October 3, 2023

Module Admin

Lecturer: Susana Gomes (susana.gomes@warwick.ac.uk)
TA: Andrew Nugent (a.nugent@warwick.ac.uk)

- You can find me in office B1.05.
- I did not set any official office hours – feel free to knock on my door, email me or stay behind after lectures to set up a time.

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Lectures are on Tuesdays 10:00-12:00 and Fridays 10:00-11:00 here in D1.07.

Support Classes are with Andrew on Fridays 11:00-12:00.

I will not stream lectures live unless there is a good reason to (e.g. somebody is sick - we can discuss this).

Dates to note

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I will aim to give you the assignments two weeks in advance, and to mark them and give you feedback before the next one is due.

There will be a link and instructions to submit your work in due course.

The assignments will be part theoretical and part computational - you can use any programming language of your choice, as long as it is commented and I can check it if I need to when marking.

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- I'll upload problem sheets on Tuesdays for the problems class on the following Friday.

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Here's a rough list of topics we will be covering:

1. Basic probability, simple random walk, discrete-time Markov chains (Weeks 1-2)
2. Continuous time Markov chains (Weeks 3-5)
3. Processes with continuous state space. Brownian motion, diffusion and SDEs (Weeks 5-6)
4. Stochastic particle systems (Week 7)
5. Graphs and Networks (Weeks 8-9)
6. Random graphs (Weeks 9-10)
7. Some extensions and/or applications (to discuss, Week 10)

Enough about me...

Any questions?

Your background

Before we begin, a bit on your background.

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- Coding (matlab? python? Other languages)