

MAS3921 / 8610

Extreme Value Theory

Dr. Lee Fawcett and Dr. Vianey Palacios-Ramirez

Semester 2, 2025/26

Contact details

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Timetable and Administrative arrangements

- **Lectures** are on **Mondays** at **5pm** (Herschel LT3) and **Wednesdays** at **9am** (Percy G.05)
- Every fortnight, starting this week, there will also be a session on **Fridays** at **12pm**:
 - ▶ Odd teaching weeks: **Problems class** (Percy G.05)
 - ▶ Even teaching weeks: **Computing class** (Herschel cluster)

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Module assessment

- May/June Exam (**80%**)
 - 2 hours
 - Five equally-weighted questions, you must choose three
 - ▶ MAS3921: Three questions from (Q1, Q2, Q3, Q4)
 - ▶ MAS8610: Two questions from (Q1, Q2, Q3, Q4) and Q5
 - Each question will have some easy bits, some hard bits
 - At least two specimens!
- Written Report (**20%**)
 - Calculations, derivations interpretation/insights/discussion
 - Will not go beyond what we cover in Chapters 1–4
 - Can work in small groups of up to 4 students if you wish
 - Deadline for submission: **4pm, Wednesday 22nd April 2026**
- Numbas assessment (**0%**)
 - After the written report has been submitted, a Numbas assessment will go live
 - “Formative” assessment – counts for 0% of your module grade
 - Closes at **4pm, Friday 5th May 2026**

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All lecture notes will be available in advance on the MAS3921/MAS8610 Canvas page.

Notes will be available in two formats:

- HTML screen-reader-friendly, **accessible lecture notes**
- **Traditional PDF lecture notes** for printing:
 - With gaps, for students who like to write stuff down during lectures
 - With the gaps filled in (**in red font**)

- A summarised version of the lecture notes will be used as **slides** in the lectures
- These slides will be made available via Canvas after the lecture, along with the associated **ReCap recordings**
- **Solutions** to problem-solving exercises will be made available via Canvas after the deadline for each assessment has passed
- One last thing... There is an excellent **course textbook** available to buy, or to loan from the University library:

An Introduction to Statistical Modeling of Extreme Values,
by Stuart Coles.

History of this course

- MAS369: **1995–2000** – Dr. Mark Dixon – now the multi-millionaire founder of sports betting company ATASS
- MAS369: resurrected in **2002** for one year only – Dave Walshaw (see OHP slides...)
- Course: **Reading module** for Stage 3 MMath/MMathStat students (and select BSc students!)
- New Stage 4 module in **2011**: material in MAS369 out-of-date with current research – a more advanced “topic” in MAS8306
- Now we want to bring some of this material to stage 3 students – very timely, given the current climate emergency

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- To expose you to an area of **active research** in the School
- To expose you to a very **hands-on**, applied area of Statistics
- To give you a **firm grounding** in the **basics** of techniques for analysing environmental data...
- ... but also to bring you bang up-to-date with **current research ideas**
- Quite a niche area of research, but along the way we will have to get to grips with some more generic statistical tools

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A word on pre-requisite knowledge

- Statistical “Theory”: I will not assume any knowledge past 2nd year Statistics courses (**MAS2901** and **MAS2906** in particular)
- Statistical “Practice”: Some basic **Statistical Modelling** techniques will be used, but will be fully demonstrated if they go beyond MAS2901/MAS2902
- We will make use of some techniques from these courses (e.g. **maximum likelihood**) – these will be quickly reviewed, as-and-when they make an appearance, but you may want to consult your old notes for further details

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*Let's start with some (non-mathematical)
background and motivation...*