

Lecture 01a – Welcome

ENVX2001 Applied Statistical Methods

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The University of Sydney

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Outline

- About
- South Eveleigh Precinct
- Why study statistics?
- Doing well
- Learning outcomes

About

Staff | Structure | Attendance

Staff



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Structure

Lectures

Tue 10 AM – Chemistry Lecture Theatre 1

Wed 11 AM – Chemistry Lecture Theatre 3

Tutorials

Self-guided sessions (1 hour), to be completed before the week's lab.

Labs

All labs are held in the **South Eveleigh Precinct** (more on this later):

- Thursday 9 am – 12 pm
- Friday 10 am – 1 pm, 2 pm – 5 pm

Attendance

- Mandatory for labs, **80%** minimum required.
- Lecture attendance is highly recommended, but not compulsory.
- Lecture recordings capture slides and audio *only*. You will miss out on important discussions and informal feedback.

Assessments

► Code

Assessment	Weight	Due	Description
Project 1	10	Week 5	Report -- Describing data
Project 2	20	Week 10	Report -- Analysing experimental data
Project 3	20	Week 13	Presentation -- Modeling multivariate data (Topics 7 to 12)
Canvas Quizzes	5	Weekly	Weekly quizzes
Final exam	45	TBA	2 hours, Multiple Choice Questions + Short Answers

South Eveleigh Precinct

Used to be known as the **Australian Techonology Park** (ATP). *Still is, but it used to, too.*

Biomedical Building



Credit: Michael Wheatland

Directions

Buses

Courtesy buses are available:

- Best option is to take the bus from **Fisher Library** to **Redfern Station**, then walk to the precinct (through the new station platform as “local traffic”).
- Alternatively, direct buses are available – but less frequent.

Driving

Free parking is available around Henderson Road, but it is extremely crowded. We do *not* recommend driving to the precinct.

Walking

Why study statistics?

Why would it be relevant to my (non-statistical) career?

Learn, so you can...

- Conduct effective **research**; *but if you are not a researcher, you can still...*
- Critically **evaluate** research findings; *but if you don't plan to read scientific literature, you can still...*
- Make informed **decisions** based on evidence and know the signs when someone is trying to mislead you.



Source: *Anchorman* (2004)

Doing well

Attend lectures | Put in the hours | Ask questions

Attend lectures

Attending a lecture is *not* the same as watching a recording...

- You can **ask questions** and *interact* with your peers.
- Your **lecturer** actively adjusts the pace/content based on your *informal* feedback (e.g. confused looks, Google polls).
- If you don't *understand* something, there is a *good* chance that you can address it *before* the next lecture or lab.

Put in the hours

- This is a **6 credit point** unit, which means that you are expected to spend **120 – 150 hours** in total, including exam prep time (~10 h per week)!
- **Practice makes perfect.** Tutorials and Labs help you apply the concepts you learn in lectures – complete all the exercises, and practice with the bonus questions provided.



Ask questions

- **Ed** is the *best* place to ask questions. We are way more responsive on **Ed** than on email.
- We are *open* to the use of AI tools (including LLMs like ChatGPT) to help you answer questions about code... but don't use them to cheat *yourself* out of learning.
- We have **drop-in sessions**, where you can jump in and have a chat on Zoom. We will announce the schedule on **Ed**.

Learning outcomes

By the end of this course, we want you to be able to:

- **LO1** demonstrate proficiency in designing sample schemes and analysing data from them **using R**.
- **LO2** describe and identify the basic features of an **experimental design**: replicate, treatment structure and blocking structure.
- **LO3** demonstrate proficiency in the use of the statistical programming language **R** to apply an ANOVA and fit regression models to experimental data.
- **LO4** demonstrate proficiency in the use of the statistical programming language **R** to use multivariate methods to find patterns in data.
- **LO5** interpret the output and understand conceptually how it's derived of a regression, ANOVA and multivariate analysis that have been calculated by R.
- **LO6** write statistical and modelling results as part of a scientific report.
- **LO7** appraise the validity of statistical analyses used in publications.

Thanks!

Questions?

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