

**Lectures:** Monday 9 to 10:30am PAR 166-L1-103 (Old Metallurgy) - Once a week

**Workshops:** Wednesday 11 to 1pm apar 125-L1-127 WEBS - Once a week (weeks 2-11)

Teaching week	Date	Who will be teaching	Lecture topic	Workshop	Quizzes	Weekly reading (included in quiz)
Week 1	28-Jul	Iliana Medina	Welcome, introduction to subject and R selfassessment	NO WORKSHOP		NO READING
Week 2	4-Aug	Kristoffer Wild	Introduction to R, creating projects and learning to use AI	Description of semester projects, choice of project groups, creation of R project	Quiz 1	NO READING
Week 3	11-Aug	Kristoffer Wild	Data cleaning and exploration 1	Start working with project dataset, understanding data, cleaning dataset		Zuur, A. F., Ieno, E. N., & Elphick, C. S. (2010). A protocol for data exploration to avoid common statistical problems. <i>Methods in ecology and evolution</i> , 1 (1), 3-14.
Week 4	18-Aug	Kristoffer Wild	Data cleaning and exploration 2	Exploration of project datasets	Quiz 2	NO READING
Week 5	25-Aug	Liz Bromfield	Transparency and reproducibility	Research integrity and public perceptions of science	Coding assignment. (20%) due on Friday 29th.	<u>Baker, M. (2016). 1500 scientists lift the lid on reproducibility. Nature. 533. 452-454.</u>
Week 6	1-Sep	Liz Bromfield	Experimental design	Understanding experimental design	Quiz 3	<b>1.</b> Marshall, D. J. (2024). Principles of experimental design for ecology and evolution. <i>Ecology Letters</i> , 27 (4), e14400. <b>Forshed, J. (2017). 2.</b> Experimental design in clinical 'Omics Biomarker Discovery. <i>J Proteome Res.</i> 16, 3954-3960.
Week 7	8-Sep	Rory Craig	Data wrangling: Control flow	Building functions and loops		<u>Book section: <a href="https://r4ds.hadley.nz/functions.html">https://r4ds.hadley.nz/functions.html</a> (Section 25) &amp; Watch video: <a href="https://www.youtube.com/watch?v=3uK1OzA7CIs">https://www.youtube.com/watch?v=3uK1OzA7CIs</a></u>
Week 8	15-Sep	Rory Craig	Introduction to command line and HPC	How to use the command line and how to use Spartan	Coding assignment (15%) due on Friday 19th.	NO READING
Week 9	22-Sep	Iliana Medina	Data visualisation 1	Preparing the figures for project datasets	Quiz 4	Nature collections: Visual strategies for biological data. Pg 15, 17 and 32.
<b>MID SEMESTER BREAK</b>						
Week 10	6-Oct	Iliana Medina	Data visualisation 2	Poster making tips: Preparing the poster for next week		NO READING
Week 11	13-Oct	Liz Bromfield	Other specialised visualisation methods and software	<u>POSTER PRESENTATIONS! 15%</u>	Quiz 5 (during lecture)	NO READING
Week 12	20-Oct	Iliana Medina	Final lecture and hacky hour: Bring your own MSc research project plots for discussion and tips.	NO WORKSHOP		NO READING
Exams week	12-Nov	No classes or workshops	NO LECTURE	NO WORKSHOP	<u>SUBMISSION OF FINAL REPORT (30%)</u>	