



Lecture 0

Course overview

WILD6900 (Spring 2019)

LOGISTICS

Lecture: Tuesday and Thursday 1:30-2:45 BNR 113

Credits: 3

INSTRUCTOR

Dr. Clark Rushing

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Office: NR 146

Office hours: Monday and Wednesday 1:00-2:30 (or by appointment)

COURSE FORMAT

Refer to [syllabus](#)

WHY BAYESIAN?

Why Bayesian?

Philosophical advantages

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- 2) Coherent framework for incorporating prior knowledge into analysis
- 3) Proper accounting of uncertainty
- 4) Ease of estimating latent variables (and uncertainty)

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- 4) Ability to keep up with the literature
- 5) Ability to review manuscripts/proposals that use Bayesian methods

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- 2) Few (no?) "canned" software

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These developments have led to many people adopting Bayesian methods even if they don't fully understand what they're doing. They also led to some ecologists becoming full-on Bayesians and then a predictable backlash from those that view these methods as needlessly complex and overly trendy (i.e., statistical machismo)

The methods you'll learn about in this class, just like all statistical methods, are tools to help you answer questions

Your job as a researcher is to choose the tools that best suite your question and your data. The goal of this course is to **expand your toolbox**

Why are you interested in learning
Bayesian methods?

REPRODUCIBLE RESEARCH

Reproducible research

What makes research "reproducible"?

Many definitions (Goodman et al. 2016) but for the purposes of this class, we will define it as:

The ability of independent researchers to reproduce scientific results using the original data and methods (adapted from Markwick et al. 2018)

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- At a minimum, reproducibility means someone could re-run your analyses and come up with exactly the same answer

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- 4) To make it easier to revise your analysis later

You always have at least one collaborator on every project - you future self. And your past self doesn't respond to email

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Additional resources

- Cooper, N. & Hsing, P. (2017) [A guide to reproducible code](#) British Ecological Society