

**ECL 290: Best practices for project management in ecology**  
**Fall 2021 | Virtual format | CRN 29849**

**Are you feeling overwhelmed managing one or more research projects?** Do you wonder how some people do this with astounding efficiency? Chances are they rely on a series of good practices, organizational structures, and software tools. It's likely that you incorporate some, but perhaps not all, of these tricks-of-the-trade. This 290 is designed to facilitate a series of weekly student discussions where we can all learn from each other and ultimately achieve effective and efficient project management. Potential topics include database design and management, reference management, file path design, version control, and code organization.



**Students can:**

- a. Choose a paper/blog/tutorial for everyone to read and lead a discussion
- b. Invite a guest speaker and facilitate a discussion/workshop/etc.
- c. Lead an exercise, discussion, and/or workshop on a relevant topic of their choice

**Suggested Topics**

• **Reference management software**

- Software - Zotero vs. Mendeley vs. others
- Shared libraries
- Indexing subtopics

• **File path structure**

- Importance of maintaining a known structure for local and backup files
- Advantages/disadvantages of same consistent file structure across projects
- Determining a standardized template for file path structures that can be edited to suit your project needs

• **Electronic version control**

- Coding (GitHub)
- Writing (RMarkdown, others)
- Other (permits, grants, etc.)

• **Custom database design**

- Choosing primary keys and creating fields that allow for project evolution
- Sharing with collaborators
- Software (mySQL vs. Access vs. others)

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- **Data backup tools**

- GitHub
- Cloud services
- How often? Where?

- **Writing tips / tricks**

- Reference matrix
- Productivity tips and tricks
- Writing groups

- **Data organization / collaboration**

- How to adjust your organizational systems to function in collaborative projects
- How to efficiently share data and progress with collaborators
- Helpful software/websites (things like R projects, Trello, etc.)

- **Coding tips / tricks**

- Personal reference code (efficiently retrieve your old genius code)
- Automating QAQC procedures