

Lecture 10 – Best Practices Discussion

Learning Objectives:

3. Learn the basic principles of software design.

3.1. List the best practices in scientific computing.

3.2. Discuss which practices are highest priority for individual projects.

Announcement: Midterm project handout on Github!

Class Discussion

- 1. What are the highest priority goals for scientific computing?**
- 2. What are the best practices that would be reasonable to implement for YOUR research project?**
- 3. What are the best practices that would be reasonable to implement during this course?**

Design an Assessment Tool

1. What aspects of these best practices should be assessed?

2. How should each be weighted against the others?

3. How would you reward improvement in the assessment?

More Information

**<https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1001745> –
Wilson et al. 2014, Best Practices for Scientific Computing**

**<https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005510> –
Wilson et al. 2017, Good Enough Practices in Scientific Computing**

**<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5490478/> –
Jiménez et al. 2017, Four simple recommendations to encourage best practices in
research software**