# Outline for how to read an original research paper

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**General comments:**

- Your attitude: appreciate the work but accept the conclusion with reasonable doubt/critical thinking;
- Understand the major question/big picture in the field and specific issue(s) to be solved by this paper;
- Identify the unique approaches/method for addressing the problem(s);
- Conclusion/results that make novel conceptual and technical contributions to the field
- Sometimes you want to see any opportunity opening up for your own project because of the reported finding

**Result and data:**

- Discuss the figures generally in the order presented in the paper. Supplemental figures can be mentioned if they are controls but should be fully discussed if they are integral to understanding the paper.

- How to approach new data. Ask yourself the following questions, which is a good thing to do when determining how to present one's own data.

  → Why did they do the experiment?
  → What were they trying to accomplish with this experiment?
  → Rationale for the specific experiment and how the authors try to build up their case to push one's final point(s) or conclusion;
  → How did they do it? What method? What are the controls and assumptions of this method?
  → What is their conclusion? How strongly do you agree/disagree?

**Journal Clubs & Critical Reading:**

- Critically reading of the primary literature is the greatest challenge to young researchers and simply it does not come easy to most.
- Importantly, what you get out of the exercise is proportional to your investment and those who work at it will noticably improve over the course of single semester.
- You absolutely MUST read the paper prior to class and be prepared to discuss each figure or provide a synopsis of the major findings/conclusions.