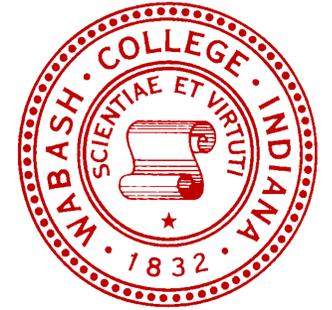


An Integrated Scaffolded Research Experience for Psychology Majors



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Introductory Psychology (PSY101)

Some focus on content.

Emphasis on HOW we know these facts.

- What is the scientific method?
- Correlation vs. experiment.
- Simple experiments with data collection, analysis, interpretation, and reporting.
 - experiment conducted during class
 - a class day devoted to active, collaborative work with an actual study
 - theoretical predictions about a follow-up experiment, data collection and analysis

Textbook: Myers. *Psychology*.

- We're thinking of switching away from a standard textbook, but haven't yet.

Research Methods & Statistics (PSY201 & 202)

PSY201 (required for minors and majors):

- philosophy of science
 - what makes something a science?
 - experimental design
- descriptive statistics
- inferential statistics with one group
- replication project
 - groups of 4-5 students
 - replicate a published study, picking from 10 chosen by the department
 - IRB approval
 - data collection, analysis
 - APA style paper
 - Learning how to conduct studies w/o having to create their own.

PSY202 (required for majors):

- inferential statistics through 2-way chi-square and ANOVA
- SPSS
- creation of a "stats binder"
 - when to use each test
 - how to do the tests in SPSS
 - example problems
 - APA reporting format
 - used in future classes, capstone, senior comprehensive exams
- extension of replication project
 - next logical step
 - fixing conditions that didn't work
 - adding a second variable

Textbooks:

- Stanovich. *How to Think Straight About Psychology*.
- Pelham & Blanton. *Conducting Research in Psychology: Measuring the Weight of Smoke*.
- statistics books vary by professor, but include
 - Witte & Witte. *Statistics*.
 - Gravetter & Wallnau. *Essentials of Statistics for the Behavioral Sciences*.

Content Courses (200-level)

We offer content courses in each of the 5 areas of faculty specialty – students must take at least 2:

- behavioral neuroscience
- cognitive psychology
- developmental psychology
- sensation & perception
- social psychology

Research In ... Courses (300-level)

Majors must complete two of these courses, continuing from the 200-level content courses they took.

The format varies, but can include

- journal club
- replication research
- novel research, the class as a whole or independently, sometimes students acting as subjects
- experiment proposal (possibly leading to a capstone project)
- single day demonstrations of examples of research (e.g., taste adaptation, language categorization)
- advanced statistical analysis
- APA-style papers
- peer review of papers

Publications have resulted from data collection and experiment proposals.

Literature Review (PSY301)

What is a literature review? How does it differ from a primary research article?

~12 pages final product; 20+ references

Additional articles/sources are required at each week's meeting.

Working with Excel table to organize articles

- columns for citation information
- columns for aspects of paper topic/sections of paper

Building an outline, fleshing it out into the final paper

Peer review

Workshop format

- class time for discussion of the writing process
- in-class work time with faculty member present for questions/guidance

Can be a pre-cursor to capstone, or a completely separate topic.

"Idea Kernels" are given out

- research ideas the faculty want to work on
- the students can frame their lit reviews and capstone projects around these

Texts:

- Galvan, J.L. *Writing Literature Reviews*.
- Szuchman, L.T. *Writing with Style: APA Style Made Easy*.
- Gopen & Swan (1990). The science of scientific writing. *American Scientist*, 78, 550-558.

Senior Capstone (PSY495 & 496)

Year-long directed research project in a faculty-member's lab. Required of all psychology majors.

Usually a topic from the faculty member's research program.

In rare instances, these can be student-generated.

Benefits:

- we know the literature better (even if they did their PSY301 papers on this topic)
- we know the capabilities of our labs
- higher chance of publishable product (see below)
- we get teaching credits for completing research we want to do

Downsides:

- students don't generate the study from the ground up

Senior majors meetings ~once/month, whole year

- how to prepare IRB requests
- how to prepare a research talk
- practice 2-minute elevator ride version of project (idea comes from venture capitalism – describe your project coherently before the venture capitalist gets off the elevator)

PSY495 (fall):

- Introduction
- Methods
- IRB approval
- stimulus generation

PSY496 (spring):

- data collection
- oral presentation at the Mid-America Undergraduate Psychology Research Conference
 - group trip, seniors + 2 faculty members, overnight, meals, nice bonding experience
- poster presentation at on-campus Psychology Research Symposium
 - best presentation receives cash award and poster hung the next year in a prominent location
 - alumnus invited back for keynote talk
- entire APA-style paper written up

Publications resulting from capstones:

Bost, P.R., & Prunier, S.G. (W'09). (in press). Rationality in conspiracy beliefs: The role of perceived motive. *Psychological Reports*.

Dalhaus, R.N., III (W'11), & Gunther, K.L. (2012). A tritan *Waldo* would be easier to detect in the periphery than a red/green one: Evidence from visual search. *Journal of the Optical Society of America A*, 29(2), A298-A305.

Horton, R. S. & Tritch, T. (W'10). (in press). Clarifying the links between grandiose narcissism and parenting. *Journal of Psychology: Interdisciplinary and Applied*.

Olofson, E. L., Casey, D. (W'12), Oluyedun, O. (W'12), Van Herwegen, J., Becerra, A. (W'12), & Rundblad, G. (Submitted). Children with autism spectrum disorder comprehend lexicalized and novel primary conceptual metaphors.