Research Seminar for New Graduate Students in Psychological Sciences
Psychology 300a (A&S)
Psychology and Human Development 3960P (GPC)
Fall 2010

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Time: Mondays, 4:10-6:00 PM
Location: Wilson Hall 122

Textbook: *On Being a Scientist: A Guide to Responsible Conduct in Research, 3rd Edition*
The National Academies Press
Available free online: http://books.nap.edu/catalog.php?record_id=12192

Core competencies of a successful scientist include scientific knowledge, research skills, communication skills, teaching, professionalism, leadership and management skills, and responsible conduct of research. This course will provide part of your introduction to each of these core competencies that will further develop as you progress through your graduate and postdoctoral training.

In addition to our weekly course meetings, one of your orientations to Psychological Sciences at Vanderbilt will be to avail yourself of all the various area group and departmental colloquia this year. There are colloquia in most of the area groups in Psychological Sciences. In addition, there are talks sponsored by centers like CICN, VVRC, the Kennedy Center, and the Vanderbilt Brain Institute. There are invited speakers in affiliated departments across campus. Over the next several years, you will be focusing most of your efforts on the research going on in your home laboratory. As part of your professional development, we expect you to attend major departmental colloquia and job talks given by prospective new faculty. As part of your overall development as a scientist, you should get in the habit of attending some talks that may not seem directly relevant to your area of research. Being able to converse intelligently with researchers from other areas of behavioral and brain sciences is an important part of professional development. But in addition, surprising new insights relevant to your research may emerge in the most unexpected places.

Online RCR Requirement:
All new graduate students in Psychological Sciences at Vanderbilt are required to complete an online course in Responsible Conduct of Research (RCR) available through CITI www.citiprogram.org. If you have not before logged in at CITI, you will need to register as a new user and create a login and password. Select the RCR course in Psychological Sciences. Note: You may also need to take CITI courses on research with humans or animals. The RCR online course is different from these courses. Also Note: We have listed particular RCR modules that need to be completed before a particular class. You can complete all of the RCR courses at once. Or you can complete them as needed over the course of the semester. For more Vanderbilt-related RCR topics, see this page: http://www.vanderbilt.edu/rcr.

RCR Certification:
When you have completed all of the required RCR modules, you will need to send an electronic copy (pdf or scanned jpg file) of your RCR certificate of completion to the designated staff person for your home department (Sharone Hall in Psychology and Human Development, Vay Welch in Psychology).

Class Schedule:

8/30: Orientation to Psychological Sciences at Vanderbilt, Discussions of Graduate Mentorship
Continued discussion of the requirements for the PhD in Psychological Sciences. Open Q/A session on the program and Vanderbilt. Discussion of graduate mentorship in Psychological Sciences at Vanderbilt.
Guest Speaker: Craig Anne Heflinger, Associate Dean for Graduate Education, Peabody College
ASSIGNMENTS:
Read: "Introduction to the Responsible Conduct of Research" and "Advising and Mentoring" in *On Being a Scientist*
Read: The Graduate Student Handbook (on the web)
http://www.vanderbilt.edu/psychological_sciences/doctoral/current/grad_student_handbook
RCR: Introduction to the RCR Course
RCR: Mentor and Trainee Responsibility Course

9/6: Library Resources for Research (if you can, bring a laptop to class today)
An overview of the various resources for literature reviews and library research. Including a discussion of interlibrary loan, library services, PsycInfo, PubMed and Eskind's Digital Library, Web of Science, ERIC, and Google Scholar.
Guest Speaker: Amy Stewart-Mailhiot, Bibliographer for Psychology, Vanderbilt Central Library
ASSIGNMENT:
Web: Explore the library web site at www.library.vanderbilt.edu before class

9/13: Applying for Fellowships and Grants
Introduction to relevant fellowships (especially those from NSF and NIH). All students will be required to complete a research proposal as part of this course. This proposal should reflect actual research you plan to work on in the coming years. Students who are eligible for NSF and/or NIH fellowships should complete their proposals using the format required for these applications (see for example http://www.nsfgrfp.org/). Other students should use those formats as a guide for their proposals. Note that some students may not be eligible to apply because they are not US citizens or because their research area does not qualify for NSF/NIH funding. In addition, your advisor will ultimately decide whether the fellowship application should or should not be submitted for consideration.
Guest Speaker: Bruce Compas and Jo-Anne Bachorowski
ASSIGNMENT:
Read: The guidelines for the NSF fellowships before class
http://www.nsfgrfp.org/how_to_apply/application_materials

9/20: Research Ethics with Animal Subjects

An introduction and discussion of the ethical standards for research with human and animal subjects. Discussion of some of the logistics of getting animal research approved at Vanderbilt.

ASSIGNMENT:

Read: "Human Participants and Animal Subjects in Research" in *On Being a Scientist*

Guest Speaker: Vivien Casagrande

RCR: RCR for Animal Welfare

9/27: Research Ethics with Human Subjects

A discussion of the ethical standards for research with human subjects.

ASSIGNMENT:

Read: "Human Participants and Animal Subjects in Research" in *On Being a Scientist*

Read: *The Belmont Report* (http://ohsr.od.nih.gov/guidelines/belmont.html)

RCR: RCR for Human Subjects

ASSIGNMENT:

Case Studies To Be Assigned

10/4: Teaching and TAing

A general discussion of the opportunities, challenges, and resources for teaching and TAing.

Guest Speaker: Manya Whittaker, Center for Teaching

10/11: Writing, Publication, and the Peer Review Process

We begin with a discussion of writing papers to submit for publication and how that is probably quite different from writing for classes. We will hear a brief presentation about the Writing Studio, a resource for graduate students struggling to get words onto paper. We then move on an overview of the publication and peer review process.

Guest Speaker: Josh Houston**,** The Writing Studio

ASSIGNMENT:

Read: "Sharing of Research Results" in *On Being a Scientist*

Read: *Teaching Graduate Students How to Write Clearly*, By Eric-Jan Wagenmakers, APS Observer.

RCR: Peer Review Course

Some Recommended Readings:

Mastering APA Style: Students workbook and training guide, 6th edition. APA

Hofmann, A.H. (2010). *Scientific writing and communication: Papers, proposals, and presentations*. Oxford University Press.

Drafts of NSF Fellowships Due October 14

10/18: Preliminary Panel on Fellowship Applications

Small groups will review drafts of the research statements. Students who are going to apply for fellowships should also have drafts of any additional application materials (such as personal statements) completed by this time.

ASSIGNMENT:

Come to class having read and commented on draft proposals

10/25: Scientific Ethics I

A discussion of scientific ethics centered around case studies. Topics include data fabrication, plagiarism, scientific misconduct, professional misconduct, procedures for handling misconduct, proper citation, conflict of interest.

ASSIGNMENT:

Read: "The Treatment of Data", "Mistakes and Negligence", "Research Misconduct", "Responding to Suspected Violations of Professional Standards", "Intellectual Property", "Competing Interests, Commitments, and Values" in *On Being A Scientist*
Case Studies To Be Assigned

RCR: Research Misconduct Course

RCR: Data Acquisition, Management, Sharing and Ownership Course

11/1: Scientific Ethics II

Continued discussion of scientific ethics centered around case studies. Topics include data fabrication, plagiarism, scientific misconduct, professional misconduct, procedures for handing misconduct, proper citation, conflict of interest.

ASSIGNMENT:

Read: "The Treatment of Data", "Mistakes and Negligence", "Research Misconduct", "Responding to Suspected Violations of Professional Standards", "Intellectual Property", "Competing Interests, Commitments, and Values" in *On Being A Scientist*
Case Studies To Be Assigned

RCR: Conflicts of Interest and Commitment Course

RCR: Collaborative Research Course

NSF Fellowships usually due early November (check NSF guidelines for exact date)

11/8: Your Vita, Authorship and Credit, Professional Development

A varied discussion of topics like authorship and credit, publication practices, your curriculum vitae (CV), keeping an up-to-date web site, your "airplane speech" or how to tell your grandmother what you do and why it's important, the academic career track and other options, what you need to do to get a job or a fellowship after graduate school.

ASSIGNMENT:

Read: "Authorship and the Allocation of Credit" in *On Being A Scientist*

If you already have a vita, bring a copy to class.

RCR: Publication Practices and Responsible Authorship Course

11/15: Student Presentations

Students will give a 10-15 minute presentation about their first year research project. This can include pilot studies, a plan for studies, a literature review, or some combination of these.

11/22: NO CLASS (THANKSGIVING BREAK)

11/29: Student Presentations
Continued.

12/6: Student Presentations
Continued.

12/13: Student Presentations (if needed)

Additional Sources:

Research Ethics with Humans

Tobias, J.S., & Souhami, R.L. (1993). Fully informed consent can be needlessly cruel. *British Medical Journal*, 307, 1199-1203.

Illes, J., et al. (2006). Incidental findings in brain imaging research. *Science*, 311,783-784.

Eysenbach, G., & Till, J.E. (2001). Information in practice. *British Medical Journal*, 323, 1103-1105.

Holmesburg Prison:

Hornblum, A.M. (1999). *Acres of skin: Human experiments at Holmesburg Prison*. Routledge Press.

Tuskegee Syphilis Study:

Jones, J.H. (1993). *Bad blood: The Tuskegee syphilis experiment*. Free Press.

http://www.cdc.gov/tuskegee/timeline.htm

Lecture on Neuroethics:

http://mitworld.mit.edu/video/247/

Little Albert:

http://htpprints.yorku.ca/archive/00000198/01/BHARRIS.HTM

Milgram Experiments:

http://www.youtube.com/watch?v=y6GxIuljT3w

http://en.wikipedia.org/wiki/Milgram_experiment

Stanford Prison Experiments:

http://www.youtube.com/watch?v=1KXy8CLqgk4&feature=related

http://www.prisonexp.org/

http://en.wikipedia.org/wiki/Stanford_prison_experiment

Marc Hauser:

http://www.nytimes.com/2010/08/14/education/14harvard.html?hp

http://www.nytimes.com/2010/08/21/education/21harvard.html?hp

http://chronicle.com/article/Document-Sheds-Light-on/123988/

http://chronicle.com/article/Dean-Confirms-Allegations-of/124085

http://www.nature.com/nature/journal/v466/n7310/full/4661023a.html

http://www.nytimes.com/2010/08/28/science/28harvard.html?hpw