ADVANCED TRAINING FOR CAREERS IN PSYCHOLOGICAL SCIENCE
PSYCH-GA.3404.001
FALL 2017 | Wednesday 12-2pm| Meyer 465

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Course Website: available on NYU Classes (via your NYU Home account)

Readings: You are responsible for the assigned readings each week (not the additional readings). Most of them will be available on the course website. All journal articles will be posted on the course web site. However, you should buy a copy of The Compleat Academic ($32 new on Amazon.com). The other books are highly recommended reference books for professional issues (e.g., doing high impact research and navigating professional issues).

Darley, J. M., Zanna, M. P., & Roediger, H. L. (2003). *The compleat academic: A career guide*. American Psychological Association: Washington, DC.
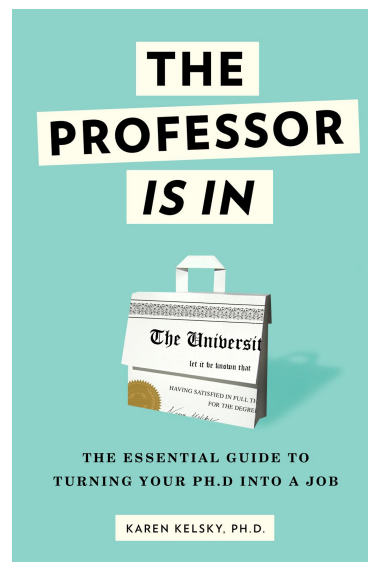
Course Description

The goal of this course is to provide hands-on methodological and professional training for psychology PhD students who are interested in a career in psychological science. We will cover skills and requirements for a career in psychology that complement the depth and breadth requirements of the PhD program. The course will include but will not be limited to the following topics: advanced methods, professional ethics, scientific writing, grant writing, reviewing papers, and writing personal statements. Although the course is focused on the best practices underlying the production of rigorous and impactful scientific discoveries, it will require students to produce concrete materials that should help advance their careers as scientists. For example, students can write a formal grant proposal to be submitted for funding. The grant writing process encapsulates many of the key activities involved in conducting psychological science, including identifying important scientific questions, devising rigorous tests of hypotheses, developing a research strategy to achieve the aims of the grant, and considering broader impacts of the research. Tessa and Jay will provide concrete feedback on these materials throughout the course.

Course format and grades

Participation (10%): Each student is expected to read the assigned articles each week and participate in discussion of those readings during the class meeting. Students are graded on their ability to understand and integrate the material. We are especially interested in your ability to add to the dialogue, such as by building on a discussion, thinking critically about the materials, or challenging an expressed view. In addition to critical perspectives on the course material, we are looking for evidence that you understand the historical and contemporary value of the discussed work in the broader literature. You will also be graded on your contribution to your classmates.

Leading discussion (10%): Each student will serve as a discussion leader for one class meeting (there will occasionally be two leaders on a given week). Each week, the discussions leaders will solicit questions from every student in the class and present them to Tessa and Jay during class. Discussion leaders will identify core themes in the questions and distribute a list of the most important questions to the class at least 24 hours before the class meeting. The questions can focus on articles or themes that connect the articles or expand upon them.

Research Proposal - Generating ideas (10%): In addition to generating identifying important scientific questions, part of the challenge of grant-writing is finding the right agency for your research. One effective strategy is to pitch potential ideas to grant officers before submitting, to get a feel for their interest in your work. For this assignment, find two to three targeted sources (e.g., NIH, NSF, SPSSI, APS, APA), and propose three ideas for these sources. You can pitch a different idea to each source, or three ideas to the same source. These should be "broad strokes" paragraphs that

emphasize the overarching research ideas and why they are important and relevant to the agency's funding mission. Each idea should be no more than a 250 words (please provide a work count).

Research Proposal - Theoretical aims (10%): You will be putting together a final research grant proposal for this class. Your research proposal will be broken into several parts. For this assignment, you will articulate the aims of your research. We would like you to provide an overview of your theoretical model, your hypotheses, and a short review of background literature. Make sure you emphasize what is new and innovative about the proposed project, how it will move science forward, etc. No more than 1500 words.

Research Proposal - Methods and Pilot studies (10%): The success of grants often depends on your ability to show initial evidence for some key components of your proposed model. For this assignment, we would like you to include an overview of what pilot studies you plan to collect for this proposal. If you have already collected data that would be appropriate, a brief description of these studies is appropriate. You will be graded on your ability to make clear how these pilot studies map onto the theoretical model you proposed. No more than 1000 words.

Research Proposal - Broader Impacts (10%): The success of grants often depends on the potential impact of the research, inside and outside of the scientific community. For this assignment, we would like you to draft a short description of the broader impacts of your research. The "broader impacts" statement makes clear how your work will benefit society at large. No more than 500 words.

Research Proposal - Mentoring plan (5%): Federal granting agencies often evaluate your capacity to lead a research team and mentor younger scientists. For this assignment, you will articulate you teaching and mentoring plan. This should express your scientific values and how you plan to pass them to the next generation. You will write a succinct teaching and mentoring plan, describing your teaching and mentoring philosophy, experiences, and future plans. No more than 500 words.

Research Proposal - BioSketch (5%): The success of grants often depends on the capacity of the scientist to effectively execute the proposed research. For this assignment, we would like you to provide your CV along with a succinct biographical research statement, describing your educational and methodological training, program of research, and future research plans. The statement must be no more than 500 words.

Research Proposal - Presentation (10%): Many grant agencies require finalists to present a final proposal to a panel of experts. Imagine that the class is a panel overseeing the granting process. For this assignment, you should briefly present your grant proposal (10-15 minutes) during the last class meeting. These presentations should be clear and concise, with a description of the relevance to the funding

agency's mission, and a focus on your theoretical hypothesis and proposed methodological approach. Standard presentation format involves Keynote/PowerPoint, but you are free to use any format necessary to communicate your proposal. You will be graded on your ability to clearly and elegantly communicate the main points of the theory or research proposal.

Research Proposal – Full proposal (10%): For the final proposal assignment, you will submit a finished product that contains all the components of the grant described above, along with a reference section, a budget, and a budget justification. For the proposed studies, you must include a power analysis, an analysis plan for each study (e.g., data will be analyzed using ANOVA…), and hypothesized results. The budget and budget justification will outline all costs associated with the proposal (e.g., participant costs, computers, software) and why they are necessary for the research. The final proposal must be no more than 6,000 words and is due exactly one week after the presentation.

Mock Review (10%): You will review a paper that was submitted for publication (we will provide this paper). You will provide a detailed review of all of the studies in the paper, along with a recommended editor decision. We will grade you based on the quality of your review (not on how positive or negative you are about the paper).

Late assignments will be deducted 5% for every day they are late. Please contact us at least a week before the due date if you require an extension due to an anticipated conflict or delay.

GRADING SCHEME

Participation	10 points
Leading Discussion	10 points
Proposal - Generating Ideas	10 points
Proposal – Theoretical Aims	10 points
Proposal – Methods and Pilot studies	10 points
Proposal – Broader Impacts	10 points
Proposal – Mentoring Plan	5 points
Proposal – BioSketch	5 points
Proposal – Presentation	10 points
Proposal - Full Proposal	10 Points
Mock Review	10 points
Total	**100 points**

A	93-100		C	73-76
A-	90-92		C-	70-72
B+	87-89		D+	67-69
B	83-86		D	60-66
B-	80-82		F	<59
C+	77-79			

If you have questions or concerns about your grades you should meet with either instructor after class to discuss them.

Topic and Assignment Schedule

Calendar At a Glance

Date	Topic
Sept. 6	**Welcome and overview**
Sept. 13	**Thinking like a psychological scientist**
Sept. 20	**Generating ideas and writing grants** (Dr. Donald Edmondson) *Generating ideas due*
Sept. 27	**Collaboration and professionalism** (Dr. June Gruber)
Oct. 4	**Research ethics and questionable practices** *Theoretical aims due*
Oct. 11 *Jay/Tessa away*	**MOVIE DAY!** *"Naturally Obsessed: The making of a scientist"*
Oct. 18	**Best research practices** *Methods and Pilot studies due*
Oct. 25	**The new statistics and scientific writing**
Nov. 1	**Reviewing** *Mock Review Due*
Nov. 8	**Broader impacts & disseminating research** *Broader Impacts Due*
Nov. 15	**Becoming a faculty member (PI)** *BioSketch Due*
Nov. 22	***No class due to due Thanksgiving Break***
Nov. 29	**Teaching & Mentoring** *Mentoring plan Due*
Dec. 6	**Starting a lab & Managing a career**
Dec. 13	**Class Presentations** *Presentation Due*
Dec. 13	**No class** *Full proposal Due*

September 6: Welcome and overview

Lord, C. G. (2004). A guide to PhD graduate school: How they keep score in the big leagues. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Morgeson, F. P., Seligman, M. E. P., Sternberg, R. J., Taylor, S. E., & Manning, C. M. (1999). Lessons learned from a life in psychological science: Implications for young scientists. *American Psychologist, 54,* 106-116.

Lawrence, P. A. (2007). The mismeasurement of science. *Current Biology, 17,* R583-585.

A number of useful resources for graduate students on writing, conducting research, and achieving career success: http://psych-your-mind.blogspot.com/2014/02/pyms-graduate-student-guide-blog.html

September 13: Thinking like a psychological scientist

Cacioppo, J. T. (2007). The structure of psychology. *Observer, 20,* 3 & 50-51.

Van Lange, P. A. M. (2012). What we should expect from theories in social psychology: Truth, abstraction, profess, and applicability as standards (TAPAS). *Personality and Social Psychology Review, 17,* 40-55.

Cacioppo, J. T., Semin, G. R., & Berntson, G. G. (2004). Realism, instrumentalism, and scientific symbiosis: Psychological theory as a search for truth and the discovery of solutions. *American Psychologist, 59,* 214-223.

McGuire, W. J. (2013). An additional future for psychological science. *Perspectives on Psychological Science, 8,* 414-423.

Additional reading

Cacioppo, J. T. (2007). Psychology is a hub science. *Observer, 20,* 5 & 42.

Cacioppo, J. T. (2007). Better interdisciplinary research through psychological science. *Observer, 20,* 3 & 48-49.

September 20: Generating ideas and writing grants (Donald Edmondson)

Davis, M. (1971). That's interesting: Towards a phenomenology of sociology and a sociology of phenomenology. *Philosophy of the Social Sciences, 1,* 309-344.

Nisbett, R. E. (1990). The anticreativity letters: Advice from a senior tempter.

Steinberg, J. (2004). Obtaining a research grant: The applicants view. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide.* Washington DC: American Psychological Association.

Bourne, P. E. & Chalupa, L. M. (2006). Ten simple rules for getting grants. *PLoS ONE Computational Biology, 2,* e12.

Additional reading

Gray, K. & Wegner, D. M. (2013). Six guidelines for interesting research. *Perspectives on Psychological Science, 8,* 549-553.

McGuire, W. J. (1997). Creative hypothesis generating in psychology. *Annual Review of Psychology, 48,* 1-30.

Porter, R. (2007). Why academics have a hard time writing good grant proposals. *Journal of Research Administration, 38,* 37.

Powell, K. (2017). The best-kept secrets to winning grants. *Nature.*

September 27: Collaboration and professionalism (June Gruber)

Cacioppo, J. T. (2007). The rise in collaborative psychological science. *Observer, 20,* 3 & 52.

Fine, M. A. & Kurdek, L. (1993). Reflections on determining authorship credit and authorship order on faculty-student collaboration. *American Psychologist, 11,* 1141-1147.

See the APA Authorship Determination Scorecard as a concrete tool for determining authorship

Capaldi, E. D. (2004). Power, politics, and survival in academia. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide.* Washington DC: American Psychological Association.

Additional reading

APA Science Student Council. (2006). A student's guide to determining authorship credit and authorship order.

Wuchty, S., Jones, B.F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science, 316,* 1036-1039.

October 4: Research ethics and questionable practices

Spellman, B. (2015). A short (personal) future history of revolution 2.0. Perspectives on Psychological Science, 10, 886-899.

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science.*

Nosek, B. A., & Bar-Anan, Y. (2012). Scientific utopia I: Opening scientific communication. *Psychological Inquiry, 217-243.*

Additional reading

John, L. K., Loewenstein, G., & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. *Psychological Science, 23,* 524-532.

Kerr, N. (1998). "HARKIN": Hypotheses after the results are in. *Personality and Social Psychology Review, 2,* 196-217.

October 11: MOVIE DAY! "*Naturally Obsessed: The making of a scientist*"

Jay and Tessa are gone this week. Please use class time to watch the PBS documentary *"Naturally Obsessed: The Making of a Scientist".* This documentary delves into the lab of professor Dr. Lawrence Shapiro, and follows three irrepressible graduate students on their determined pursuit of a PhD and scientific success. As if the pressure of scientific discovery isn't enough, the students are also competing in a worldwide race to be the first to publish their findings. Their road to success: years of trial and error, unflinching dedication, rock-climbing, rumors of pickle juice, and the music of The Flaming Lips. Although the research is outside psychology, many of the lessons are the same. We will discuss the following week.

October 18: Best research practices

Nosek, B. A., & Bar-Anan, Y. (2012). Scientific utopia II: Restructuring incentives and practices to promote truth over publishability. *Psychological Inquiry, 7,* *615-631.*

Funder, D. C., Levine, J. M., Mackie, D. M., Morf, C., Sansone, C., Vazire, S., & West, S. G. (2014). Improving the dependability of research in personality and social psychology: Recommendations for research and educational practice. *Personality and Social Psychology Review, 18,* 3-12.

Finkel, E. J., Eastwick, P. A., & Reis, H. T. (2015). Best research practices in psychology: Illustrating epistemological and pragmatic considerations with the case of relationship science. *Journal of Personality and Social Psychology, 108,* 275-297.

Bastian, H. (2017) Bias in Open Science Advocacy: The Case of Article Badges for Data Sharing. (also read the comments on this blog).

October 25: The new statistics and scientific writing

Cumming, G. (2014). The new statistics: Why and how. *Psychological Science, 1,* *7-29.*

Bourne, P. E. (2005). Ten simple rules for getting published. *PLoS ONE* *Computational Biology,* 1, e57.

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2012). A 21-word solution. *SPSP* *Dialogue.*

Lindsay, S. D. (2017). Preregistered direct replications in Psychological Science. *Psychological Science.*

Additional reading

Crandall, Leach, Robinson & West (2017). PSPB Editorial

Silvia, P. J. (2007). *How to write a lot: A practical guide to productive academic* *writing.* Washington, DC: APA.

Pinker, S. (2014). The sense of style: The thinking person's guide to writing in the 21st century.

Multiple authors. (2015). How to get published in an academic journal: Top tips from editors. The Guardian.

November 1: Reviewing

Schimmack, U. (2012). The ironic effect of significant results on the credibility of multiple-study articles. *Psychological Methods, 17,* 551-566.

Raff (2003). How to become good at peer review: A guide for young scientists.

Critically reading journal articles.

Hilten. (2015). 3 tips for responding to reviewer comments on your manuscript

Rusk, N. (2013). How to write a rebuttal letter. *Nature Methods.*

Additional reading

Peer review: The nuts and bolts

November 8: Broader impacts and disseminating research

Gargouri et al., (2010). Self-selected or mandated, open access increases citation impact for higher quality research. PLoS ONE.

Gentil-Boccot, Mele, & Brooks (2009). Citing and reading behaviours in high-energy physics. How a community stopped worrying about journals and learned to love repositories. *arXiv.*

Gernsbacher, M. A. (2013). Improving scholarly communication, 1-79.

Sumner, P. et al. (2014). The association between exaggeration in health related science news and academic press releases: Retrospective observational study. *BML, 349,* 7015.

Additional reading

Hamblin, J. (2014). The point when sciences becomes publicity. *The Atlantic.*

You suck at powerpoint: 5 shocking design mistakes you need to avoid.

Here is a great resource for presenting your research: *TED Talks: The official TED Guide to Public Speaking*

November 15: Securing a faculty position.

Ferguson, M. A., & Crandall, C. S. (2010). Trends in graduate training in social psychology: Training social psychology's trainers. *Basic and Applied Social Psychology, 29,* 311-322.

McDermott, K., & Braver, T. S. (2004). After graduate school: A faculty position of a postdoctoral fellow? In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Darley, J. M., & Zanna, M. P. (2004). The hiring process in academia. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Additional reading

Kyllonen, P. (2004). Broadening the job search: Jobs outside of academia. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Van Bavel, J. J. (2017). Demystifying the job market.

Warner, J., & Clauset., A. (2015). The academy's dirty little secret. *Slate*.

November 22: NO CLASS due to Thanksgiving Break

November 29: Teaching & Mentoring

Bernstein, D. A. & Lucas, S. G. (2004). Tips for effective teaching. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Zanna, M. P., & Darley, J. M. (2004). Mentoring: Managing the faculty-graduate student relationship. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Zacks, J. M. & Roediger, H. L. III (2004). Setting up your lab and beginning a program of research. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

December 6: Starting a lab & Managing a career

Carroll, S. (2011). How to get tenure at a major research university. *Discover*.

Webb., S. A. (2009). Starting an academic lab. *Science*.

Gould, J. (2015). The postdoc series: Setting up your own lab. *Nature*.

Taylor, S. E., & Martin, J. (2004). The academic marathon: Controlling one's career. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Roediger, H. L. III., Balota, D. A. (2004). Managing your career: The long view. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Additional reading

Penner, L. A., Dovidio, J. F., & Schroeder, D. A. (2004). Managing the department chair and navigating the department power structure. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Best, D. (2004). Varieties of college and university experiences. In J. M. Darley, M. P. Zanna, & H. L. Roediger III (Eds.), *The Compleat Academic: A Career Guide*. Washington DC: American Psychological Association.

Nagpal, R. (2013). The awesomest 7-year postdoc or: How I learned to stop worrying and love the tenure-track faculty life. *Scientific American*.

How to set up a cutting-edge research lab.

December 13: Class Presentations

December 20: Full Proposals due

Course website

Log in and you should see this course. If you don't, please let us know. Readings, grades, assignments and handouts will be posted online. There is also a discussion board for questions. If you have a question you can email, or post it online. If several people email a similar question we will post it on the website. Please treat the website as a collective resource to ask questions of common interest and share ideas

with one another. If you have a dispute or concern with another member of the class, please email us directly and do not try to deal with it on the course website.

Academic Conduct

All work must be your own. NYU uses *Turnitin*, which can automatically detect plagiarism. If you cheat, you will be caught. Cheating or plagiarism will be reported through official university channels, and the consequences will be severe. If you are unwise enough to plagiarize, the minimum punishment is usually failure in the course. If the case of plagiarism or cheating is especially blatant, you may be expelled from the university. The papers and assignments are designed for what you can do based on what we are covering in this class and the skills you have already learned.