

*PSYCHOLOGY  
PROGRAM  
HANDBOOK*

*2019-2020*

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Dear Psychology Students:

Welcome to the Bard College Psychology Program!

This Psychology Handbook was created to serve as a general guide to use as you embark on your studies with us. Please read this Handbook carefully; this represents the most up-to-date guidelines and procedures for the Program. As you'll see, information is included about events, moderation, senior project, and psychology faculty. We hope you find this information useful. A copy of this handbook and more details about the Psychology program are available at the program website (<https://psychology.bard.edu>).

If you have any questions, please do not hesitate to contact any of the faculty in the Psychology Program.

We look forward to working with all of you, and we wish you the best for a productive and successful year.

Sincerely,

Sarah Dunphy-Lelii, PhD  
Associate Professor of Psychology  
Psychology Program Director

## 2019-2020 PSYCHOLOGY PROGRAM CALENDAR

### **Fall 2019**

First Day of Classes	Monday, September 2 <sup>nd</sup>
Welcome Back Social Event	Thursday, September 12 <sup>th</sup>
Senior Project Statements Due (Senior I's)	Monday, September 23 <sup>rd</sup>
Fall Break	Monday, Oct 14 <sup>th</sup> – Tuesday, Oct 15 <sup>th</sup>
Short Moderation Papers Due (Soph. II's)	Friday, October 25 <sup>th</sup>
Senior Project Midway Papers Due (Senior I's)	Friday, November 8 <sup>th</sup>
Moderation Day (Sophomore IIs)	Friday, November 15 <sup>th</sup>
Thanksgiving Recess	Thursday, November 28 <sup>th</sup> – Dec 1 <sup>st</sup>
Senior Project Final Papers Due (Senior II's)	Monday, December 9 <sup>th</sup>
Advising Day	Wednesday, December 11 <sup>th</sup>
Completion Days	Monday, December 16 <sup>th</sup> – 20 <sup>th</sup>
Last Day of Classes	Friday, December 20 <sup>th</sup>

## **Spring 2020**

First Day of Classes	Monday, January 27 <sup>th</sup>
Senior Project Presentations (Senior II's)	Thursday, February 6
Senior Project Statements Due (Senior I's)	Monday, February 17 <sup>th</sup>
Short Moderation Papers Due (Soph. II's)	Friday, March 13 <sup>th</sup>
Spring Break	Saturday, March 21 <sup>st</sup> – 29 <sup>th</sup>
Senior Project Midway Papers Due (Sen. I's)	Friday, April 10 <sup>th</sup>
Moderation Day (Sophomore II's)	Saturday, April 18 <sup>th</sup>
Rising Senior Meeting	Thursday, April 23 <sup>rd</sup>
Advising Days	Mon & Tues, April 27 <sup>th</sup> /28 <sup>th</sup>
Senior Project Final Papers Due (Senior II's)	Wednesday, April 29 <sup>th</sup>
Board Week	Week of May 4 <sup>th</sup>
Completion Days	Wednesday, May 13 <sup>th</sup> – 19 <sup>th</sup>
End of Year Social Event	Thursday, May 14 <sup>th</sup>
Senior Project Poster Session	TBA – mid-May
Last Day of Classes	Tuesday, May 19 <sup>th</sup>
Senior Luncheon	Wednesday, May 20 <sup>th</sup>
Commencement	Saturday, May 23 <sup>rd</sup>

## OVERVIEW OF THE PSYCHOLOGY PROGRAM

The mission of Bard's Psychology Program is to serve a foundational role in engaging the College and broader community with the science of human behavior. We serve as a hub for the mind and behavioral sciences through our curricular and co-curricular offerings that augment the course of study for all students, especially those in the Divisions of *Science, Mathematics, and Computing* and *Social Studies*, as well as through our leadership in the *Mind, Brain, and Behavior* Program. Our excitement and our challenge stem from the field's enormous breadth, as we cover topics ranging from genes to social systems.

In all courses, we strive to 1. introduce students to foundational content in psychology's subfields (social, cognitive, developmental, and abnormal psychology as well as neuroscience); 2. take a multi-level approach to answering psychological questions; 3. engage students in integrative, critical thinking about the mechanisms underlying human thought and behavior; 4. educate students in the process of science as it applies to human behavior; 5. provide hands-on learning opportunities for students to engage in the above; and 6. prepare students to excel in their chosen field.

The Program cultivates an environment where teaching and research mutually inform one another by supporting faculty research, providing opportunities for students to become engaged in research during the academic year and summer and through the Senior Project (completed by all Bard students), encouraging students to gain internships and externships, and hosting speakers from other institutions.

## AREAS OF STUDY IN THE PSYCHOLOGY PROGRAM

The Psychology Program provides focused opportunities of learning in the areas of abnormal psychology, cognitive psychology, developmental psychology, neuroscience, and social psychology. It provides a thorough foundation in empirical methodology and analysis, and offers opportunities to participate in meaningful research and laboratory experiences.

In brief, *Cognitive Psychology* is the empirical study of how concepts, knowledge, and language are acquired and represented, as well as how knowledge is engaged in human memory, action, perception, and reasoning. *Developmental Psychology* involves the study of change (both growth and decline) over the life span, including changes in cognition, social interaction, and brain development. *Abnormal Psychology* is a research-oriented science that pertains to the study of psychopathology (i.e., psychological disorders), personality, and treatment.

*Neuroscience* focuses on understanding the structure and function of the central and peripheral nervous systems as it investigates questions of brain and behavioral development, normal brain function, and disease processes. Finally, *Social Psychology* is the scientific study of people in their social contexts, emphasizing the study of behavior and social thought, preferences, and feelings about oneself, one's social groups, and others.

## FACULTY DESCRIPTIONS AND PUBLICATIONS

### **Justin Dainer-Best**

Assistant Professor in Psychology

#### **Education and Training:**

B.A.	Haverford College
M.A.	University of Texas at Austin
Ph.D.	University of Texas at Austin

Professor Dainer-Best is interested in how positive and negative emotions change the way people think about themselves and the world around them. More broadly, he is interested in the genesis and maintenance of depressed mood. His graduate work focused on identifying the best methods of understanding how people who are depressed think. Professor Dainer-Best's research continues to ask questions about how people who are depressed describe themselves—and how to increase positive self-description. For instance, in past work, Professor Dainer-Best found that adults with low mood will learn to describe themselves more positively after imagining future positive social situations. The Affective Science Lab uses clinical research methods to identify the factors behind mood disorders. Work in the lab uses samples of adults, online and in person, across the range of depressive symptoms.

#### **Selected Publications:**

- Dainer-Best, J., Lee, H-Y., Shumake, J.D., Yeager, D., & Beevers, C.G. (2018). Determining optimal parameters of the Self Referent Encoding Task: A large-scale examination of self-referent cognition and depression. *Psychological Assessment*.
- Vrijssen, J.N., Dainer-Best, J., Witcraft, S., Papini, S., Hertel, P., Beevers, C.G., Becker, E.S., & Smits, J.A.J. (2019). Effect of cognitive bias modification-memory on depressive symptoms and autobiographical memory bias: Two independent studies in high-ruminating and dysphoric samples. *Cognition and Emotion*.
- Dainer-Best, J., Trujillo, L.T., Schnyer, D.M., & Beevers, C.G. (2017). Sustained attentional engagement is associated with increased negative self-referent decision-making in major depressive disorder. *Biological Psychology*, 129, 231–241.

**Laboratory website:** <https://affectlab.bard.edu/>

## **Sarah Dunphy-Lelii**

Associate Professor in Psychology  
Psychology Program Director

### **Education and Training:**

B.A.	Pennsylvania State University
M.A.	University of Michigan
Ph.D.	University of Michigan

Professor Dunphy-Lelii's undergraduate education focused on child cognitive development, after which she became project coordinator for the Cognitive Evolution Group at the University of Louisiana, Lafayette, studying cognition in chimpanzees. Professor Dunphy-Lelii pursued graduate work with a different population (human preschoolers) but very similar theoretical topics – for example, the ways that young individuals think about the minds of others, and how they reason about unseeable behaviors such as thoughts, beliefs, and desires. While in graduate school, she became intrigued by how the specific case of autism might shed some light on these same topics. In particular, an interest in how different children learn to distinguish self from other (in terms of perspective-taking, memory, and imitation) emerged. At Bard, Professor Dunphy-Lelii has returned to her primary interest in the early cognitive development of typically developing preschoolers. Here, she uses her research experience with typical children, children with autism, and primates to influence her ongoing work.

### **Selected Publications:**

Dunphy-Lelii, S. & Mitani, J. (2019). Wild chimpanzees show a decrease in pant grunting over their first 6 years of life. *Folia Primatologica*, 90, 77-88.

Dunphy-Lelii, S., Hooley, M., McGivern, L., Skouteris, H., & Cox, R. (2014). Can I reach that sticker? Preschoolers' practical judgments about their own and others' body size. *Journal of Cognition and Development*, 15, 584-598.

Dunphy-Lelii, S., LaBounty, J., Lane, J., & Wellman, H. (2014). The social context of infant intention understanding. *Journal of Cognition and Development*, 15(1), 60-77.

**Laboratory website:** <http://cdp.bard.edu>

## **Justin C. Hulbert**

Assistant Professor in Psychology

### **Education and Training:**

B.A.	University of Pennsylvania
M.A.	University of Oregon
Ph.D.	University of Cambridge
Post-Doctoral Fellow	Princeton University

Memories guide our lives, but how do we sift through the vast array of accumulated memories to find the relevant ones and ignore unpleasant or otherwise unwelcome thoughts? Using the tools of cognitive neuroscience to decode the mechanisms responsible for adaptively retrieving, consolidating, and forgetting memories, Professor Hulbert's Memory Dynamics Lab aims to identify evidence-based strategies designed to help learners capitalize on these mental operations. A recipient of the Walt Disney Company Foundation Scholarship, a National Science Foundation Graduate Research Fellowship, and a Tom Slick Research Award in Consciousness for his work on reversibly inducing amnesia through cognitive control, Professor Hulbert is interested in designing and testing algorithms that harness brainwaves (EEG/ERPs recorded while learners are either awake or asleep) in order to help individuals remember when/what they want to remember and forget when/what they want to forget.

### **Selected Publications:**

- Hulbert, J.C., Henson, R.N., & Anderson, M.C. (2016). Inducing amnesia through systemic suppression. *Nature Communications*, 7, 11003.
- Manning, J.R., Hulbert, J.C., Williams, J., Piloto, L., Sahakyan, L., & Norman, K. A. (2016). A neural signature of contextually mediated intentional forgetting. *Psychonomic Bulletin & Review*.
- Hulbert, J.C. & Norman, K.A. (2015). Neural differentiation tracks improved recall of competing memories following interleaved study and retrieval practice. *Cerebral Cortex*.

**Laboratory website:** <http://memlab.bard.edu>

## **Tom Hutcheon**

Visiting Assistant Professor in Psychology

### **Education and Training:**

B.A.	Bates College
M.S.	Georgia Institute of Technology
Ph.D.	Georgia Institute of Technology

Professor Hutcheon's research focuses on cognitive control, which is defined as the ability to select relevant sources of information in the face of distracting or competing sources of information. As everyone has experienced, the efficiency of cognitive control varies. At times we find it easy to sit down at our computers and work on a paper. At other times we end up checking our email every three minutes. What causes this variability in performance? Professor Hutcheon's research seeks to understand the mechanisms that support cognitive control, the factors that influence the efficiency of cognitive control, and how these are influenced by healthy aging. To address these issues, Professor Hutcheon uses a variety of behavioral and statistical techniques including computational modeling and response time distribution analyses.

### **Selected Publications:**

Hutcheon, T. G., & Spieler, D. H. (2017). Limits on the generalizability of context -driven control. *The Quarterly Journal of Experimental Psychology*, *70*, 1292-1304.

Myar, U., Spieler, D.H., & Hutcheon, T.G. (2015). When and why do old adults outsource control to the environment? *Psychology and Aging*, *30*, 624-633.

Hutcheon, T. G., & Spieler, D. H. (2014). Contextual influences on the sequential congruency effect. *Psychonomic Bulletin & Review*, *21*, 155-162.

**Laboratory website:** <https://cogctrlab.com/>

## **Kristin Lane**

Associate Professor in Psychology

### **Education and Training:**

B.A.	University of Virginia
M.S.	Yale University
Ph.D.	Harvard University
Post-Doctoral Fellow	Harvard University

Professor Lane is interested in how social thought, feeling, and behavior operate in a social context. With robust empirical evidence from the last few decades demonstrating how much of mental life takes place outside our conscious awareness has come the realization that people may hold two sets of attitudes toward a given object. Professor Lane is interested in implicit attitudes and beliefs (those that exist outside the bounds of conscious awareness and cannot be verbally reported evidence). In particular, her research focuses on implicit attitudes toward and beliefs about members of different social groups (race, class, gender, etc.). She investigates the fundamental ways in which such attitudes, identities, and beliefs operate: How do they form, and how are they connected? At the same time, Professor Lane is interested in ways in which such cognitions operate in the real world, and how an understanding of them can be applied to domains outside of the lab. Recent research explores the role of implicit attitudes and stereotypes in the gender gap in science participation.

### **Selected Publications:**

Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science*, 349 (6251).

Lane, K. A., Goh, J. X., & Driver-Linn, E. (2012). Implicit science stereotypes mediate the relationship between gender and academic participation. *Sex Roles*, 66, 220-234.

Kang, J. & Lane, K.A. (2010). Seeing through colorblindness: Implicit bias and the law. *University of California (Los Angeles) Law Review*, 465-520.

**Laboratory website:** <https://psychexp.bard.edu/>

**Stuart Levine**

Professor in Psychology  
Dean Emeritus of Bard College

**Education and Training:**

B.A.	New York University
M.A.	New School University
Ph.D.	SUNY Albany

**Prior Faculty Position:** Philadelphia State Hospital

Professor Levine's research interests include social psychology, specifically obedience to authority, conformity, attitude measurement, and change; small-group dynamics; moral development; statistics; and experimental design.

**Selected Publications:**

Levine, S. (1979). The Bard College immediate decision plan: The first two years. *National ACAC Journal*, 23, 10-13.

Levine, S., & Taub, D. (1979). Internal versus external locus of control and college admissions. *Psychological Reports*, 44, 1013-1014.

## **Richard Lopez**

Assistant Professor of Psychology

### **Education and Training:**

B.A.	Princeton University
Ph.D	Dartmouth College
Postdoctoral Fellow	Rice University

Professor Lopez's research seeks to elucidate a core aspect of our human experience, namely: the ways in which we negotiate our various emotions and cravings in order to achieve our goals and promote health and wellbeing. By incorporating psychological theories about emotion, motivation, and goal pursuit with methodological tools from experimental psychology and cognitive neuroscience, Professor Lopez examines individual difference factors underlying self-regulatory abilities in both the appetitive and affective domains. He and members of the Regulation of Everyday Affect, Craving, and Health (REACH) Lab are particularly interested in developing naturalistic models of self-regulation by characterizing and predicting people's moment-by-moment experiences of cravings and emotions in daily life—with an eye toward developing flexible, personalized interventions to improve various aspects of health and wellbeing.

### **Selected Publications:**

- Lopez, R.B., Courtney, A.L., & Wagner, D.D. (2019). Recruitment of cognitive control regions during effortful self-control is associated with altered brain activity in control and reward systems in dieters during subsequent exposure to food commercials. *PeerJ–Brain and Cognition*, 7:e6550.
- Lopez, R.B., Heatherton, T.F., & Wagner, D.D. (2019). Media multitasking is associated with higher risk for obesity and increased responsiveness to rewarding food stimuli. *Brain Imaging and Behavior*.
- Lopez, R.B., Denny, B.T., & Fagundes, C.P. (2018). Neural mechanisms of emotion regulation and their role in endocrine and immune functioning: A review with implications for treatment of affective disorders. *Neuroscience & Biobehavioral Reviews*, 95, 508-14.

**Laboratory website:** <https://reachlab.bard.edu/>

## **Frank Scalzo**

Associate Professor in Psychology

### **Education and Training:**

B.A.	St. Bonaventure University
M.A.	State University of New York at Binghamton
Ph.D.	State University of New York at Binghamton

**Prior Faculty Position:** University of Arkansas for Medical Sciences

The Bard Behavioral Neuroscience Laboratory provides research opportunities in several areas of neuroscience. These include invertebrate behavior, immunohistochemistry, behavioral pharmacology, neurobehavioral teratology, neuroanatomy and molecular biology. Laboratory research integrates the research interests of students and faculty and is focused on understanding the behavioral and neurobiological effects of exposure to chemical substances whose primary mechanism of action are through the nervous system. Research is conducted using developing zebrafish (*Danio rerio*) as an animal model. Zebrafish provide an excellent model system in which to investigate a variety of behavioral and pharmacological effects because of their rapid growth and transparency during the larval stage that allows for the visualization of neuronal and other structures. Current research is focused on understanding the functional role of n-methyl-d-aspartate (NMDA) receptor systems in zebrafish and how these systems can be perturbed by chemical insults. Behavioral, neuroanatomical, psychopharmacological and molecular techniques are used in these investigations.

### **Selected Publications:**

- Chen, B. & Scalzo, F. (2015). The effects of acute nicotine on larval zebrafish exploratory behavior in a complex environment. Presentation at Neurobehavioral Teratology Society, June 2015.
- Swain H.A., Sigstad, C. & Scalzo, F.M. (2006). Effects of dizocilpine (MK-801) on circling behavior, swimming activity and place preference in zebrafish. *Neurotoxicology and Teratology*, 26, 725-729.
- Scalzo, F.M. & Levin, E.D. (2004). The use of zebrafish as a model system in neurobehavioral toxicology. *Neurotoxicology and Teratology*, 26, 707-708.

## REQUIREMENTS FOR PSYCHOLOGY MAJOR

Prior to Moderation, students entering the College are required to complete the following:

Introduction to Psychological Science (Psychology 141; a score of 5 on the AP Psychology exam may fulfill the requirement); a sophomore sequence of Statistics for Psychology (Psychology 203) in the fall and Research Methods in Psychology (Psychology 204) in the spring; and at least two additional 200-level courses in psychology. PSY 204 and a 200-level course(s) may be in-progress during the semester of moderation.

In order to graduate in Psychology, students must complete a total of four 200-level courses in psychology (excluding 203 and 204); one four-credit course in biology, chemistry, computer science, mathematics, or physics (this excludes AP or IB classes, as well as *Biostatistics*, and courses listed primarily in *Mind, Brain and Behavior*); two 300-level courses following Moderation (at least one of which must be completed before beginning the Senior Project; taking both during the Junior year is strongly encouraged) and the Senior Project. No more than a single 300-level course may be taken per semester, and taking these 300-levels with two different faculty members is strongly encouraged. At least one 200-level course must be completed from each of the following course clusters:

**Cluster A:** Abnormal and Personality Psychology (course numbers in the 210s).

**Cluster B:** Developmental and Social Psychology (course numbers in the 220s).

**Cluster C:** Cognitive Psychology and Neuroscience (course numbers in the 230s).

Although the Psychology Program is housed in the Division of Science, Mathematics, and Computing, students decide at the time of Moderation whether they will pursue their degree in Psychology from the Division of Science, Mathematics, and Computing (SM&C) or the Division of Social Studies (SSt). These divisional degrees are distinguished by two features: (a) an SSt degree entails at least two courses in one or more related disciplines in the Social Studies

Division and (b) the Senior Project for an SM&C degree must have an empirical focus, in which the student analyzes data, or presents a detailed plan for doing so. The SSt Senior Project does not carry this requirement, though it may of course do this.

If students wish to change their major division after moderation, they will submit a petition to the Program. This petition may be submitted at any time before the Add/Drop deadline of the Senior I semester to the Senior Project advisor, who will convene and chair the Board. *Students may not change divisions after the Add/Drop date of the Senior I semester.* Failure to meet the requirements of the major Division project requirements will result in a substantial reduction in the Senior Project grade.

Students may submit written petitions to the Program faculty to request deviations from the requirements. Enrolling in a 300-level prior to moderation counts as such a deviation, and students who wish to do so should petition the Program.

Students who wish to count classes completed at other institutions toward the major must send a course *syllabus* (not just a description) with a note about what requirement they hope to fulfill to the Program Chair. We strongly urge students to do this *before* enrolling in courses elsewhere.

**All courses required for the major (including the non-Psychology SM&C course) must be taken for a letter grade (i.e., not P/F).**

## JOINT AND DOUBLE MAJORS

**In the joint major** a student completes all the requirements for each of Psychology and the other program, including two moderations (or a single joint moderation), but completes a single senior project that contains sufficient work in both disciplines to be considered a senior project in each. For example, a student might jointly major in Psychology and Human Rights. If at the end of a joint senior project the board decides that the project involves substantial work in only one of the disciplines, then the student will graduate as a single major in that program. At any time before the final board meeting, during the writing of the joint senior project, the student may elect to continue as a single major in either program with the consent of the advisors.

Joint majors are reserved for very strong students who have identified advisors in each of Psychology and the other program who are willing to supervise the project jointly, and who have been approved to do a joint major by both the Psychology Program and the Faculty Executive Committee. This decision must be approved at the time of the moderation board, and again before the first semester of senior project begins (specialized documentation at each timepoint). Additionally, an overall GPA of 3.5 or higher is required for approval by the Psychology Program. Simply moderating into Psychology and another program does not automatically make a student eligible for a joint major.

A moderated student who wishes to do a joint senior project combining Psychology and another program must do the following. First, the student must have a meeting with representatives of the two prospective programs to formulate a plan for a joint senior project. Second, the student must submit a proposal to do a joint senior project to the chair of the Psychology Program by November 15 for senior projects to begin the following Spring, and by April 15 for senior projects to begin the following Fall; the proposal should include the names of possible advisors, a description of the proposed topic, and a discussion of how the topic relates to both psychology and the other program, and a summary of relevant conversations with the other program. If the Psychology Program approves the proposal, the proposal must then be sent to the Faculty Executive Committee for final approval.

**Students who intend to double major** (or who are considering double majoring) should discuss their plans for the double major in depth at moderation (in their short papers and during the board meeting). They should have a clear plan for carrying out the charge of completing two Senior Projects. Double majors must have a minimum 3.0 overall GPA before beginning their Psychology Senior Project. In cases where the GPA at the start of Senior Project is less than 3.0, students will choose to major in *either* Psychology or their other planned major. We strongly encourage double majors to ‘stagger’ their projects, beginning one a full semester before the other.

## OPPORTUNITIES FOR ADDITIONAL LEARNING

Students are strongly encouraged to pursue opportunities for research or community-based practicum experiences that complement their regular course work and that connect academic learning with practical applications. The program offers independent laboratory courses in abnormal psychology, cognitive psychology, developmental psychology, social psychology, and neuroscience under the direction of program faculty that provide ideal opportunities for learning how to conduct research in psychology. In addition, opportunities to gain experiences in applied settings exist in local communities in the realms of abnormal, developmental, and cognitive psychology. Students are also encouraged to gain experience through summer research opportunities in the Bard Summer Research Institute, and to pursue opportunities for obtaining summer research positions at other academic centers.

## MODERATION

### **Guidelines for Short Moderation Papers** (Academic Past and Future)

For the Moderation Board (during the second semester of the sophomore year), the student prepares two short papers that describe his or her academic past experiences and future plans, and a longer paper that summarizes and analyzes an empirical article.

The short papers (about two or three pages each) are required for moderation College-wide.

The following are meant to be guidelines only, not a rigid format. You should think of them as areas you should address. The format of the papers is up to you.

#### **Academic Past**

This paper should be an overview of your college education to date. It should include:

- a discussion of your coursework to date, including how your interest in psychology has evolved, particular courses taken, and so forth. Also, a discussion of academic experiences outside of psychology would be welcome
- a critical evaluation of your strengths and weaknesses as a student
- a discussion of how your objectives have evolved since coming to college
- any other issues which are relevant to an understanding of your academic work

#### **Academic Future**

This paper should be a discussion of your plans for Upper College work and post-college. We understand that the first and especially second of these may not be completely formed. In any case, the paper should include:

- anticipated areas of study within psychology and outside of the field
- your ideas about work after college, including plans for graduate or professional school, career plans, summers, intersessions, and so forth
- an indication of what you might like to study for your Senior Project

Please bear in mind that the moderation is a concentrated advising experience. We want, therefore, to learn as much as we can about you as student from your short papers.

## **Moderation Saturday**

Moderation Saturday provides you with an opportunity to demonstrate your ability to evaluate an empirical research report in Psychology. Your goal is to write two papers over the course of a single workday, together totaling approximately 10 pages, that summarize and analytically evaluate the article you have been assigned:

(1) The first paper will be a concise and informative summary of the rationale, hypotheses, methods, and conclusions of the article; this first paper may not exceed three pages. Your summary must be in your own words and should include enough detail that someone who has not read your article will be able to accurately understand the content.

(2) The second paper will focus on analysis of your assigned article. Your analysis of the article should provide constructive, analytic content regarding the data, methods, and conclusions of the researchers. This should make up a substantial portion of your paper. It need not be “critical” in the sense of being negative, but you should state whether, for example, the design of an experiment adequately tests the researchers’ hypotheses (i.e., How does the experimental design, the stimulus set, or the task that the participants performed permit an adequate test of the hypothesis?). Your evaluation might also address the relationship between the actual experimental results and the implications of the results as described by the researchers. You may thoughtfully and creatively link the content of the article to other coursework, both inside and outside psychology, if relevant. Lastly, you may comment on future research or propose questions that may be addressed in subsequent studies. This second paper may not exceed seven pages.

A faculty member will be available in their office at times throughout the day to provide guidance. There are limits to the amount of help we can provide. For example, we will not explain statistical methods in detail, but we will direct you to resources so that you will be able to comment on the experimental results in a manner that reflects your level of understanding. You may not consult any individuals about your assigned article or your written response with the exception of faculty members in Psychology.

Students will upload their final papers for electronic submission at the end of the day.

**Note:** Students must have completed at least one semester at Bard before sitting for moderation (i.e., transfer students may not moderate in their first semester at the Annandale campus).

Students will bring copies of their short and long moderation papers, the source article assigned to them on Moderation Saturday, and a **new short document that addresses the following questions:**

- What are 2–3 things that you think you did well in your Moderation Saturday papers, especially in your analysis of the article?
- What are 2–3 things you could have improved in your summary and analysis Moderation Saturday papers?

## SENIOR PROJECT

In your junior year, you will describe your plans for senior project taking into account your preparation, and the Psychology Program will match you with an appropriate advisor. For students receiving a degree in the Division of Science, Mathematics, and Computing, the project must take the form of (A) an empirical study (with associated paper) or (B) a detailed proposal for an empirical project. For the latter, the proposal should be on the model of a grant proposal (written in the future tense), and should include all potential measures, detailed data analytic plans, and predicted results section (see below for more detail).

## **Project Milestones**

- Weekly meetings with Senior Project Advisor – You should consider your meetings with your project advisor as a regular class time. Attend meetings prepared!
- Senior Project Statement – You will submit an early, short description of your project (about 1 page) in which you: 1. State your research question 2. Indicate whether you plan to complete the SSt or SM&C model (and whether this is the division into which you are moderated – you can check on BIP if you’re unsure) 3. Indicate whether you plan to collect data, and if so, describe your plans for doing so and estimate your expenses.
- Senior Project Midway Paper – Your midway paper may emphasize different aspects of your project; discuss with your advisor which focus for writing will be most useful for you and your board members during your midway board discussion. Regardless of the particular focus you use, midway papers should be at least 10–12 double-spaced pages of text, and include: your proposed project title, a 150-200 word Abstract (including brief hypotheses, method, and results), and an annotated bibliography with at least 10 sources.
- Senior Project Midway Meeting – Your meeting with your committee is an excellent opportunity for feedback – the more thoughtful and detailed your proposal is at this point, the better feedback the committee can offer. If necessary, you may submit (working closely with your advisor) an IRB proposal before your midway board, but you may not begin data collection until after the board meeting. This meeting must be timed so that faculty feedback can be integrated into any potential IRB revision. The board is comprised of at least one member of the psychology program and at least two other faculty from Bard. Additional persons, such as staff or persons from other institutions, may serve on the board.
- Project pre-registration (SM&C projects only) – You will, in the spirit and practice of Open Science, pre-register your empirical plan online (<https://cos.io/prereg/>) using the template at <https://aspredicted.org/> or another suitable preregistration template. If you are doing a data collection project, this preregistration will be submitted after receiving approval from the IRB but can be prepared simultaneously with the IRB proposal. If you are doing a data proposal project, this preregistration will be done by Dec 15<sup>th</sup> at the latest.
- Midway Senior Project PowerPoint Presentation – You will deliver a 5-minute presentation to the program faculty and your peers. Spring Senior Is will either deliver this presentation to their board or at a Program colloquium.
- Final Senior Project Poster Session – Students graduating from the SM&C Division will present a poster with other SM&C majors at the end of the Senior II semester in RKC.
- Final Senior Project Board – You will meet with your board and discuss your submitted Senior Project. Students graduating in the SSt Division will deliver a 15 minute presentation at the beginning of their final board meeting.

## **Senior Project Grading**

The Final Senior Project Grade will be determined by all members of the project board and will be based on the rubric provided below. Performance on all aspects of the project, including the final Senior Project Board and Senior Project Presentations, will be assessed. The Board will then discuss and finalize grades in conjunction with all faculty in the Psychology Program later in the week (or following weeks). Once the final grade is determined, advisors will contact advisees to share the grade and provide additional feedback.

**Pass/ Fail policy.** As a general rule, Senior Projects may not be taken Pass/ Fail. The Psychology Program, in consultation with the Dean of Students, may allow a student to receive a Pass/ Fail grade for Senior Project if: 1. There are extenuating documented circumstances and 2. Such a decision is reached by the Add/ Drop date of the Senior II semester.

## **Senior Project Assessment Guidelines**

Grades will be based both on the quality of the project and on the effort put into the project. ***Please note that final grade determination will be based on quality and effort demonstrated across both semesters!*** Thus, strong effort in the second semester cannot make up for poor effort during first semester, and consistent and prolific production of writing in second semester cannot make up for a lack of writing during first semester. Details are provided below.

## Quality of Product

### Research Question

- Novel
- Suitable for year-long project in Psychology

### Literature Review

- Provides rationale for research question
- Comprehensive in scope, draws on relevant and contemporary academic sources
- Linearly organized
- Literature is reviewed critically (i.e., in addition to providing summaries of the literature, the benefits and limitations of such literature are noted).

### Study Design and Execution (Where Appropriate)

- Free of significant confounds
- Uses valid measures

### Results and Discussion

- Appropriate statistics are used
- Interpretations of evidence (student's own and/or empirical literature) are offered
- Discussion clearly follows from presented evidence and integrates the prior literature and the student's analysis
- Thoughtful suggestions for future work are made

### Documentation (Where Appropriate)

- IRB application and approval in appendix
- Proposal projects: Informed consent, and debriefing, proposed budget, detailed statistical plan, and all measures and methods are described and/or included as an Appendix

### Process

- Raw data are retained
- Final project incorporates feedback from the midway (or provides a clear rationale for why such feedback was not incorporated)
- APA format is followed (except where College-wide policy contradicts APA format; in-text Figures and Tables may be used)
- A 250 word abstract is included
- The project follows the format described in the Bard Student Handbook
- The project is carefully proofread

### Presentations

- Mastery over material is demonstrated during the final board meetings (e.g., student demonstrates awareness of relevant scholarly literatures and is able to

integrate such literatures with one's own work in meaningful and novel ways that were not necessarily already included in the project itself; student demonstrates thoughtfulness and sophistication in conveying criticisms of own work).

- Powerpoint presentation and poster presentation are thoughtful and clear

## **Effort**

### Initiative and Independence

- Student took initiative to schedule and attend regular meetings with the advisor according to agreements established at the beginning of the semester, proposed additional consultation from other knowledgeable individuals in the field, including other members of the board, where appropriate.
- Student attended meetings prepared with questions and demonstrated initial of both thought (e.g., questions about material) and process (e.g., independently attempted statistical analyses and literature integration prior to asking for help).
- Independence in thought and work grew throughout the year. It is expected that students will need help with research question and thesis formulation, experimental design, and techniques early on, but by later in the year the student should be proficient in all aspects of the projects - able to understand research methodology, troubleshoot problems, and interpret results with little to no help.

### Working with Faculty

- Student responded well to and incorporated feedback (as demonstrated by continual additional work - both revised and novel - that is brought to meetings with advisor throughout the year).
- Individual advisors may have additional expectations (e.g., attendance at a weekly lab meeting).

### Reliability and Consistency

- Students are expected to work a minimum of 12 hours per week on project. Work during the January (or summer) break does not make up for low effort during the first semester of project. As a general guideline to planning the year, for most projects in the first semester, students will be doing a lot of background reading, refining the research question, and developing the thesis and experimental design.
- For projects that require collection of data, data collection should begin by the end of the first semester. In the second semester, library research and writing should continue. Data collection should end at least 5-6 weeks prior to the due date for the final paper so that data analysis, data interpretation, and final report writing can proceed.
- All deadlines outlined by Psychology Program are met.

## **Senior Project Funding**

Students may request funding from the Program to assist with their senior projects. To make such a request, students must submit a form (that will be distributed via email) to the Psychology Program Chair by the end of their Senior I semesters.

To be reimbursed for approved expenses, students must complete the following by May 31 of their senior year:

1. Complete a check request form. To access this form, search for “Bard Check Request”. (A copy is currently available at “Check Requisition Form” here: <http://www.bard.edu/budgetoffice/toolbox/>, but URLs change!)
  - Under “vendor,” list your own name and the address where you want the check to be mailed.
  - “Department” is Psychology.
  - Leave the account number blank.
2. Submit the check request form and all original receipts to the Psychology Program Chair. **Include a second copy of the check request form and the original receipts.**

If you use funds for subject payments, you should submit (a) a form with signatures from paid subjects (in the case where multiple subjects are paid a set amount); (b) a cancelled check as proof payment and an email acknowledgement from the subject reading "I certify that I won the lottery associated with [your] senior project, and have received \$XX as payment." (In the case where subject payment is via lottery); or (c) a copy of the receipt for a lottery gift card.

The Program Chair will sign the form, provide an account number and return the form to you. You should then place it in Campus Mail to Tracy Zigner.

Students are also encouraged to seek out additional funding opportunities, such as the Dean Stuart Stritzler-Levine Seniors-to-Seniors Scholarship.

## Senior Project: Empirical Proposal Guidelines

*(Note: Adapted from Janxin Leu's assignment for Psychology 547 at the University of Washington*

*[http://faculty.washington.edu/janleu/Courses/Cultural Psychology/Research Proposal.doc](http://faculty.washington.edu/janleu/Courses/Cultural%20Psychology/Research%20Proposal.doc)).*

This option for Senior Project involves preparing a proposal for research that, for limits of temporal, physical, or financial resources, access to specific participant populations or other constraints, cannot be feasibly conducted in the one year allotted to Senior Project. Senior Projects that take this form will draw on any theoretical perspective in psychology to develop a novel research hypothesis, and will then propose 1-3 studies testing your hypothesis. The major components of this proposal are outlined below.

### Major Components of a Grant Proposal

**1. Background:** The goal of this section is to provide a well-developed literature review that leads to your research question. In most respects, this section is precisely what you do when you write the introduction section to a research paper or traditional empirical senior project. Your review should draw from current research findings published in peer reviewed psychology journals. Pick a reasonable scope in which to contextualize your research question, explicitly state the contribution your research may make to the field, and keep your target audience in mind. When describing your project, be sure to carefully define all your terms. This is especially important, as these definitions will be critical in operationalizing your empirical constructs.

This section should be theoretically rich and comprehensive in its coverage of the relevant literature(s). As a rule of thumb, it should constitute approximately one third of the Senior Projects for students producing a research proposal; this will vary based on the complexity of your research design and your analytical plan. At the end of this section, you should clearly specify your research hypotheses.

**2. Proposed Studies:** This section will very much resemble a typical methods section like the one you would write in an empirical paper (except that the data have not yet been collected). This section should include the following:

- Description of participants, including how you will recruit them and how many you will include in your study (ideally, this will be based on a power analysis). This section should also include any ethical considerations that are relevant for data collection.
- Complete sets of all measures, including stimuli and survey questions, included in your proposed studies, with details about why you have chosen these measures above alternative measures, and, where available, specifics about their reliability and validity

**3. Data Analytic Strategy and Predicted Results:** In this section you should describe in detail how you will test your hypotheses with specific analytic procedures (e.g., t-tests, Chi-squared, ANOVA) identified, and describe your predicted results. You should include tables, graphs or figures that illuminate your predicted results where such additions are useful. Report measures of effect size.

You should also describe how the data will be prepared (e.g., how data will be processed or transformed; which items are reverse-scored, etc, citing published protocols established in the literature where appropriate). You may, in consultation with your advisor, develop simulated data. If you do so, you should describe in detail the process by which you created the simulated data, and conduct your analyses on these data.

An example of the *general structure* of your predicted results is below. Your actual section should be far, far more elaborated than this, which was included as part of an actual grant application that proposed six studies within a 12-page space limit. You do not face this space constraint!

#### Data analytic plan and predicted results

*Power analysis.* 64 participants yields 80% power assuming  $\alpha = .05$ , and  $r = .30$

*Data preparation.* IAT scores will be analyzed according to the procedures outlined by Greenwald, Nosek, & Banaji (2003). Priming scores will first be analyzed using a 3 (prime: control, science, arts) x 3 (target) analysis of variance (ANOVA); differences in response latency to the relevant pairings (e.g., sciences-male and sciences-female) on the priming tasks will be calculated to generate an individual priming score for each person for each construct.

#### *Predictions.*

*Science is implicitly construed as solitary.* I expect to replicate the pilot study and Diekmann et al. (in press), which demonstrated that people more strongly associate sciences with alone compared to arts (or, medicine, in the case of Diekmann) and together. (single-sample t-test on IAT scores; 3 (prime) x 3 (target) ANOVA on priming scores)

*Implicit measures will correlate with one another.* I expect that IAT and priming scores will be positively correlated, such that participants with more positive science attitudes, stronger sciences=alone, and sciences=alone associations on the priming tasks will show a similar pattern on the analogous IATs.

**4. Discussion.** This section will function much like a discussion section in a typical journal article. Relate your anticipated results directly to your research question. If your predictions were to be confirmed, consider and adequately address alternative explanations for your results. Describe the potential implications of these findings for theory, and, if applicable, practice. Fully address alternative interpretations if your predicted results are not confirmed – what would we learn if your hypotheses were not supported? All studies, even proposed ones, have their limitations, and you should discuss them here. Consider future directions--what would be the next steps in this program of research?

## **5. Appendices**

An Appendix should include an estimated budget for your project, timeline for data collection, and example consent and debriefing forms that you would submit to the IRB were you to actually conduct the study.

## PSI CHI: HONOR SOCIETY IN PSYCHOLOGY

Psi Chi is the International Honor Society in Psychology, founded in 1929 for the purposes of encouraging, stimulating, and maintaining excellence in scholarship, and advancing the science of psychology. Psi Chi functions as a federation of chapters located at over 1,090 senior colleges and universities in the USA, Canada and Ireland. Membership is open to graduate and undergraduate men and women who are making the study of psychology one of their major interests, and who meet the minimum GPA qualifications. Psi Chi serves two major goals: first, to provide *academic recognition* to its inductees by the mere fact of membership. Second, to nurture the spark of that accomplishment by offering a climate congenial to members' creative development. For example, the chapters make active attempts to nourish professional growth through programs designed to enhance the regular curriculum and to provide practical experience and fellowship. In addition, Psi Chi holds Society and regional conventions annually in conjunction with the psychological associations, research award competitions, and certificate recognition programs. All moderated Psychology students are invited to apply!