

Political Science 250 | Genetics, Brains, and Politics

University of Nebraska-Lincoln
Spring Semester 2024 | Section 150
MW 9:30-10:20am | Avery Hall 106

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TEACHING ASSISTANT

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COURSE DESCRIPTION AND GOALS

Course Description

In this course, we will investigate the relationship between genetics, biology, neuroscience, physiology, and behavior, with special attention to political behavior. Why do people behave the way they do? Why do people have the attitudes they do? The old-fashioned assumption is that human behaviors and attitudes are entirely products of the events to which people have been exposed during their lives, but is this assumption valid? As surprising as it may be, research findings suggest that genetics may be associated, not just with behavior generally, but also with political behavior specifically. At the same time, this evidence is not conclusive and the processes by which individual genes affect behavior are still murky. No one believes that genetics alone determines political behavior and attitudes. Many forces other than genetics, such as early (even prenatal) development and later environmental experiences, are relevant to behavior. What political science has historically overlooked is that even these environmental factors influence political attitudes and behavior through human biological processes. Thus, a crucial part of this course is devoted to understanding the role of the central nervous system (brain) and the peripheral nervous system (body) in political behavior. Methodological techniques pertaining to physiology and brain imaging will be explored as will research using biology and neuroscience to understand politics.

The life sciences and social sciences are in the process of coming closer together and this course provides students with the basic knowledge of biology and social behavior necessary to understand this exciting confluence of disciplines. Much lip service is given to interdisciplinary studies these days but it often appears only in upper-division or graduate courses. This course constitutes an opportunity for students in a 200-level class to be exposed to cutting-edge material that crosses not only those disciplines that traditionally have been viewed as being close to political science (e.g., sociology and economics) but also those disciplines that are typically viewed as being quite detached from it (e.g., biology and neuroscience).

This is the second course in the Biology, Psychology, and Politics area in the Department of Political Science. It is designed to introduce you to a wide array of research topics at the intersection of biology, neuroscience, and political science. If you enjoy this class and want to learn more about the intersection of biology, psychology, and politics, you might consider taking the other courses in the sequence (POLS 150, 350, 450).

Course Format

We will meet for lecture two days a week (Mondays and Wednesdays) at 9:30. In addition, students enrolled in this class must also be enrolled in one of the available weekly recitation sections. These sections will make it possible for you to meet in smaller groups to discuss many of the controversial and timely topics that surround genetics, biology, neuroscience, behavior, and politics. More information on these sections will be provided during the first meeting of your regularly scheduled recitation.

Course Goals

In successfully completing this course, students will:

1. Understand the relationship between biology, neuroscience, and human political attitudes and behavior.
2. Analyze contemporary American politics through the lens of biopolitics research.
3. Learn to engage in the scientific process through development of an interdisciplinary research question, hypothesis, and quantitative data analysis.

ACE Program Requirements

By passing this course, you will fulfill ACE Learning Outcome 4: "Use scientific methods and knowledge to pose questions, frame hypotheses, interpret data, and evaluate whether conclusions about the natural and physical world are reasonable" and ACE Learning Outcome 6: "Use knowledge, theories, methods, and historical perspectives appropriate to the social sciences to understand and evaluate human behavior." Through this course, you will have several opportunities to acquire the knowledge and skills necessary to achieve the ACE Learning Outcome(s). Your work will be evaluated by the instructor according to the assessments described in this course syllabus, including exams and the research note. Your work will be collected through Canvas for ACE assessment.

REQUIRED MATERIALS

Textbook

Hibbing, J., Smith, K. B., & Alford, J. R. (2013). *Predisposed: Liberals, conservatives, and the biology of political differences*. Routledge. ISBN: 9780415535878

Additional readings will be available on Canvas.

Technical Requirements

UNL email account (@huskers.unl.edu)
 Canvas (recommended browsers are Firefox or Google Chrome)
 Word processor (e.g., Microsoft Word, Pages)
 PDF reader (e.g., Adobe, Preview)
 Personal computer (desktop or laptop)

For more information on technology resources available to UNL students, check out UNL IT resources: <https://its.unl.edu/>. You can also contact them at support@nebraska.edu with problems/questions regarding any UNL-supported software (this includes UNL email, Canvas, Microsoft Office, Adobe).

ASSESSMENT AND GRADING

Assessments

Reaction Papers (~15%)

Every other week, students will complete a reaction paper that is **due on Tuesday before 5:00pm**. The reaction paper should be completed in Times New Roman, 12-point font, and be double-spaced. The reaction paper should summarize, integrate, and react to the readings assigned for recitation that week. Papers should be two pages long and will be submitted in Canvas on the POLS 250-150 page.

Exams (~49%)

There will be three exams during the semester. These exams will be a combination of multiple choice, short essays, and exercises. They are each best seen as unit exams and are NOT cumulative. Exams for this course will be taken under electronic supervision at the Digital Learning Center (<http://its.unl.edu/dlc/>) which is located in the Adele Coryell Hall Learning Commons in Love Library. All testing times are pre-scheduled and exams will be completed on a computer. Before you begin an exam, you must place your personal items in a locker and check in with Digital Learning Center staff at the front desk. You will need your NCard to check in. When you have completed your exam, you must check out at the front desk. For each exam, you will need to make an appointment at <https://dlc-reserve.unl.edu/>. More information on DLC student policies is available here: <https://its.unl.edu/dlc/student-policies/>

Research Plan and Final Research Paper (~22%)

An important requirement of an ACE 4 course is that students formulate and test hypotheses with original data. Students will be given an existing data set containing both biological and political behavioral data. You will need to formulate and theoretically justify 1-2 hypotheses pertaining to the data and then use a standard software package to test hypotheses before forming inferences and interpretations. **During week 9, you will submit a Research Plan** outlining your research question and hypotheses. You will get feedback on this plan and have a chance to discuss with the course TA. Your final paper should be approximately 7-8 pages long, double-spaced. **The Final Research Paper will be due during week 16** and will be submitted in the POLS 250-150 Canvas page.

Recitation Attendance and Participation (~15%)

Finally, it is vital that you attend lecture and recitation sections regularly. Attendance policies for the recitation sections will be described during the first meeting. Attendance will be taken during the recitation meetings and will be counted as part of your grade. More importantly, attendance at lecture and recitation will benefit your learning and you will be more likely to do well on exams, assignments, and in the course as a whole.

Grades

Final grades for this course will be calculated based on a possible 340 points and using the distribution and percentages below. I don't round up or assign extra points at the end of the semester, so it is your responsibility to earn your desired grade. If you have any questions or concerns about your grade, you should always feel free to talk to me and/or your TA for the course--the earlier in the semester the better! Final grades will be curved up for everyone in the class *only* if the overall class average is below a B- (< 80%). I will use Canvas throughout the semester to post grades so that you can keep track of your progress, and you can also calculate your grade using the point distribution below. Incomplete grades will be given only under extreme circumstances, when a student has completed most of the course requirements, and at the sole discretion of the instructor.

Reaction Papers	50 points
Exam 1	55 points
Exam 2	55 points

Exam 3	55 points
Research Plan	15 points
Final Research Paper	60 points
Recitation attendance and participation	50 points

Total	340 points

A+ = 97-100%
 A = 93-96.9%
 A- = 90-92.9%
 B+ = 87-89.9%
 B = 83-86.9%
 B- = 80-82.9%
 C+ = 77-79.9%
 C = 73-76.9%
 C- = 70-72.9%
 D+ = 67-69.9%
 D = 63-66.9%
 D- = 60-62.9%
 F = < 59.9%

COURSE POLICIES

Instructional Continuity

If in-person classes are canceled, you will be notified of the instructional continuity plan for this class through Canvas.

Attendance and Engagement

Students are expected to attend all lectures and recitations and engage with the course on a regular basis. Absences will be excused for illness, injury, hospitalization, military orders, university-sponsored activities, religious observation, and/or personal tragedy. Students should notify the TA and/or instructor in advance of the absence (when possible), and students are responsible for material and content covered in the missed class(es).

Deadlines and Completion of Coursework

Regular engagement in the course is expected. In general, we do not accept late assignments or give make-up exams without a valid excuse. Should you miss any exam or assignment without approval from me, you will receive a zero grade for that exercise. That said, an exception may be granted to a student who contacts the TA and/or instructor prior to the assignment due date or exam dates to request an extension. If you foresee being unable to turn in a paper or take an exam on the assigned dates, please contact us through Canvas or email and we will work with you.

Communication

We will communicate with students through Canvas, so please make sure that you check Canvas on a regular basis and set up your Canvas notifications to receive emails about any course announcements or updates. You should plan to use your official @huskers.unl.edu email address for class. In general, I will plan to send any weekly announcements on Mondays, so as not to flood your inbox with updates. But, you should feel free to contact your TA or me anytime with questions. The best way to contact me is by sending a message through Canvas, or email me directly with "POLS 250" in the subject line. I will do my best to respond to emails within 24 hours Monday-Friday during normal business hours. You are

also welcome to set up a meeting during office hours (make an appointment at <https://calendly.com/ingridihaas/pols-250-office-hours>) or email me with your availability to meet if my regular meeting times don't work for you.

Artificial Intelligence (A.I.)

Intellectual honesty is vital to an academic community and for our fair evaluation of your work. All work submitted in this course must be your own, completed in accordance with the University's academic regulations. Use of A.I. tools (e.g., ChatGPT) is permitted in this course, but only to help brainstorm assignments or to revise existing work you have written. Using A.I. to complete assignments on your behalf is considered plagiarism. Also, be aware that the accuracy or quality of A.I. generated content may not meet the standards of this course, even if you only incorporate such content partially and after substantial paraphrasing, modification and/or editing. If you do use A.I. tools for any portion of your coursework, please cite it as a source.

Plagiarism-Checking Software

Writing assignments in this course will be submitted online through Canvas and run through plagiarism-checking software (Turnitin). This software compares your work against previous papers and Internet sources to detect text copied from other authors. Further information about Turnitin can be found at <https://its.unl.edu/services/turnitin/> or www.turnitin.com.

UNIVERSITY POLICIES AND RESOURCES

All students at the University of Nebraska-Lincoln should be aware of the following university-wide course policies and resources (see <https://go.unl.edu/coursepolicies>):

- **Attendance Policy**
- **Academic Honesty Policy**
- **Services for Students with Disabilities**
- **Mental Health and Well-Being Resources**
- **Final Exam Schedule (15th Week Policy)**
- **Emergency Procedures (On Campus)**
- **Diversity & Inclusiveness**
- **Sexual Misconduct Policy**

Academic Integrity Statement

Academic integrity is a fundamental value of the University community. UNL students are expected to approach and complete their academic work with academic integrity. Students must read this syllabus and all other instructions carefully so that they know what is expected in terms of academic integrity. Students are expected to do their own work, to be honest in the statements they make, to refrain from harming others, to refrain from improperly helping others, and to follow the rules. The unauthorized use of artificial intelligence to complete coursework is a violation of the University of Nebraska Student Code of Conduct [Standards of Academic Integrity](#). Students who are unsure whether or not particular conduct is appropriate should ask the instructor.

Failing to act with academic integrity violates the [University of Nebraska Student Code of Conduct](#) and will be reported to the Office of Student Conduct & Community Standards. Students who violate academic integrity may receive academic sanctions, up to and including receiving a grade of "F" in the course.

Writing Center (<https://www.unl.edu/writing>)

The Writing Center can provide you with meaningful support as you write for this class as well as every course in which you enroll. Trained undergraduate and graduate peer consultants are available to talk with you about all forms of communication. You are welcome to bring in everything from lab reports, presentations, and research papers to cover letters, application essays, and graduate theses and dissertations. Writing Center Consultants can work with you at any stage of the writing process, from brainstorming and organizing your ideas through polishing a final draft.

There are **three** ways you can connect with a Consultant: **In Person**, **Online** (a real-time, video conversation), and **eTutoring** (email feedback). To learn more about online options and view video tutorials, visit <https://www.unl.edu/writing/online-writing-center-services>. **In Spring 2024, in-person Writing Center appointments will take place in the Love Library Link, on the second floor.**

Sign up for an appointment any time by visiting unl.mywconline.com. For other information about the Writing Center, please visit unl.edu/writing.

Recording of Class-Related Activity

I invite all of you to join me in actively creating and contributing to a positive, productive, and respectful classroom culture. Each student contributes to an environment that shapes the learning process. Any work and/or communication that you are privy to as a member of this course should be treated as the intellectual property of the speaker/creator, and is not to be shared outside the context of this course.

Students may not make or distribute screen captures, audio/video recordings of, or livestream, any class-related activity, including lectures and presentations, without express prior written consent from me or an approved accommodation from Services for Students with Disabilities. If you have (or think you may have) a disability such that you need to record or tape class-related activities, you should contact Services for Students with Disabilities. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Failure to follow this policy on recording or distributing class-related activities may subject you to discipline under the Student Code of Conduct.

Trespass Policy (Regents' Policy 6.4.7)

The areas of University academic, research, public service, and administrative buildings of the University used for classrooms, laboratories, faculty and staff offices, and the areas of University student residence buildings used for student living quarters are not open to the general public. Any person not authorized to be or remain in any such building area will be deemed to be trespassing on University property and may be cited and subject to prosecution for criminal trespass in violation of Neb. Rev. Stat., § 28-520 or § 28-521.

POLS 250 | (TENTATIVE) COURSE SCHEDULE

Topics, readings, and assessments are listed below on the course schedule. All due dates are 11:59pm Central Standard Time (CST) unless otherwise specified below and all assessments should be submitted through Canvas. In general, readings should be completed prior to class meetings. Please note that this schedule represents a tentative plan and is subject to change at the instructor's discretion. Any changes will be announced through Canvas and reflected in updates to the Syllabus and Course Schedule.

Predisposed = Hibbing, J., Smith, K. B., & Alford, J. R. (2013). *Predisposed: Liberals, conservatives, and the biology of political differences*. Routledge. ISBN: 9780415535878

WEEK	DATES	TOPIC	LECTURE READING	ASSESSMENTS
1	1/22-1/26	Course Introduction / Biology and Behavior	Predisposed Ch. 1 Henig (2009)	
2	1/29-2/2	Political Orientations	Predisposed Ch. 9	Reaction Paper 1 (Group A) due T 1/30 5pm
3	2/5-2/9	Politics and the Human Condition W 2/7 NO LECTURE (SPSP Conference)	Predisposed Ch. 2-3	Reaction Paper 2 (Group B) due T 2/6 5pm
4	2/12-2/19	Mendelian, Post-Mendelian, and Molecular Genetics Guest Lecture: Dr. John Hibbing	Bazzett (pp. 116-121, 122-127) Plomin (pp. 20-34, 39-49) Zimmer (2008)	
5	2/19-2/23	Assessing Heritability and Identifying Genes W 2/21 NO LECTURE (take Exam 1 at DLC)	Predisposed Ch. 7 Plomin (pp. 73-85, 128-143) Maher (2008) Fowler & Dawes (2008)	Reaction Paper 3 (Group A) due T 2/20 5pm Exam 1 available W 2/21-R 2/22
6	2/26-3/2	Neurons	Garrett (pp. 23-43) Bazzett (pp. 64-75)	Reaction Paper 4 (Group B) due T 2/27 5pm
7	3/4-3/8	Research Methods in Cognitive Neuroscience	Huettel et al. (2014) Ch. 1, 6, 7 Berkman et al. (2014)	Reaction Paper 5 (Group A) due T 3/5 5pm
8	3/11-3/15	NO CLASS (Spring Break)		
9	3/18-3/22	Politics and Neuroscience	Jost et al. (2014) Haas (2016)	Research Plan due R 3/21
10	3/25-3/29	Politics and Brain Structure W 3/27 NO LECTURE (take Exam 2 at DLC)	Kanai et al. (2011) Nam et al. (2018)	Reaction Paper 6 (Group B) due T 3/26 5pm Exam 2 available W 3/27-R 3/28
11	4/1-4/5	Politics and Brain Function	Westen et al. (2006) Schreiber et al. (2013)	Reaction Paper 7 (Group A) due T 4/2 5pm

WEEK	DATES	TOPIC	LECTURE READING	ASSESSMENTS
12	4/8-4/12	Politics, Cognition, and Physiology 1	Predisposed Ch. 5	Reaction Paper 8 (Group B) due T 4/9 5pm
13	4/15-4/19	Politics, Cognition, and Physiology 2	Predisposed Ch. 6	Reaction Paper 9 (Group A) due T 4/16 5pm
14	4/22-4/26	Evolutionary Psychology	Predisposed Ch. 8 Hare & Woods (2020)	
15	4/29-5/3	The Genetic Lottery and Politics W 5/1 NO LECTURE (take Exam 3 at DLC)	Harden (2021)	Reaction Paper 10 (Group B) due T 4/30 5pm Exam 3 available W 5/1-R 5/2
16	5/6-5/10	NO CLASS MEETINGS (finish Final Research Paper)		Final Research Paper due R 5/9

Reading List (Lecture)

- Bazzett, T. (2008). *An introduction to behavior genetics*. Oxford University Press.
- Berkman, E. T., Cunningham, W. A., & Lieberman, M. D. (2014). Research methods in social and affective neuroscience. In H. T. Reis & C. M. Judd (Eds.), *Handbook of Research Methods in Personality and Social Psychology* (2nd ed., pp. 123-158). New York, NY: Cambridge University Press.
- Fowler, J. H., & Dawes, C. T. (2008). Two genes predict voter turnout. *The Journal of Politics*, 70(3), 579-592.
- Garrett, B., & Hough, G. (2021). *Brain and behavior: An introduction to behavioral neuroscience*. SAGE.
- Haas, I. J. (2016). Political neuroscience. In J. R. Absher & J. Cloutier (Eds.), *Neuroimaging Personality, Social Cognition, and Character: Traits and Mental States in the Brain* (pp. 355-370). Cambridge, MA: Academic Press.
- Harden, K. P. (2021). *The Genetic Lottery: Why DNA matters for social equality*. Princeton University Press.
- Hare, B. & Woods, V. (2020). *Survival of the friendliest: Understanding our origins and rediscovering our common humanity*. Random House.
- Henig, R.M. (2009, October 4). Understanding the anxious mind. *The New York Times*.
- Heuttel, S. A., Song, A. W., & McCarthy, G. (2014). *Functional magnetic resonance imaging* (3rd ed.). Sinauer Associates.
- Hibbing, J., Smith, K. B., & Alford, J. R. (2013). *Predisposed: Liberals, conservatives, and the biology of political differences*. Routledge.
- Jost, J. T., Nam, H. H., Amodio, D. M., & Van Bavel, J. J. (2014). Political neuroscience: The beginning of a beautiful friendship. *Advances in Political Psychology*, 35, 3-42.
- Kanai, R., Feilden, T., Firth, C., & Rees, G. (2011). Political orientations are correlated with brain structure in young adults. *Current Biology*, 21(8), 677-680.
- Maher, B. (2008, November 6). The case of the missing heritability. *Nature*, 456, 18-21.
- Nam, H. H., Jost, J. T., Kaggen, L., Campbell-Meiklejohn, D., & Van Bavel, J. J. (2018). Amygdala structure and the tendency to regard the social system as legitimate and desirable. *Nature Human Behaviour*, 2(2), 133.
- Plomin, R., et al. (2008). *Behavioral Genetics*.
- Schreiber, D., Fonzo, G., Simmons, A. N., Dawes, C. T., Flagan, T., Fowler, J. H., & Paulus, M. P. (2013). Red brain, blue brain: evaluative processes differ in Democrats and Republicans. *PLoS One*, 8(2), e52970.
- Westen, D., Blagov, P. S., Harenski, K., Kilts, C., & Hamann, S. (2006). Neural bases of motivated reasoning: An fMRI study of emotional constraints on partisan political judgment in the 2004 U.S. presidential election. *Journal of Cognitive Neuroscience*, 18, 1947-1958.
- Zimmer, C. (2008, November 11). Now: The rest of the genome. *The New York Times*.