

THE SCIENCE OF SEXUAL ORIENTATION

- SNC 193: Liberal Studies Scientific Inquiry (non-SNL) (4 cr. hrs.)**
- SW 193: Scientific World, S2X competence* (SNL) (2 cr. hrs.)**
*additional competence may be negotiated with instructor
- IN 307: Advanced Elective Seminar, E1, E2 competencies (SNL) (4 cr. hrs.)**

Meets: Thursdays, 6:00 – 9:00 p.m., Sept. 8 through Nov. 10
Location: Loop Campus, TBA
Faculty: Donald L. Opitz, Ph.D.
Office: 1431 Daley Building, 14 E. Jackson Blvd.
Hours: Thursdays 5:00 – 6:00 p.m. and by appointment
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Course Description

This course will engage you in scientific inquiry on the nature of sexual orientation. You will be challenged to master the scientific content of leading programs of research on twins, brain and other anatomical structures, hormones, genetic linkages, birth-order, and animal behavior through assigned readings, lectures, and multimedia resources. Moreover, you will also engage in the scientific process through a collaborative research project concerning an aspect of sexual orientation that leads you through the steps of stating a question, designing a study, collecting and analyzing data, and interpreting the results. You will also develop skills in identifying the limits to particular forms of scientific inquiry by recognizing the constraints of methods, sources of bias, reliability of results, and certainty of conclusions. This course will encourage you to place the modern research within ethical and social contexts in which to make judgments about the potential relevance and impacts of scientific knowledge about sexual orientation.

Learning Experience

This course will consist of seminar discussions, lectures, student-led presentations, and collaborative activities. Critical analysis of readings, engagement with multimedia resources, and explanatory, scientific writing will also be emphasized.

Prerequisites

All sections: LSP 120 / LL 205 Quantitative Reasoning
IN 307 section only: LL 300 Research Seminar

Course Materials

Required readings include the book, Simon LeVay, *Gay, Straight, and the Reason Why: The Science of Sexual Orientation* (Oxford University Press, 2011), ISBN 978-0-19-973767-3, and articles at DePaul Libraries' eReserve: <http://library.depaul.edu/Find/CourseReserves.aspx>. See the required and supplemental readings list for details.

Learning Outcomes

Students who satisfactorily complete this course will have demonstrated their ability to:

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- Understand and appreciate the interrelationships among science, technology, and math within sexual orientation research (SI, E1).
- Understand and appreciate the role of science in society and in their lives through consideration of the ethical and social impacts of research on sexual orientation (SI, E2).
- Understand the major principles guiding modern scientific thought and demonstrate a mastery of the science content knowledge concerning the nature of sexual orientation (SI, S2X).
- Understand the nature of science, technology, and mathematics by critically analyzing the methods, results, and conclusions in studies of sexual orientation (SI, S2X).
- Know that science, technology, and math serve as mechanisms of inquiry into the nature of sexual orientation among humans and animals (SI, S2X).

In addition to these outcomes, students will develop their skills in collaboration, explanatory writing, critical inquiry, and ethical thinking.

Assignments and Assessment

Detailed instructions and rubrics will be provided separately.

<i>Due</i>	<i>Assignment and Description</i>			<i>Points</i>
ALL STUDENTS				
Each class	Class Participation (See Policy on Attendance) Includes seminar discussions, small-group and paired discussions, D2L discussions, and in-class activities.			200
To be assigned	Class Discussion Leadership Assigned discussion leaders (one or two per class) will raise questions for engaging the class in discussion on the session's topic.			100
Nov. 3 class & Nov. 10 class	Oral Presentations on Projects Brief in-class oral presentations on students' projects using PowerPoint.			100
Sep. 29 & Nov. 17	Midterm and Final Examinations Short-essay, take-home examinations to encourage mastery of content and development of explanatory writing skills. The examination requirements vary depending on students' enrolled sections.			400
SNC 193 STUDENTS		IN 307 STUDENTS	SW 193 STUDENTS	
Nov. 3 class	Experimental Study Project <i>Stage I:</i> identify research questions and select research design. <i>Stage II:</i> describe data. <i>Stage III:</i> full report.	Analytical Essay Project Either an integrative, expository essay or ethical analysis on one of the course topics, utilizing course texts.	Experiential Learning Project Report on a site visit, scientist interview, film viewing, review of a website, or other experiential activity. (Select from a list.)	200
Total				1000

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Policy on Late Work

Any missed assignment or work submitted late will merit no credit unless an arrangement was negotiated with the instructor prior to the due date. Unforeseen, documented emergencies are exceptions. All negotiated late submissions are subject to a grade reduction of 5% for each weekday that elapses following the due date, until the date of submission.

Policy on Attendance

DePaul University anticipates that all students will attend all class meetings of this course. Attendance is essential to success in this class. If an emergency or extenuating circumstance necessitates an absence, students must inform the instructor as soon as possible. NO CREDIT CAN BE AWARDED FOR ASSIGNMENTS MISSED DUE TO AN UNEXCUSED ABSENCE.

Grading

The total points possible are:

100	Discussion leadership
100	Oral presentation on project
200	Class participation
200	Project
200	Midterm Examination
<u>200</u>	<u>Final Examinaton</u>
1000	Total

To assign grades, the following grading scale and University grading standards will be used. (Any partial points will be rounded up to the nearest whole point.)

A+	n/a	B+	870-899	C+	770-789	D+	670-699	F	0-649
A	930-1000	B	830-869	C	730-769	D	650-669		
A-	900-929	B-	790-829	C-	700-729	D-	n/a		

The following University grading standards will be used in assessing students' work:

- A** Accomplished the stated objectives of the course in an EXCELLENT manner
- B** Accomplished the stated objectives of the course in a VERY GOOD manner
- C** Accomplished the stated objectives of the course in a SATISFACTORY manner
- D** Accomplished the stated objectives of the course in a POOR manner
- F** Did NOT accomplish the stated objectives of the course
- PA** Passing achievement in a pass/fail course. (Grades A through C-.) **Students who take this course pass/fail must request this option from the instructor by the end of the second week of the term. Students who request pass/fail grading cannot revert to A-F grading.**
- W** Automatically recorded when the student's withdrawal is processed after the deadline to withdraw without penalty, but within the stipulated period.

Policy on Incompletes

An Incomplete (**IN**) grade may be issued to a student who has completed a satisfactory record of work (typically at least three-quarters of the assigned work), but for unusual or unforeseeable circumstances not encountered by other students in the class and acceptable to the instructor, is unable to complete the course requirements by the end of the term. The student must request this grade from the instructor. At the end of the second quarter (excluding summer) following the term in which the incomplete grade was assigned, a remaining IN grade will automatically

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convert to an F grade. Ordinarily no incomplete grade may be completed after the grace period has expired. Instructors may not change IN grades after the end of the grace period without the college Exceptions Committee's permission.

Academic Integrity Policy

Violations of academic integrity include but are not limited to the following categories: cheating, plagiarism, fabrication, falsification or sabotage of research data, destruction or misuse of the University's academic resources, alteration or falsification of academic records, and academic misconduct. Conduct that is punishable under the Policy may, at the instructor's discretion, result in sanctions that include a grade of F for the assignment or the entire course and do not preclude further University action, including dismissal and/or criminal or civil prosecution.

Plagiarism

Plagiarism is a major violation of academic integrity involving the presentation of the work of another as one's own. Plagiarism includes but is not limited to the following:

- The direct copying of any source, such as written and verbal material, computer files, audio disks, video programs or musical scores, whether published or unpublished, in whole or part, without proper acknowledgment that it is someone else's.
- Copying of any source in whole or part with only minor changes in wording or syntax, even with acknowledgment.
- Submitting as one's own work a report, examination paper, computer file, lab report or other assignment that has been prepared by someone else. This includes research papers purchased from any other person or agency.
- The paraphrasing of another's work or ideas without proper acknowledgment.

Workload Expectations

For satisfactory completion of this course, students in this class are expected to spend at least 2 hours involved in outside class preparation for every hour spent in class.

Resources for Student Writers

The DePaul University Center for Writing-Based Learning offers resources for student writers through on-site and online services. See <http://condor.depaul.edu/~writing/>.

Disability Accommodations

Any student needing an accommodation in this course due to a documented disability is asked to bring this to the instructor's attention. Needs will be addressed in cooperation with the Office of Students with Disabilities, <http://studentaffairs.depaul.edu/studentswithdisabilities/>, or the Productive Learning Strategies Program (PLuS), <http://studentaffairs.depaul.edu/plus/>.

Chronic Illness Initiative

The Chronic Illness Initiative (CII) provides access to higher education for students disabled by chronic illnesses that unpredictably increase and decrease in severity such as chronic fatigue syndrome, rheumatoid arthritis, lupus or illnesses requiring frequent hospitalizations. For further information, see CII@depaul.edu.

DePaul Code of Student Responsibility

The Code outlines the minimum acceptable level of conduct expected of every student of DePaul University, including respectful classroom behavior. DePaul condemns any form of harassment, discrimination, and/or assault behavior and any such conduct is subject to University disciplinary sanctions. For the complete code, see the student handbook online at <http://sr.depaul.edu/catalog/catalogfiles/Current/Undergraduate%20Student%20Handbook/pg50.html>

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CLASS SCHEDULE			
Class	Topic and Description	Readings Due	Assignment Due
9/8	Overview: What is the science of sexual orientation?	Recommended: • Soble, 2006, I: 468-76	
9/15	Definitions, Methods, Theories From psychoanalytical theories to learning theories to biological studies	Required: • LeVay, Ch. 1-3 • Griffitt & Hatfield Recommended: • Herek, et al., 1991 • Sell, 1997 • Kinsey, 1948, Ch. 21	• Responses to discussion questions (see D2L)
9/22	Childhood, Adult Development Behavioral differences among children and adults, especially gender-variant or gender non-conforming traits.	Required: • LeVay, Ch. 4-5	• Responses to discussion questions
9/29	The Role of Sex Hormones Research on hormones and different developmental stages. Hormonal theories. Anatomical “markers” in correlation studies.	Required: • LeVay, Ch. 6	• Take-Home Midterm Exam (due in D2L) • Responses to discussion questions
10/6	The Role of Genes Studies of twins and siblings. Family lineages. Genome scans and genetic linkages.	Required: • LeVay, Ch. 7 Recommended: • Hamer/Copeland, 1994	• Stage 1 of Project (D2L) • Responses to discussion questions
10/13	Brain and Anatomical Studies Structural and functional differences among humans and animals. The hypothalamus and brain activity studies. Pheromone studies. Body differences.	Required: • LeVay, Ch. 8-9 Recommended: • LeVay, 1996, 5-7	• Responses to discussion questions
10/20	The Older Brother Effect Birth order among brothers and correlations with sexual orientation. Experimental results and hypothesized causes.	Required: • LeVay, Ch. 10 Recommended: • Blanchard, 2001	• Stage 2 of Project (D2L) • Responses to discussion questions
10/27	Assessment and Critiques Making sense of the main lines of research and future directions. Critiques and debates.	Required: • LeVay, Ch. 11 Recommended: • Byne, 1994 • LeVay & Hammer, 1994	• Responses to discussion questions
11/3	Ethical Arguments, Pro and Con Ethics of the pursuit of research. Ethical arguments pro and con for potential uses of science in manipulating human sexual orientation.	Required: • Stein, 1999, Ch. 9 • Greenberg & Bailey Recommended: • Murphy, 1997	• Stage 3 of Project (D2L) • Responses to discussion questions • Project presentations
11/10	Student Project Presentations	<i>No reading required</i>	• Project Presentations
11/17	NO CLASS MEETING – Final Take-Home Examinations Due in D2L		

Required Readings List:

- LeVay, S. (2011). *Gay, Straight, and the Reason Why: The Science of Sexual Orientation*. Oxford: Oxford University Press.
- Greenberg, A. S. and Bailey, J. M. (2001). Parental Selection of Children's Sexual Orientation. *Archives of Sexual Behavior* 30(4), 423-37.
- Griffitt, W. and Hatfield, E. (1985). Methods and Issues in Sex Research. Pp. 6-13 in *Human Sexual Behavior*. Glenview, IL: Scott, Foresman & Co.
- Stein, E. (1999). Chapter 9 in *The Mismeasure of Desire: The Science, Theory, and Ethics of Sexual Orientation*. New York: Oxford University.

Recommended Readings List:

- Blanchard, R. (2001). Fraternal Birth Order and the Maternal Immune Hypothesis of Male Homosexuality. *Hormones and Behavior*, 40, 105-114.
- Byne, W. (1994). The Biological Evidence Challenged. *Scientific American*(May), 50-55.
- Hamer, D., & Copeland, P. (1994). *The Science of Desire: The Search for the Gay Gene and the Biology of Behavior*. New York: Simon & Schuster.
- Herek, G. M., Kimmel, D. C., Amaro, H., & Melton, G. B. (1991). Avoiding Heterosexist Bias in Psychological Research. *American Psychologist*, 46(9), 957-963.
- Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual Behavior in the Human Male*. Philadelphia: W. B. Saunders.
- LeVay, S. (1996). *Queer Science: The Use and Abuse of Research into Homosexuality*. Cambridge, MA: MIT Press.
- LeVay, S., & Hamer, D. H. (1994). Evidence for a Biological Influence in Male Homosexuality. *Scientific American*(May), 44-49.
- Murphy, T. (1997). *Gay Science: The Ethics of Sexual Orientation Research*. New York: Columbia University.
- Sell, R. L. (1997). Defining and Measuring Sexual Orientation: A Review. *Archives of Sexual Behavior*, 26(6), 643-658.
- Soble, A. (Ed.). (2006). *Sex from Plato to Paglia: A Philosophical Encyclopedia*. Westport, CT: Greenwood Press.

Further Readings List:

- Bagemihl, B. (1999). *Biological Exuberance: Animal Homosexuality and Natural Diversity*. New York: St. Martin's Press.
- Bailey, J. M. (2000). Genetic and Environmental Influences on Sexual Orientation and Its Correlates in an Australian Twin Sample. *Journal of Personality and Social Psychology*, 78(7), 524-536.
- Bailey, J. M., & Pillard, R. C. (1991). A Genetic-Study of Male Sexual Orientation. *Archives of General Psychiatry*, 48(12), 1089-1096.
- Bayer, R. (1987). *Homosexuality and American Psychiatry: The Politics of Diagnosis*. Princeton: Princeton University.
- Blanchard, R. (1997). Birth Order and Sibling Sex Ratio in Homosexual versus Heterosexual Males and Females. *Annual Review of Sex Research*, 8, 27-67.
- Brookey, R. A. (2002). *Reinventing the Male Homosexual: The Rhetoric and Power of the Gay Gene*. Bloomington, IN: Indiana University.
- Bullough, V. L. (1994). *Science in the Bedroom: A History of Sex Research*. New York: Basic Books.

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- Chivers, M. L. (2005). Leading Comment: A Brief Review and Discussion of Sex Differences in the Specificity of Sexual Arousal. *Sexual and Relationship Therapy, 4*, 377-390.
- Davidson, A. I. (1987). Sex and the Emergence of Sexuality. *Critical Inquiry, 14*(1), 16-48.
- Diamond, L. M. (2008). *Sexual Fluidity: Understanding Women's Love and Desire*. Cambridge, MA: Harvard University.
- Dreger, A. D. (1998). *Hermaphrodites and the Medical Invention of Sex*. Cambridge, MA: Harvard University.
- Ellis, H. (1896). Sexual Inversion in Men. *Alienist and Neurologist, 17*, 115-150.
- Ellis, H., & Symonds, J. A. (1897). *Sexual Inversion*. London: Wilson & Macmillan.
- Epstein, S. (1996). *Impure Science: AIDS, Activism, and the Politics of Knowledge*. Berkeley: University of California.
- Fausto-Sterling, A. (1999). *Sexing the Body: How Biologists Construct Human Sexuality*. New York: Basic Books.
- Foucault, M. (1976). *A History of Sexuality*. New York: Random House.
- Gonsiorek, J. C., & Weinrich, J. D. (Eds.). (1991). *Homosexuality: Research Implications for Public Policy*. Newbury Park, CA: Sage Publications.
- Greenberg, D. F. (1988). *The Construction of Homosexuality*. Chicago: University of Chicago.
- Hamer, D. H., Hu, S., Magnusson, V. L., Hu, N., & Pattatucci, A. M. L. (1993). A Linkage between DNA Markers on the X Chromosomes and Male Sexual Orientation. *Science, 261*(July 16), 321-327.
- Hu, S., Pattatucci, A. M. L., Patterson, C., Li, L., Pulker, D. W., Cherney, S. S., et al. (1995). Linkage between Sexual Orientation and Chromosome Xq28 in Males but Not in Females. *Nature Genetics, 11*, 248-256.
- Jones, J. H. (1997). *Alfred C. Kinsey: A Public/Private Life*. New York: W. W. Norton.
- Kallman, F. J. (1952). Twin and Sibship Studies of Overt Male Sexuality. *American Journal of Human Genetics, 4*, 136-146.
- Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. H. (1953). *Sexual Behavior in the Human Female*. Philadelphia: W. B. Saunders.
- Klassen, A. D., Williams, C. J., & Levitt, E. E. (1989). *Sex and Morality in the U. S.: An Empirical Inquiry under the Auspices of the Kinsey Institute*. Middleton, CT: Wesleyan University.
- Koertge, N. (Ed.). (1981). *The Nature and Causes of Homosexuality: A Philosophic and Scientific Inquiry*. New York: Haworth Press.
- Lacqueur, T. (1990). *Making Sex: Body and Gender from the Greeks to Freud*. Cambridge, MA: Harvard University.
- LeVay, S. (1991). A Difference in Hypothalamic Structure between Heterosexual and Homosexual Men. *Science, 253*, 1034-1037.
- Lloyd, E. A. (2005). *The Case of the Female Orgasm: Bias in the Science of Evolution*. Cambridge, MA: Harvard University Press.
- McKnight, J. (1997). *Straight Science? Homosexuality, Evolution and Adaptation*. New York: Routledge.
- McWhirter, D. P., Sanders, S. A., & Reinisch, J. M. (Eds.). (1990). *Homosexuality/Heterosexuality: Concepts of Sexual Orientation*. New York: Oxford University.
- Meyerowitz, J. (2002). *How Sex Changed: A History of Transsexuality in the United States*. Cambridge, MA: Harvard University.
- Mondimore, F. M. (1996). *A Natural History of Homosexuality*. Baltimore, MD: Johns Hopkins University.
- Mustanski, B. S., Chivers, M. L., & Bailey, M. J. (2002). A Critical Review of Recent Research on Human Sexual Orientation. *Annual Review of Sex Research, 13*(2), 89-140.
- Reiss, I. L. (1993). The Future of Sex Research and the Meaning of Science. *The Journal of Sex Research, 30*(1), 3-11.

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- Reiss, I. L. (2006). *An Insider's View of Sexual Science since Kinsey*. Lanham, MD: Rowman & Littlefield.
- Robinson, P. (1976). *The Modernization of Sex: Havelock Ellis, Alfred Kinsey, and William Masters and Virginia Johnson*. New York: Harper & Row.
- Rosario, V. (2002). *Homosexuality and Science: A Guide to the Debates*. Santa Barbara: ABC-CLIO.
- Rosario, V. (2002b). Science and Sexual Identity. *Journal of the History of Medicine and Allied Sciences*, 57, 79-85.
- Rosario, V. (Ed.). (1997). *Science and Homosexualities*. New York: Routledge.
- Rosenthal, A. M., Sylva, D., Safron, A., & Bailey, J. M. (2011). Sexual Arousal Patterns of Bisexual Men Revisited. *Biological Psychology*. In press.
- Roughgarden, J. (2009). *Evolution's Rainbow: Diversity, Gender and Sexual Identity in Nature and People*. 2nd edn. Berkeley: University of California.
- Russett, C. E. (1989). *Sexual Science: The Victorian Construction of Womanhood*. Cambridge, MA: Harvard University.
- Schüklenk, U., & Ristow, M. (1996). The Ethics of Research into the Cause(s) of Homosexuality. *Journal of Homosexuality*, 31(3), 5-30.
- Schüklenk, U., Stein, E., Kerin, J., & Byrne, W. (1997). The Ethics of Genetic Research on Sexual Orientation. *The Hastings Center Report*, 27(4), 6-13.
- Soble, A. (Ed.). (2006). *Sex from Plato to Paglia: A Philosophical Encyclopedia*. Westport, CT: Greenwood Press.
- Sommer, V., & Vasey, P. L. (Eds.). (2006). *Homosexual Behaviour in Animals: An Evolutionary Perspective*. Cambridge: Cambridge University.
- Stein, E. (1999). *The Mismeasure of Desire: The Science, Theory, and Ethics of Sexual Orientation*. New York: Oxford University.
- Stein, E. (Ed.). (1992). *Forms of Desire: Sexual Orientation and the Social Constructionist Controversy* (2nd ed.). New York: Routledge.
- Stoller, R. J., & Herdt, G. H. (1985). Theories of Origins of Male Homosexuality: A Cross-Cultural Look. *Archives of General Psychiatry*, 42(4), 399-404.
- Terry, J. (2000). 'Unnatural Acts' in Nature: The Scientific Fascination with Queer Animals. *GLQ: A Journal of Gay & Lesbian Studies*, 6(2), 151-193.