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Intersex: Biology & Gender
BIOL385 / SOC389 / WGS385, 4 credit hours

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Course content

Intersex is defined as the presence of intermediate or atypical combinations of physical features that usually distinguish female from male, and conservative statistics estimate that it affects 1 in every 2,000 babies born in the United States (Intersex Society of North America, 2006). Despite the fact that many of the biological causes for intersex are well described, there remains a considerable lack of social awareness and understanding of intersexuality. This class is an introduction to both the developmental biology and the sociology of intersex in humans. Topics will include: chromosomal biology, sexual differentiation, embryology, endocrinology, and human anatomy, as well as the social issues related to intersex, such as gender identity, gender performativity, the role of gender in our society and societies around the world, relevant legal & ethical issues, and what the study of intersexuality can learn from historical movements such as feminism.

The format of the class will be primarily discussion-based with lectures and student presentations, and it will also include in-class writing assignments, short films, and interactive activities, with an emphasis on student participation. Final grades will be determined primarily from attendance, participation, and a final research paper and class presentation on a topic of the student's choice.

A note from the instructors

This course is going to utilize a variety of new and non-conventional teaching methods, which may be frustrating to some students who are accustomed to the lecture-based learning environment. We encourage all students to challenge themselves to adapt to alternative and varying classroom environments, as well as to give us regular feedback if an exercise was particularly effective or particularly ineffective. We also thank you in advance for your patience as we work together as a "learning unit" throughout this semester. Instructing a class is a learning process as well, and we look forward to learning from you as much as we look forward to aiding in your acquisition of knowledge.

Course Requirements

- Attendance & participation in discussions & in-class activities
- Completing the readings & assignments listed on the weekly schedule
- Class presentation and final paper about chosen topic
- Final quiz

Policies

Honor code

You are required to abide by the Emory Honor Code, available online at http://college.emory.edu/current/standards/honor_code.html. All cases of suspected academic dishonesty will be referred to the Emory Honor Council.

Grading

- 40% Participation* (based on attendance, in-class essays, activities, and discussion)
- 30% Final Paper about topic
- 15% Class Presentation about topic

15% Final Quiz

*Significant extra credit toward your participation score will be given for media articles you find that address topics related to our class, including (but not limited to) articles that discuss: gender roles, gender stereotypes, intersex conditions, transgender, transsexuality, gender ambiguity, developmental biology, gender psychology, sex chromosomes, the biology of sex differences, medical ethics, etc. Examples of sources include newspapers/magazines (or their websites), blog posts, radio programs, TV programs, movies, etc, and they may be at the local, national, or international level. If you come across an article/source, please submit the link or reference to the source to the Blackboard forum along with a brief summary of the article and why it relates to the content of our course (a few sentences or less). We will begin each class period by quickly reviewing the articles that you have found since our last class meeting, so be prepared to give a short explanation of your article as well.

	A 100-94%	A- 93-90%
B+ 89-87%	B 86-84%	B- 83-80%
C+ 79-77%	C 76-74%	C- 73-70%
D+ 69-67%	D 66-60%	F <60%

Absences

Attendance is required and will be determined from the in-class daily written responses. You are allowed two absences without penalty, but additional absences will result in a lower grade in the course. Extenuating circumstances causing three or more absences will be considered on a case-by-case basis.

Late Work

All work must be turned in on the due date listed either in hard copy form handed in at the beginning of class or via email by 5pm. Late work will not be accepted.

Special Needs

If you need an accommodation for any type of physical, medical, or learning disability, please meet with one of us as soon as possible. In addition, if you have not already done so, you need to contact the Office of Disability Services at (404) 727-9877.

The Writing Center

If you are having difficulty with your writing please come see one of us during our office hours or make arrangements to get extra help at the writing center. <http://writingcenter.emory.edu/>

Revisions to Syllabus

We reserve the right to make changes to this syllabus as needed. Revisions will be posted on Blackboard.

Safe Space

All instructors, teaching assistants, and guest lecturers treat all individuals with respect, empathy, and understanding. Most of us are also trained and certified by Emory's Safe Space training program (http://www.emory.edu/CAMPUS_LIFE/LGBTOFFICE/safe_space.php):

"Being a Safe Space at Emory means that you are an open resource for others who may have questions or concerns related to sexual and gender identities. It also means that you actively engage to create a more open and accepting environment for LGBTQ individuals and communities on and off Emory's campus"

Assessments

"Two minute essays"

This course will involve daily in-class writing assignments. These in-class writing assignments are to be completed by hand, in pen, on the provided hand-outs, and turned in during the class period.

These short (~2-5 min) in-class writing activities during each class period will be used to take attendance, to assess student reactions to the course material, and to provide an avenue for the students to ask questions about the material. Be sure to put your name at the top of the paper, because they will be returned to you on the last day of the class.

These short “two minute essays” will take various forms, with some resembling a quiz or a worksheet and others resembling a page in a journal or notebook. When the handout resembles a quiz and asks specific questions, do your best to answer them as accurately as possible. When the handout asks for you to describe your reactions to some of the course content (i.e. a short documentary film played during class), please treat the handout as a page of your own notes where you can express your reactions in any way you like. Regardless of the format, *your responses will not be scored according to quality or quantity of the content*, and they do not need to be in complete sentences. Your responses will serve to provide a baseline measure of your own acquisition of knowledge by documenting your initial reactions after being exposed to new concepts. These will also serve as a way for you to take note of any questions/curiosities that sparked your interest, a way for the instructors to assess misconceptions or points of confusion, and an opportunity for you to ask the instructors questions privately if you don't feel comfortable speaking up in class. Or, if you don't get a chance to share your thoughts out loud during in class discussion, your comments on these handouts will count toward your participation grade instead.

Thus, please write freely and honestly, as these exercises will provide both the students and instructors with the regular feedback required to ensure the content is being taught according to the students' needs. On the final day of class, I am going to pass back everyone's “two minute essays” to reread and make into booklets to keep, and we're going to have a relaxed class meeting to celebrate all of information we've acquired over the course of the semester.

Pretest/posttest design

You will receive the “final exam” on the very first day of class and again at the end of the semester (on the second to last day of class). You will only be graded on the scores for the posttest at the end of the semester.

Class Project: Presentation & Final Paper

Toward the beginning of the semester, you will choose an intersex condition (listed below) for your class project. This project will consist of two parts: a short (10-15 min) in-class presentation and a final 2,500-3,500 word paper (~4-6 single spaced pages). Your class presentation should include a description of the diagnostic criteria, history, and developmental/genetic mechanism (if known) for the intersex condition you choose. A 1-page outline of your proposed presentation will be due in advance of your scheduled presentation day.

Your final paper on the intersex condition of your choosing must be typed using the following format:

- *Margins*: 1 inch margins for Left, Right, Top, and Bottom (in Word, go to Format: Document, click on the “Margins” tab, and set the margins for 1”)
- *Font*: Arial or Helvetica, 12 pt size
- *Heading*: At the top of the page, include your first and last name and the name of the intersex condition
- *Spacing*: Single spaced
- *Structure*: must cover 7 out of the following 10 topics adequately, but in no particular order:
 1. history of condition (i.e. how was it discovered? by who? in what year?)
 2. prevalence and mortality rate
 3. biological (anatomical, hormonal, genetic...) description of the condition, symptoms, and the mechanism (if known) which causes it
 4. diagnostic tests currently used (visual, genetic, hormonal...) and any issues related to their accuracy/ethics

5. time course of condition over lifetime (embryonic, pubertal, or aging-related changes in the development of the condition)
6. available treatments, if any, and the ethics related to those treatments
7. case study(ies)/personal story(ies) for the condition
8. a discussion of whether medical management of the condition has changed over time? how? why?
9. discussion of any relevant social, ethical, and/or legal issues
10. any relevant biological/biomedical research in humans or animal models that has increased our understanding of the condition

Topics for Class Presentations & Final Paper:

1. Klinefelters Syndrome (47, XXY; 48, XXXY; 49, XXXXY)
2. Turners Syndrome (45, X)
3. Trisomy/Tetrasomy/Pentasomy X Syndrome (47, XXX; 48, XXXX; 49, XXXXX)
4. XYY Syndrome (47, XYY) and XXYY Syndrome (48, XXYY)
5. Swyers Syndrome (46-XY Gonadal Dysgenesis)
6. XX Male Syndrome (de la Chapelle Syndrome)
7. Sex-Chromosome Mosaicism (46, XX/XY)
8. Congenital Adrenal Hyperplasia (CAH) due to 21-Hydroxylase Deficiency
9. CAH due to 17-Alpha Hydroxylase Deficiency
10. CAH due to 3-Beta Hydroxysteroid Dehydrogenase Deficiency
11. Lipoid CAH
12. Isolated 17,20-Lyase Deficiency
13. 5-Alpha Reductase Deficiency
14. 17-Beta Hydroxysteroid Dehydrogenase Deficiency
15. Aromatase Deficiency
16. Aromatase Excess Syndrome (Familial Hyperestrogenism)
17. Partial Androgen Insensitivity Syndrome (PAIS)
18. Complete Androgen Insensitivity Syndrome (CAIS)
19. Estrogen Insensitivity Syndrome (EIS)
20. Leydig Cell Hypoplasia (Luteinizing Hormone Insensitivity)
21. Progesterin-Induced Virilization
22. Persistent Müllerian Duct Syndrome (Anti-Müllerian Hormone Deficiency)
23. Kallmann Syndrome/ Isolated Hypogonadotropic Hypogonadism (GnRH or FSH Deficiency)
24. Mayer, Rokitansky, Kuster, Houser Syndrome (Müllerian Agenesis or MRKH Syndrome)

Texts

Required

- Fausto-Sterling, Anne. (2000). *Sexing The Body: Gender Politics and the Construction of Sexuality*. New York: Basic Books.
- Germon, Jennifer. (2009). *Gender: The Genealogy of an Idea*. Palgrave Macmillan.
- Kessler, Suzanne J. (1998). *Lessons from the Intersexed*. Rutgers University Press.

Journal Articles & Excerpts from textbooks (pdfs will be posted Blackboard)

- Arnold, Arthur. The organizational–activational hypothesis as the foundation for a unified theory of sexual differentiation of all mammalian tissues. *Hormones & Behavior*. 2009;55 (570–578).
- Bass AH, Grober MS. Social and neural modulation of sexual plasticity in teleost fish. *Brain Behavior & Evolution*. 2001;57:293–300.
- Butler, Judith. Doing Justice To Someone: Sex Reassignment and Allegories of Transsexuality. 2001. *GLQ: A Journal of Lesbian and Gay Studies*. 7(4): 621-636. doi:10.1215/10642684-7-4-621.
- De Vries, et al. A Model System for Study of Sex Chromosome Effects on Sexually Dimorphic Neural and Behavioral Traits. 2002. *Journal of Neuroscience*. 22(20):9005–9014.

Dreger, et al. Prenatal Dexamethasone for Congenital Adrenal Hyperplasia: An Ethics Canary in the Modern Medical Mine. *Journal of Bioethical Inquiry*. July 2012. DOI 10.1007/s11673-012-9384-9

Gardner, David G. and Dolores Shoback (Eds). (2007). *Greenspan's Basic & Clinical Endocrinology* (8th ed.). New York: McGraw-Hill Medical.

Hadley, Mac E. (2000). *Endocrinology* (5th ed.). Upper Sadle River: Prentice-Hall.

Hake, Laura. & O'Connor, Claire. Genetic mechanisms of sex determination. *Nature Education*. 2008:1(1).

Jameson, J. Larry (Ed.). (2006). *Harrison's Endocrinology*. New York: McGraw-Hill Medical.

Lodish, Harvey, et al. *Molecular Cell Biology* (6th ed.). New York: W.H. Freeman and Company.

Moore, Keith L. and T.V.N. Persaud. *The Developing Human: Clinically Oriented Embryology* (7th ed.). Philadelphia: Saunders.

"The International Bill of Gender Rights". Drafted at International Conference on Transgender Law and Employment Policy (ICTLEP) at that organization's second annual meeting, held in Houston, Texas, August 26-29, 1993.

Weekly Schedule (Detailed schedule with reading assignments in a separate file):

- 8/31 Thurs: Introductions & Expectations
- 9/4 Tues: History of Hermaphroditism: Case Studies from 1700s Britain and France
- 9/6 Thurs: John Money & the History of Gender
- 9/11 Tues: Chromosomal Biology
- 9/13 Thurs: Mitosis & Meiosis
- 9/18 Tues: Intersex in Animals
- 9/20 Thurs: World Cultures of Gender & Intersex
- 9/25 Tues: Embryology
- 9/27 Thurs: Endocrinology
- 10/2 Tues: Intersex & The Language of Disability
- 10/4 Thurs: Medicalization of Sexuality, & Gender
- 10/9 Tues: Gender, Behavior, and The Brain
- 10/11 Thurs: Neural Responses to Erotic Stimuli in Men, Women, and CAIS Women
- 10/16 Tues: NO CLASS FALL BREAK
- 10/18 Thurs: The Sex/Gender Split and The Concept of Gender Identity
- 10/23 Tues: Ethics of Prenatal Dexamethasone Treatment for CAH
- 10/25 Thurs: Roundtable discussion with Dr. Briana Patterson, pediatric endocrinologist
- 10/30 Tues: Brief History Feminist Theory & Gender
- 11/1 Thurs: Intersex Lived Experience: Sexuality & The Erotic
- 11/6 Tues: Student Presentations
- 11/8 Thurs: Student Presentations
- 11/13 Tues: Student Presentations
- 11/15 Thurs: Student Presentations
- 11/20 Tues: Student Presentations
- 11/22 Thurs: NO CLASS THANKSGIVING BREAK
- 11/27 Tues: Viewing of feature film, *Intersexion*
- 11/29 Thurs: Intersex Case Management
- 12/4 Tues: Special Guest Dani Harris; Terminology Debates & The Future of Intersex
- 12/6 Thurs: FINAL QUIZ
- 12/11 Tues: Last Day of Class: Conclusions, Revisitations, & Party
- 12/16 Sun: FINAL PAPER DUE BY MIDNIGHT