

Moravian College
Department of Biological Sciences
Brain Gender - NEUR/IDIS 218
Spring 2016

Instructor: Dr. Cecilia M. Fox
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Office: Collier Hall of Science - 316
Office Hours: Wed and Thurs 12:30-2:30pm and by appt
Class Meeting Times: Saturdays 9am-12pm
HILL - Room 310
Textbook: [Pink Brain, Blue Brain](#) - How Small Differences Grow Into Troublesome Gaps - and What We Can Do About It by Lise Eliot **Publisher:** Mariner Books, ISBN-13: 978-0547394596
Additional Readings: *Discussions based on several readings from texts, scientific journals, popular magazines, media, and Internet sources will take place throughout the course.*

Course Introduction and Description:

In considering sex differences in the brain, a number of questions arise. Do biological factors, such as sex hormones, influence our sexual fate after our genetic information is established? Do these biological factors make women more nurturing or men more aggressive? Do these same factors explain differences in sexual orientation between or within each sex group? Do they contribute to the predominance of men and women in particular careers? This course will explore how scientists working from a behavioral neuroscience perspective would address these questions differently than those working from a neuroendocrinological and psychosocial perspective. The answers to these questions may have critical implications for understanding the social roles of men and women in today's society and the different educational and emotional issues that face males and females. Empirical investigations and scientific theories from the fields of neurobiology, psychology, sociology and endocrinology that claim to define and explain gender differences will be discussed. Cognitive abilities and preferences, gender identity and communication styles will be studied using popular and scientific literature from the fields of psychology, behavioral neuroscience, endocrinology, developmental biology and genetics. We will end our study by questioning whether the "doing of science" is itself a gendered activity.

Course Objectives: Upon completion of this course the students will be able to:

- 1) Develop an understanding of the relationship between brain structure and function as related to brain gender
- 2) Approach the study of brain gender from a multidisciplinary viewpoint
- 3) Understand sex differences in human behavior and cognition
- 4) Appreciate the various factors (environmental, genetic, social, etc) that engender the brain
- 5) Gain proficiency in scientific literacy
- 6) Consider ethical dilemmas associated with brain gender research
- 7) Design a research experiment in brain gender and communicate this research design to the class

Grading: The grading system is as follows: (+/- will be administered as professor deems appropriate)

A = 90 - 100

B = 80 - 89

C = 70 - 79

D = 60 - 69

Course Requirements: The student's grade will be based on the following:

Reflection papers/quizzes	
on reading assignments	200 points
Two exams (100 points each)	200 points
Brain gender research design	100 points
Brain gender "In the News" presentations	50 points
Class participation in discussion/activities	<u>250 points</u>
	800 points

*** Please note: it is within the instructor's purview to apply qualitative judgment in determining grades for an assignment or the entire course*

Expectations:

- a) Attendance: Regular class attendance is expected. **No** make-up exams/presentations will be permitted unless you have an acceptable reason (family emergency, illness, etc). If an emergency should arise, you must notify the instructor prior to the exam/presentation date and **not** after. Notification from the Moravian College Health Center, Learning Services or the Moravian College Dean of Students' Office will be necessary if you miss more than two classes consecutively. I will recognize legitimate excused absences such as when students are representing the university in an official capacity (e.g. for presentation at scientific meetings, intercollegiate athletic competition (but not practice), off-campus music performances, etc.). Such activities are scheduled ahead of time; thus, I expect you to make arrangements with me ahead of time as well.
- b) Cheating or plagiarism will not be tolerated. Plagiarism may result in failure of the course. Students will be held to the highest standards as specified by the Moravian College Honor Code. Violations of this code will be handled in the most severe manner allowed by college policy. Please read the **Academic Honesty Policy** that is included in the student handbook (<http://www.moravian.edu/static/studentLife/handbook/policies/policies.html>) . If you have any questions about plagiarism or other forms of academic dishonesty, please ask. Several assignments in this class will involve the use of Internet resources; copyright violations and plagiarism policies still apply.
- c) Appropriate Literature Sources: A "Reference Tutorial" will be provided during the course. All students will be required to understand the differences between primary and secondary literature sources. I will also provide examples of appropriate Internet sources. **Under no circumstances are you to use "Wikipedia" as a reference for any assignment.**
- d) Reading Assignments: should be completed prior to each class session.
- e) Presentations: Information regarding the "Brain Gender In the News" presentation and research design project will be discussed during the first class.

- f) [Extra Help](#): If any difficulties arise during this course from selecting a research topic to designing your presentation, please see the instructor. *I will be happy to help!*

Best wishes for a great course!

- C. Fox

Tentative Class Schedule

<u>Date</u>	<u>Topic</u>	<u>Reading Assignment Due</u>
January 23	Expectations of Course Introduction to the Topic of Gender	
January 30	Introduction to Relevant Neuroanatomy Genes, Environment and Sex	Intro and Chapter 1 - LeVay
February 6	Basic Principles of Brain Organization Introduction to Sex Hormones	Chapters 4 & 5 = LeVay
February 13	Gonadal Hormones and Human Sexuality	Chapters 1-3 - Moir/Jessel
February 20	The Female Brain and The Male Brain	Select Chapters - Brizendine
February 27	Exam 1 The Truth about Boys and Girls <i>Introduction to Research Design Project</i>	SA Mind article
March 5	Sex and Brain Development/Engendering the Brain	Intro & Chapters 1,2 ~ Eliot
March 12	Spring Break	
March 19	The Learning Brain The Serious Need for Play	Chapters 3-5 - Eliot
March 26	Easter Break	
April 2	Cognition and Neurological Disorders	Readings provided in class
April 9	The Gay Brain	Chapter 12 – LeVay
April 16	The Third Gender	Readings provided in class
April 23	Exam 2 LVSfN Conference	
April 30	Research Design Presentations	

Additional Notations:

The following films may be part of this course:

- The Gender Puzzle, Cambridge Educational Films
- Transamerica- IFC Films
- Relevant clips from YouTube

Reading excerpts will be assigned from publications such as Scientific American Mind, Journal of Neuroscience, and Nature (to list a few) as well as texts such as: The Female Brain and The Male Brain by Lou Ann Brizendine (Three Rivers Press), The Sexual Brain by Simon LeVay (The MIT Press) and Brain Sex by Anne Moir and David Jessel (Dell Publishing).

