Spring 2013
Prof. Pamela Gossin
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Office: JO3.927
Office Hrs: Thr. 6-6:45pm;
also Weds. & Thr., by appt.

LIT 3334
Women of Science in Literature and Film
(aka: NOT just Marie Curie!)
W 4-6:45pm JO 4.614

Pre-requisites: HUMA 1301 or equivalent. This course is specially intended to help students explore the interdisciplinary relations between the arts / humanities and science / medicine. It may be of special interest to pre-health students, those working toward the minor in Medical and Scientific Humanities (MaSH) or the future major in Humanistic Studies of Science, Medicine and Technology (HSSMT) as well as ATEC majors, creative writers & future teachers.

**** This course counts toward the minor in Medical and Scientific Humanities (MaSH) ****

Course Description:
In this course we will explore a fascinating selection of films and literature, including biographies and autobiographies, written by and about women who have dedicated their lives to the study of the natural world and medicine. What is unique about the experiences of women scientists and physicians in their professions and personal lives? What kinds of challenges and obstacles do women in science and medicine face? How do they see themselves and their work as contributing to human knowledge and culture? How do others see them? To what extent does our society apply traditional nerd/geek stereotypes to female scientists and physicians? Do gender stereotypes shape their professional experiences? What can we learn from their life stories that will teach us something about the "nature" of intelligence, creativity, imagination, social choices, politics and ethics?

We will also explore how "life stories" are crafted and offer us a unique hybrid form of narrative meaning between literature and history. What role do such narratives play in helping us make meaning out of our lives and those of others? What can we learn about science and medicine from reading the biographies and autobiographies of those who lived in those professions? Is scientific knowledge related to and embedded in other forms of cultural knowledge? Is science "gendered"? Is nature? Is there a "moral to the story" of women's lives in science?

The course will be organized according to several central topics and themes: "winners and losers" in the so-called "race" for DNA; "missing" history; the nature of individual genius and scientific "styles"; the relation of science to religion, spirituality and the quest for life's purpose.

The class format will be primarily discussion with a few descriptive or informative mini-lectures, and some video clips or dramatic or documentary films almost every day. By popular demand, students will have the option of working on "personal statements" for applications to Medical School or Graduate School for extra credit.

Course Objectives:
Students will read and discuss a variety of biographical and autobiographical literature and films, demonstrating the ability to interpret and analyze themes and issues using various critical methods, including formal, historical, biographical and cultural approaches. Students will apply in-class discussion to their own comparative research papers and produce a brief oral history.

Required Texts: Available On/Off-campus, online etc.

* Watson James. *The Double Helix* – [We will read this but DON'T BUY IT b/c many copies are available to check out for free in local libraries or from inexpensive online sources!]

1. Maddox, Barbara, *Rosalind Franklin: Dark Lady of DNA* Harper (Reprint ed, 2003)
ISBN-10: 0060985089 ISBN-13: 978-0060985080

2. Whitaker, Katie, *Mad Madge*, Basic Books (Reprint ed.), 2003
ISBN-10: 0465091644 ISBN-13: 978-0465091645

3. Woolley, B. *The Bride of Science: Romance, Reason, and Byron's Daughter*, McGraw-Hill (2002) ISBN-10: 0071388605 ISBN-13: 978-0071388603

* LATE SUBSTITUTION: (Off-Campus only!)
Toole, Betty A. *Ada, the Enchantress of Numbers: Prophet of the Computer Age*
Strawberry Press; Pbk. ed., rev. & abridged. edition, 1998
ISBN-10: 0912647183 ISBN-13: 978-0912647180

4. LeClair, Mary, Justin White and Susan Keeter (authors), *Three 19th-Century Women Doctors: Elizabeth Blackwell, Mary Walker and Sarah Loguen Fraser*, Hofmann Press, 2007
ISBN-10: 097005193X ISBN-13: 978-0970051936

5. Ferris, Jeri, *Native American Doctor: The Story of Susan Laflesche Picotte* (Trailblazer Biographies) Carolrhoda Books; Reprint ed, 1991
ISBN-10: 0876145489 ISBN-13: 978-0876145487

6. Keller, Evelyn Fox, *A Feeling for the Organism: The Life and Work of Barbara McClintock*
Times Books; 10 Anv edition, 1984
ISBN-10: 0805074589 ISBN-13: 978-0805074581

7. Carson, Rachel, *Silent Spring*, Houghton Mifflin Anniversary ed., 2002
ISBN-10: 0618249060 ISBN-13: 978-0618249060

8. Salber, Eva, *The Mind is Not the Heart: Recollections of a Woman Physician*
Duke University Press,1989 ISBN-10: 0822313650 ASIN: B005MZEXUQ

9. Goodall, *Reason for Hope*, Grand Central Publishing, 2000
ISBN-10: 0446676136 ASIN: B000LP66V6

10. Gornick, Vivian, *Women in Science: Then and Now* The Feminist Press at CUNY, 2009 (paperback) ISBN-10: 1558615873 ISBN-13: 978-1558615878

COURSE CALENDAR/ DAILY ASSIGNMENTS

Note: Please have the readings listed for each day's discussion completed BY the date listed. We will take a 10-15 min. break each day, although time may vary.

UNIT 1: Winners(?) and Losers(?) in the Race/Quest(?) for Scientific Knowledge

(THEME 1: Portrait of a Functional-Dysfunctional Scientific Community)

Wk 1: W. Jan. 16: ***The Power of Storytelling: Does it Matter Who's on First?***
A. Introduction to the course: call roll; go over syllabus, course objectives and themes.
Discuss types of auto/biographies and dominant narratives about scientific personality
B. VIEW and Discuss: *DNA: The Secret of Photo 51* (2007, Nova, 56m)

Wk 2: W. Jan. 23:
A. Discuss reading: Watson, *The Double Helix* (whole book)
B. HEAR and Discuss: Interview with James Watson, *Science Friday*

Wk 3: W. Jan. 30:
A+B. VIEW and discuss: *The Race for the Double Helix* (Horizon Films,
[HINT: Read 1st half of Maddox, *Rosalind Franklin*]

Wk 4. W. Feb. 6:
A. Discuss Maddox, *Rosalind Franklin* (have whole book read by today)
* B. Read and discuss Bronowski review of *Double Helix* (in-class handout)

(THEME 2: Missing History: Important Lives We've Never Heard of!)

Wk 5. W. Feb. 13: ***"Missing History - I"***
A+B. VIEW and Discuss "Agora"
[HINT: Read 1st half of *Mad Madge*]

Wk 6. W. Feb. 20: ***"Missing History - II"***
A. Discuss *Mad Madge* (whole book)
* B. VIEW and Discuss "High Energy" (Discovering Women)
** BE SURE TO PICK UP HAND OUT FOR 3pp MIDTERM ESSAY **

Wk 7. W. Feb 27: ***"Missing History - III"***
A+B: Read and discuss: 19th-c Women in Medicine (LeClair and Ferris books)
Explanation of Midterm format and study strategies

Wk 8. W. Mar. 6: **MIDTERM EXAM**
**** 30 pt. (3pp) essay due at start of class ****
70 pt Midterm Objective section [should take 1hr 15 min at the most]

[SPRING BREAK: ENJOY NATURE CAREFULLY!]

UNIT 2: Differing Visions / Differing Voices

Wk 9. W. Mar. 20:
A: Discuss Ada Lovelace –(whole book)
B: VIEW and discuss *Madame Curie*

Wk 10. W. Mar. 27:
A: Discuss Keller, *A Feeling for the Organism* (whole book)
B: VIEW and discuss documentary, "Bold Visions: Women in Sci and Tech" (30m)

Wk 11. W. Apr 3:
A: Discuss Salber, *The Mind is not the Heart* (whole book)
B: VIEW and discuss film from "Discovering Women" series

Wk 12. W Apr 10:
A: Discuss Carson, *Silent Spring* (whole book)
B: ORAL HISTORY Group Presentations(1-4): _____ / _____
(12-15minutes max!) _____ / _____

Wk 13. W. Apr 17:
A+B: ORAL HISTORY Group Presentations(5-10): _____ /_____ / _____
(12-15minutes max!) _____ / _____ / _____
[HINT: good time to read ahead in Goodall and Gornick]

Wk 14. W. Apr 24:
A: Discuss Goodall, *Reason for Hope* (whole book)
B: VIEW and discuss TED talk or Nova special
** FINAL 3pp ESSAY DUE NEXT WEEK!

Wk. 15. W. May 1: **** 30 pt FINAL essay (3 pp) due ****
A: Discuss Gornick, *Women in Science: Then and Now* (whole book)
B: VIEW and discuss Science Friday video and Review

FINAL EXAM: probably W. May 8th from 5-7:45pm in this room (JO4.614)
[check closer to date to confirm date/time/place!]

Grading / Course Requirements

- Two 3 pp analytical and interpretative papers (count up to 30pts of 100pt midterm and final)
+ two "objective" in-class unit exams, 70 pts each (Midterm and Final);
Each paper/exam (essay + objective exam averaged together) = 1/3rd
NOTE: 1st paper will be comparison of Unit 1 texts/films, using prompts that I will provide; 2nd paper will be a comparison of your Oral history interview subject or "selected" text with class info/ideas *note: schedule interviews by Spring Break!]

- Attendance and participation (aka "A&P"): quizzes, in-class responses, viewer guides, Group Presentations and discussion = 1/3rd

* Optional extra credit/enrichment opportunities may be used to enhance A&P grade. Listen for more info on these in class.

Instructor's Policies and Class Philosophy

Please inform the professor *in advance* (via utd email) of any possible absences or situations that may keep you from submitting assignments on time. I'll try to help in any way I can. Late assignments will not be accepted nor absences excused *without such prior notice*. Because attendance and participation count as a substantial part of your grade in this course, unexcused absences, tardy arrivals, early departures will count against this portion of your grade.

In accordance with university policy, this is a drug-free, alcohol-free, smoke-free, barrier-free classroom. In the interests of promoting a comfortable learning environment, all students and the professor pledge to respectfully consider the expression of ideas and opinions by others regardless of political, philosophical, religious, intellectual, cultural, racial, generational or gender differences.

Any student found guilty of plagiarism (using another person's thoughts, words, ideas, terminology etc. without properly acknowledging them with footnotes, endnotes, or parenthetically in the text with a bibliography will be subject to disciplinary action under the policies of the University of Texas-Dallas. See the university's student code, MLA style sheet or Chicago Manual of Style for more information.

All syllabus info., descriptions and timelines are subject to change at the discretion of the Professor.

Students are responsible for listening for in-class announcements/changes and checking their UT-Dallas email account for additional messages or postings (which may supercede info. on this syllabus).

FOR ADDITIONAL APPLICABLE UTD POLICY STATEMENTS SEE:

http://go.utdallas.edu/syllabus-policies

OTHER RESOURCES:

More Bios:
Sayre, Anne. *Rosalind Franklin and DNA*
Ajzenberg-Selove, Fay, *A Matter of Choices: Memoirs of A Female Physicist*
Sobel, *Galileo's Daughter*
Brock, *Comet Sweeper*

Collective Bios:
Des Jardins, *The Madame Curie Complex*
Weitekamp, Margaret, *Right Stuff, Wrong Sex: America's First Women in Space Program*
McGrayne, Sharon Bertsch, *Nobel Prize Women in Science: Their Lives, Struggles and Momentous Discoveries*

Biographical Reference Resources:
Harvey and Oglivie, eds., *The Biographical Dictionary of Women in Science*
Warren, Wini, *Black Women Scientists in the U.S.*

General Histories about Women in Science:

Alic, Margaret, *Hypatia's Heritage: A History of Women in Science from Antiquity through the Nineteenth Century*

Tuana, Nancy, *The Less Noble Sex: Scientific, Religious and Philosophical Conceptions of Women's Nature*

Merchant, Carolyn, *The Death of Nature*

Schiebinger, Londa, *The Mind Has No Sex? Women in the Origins of Modern Science*

Abir-am and Outram, eds, *Uneasy Careers and Intimate Lives: Women in Science, 1789-1979*

Pycior, Slack, Abir-Am, eds., *Creative Couples in the Sciences*

Gates and Shteir, eds, *Natural Eloquence: Women Reinscribe Science*

Morantz-Sanchez, Regina, *Sympathy and Science: Women Physicians in American Medicine*

Macdonald, Anne L. *Feminine Ingenuity: How Women Inventors Changed America*

Gender and Science:

Lederman and Bartsch, eds., *Gender and Science Reader*

ORAL HISTORY PROJECT ALTERNATIVES: Read/investigate 1 of the following instead of doing the "live" interview (for 3 pp essay):

Deakin, Michael, *Hypatia of Alexandria: Mathematician and Martyr*, Prometheus Books, 2007 ISBN-10: 1591025206 ISBN-13: 978-1591025207

Watson, James, and Alexander Gann and Jan Witkowski, *The Annotated and Illustrated Double Helix* [Hardcover] Simon & Schuster, 2012. ISBN-10: 1476715491 / 978-1476715490

Richard Rhodes, *Hedy's Folly: The Life and Breakthrough Inventions of Hedy Lamarr, the Most Beautiful Woman in the World* Vintage, 2012 ISBN-10: 0307742954 / 978-0307742957

Lytle, Mark Hamilton, *The Gentle Subversive: Rachel Carson, Silent Spring, and the Rise of the Environmental Movement* (New Narratives in American History) [Paperback] Oxford, 2007 ISBN-10: 0195172477 ISBN-13: 978-0195172478

Redniss, Lauren, *Radioactive: Marie & Pierre Curie: A Tale of Love and Fallout* It Books, 2010 ISBN-10: 0061351326 ISBN-13: 978-0061351327

Taylor, Jill Bolt, *My Stroke of Insight* (any edition)

Grandin, Temple, *The Way I See it* (most recent edition)

Science Friday: www.sciencefriday.com

www.sciencecheerleader.com

(And responses to it like: http://neurodojo.blogspot.com/2010/11/science-cheerleaders.html

http://youngfemalescientist.blogspot.com/

http://science-professor.blogspot.com/

* With prior permission, students may also substitute any other fabulous auto/bio they've been dying to read (that is relevant to the course) – just email me about it and we'll discuss!