

*NEW!!* (Spring 2005: third offering)

## WS/IE 325x: “Women and Men in the Engineering Workplace”

MWF 11-11:50, Rm 1252 Howe Hall

Course Instructor: Dr. Carolyn D. Heising, Professor, IMSE Dept

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Course Coordinator: Ms. Mary Goodwin, Director, Women’s Programs,  
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**GRADING POLICY:** 50% Final Team Project; 25% Midterm Project;  
25% Homework/in-class assignments

(Note: You will only earn a “B” letter grade by performing the work listed above. To receive an “A” letter grade, you must earn at least 10 extra credit points by attending on or off campus diversity related events (such as lectures, seminars, performances, celebrations, etc.). Most events attended count for 3 extra credit points. Examples include the Martin Luther King, Jr activities during the first week of the semester, which allow for 5 extra credit points to be earned. Opportunities for further extra credit will be announced during the semester as they arise.)

## TEXTS (required):

1. McIlwee, J.S. and Robinson, J.G., *WOMEN IN ENGINEERING: GENDER, POWER AND WORKPLACE CULTURE*, SUNY Press, 1992.
2. Kanter, Rosabeth Moss, *MEN AND WOMEN OF THE CORPORATION*, 1993 edition.
3. Hochschild, Arlie R., *THE TIME BIND: WHEN WORK BECOMES HOME AND HOME BECOMES WORK*, Holt Co., 1997.
4. Dubeck, P. and Dunn, D., *WORKPLACE/WOMEN'S PLACE*, Roxbury Press, 2002.
5. Williams, F. Mary and Emerson, Carolyn J., *BECOMING LEADERS: A HANDBOOK FOR WOMEN IN SCIENCE, ENGINEERING AND TECHNOLOGY*, Memorial University, St. John's, New Foundland, Canada, 2002.

## *COURSE SYLLABUS*

WEEKS 1 and 2: Course Overview. Current statistics on women and men, and ethnic/racial minorities, in engineering: in the workplace (industry, government and academia); in college (undergraduate/graduate); by engineering field.

In class assignment (Monday, 1/10/05): Write a short essay on "What Diversity Means to Me"

Reading/Homework Assignment 1 (due Friday, 1/14/05): Read article in *WORKPLACE/WOMEN'S PLACE*, "Sex Segregation in the Workplace", pp. 52-55. Answer the questions on pp. 55-56. Brief in class discussion of the article on Friday, 1/14/05, led by Dr Heising.

Reading/Homework Assignment 2 (due Friday, 1/21/05): Read handout from Prof. Virginia Vallian's book: WHY SO SLOW? THE ADVANCEMENT OF WOMEN, MIT press, 1998. Chapter 6: "Schemas that Explain Behaviour". Write a 1-2 pp typed paper of the main points of this chapter: what is Vallian's central argument?

(Monday, 1/17/05: HOLIDAY: Martin Luther King, Jr. birthday: celebrate by attending MLK events over the weekend as discussed in class)

Wednesday, 1/19/05: Mary Goodwin, "Gender Schemas"

Reading Assignment 3 (for Friday, 1/21/05): Read Chapter 1, WOMEN IN ENGINEERING for in-class discussion.

Friday, 1/21/05: Dr Heising will lead small student discussion groups to discuss the thesis of the authors McIlwee and Robinson: is the promise being fulfilled for women in engineering as a significant career opportunity? *Why or why not?* Prepare a brief typed 2-3 pp paper summarizing your discussions for submission on Monday, 1/24/05 (do the paper individually summarizing your understanding of your discussion group's perspectives).

WEEK 3: Brief History of Engineering in the USA. Women's Studies at ISU. Diversity Efforts at ISU.

Mon, 1/24/05: Dr Heising: Gendered Construction of Engineering  
Reading Assignment 5: Read article (handout) by Dr. Lisa Frehill, Assoc. Professor of Sociology, New Mexico State Univ.: "The Gendered Construction of the Engineering Profession in the United States, 1893-1920". Homework (due Wednesday 1/28/04): Prepare a 1-2 pp typed summary of the main points of Dr Frehill's paper.)

W/F, 1/26,28/05: Invited lecturer: Dr Amy Bix, Assoc. Prof. of History, ISU "From 'Engineeresses' to 'Girl Engineers' to 'Good Engineers': A History of American Womens' Engineering Education".

Monday, 1/31/05: "Honorary Man or Token Woman? My Experiences as a Woman Engineering Professor". Dr Carolyn Heising, Professor, IMSE Department

Homework (Due M, 1/31/05): Read from Kanter: MEN AND WOMEN OF THE CORPORATION, the afterward from the 1993 edition: "How the Global Economy is Reshaping Corporate Power and Careers". Also, read from Ch 8 in Kanter "Numbers: Minorities and Majorities" and answer questions in homework handout.

WEEKS 4-5: Gender communications in the workplace.  
Invited guest lecturer: Dr. Jane Vallier, ISU English dept.  
(readings as assigned by Dr. Vallier) (begins W, 2/2/05)

WEEKS 6-7: The social construction of gender. Masculinities and femininities. Women and men in the workplace.

Monday, 2/14: Robert W. Connell: "Hegemonic Masculinity and Emphasized Femininity", or what do Barbie and GI Joe, Marilyn Monroe and Sylvester Stallone, and Brittany Spears and James Bond have in common? (Dr Heising, discussion leader) Also read: Michael Kimmel, "Manhood in America". (summaries of both articles due W, 2/16)

Wednesday, 2/16: Invited guest lecturer: Jo Ann Rogers, PhD student, ISU Sociology Dept: "Sex and Gender in Society"  
Reading Assignment: Barbara J. Risman, "Gender as Structure"

Friday, 2/18: VIDEO: "Tough Guise" (Jackson Katz, producer)  
(continued on Friday, 2/25)

Monday, 2/21 : Invited guest lecturer: Monica Bruning, Program Coordinator, Engineering Outreach, College of Engineering  
"Gender in the Media" ( Video will also be shown)

Wednesday, 2/23: Invited guest lecturer: Jo Ann Rogers, Sociology  
Readings: Sharon R. Bird, "Welcome to the Men's Club: Homosociality and the Maintenance of Hegemonic Masculinity", and Patricia Yancey Martin, "Mobilizing Masculinities: Women's Experiences of Men at Work"

Friday, 2/25: "Tough Guise", part 2

## WEEK 8: Women in Engineering

Monday, 2/28: Dr. Jackie Shanks, Professor, ISU Chemical Engineering Dept. and Dr Karen Zunkel, Director, ISU Program for Women in Science and Engineering (PWSE)

Reading assignment: Read Chs 2,4, and 5 in WOMEN IN ENGINEERING. Also read article from WORKPLACE/WOMEN'S PLACE, article 22: "U.S. Women in Science and Engineering 1960-1990: Progress Towards Equity?", pps. 234-241. Answer questions on pps. 240-241 (submit on MondayFeb 28).

Wednesday, 3/2: Visit to Archives of Women in Science and Engineering, Parks Library. Meet at 403 Parks at archives with Dr. Tanya Zanish-Belcher, archivist.

## Friday, March 4: IN-CLASS STUDENT TEAM PRESENTATIONS OF MIDTERM PROJECT: "Doing" Gender:

How is gender 'performed' in the engineering workplace?

What are the types of masculinity and femininity most prevalent in the engineering workplace (e.g., how does one "dress for success" in the engineering workplace?). Observe engineers in the workplace. Report on your observations. How is gender presented in engineering trade journals? Professional publications? Corporate websites, etc.? Find some examples to share with the class (ads, websites, pictures/photos, etc.) Also, how does race/ethnicity affect the presentations of gender in the engineering workplace? Reading: "Sex and Suits" (handout) REMEMBER: WEAR YOUR SUITS TO CLASS!!!!

## WEEK 9: Men in Engineering

Monday, March 7 : Prof Mark Bryden, ME Dept

Reading Assignment: Ch 5 in TIME BIND:

"Giving at the office" (case study of Bill Denton, senior manager at Amerco).

Due: F, 3/11/05

Wednesday, March 9: Prof. Michael Golec, Department of Art and Design; Department of Architecture, ISU: “Habits of Seeing Science Without Women”

Friday, March 11: Discussion of TIME BIND article

SPRING BREAK (week of March 14)

WEEK 10: (3/21-25/05) Career Paths in Engineering Management/leadership styles of women and men in the engineering workplace (Goodwin) Reading Assignment: BECOMING LEADERS Handbook

WEEKS 11 and 12: Work and Family. Balancing a Career with Parenthood.

Monday, March 28: Dr Monica Bruning: “Work/Family Balance”

Wednesday, March 30: Dr Heising: “Economics and the Middle Class” Guest Speaker: Dave Sly, PhD Candidate, IMSE Dept. “Entrepreneurship” (Dave made his first millions after starting a company in the 1980s; he has another company now here in Ames) Reading Assignment: handout from *Economic Apartheid in America*. (Visit <http://philip.greenspun.com/WealthClock> for Bill Gates’ personal wealthclock valued at \$60 billion the last time I checked on 3/2/04. You may also wish to checkout Dr. Phil Greenspun of MIT ‘s Laboratory of Computer Science/AI: “Career Guide for Engineers and CompScientists” at <http://philip.greenspun.com/careers> for some interesting reading! By the way, Phil is a self-made millionaire; see his resume on his website)

Friday, April 1: Cassidy Heaton, engineer from last year’s IE 325

Monday, April 4: Prof. Keith Adams, IMSE Dept: “The Military and Engineering Workplace Cultures: Personal Reflections”

Wednesday, April 6: Prof. Connie Post, English Dept. “The ISU Arrival of Children Policy: Balancing Work and Family at ISU”

Friday, April 8: Michael Heising-Goodman: “Bachelor Living” ( project from last year’s IE 325)

Reading Assignment: Ch 6 in TIME BIND: Ch 6: “The Administrative Mother”, case study of Vicki King, engineer and corporate manager at Amerco, and Ch 9 “Catching Up on the Soaps: Male Pioneers in the Culture of Time”, case study of Sam Hyatt, African-American engineering father who takes paternity leave at Amerco. (Due: Friday, April 8)

WEEK 13: Diversity in the Engineering Workplace.

Monday, April 11: Dr. Susan Stewart, ISU Sociology Dept.,  
Research on work/family preferences

Wednesday, April 13: In class discussion on work/family balance.

Friday, April 15: Mr. Chuck Erickson, LGBTSS “Sexual Orientation”

WEEK 14: Professional Engineering Societies’ Diversity Efforts.

Monday, April 18: Dr Heising: American Nuclear Society  
Professional Women in ANS committee experiences.

(Also, a discussion on the “maternal wall” as defined by Prof Joan Williams, law professor at American University Law School in Washington, DC.)

Extra credit reading assignment (Due: Friday, 4/23/04. Summarize the main points of the chapter by Joan Williams entitled: “Deconstructing the Ideal Worker Norm in Market Work” from her book *UNBENDING GENDER: WHY FAMILY AND WORK CONFLICT AND WHAT TO DO ABOUT IT*, Oxford U Press, 2000. What is the “maternal wall” and how is this related to sex discrimination?) (worth 3 points!!)

Wednesday, April 20: Dr. Derrick Rollins, ISU Chemical Engineering Dept. “Diversity efforts in engineering”

Friday, April 22: Mr. Michael Kennerley, Dept of Transportation, Ames “Diversity efforts in the engineering government workplace”

Homework Assignment: Research the websites of the national engineering societies. Report on diversity activities in the national and ISU student engineering societies. What are the goals, especially as related to diversity, of these societies? How can engineering societies increase and enhance their diversity efforts?

Read handout from ETHICS IN ENGINEERING, 3<sup>rd</sup> edition, 1996: “Rights of Engineers: Discrimination”, pps. 272-283. Answer the study questions in the article. (Due: Wed, 4/20/05)

WEEK 15: In class presentations of team projects.

M, April 25 and W, April 27

(Note: No class on F, April 29)

FINAL PROJECT (WS/IE 325)

(to be presented in teams on Monday, April 25 and Wednesday, April 27)

Each team will form a consulting company for diversity training at various engineering organizations, such as universities, government agencies, and companies. Develop a short video (no more than 3 minutes), a brochure, and a report on diversity to distribute to potential organizational clients that describe and advertise your services.

GOAL: To “transform” the engineering workplace culture in America to celebrate and embrace diversity – gender, racial, class, ethnic, religious, age, sexual orientation, etc. (with a *focus* on gender since this is a women’s studies course).

Final Team Presentation: Your team is scheduled to appear at a board meeting of a major engineering organization, U.S. Widget, Inc. You have 20 minutes to make your ‘pitch’ to the board. Use your video and brochure to impress the board, and perform a skit, powerpoint presentation and anything else you can think of that will get your message across to win the organization’s lucrative diversity training contract.

Good luck!!

