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Women's and Gender Studies on OCW

This mural was designed by women imprisoned at Riker's Island, a jail in New York City, and was painted by the women's children on a wall in East Harlem. In addition, the children designed a mural that the mothers then painted inside a building at Rikers. Read more about the project, If Walls Could Talk. (Image courtesy of Matt Green on Flickr. CC NC-BY-SA.)

What is the most powerful strategy for improving the lives of women and men in and outside of the workplace? Should the government provide universal policies that create a floor of opportunity for all? Should the market be responsible for these policies? What should the role of workers be, either as individuals or via organized labor?

Such heady questions introduce the final writing

assignment for students taking *WGS.S10 Gender, Power, Leadership, and the Workplace*, recently published on OCW. The course, taught by Dr. Mindy Fried, aims to "provide students with an analytic framework to understand the roles that gender, race, and class play in defining and determining access to leadership and power in the U.S., especially in the context of the workplace." Among the course resources are examples of student work: final papers, a reaction paper, class discussion notes, and discussion presentation notes.

Like many classes in the humanities, this one is highly interactive, with students routinely giving presentations about the course readings as an impetus to class discussion. The subject matter ranges over issues of leadership, inequities in the workplace, the balance of work and family, child care policy, cross cultural practices, and more.

WGS.S10 is a "special topics" course from MIT's department of Women's and Gender Studies published on OCW. Other recent publications include *WGS.S10 Reproductive Politics in the United States* and *WGS.115 Gender and Technology*.

Some gender-related courses on OCW are seminars created by the Graduate Consortium in Women's Studies, an organization that brings together scholars and teachers from nine degree-granting institutions in the Boston area to advance interdisciplinary Women's Studies scholarship. Just published is *WGS.640 Screen Women: Body Narratives in Popular American Film*.

Other GCWS courses on OCW include:

- *SP.693 Gender, Race, and the Complexities of Science and Technology: A Problem-Based Learning Experiment*
- *SP.694 Issues of Representation: Women, Representation, and Music in Selected Folk*

we have the resources to keep publishing and distributing the educational materials that make a difference to learners everywhere.

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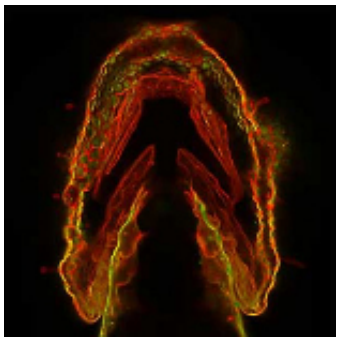
OCW is grateful for the support

Traditions of the British Isles and North America
- *WGS.615 Feminist Inquiry: Strategies for Effective Scholarship*

New Courses



7.342 Sweet Discoveries: Unraveling the Complex World of Sugars in Health and Disease

4.663 History of Urban Form: Locating Capitalism: Producing Early Modern Cities and Objects

- 15.232 Business Model Innovation: Global Health in Frontier Markets
- 21F.346 Topics in Modern French Literature and Culture: North America Through French Eyes
- WGS.640 Screen Women: Body Narratives in Popular American Film

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Updated Courses

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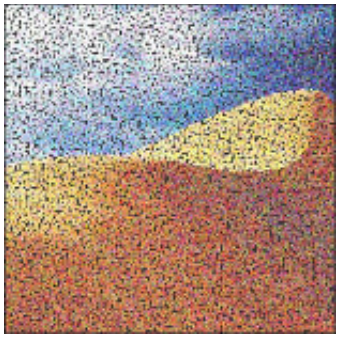

8.333 Statistical Mechanics I: Statistical Mechanics of Particles

21M.250 Beethoven to Mahler

- 8.334 Statistical Mechanics II: Statistical Physics of Fields
- 18.05 Introduction to Probability and Statistics
- 21F.043J Introduction to Asian American Studies: Literature, Culture, and Historical Experience

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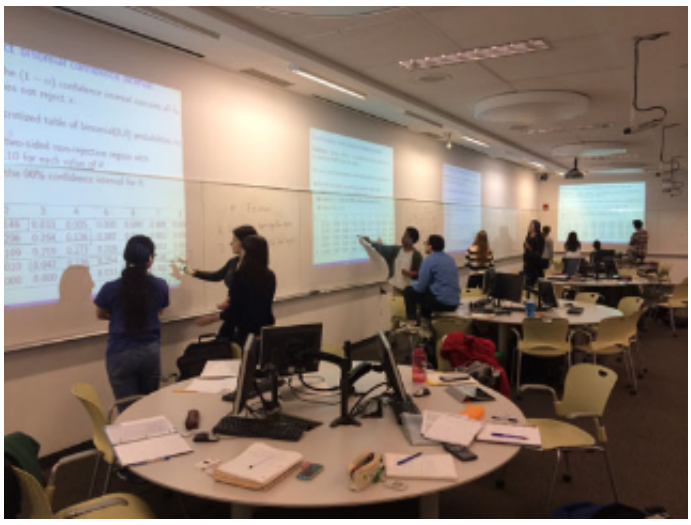


Student teams work together on problems in 18.05.

Probability and Statistics in a Very Active Setting

OCW has just published a new multifaceted course, *18.05 Introduction to Probability and Statistics*, that innovates on numerous fronts to engage students in active learning.

“We have converted the [traditional] course to a flipped classroom with active learning components and interactive online features,” say the lead instructors, Dr. Jerry Orloff and Dr. Jonathan Bloom.

In fact, the traditional course was completely rethought. In the past, students had complained that there seemed a disconnect between the units on probability and frequentist statistics. So after much discussion, Drs. Orloff and Bloom revamped the syllabus and rewrote all the course readings to create a unified curriculum:

“We wanted students to come away with a deeper understanding of the meaning of frequentist statistics, which had been the focus of the traditional course . . . [And] we wanted to introduce students to Bayesian and computational statistics, central tools in modern statistical practice.”

Beyond Blended

It’s hard to imagine a more blended learning experience. The course jettisons the traditional lecture room, along with the division between lecture and problem-solving sessions, and employs a TEAL (Technology Enabled Active Learning) classroom with stations where teams of students work together. Each regular class session combines short lectures, online concept questions that students answered using clickers (an electronic response system), student discussions, team problem solving at the board, and demonstrations or simulations. Once a week the instructors held a “Studio” session in which students

used R, a free software environment for statistical computing and graphics, to attack longer problems involving computation, simulations, and visualizations.

All course readings were hosted on the MITx platform, where students were required to answer questions about assigned readings before they came to class.

Students submitted problem sets on paper (which were examined and graded by the course staff), but they also had access to an interactive problem set checker that let them check their answers while they were working on them.

Rich Content, Dynamic Checker, Dramatic Timeline

The OCW course site has an abundance of content: all the readings, interactive reading questions, slides used in class, problem sets and solutions, exams and solutions, plus the slides, solutions, and supporting files for the Studio sessions. The interactive problem checker is also available on OCW for each problem--a first for OCW.

The OCW site has a robust This Course at MIT page which explains the context in which the class was taught and highlights the instructors' reflections on almost every aspect of their new teaching experience. A timeline for one class session, called *A Day in 18.05*, shows the different activities that took place during the session. Each colored box in the timeline is linked to a timecode in a video for that class, showing each activity took place. Class activities are also illustrated by image galleries annotated with comments by the instructors.

But a description can't do justice to the course site. *18.05* is an amazing and innovative course taught by two dedicated and creative teachers. It's one of the most interesting and thought-provoking courses ever

published on OCW.

Highlights for High School

Image courtesy of Brandon Nguyen on Flickr. CC BY

It seems computer programming is everywhere in the news these days. Just last week, President Obama became the first U.S. President to write a computer program, when he participated in Code.org's "Hour of Code" campaign.

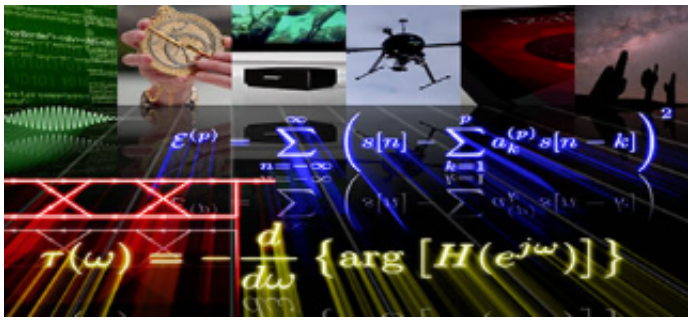
You may have also caught Reddit's recent Ask Me Anything (AMA) with three female computer science Ph.D. students from MIT. The AMA readers asked them a lot of questions! The women answered everything from who inspires them, resources for kids wanting to code, and what it's like to be female in a male-dominated field.

Check out the AMA and then head to Highlights for High School's section on Computer Science and Electrical Engineering, where we have lots of fun resources like:

- Introduction to Computer Science and Programming
- A Gentle Introduction to Programming Using Python
- The Battlecode Programming Competition

> Explore more Highlights for High School resources

MITx News



6.341x Discrete Time Signal Processing.

Signal Processing and its Applications

Much of what we do today, if we do it successfully, depends on the digital analysis and control of signals. Our computers, smart phones, video cameras, microwaves, GPS systems, all record and process discrete data signals. Without the signals, nothing works. Understanding those signals by mastering the relevant mathematics is essential for scientists and engineers to enable us to do what we do: make phone calls, play video games, record sounds and images, make and record transactions, fly aircraft, analyze big data . . .

Professor Alan Oppenheim has taught signal processing at MIT for decades. Starting on Feb 3, open to the public on the edX platform, Dr. Oppenheim offers *6.341x Discrete Time Signal Processing.* Taught with colleague Dr. Thomas Baran,

this course provides “both an in-depth and an intuitive understanding of the theory behind modern discrete-time signal processing systems and applications.”

The course is organized into 11 units, each of which consists of two to four topics. The course videos are adapted from recordings of a class recently taught on the MIT campus. The textbook, written by Professor Oppenheim and Ronald W. Schafer, is available free in viewable form on the course site. The course topics have auto-graded problem sets for self-assessment, and students can interact with each other in an online discussion forum.

People interested in getting a foretaste of this course might explore OCW’s *6.341 Discrete-Time Signal Processing,* a published version of the course Professor Oppenheim taught at MIT in 2005. Those who would like to bone up on the basics of signals and systems can get going with OCW’s *6.011 Introduction to Communication, Control, and Signal Processing,* as taught on campus by Professor Oppenheim in 2010.
OCW also has a supplemental resource including some of Dr. Oppenheim’s earlier on-campus lectures: *Digital Signal Processing.*

> Visit all MITx on edX courses

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to the privileged few who can afford the fees charged by premier institutions of higher learning. The world desperately needs educated minds!"

- Ulrike, Educator - College/University, Singapore

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