

MIT Digital Learning

Providing Quality Education at Scale

May 8, 2017

Roksi Freeman



Our Mission

To transform teaching and learning at MIT and around the globe through the innovative use of digital technologies.



MIT OpenCourseWare



MIT OpenCourseWare

The screenshot shows the MIT OpenCourseWare website homepage. At the top left is the MIT OpenCourseWare logo with the text "MASSACHUSETTS INSTITUTE OF TECHNOLOGY". To the right of the logo is a "Subscribe to the OCV Newsletter" button and social media icons for Google+, Pinterest, Facebook, and Twitter. Below the logo is a navigation bar with "Home", "Find Courses", "About", "Give Now", and "Featured Sites" dropdown menus. A search bar with a magnifying glass icon and "Advanced Search" link is also present. The main content area features a video player with the title "Teaching College-Level Science and Engineering" and a "View the new course" link. Below the video is a testimonial from Prakash Parent, a parent from India, with a "GIVE NOW" button. The video player includes a progress bar and a vertical caption "From Session 5 video, Active Learning".

MIT OPEN COURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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Teaching College-Level Science and Engineering

» View the new course

From Session 5 video, Active Learning

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I consider that investment in education is an investment for future of the mankind."

Prakash Parent India

GIVE NOW

MIT OpenCourseWare

The screenshot displays the MIT OpenCourseWare website interface. At the top left, the logo reads "MIT OPEN COURSEWARE MASSACHUSETTS INSTITUTE OF TECHNOLOGY". To the right, there is a "Subscribe to the OCV Newsletter" button and social media icons for Google+, Pinterest, Facebook, and Twitter. Below the logo, a navigation bar includes a home icon, a "Find Courses" dropdown menu, and a "HIGHLIGHTS FOR HIGH SCHOOL" banner. A secondary navigation bar contains "Subjects", "Exam Preparation", "More", and "MIT OCW" dropdown menus, along with a search bar and an "Advanced Search" link. The main content area features a large video player with the text "Homecooked videos for students, by students" and "» Watch the series, Science Out Loud". The video shows a woman with a hand-drawn solar system diagram. Below the video, a green banner promotes "Explore the Humanities and Social Sciences!" with a "View Courses" button. On the left side, there is a "Teaching Science" video thumbnail and a "Support OCV" button.

MIT OpenCourseWare

The image is a collage of four overlapping screenshots of the MIT OpenCourseWare website. The top-most screenshot shows the main header with the MIT OpenCourseWare logo, a 'Subscribe to the OCW Newsletter' button, and social media icons for Google+, Pinterest, Facebook, and Twitter. Below this is a navigation bar with a home icon and a 'Find Courses' dropdown menu. The second screenshot shows a 'HIGHLIGHTS FOR HIGH SCHOOL' section with a 'Teaching Science' video thumbnail and a 'View the new' link. The third screenshot shows a 'Homecooked for students' section with a 'Watch the series' link. The bottom-most screenshot shows the 'OCW Educator' section, which includes a navigation bar with 'Find Courses', 'About', 'Give Now', and 'Featured Sites' menus, a search bar, and a large image of Prof. Jagoutz leading a discussion near a stream. The text below the image reads 'OCW Educator: Sharing teaching approaches and materials from MIT with educators everywhere, for free.' Social media icons for Facebook, Twitter, Google+, Pinterest, and LinkedIn are visible on the right side of the image.

Prof. Jagoutz leads a discussion near a stream. (Image courtesy of Taylor Perron and used with permission.)



MIT OpenCourseWare

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Experimental set-up: First we split the beam, then we send one beam through the potential and the other along a free path of the same length, then we interfere the two beams to compare the phase. (Image courtesy of Allan Adams.)

Instructor(s)
Prof. Allan Adams
Prof. Matthew Evans
Prof. Barton Zwiebach

MIT Course Number
8.04

As Taught In
Spring 2013

Level
Undergraduate

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Course Features

- > [Video lectures](#)
- > [Selected lecture notes](#)
- > [Exams \(no solutions\)](#)
- > [Subtitles/transcript](#)
- > [Assignments and solutions](#)

Course Description

This course covers the experimental basis of quantum physics. It introduces wave mechanics, Schrödinger's equation in a single dimension, and Schrödinger's equation in three dimensions.

It is the first course in the undergraduate Quantum Physics sequence, followed by [8.05 Quantum Physics II](#) and [8.06 Quantum Physics III](#).

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Browse free online courses in a variety of subjects. Massachusetts Institute of Technology courses found below can be audited free or students can choose to receive a verified certificate for a small fee. Select a course to learn more.




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Starts: May 2, 2017



MITx
You Can Innovate: User Innovation &...

Starting Soon
Starts: May 2, 2017



MITx
Just Money: Banking as if Society Mattered

Current
Starts: April 25, 2017



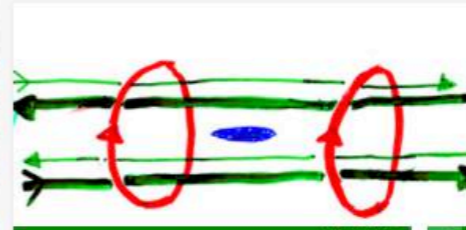
MITx
Evaluating Social Programs

Starting Soon
Starts: May 8, 2017



MITx
Cellular Solids Part 3: Applications in Nature

Current
Starts: April 19, 2017



MITx
Atomic and Optical Physics: Light Forces and Laser...

Starting Soon
Starts: May 10, 2017

edX



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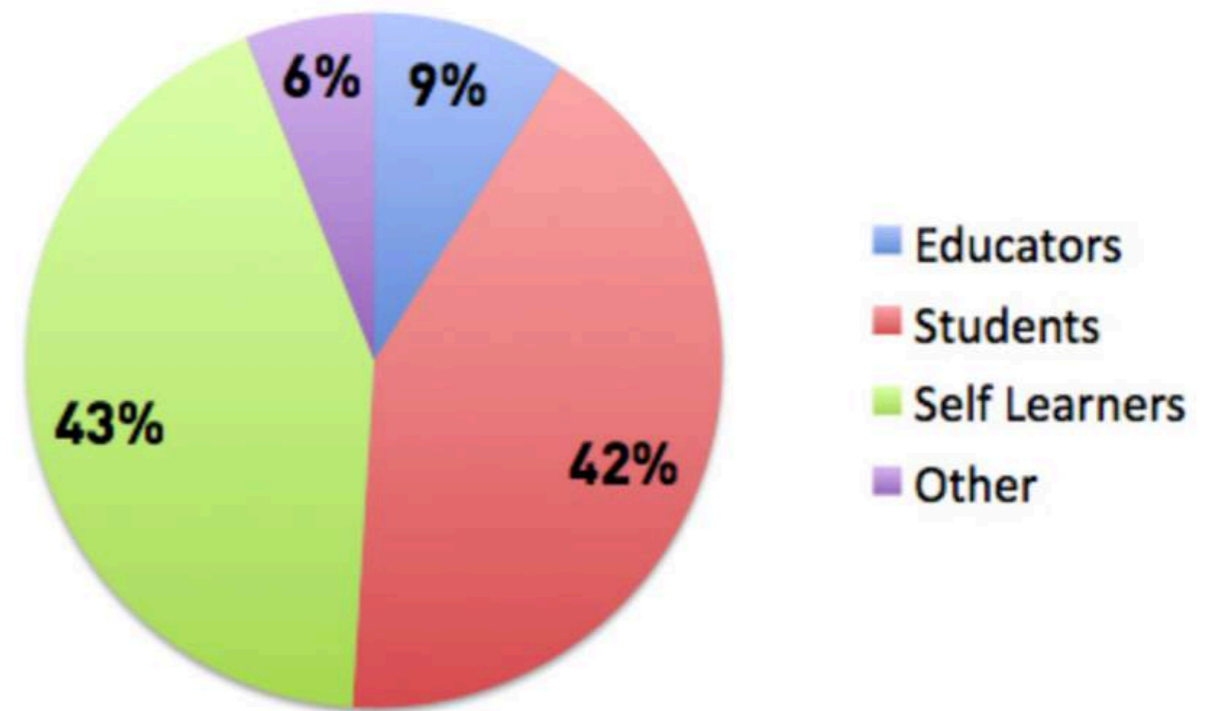
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OFFICE OF
DIGITAL LEARNING

MIT Digital Learning Today

- Used by students, educators, independent learners and professionals
- Over 200 million people have accessed our materials
- Accessed by almost every country in the world



Digital tools on MIT's campus

MIT faculty are using the MITx program to:

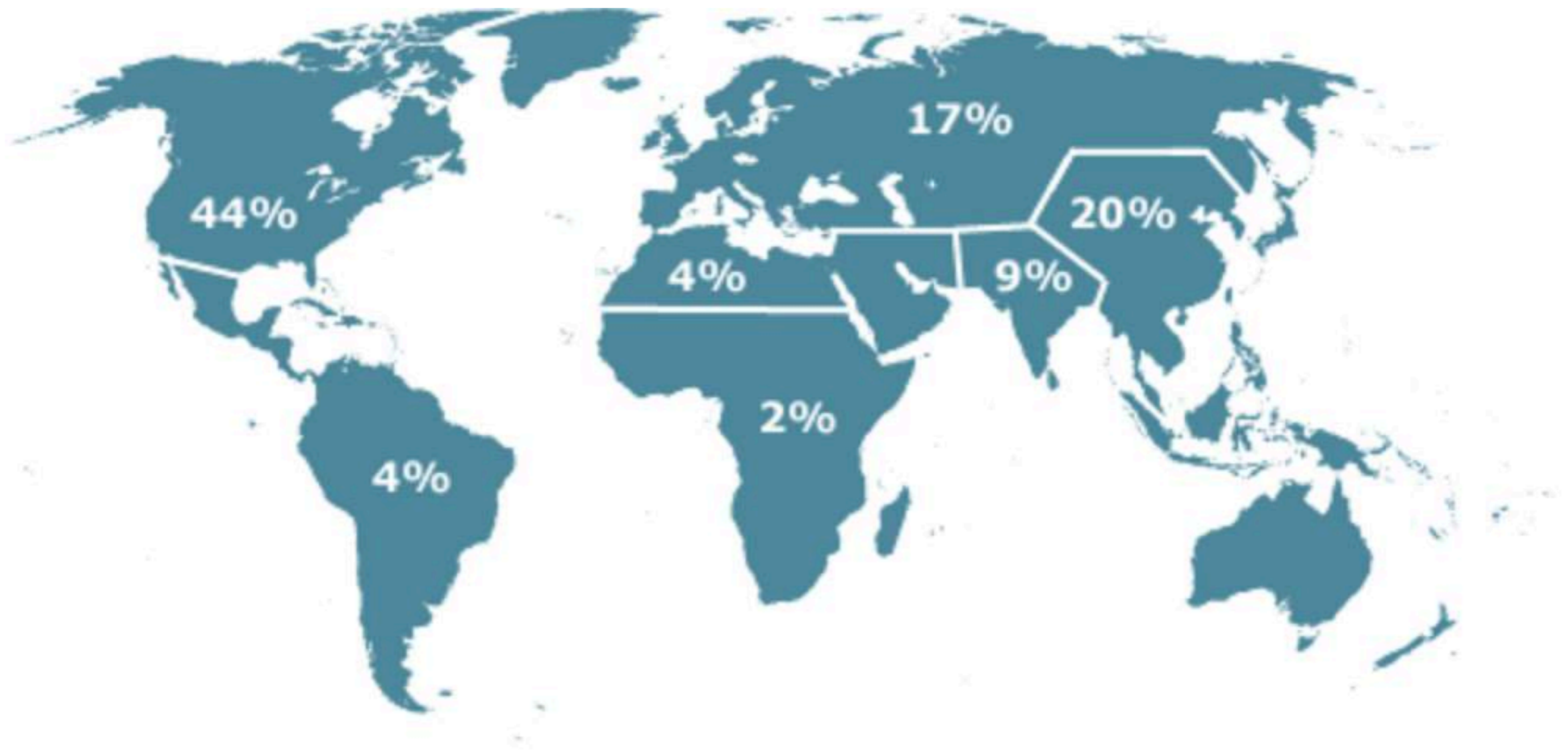
- Provide students with rapid feedback
- Augment learning with simulations and visualizations
- Provide flexibility in course delivery



Thank you!

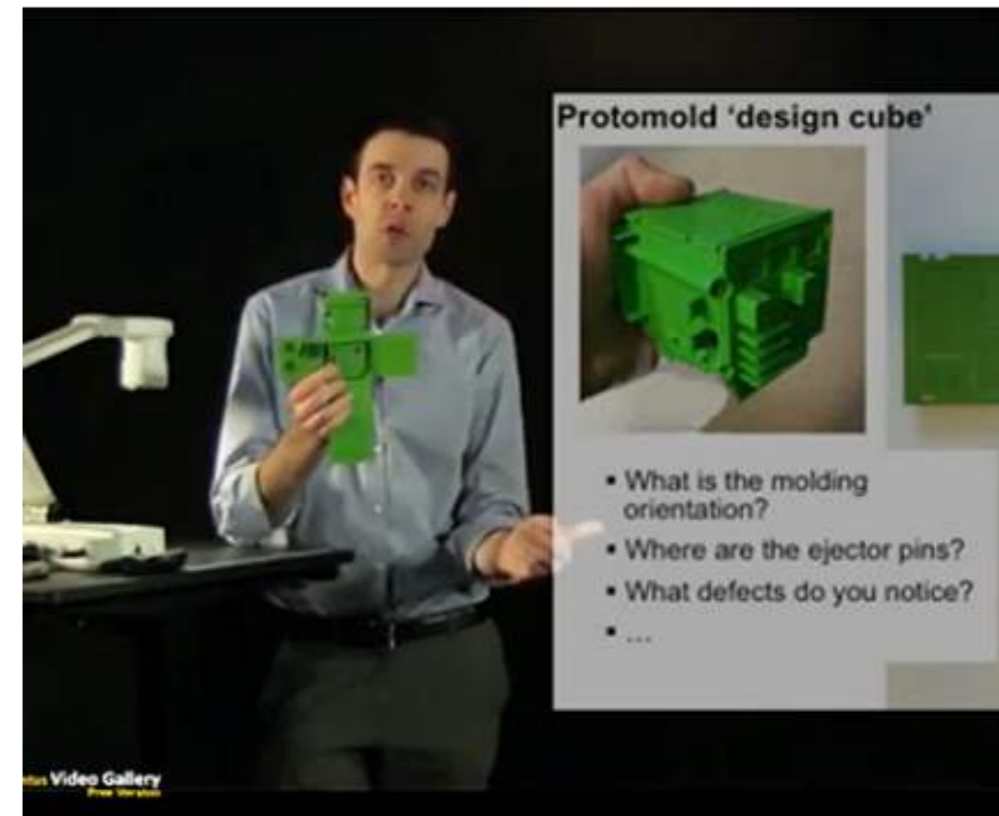
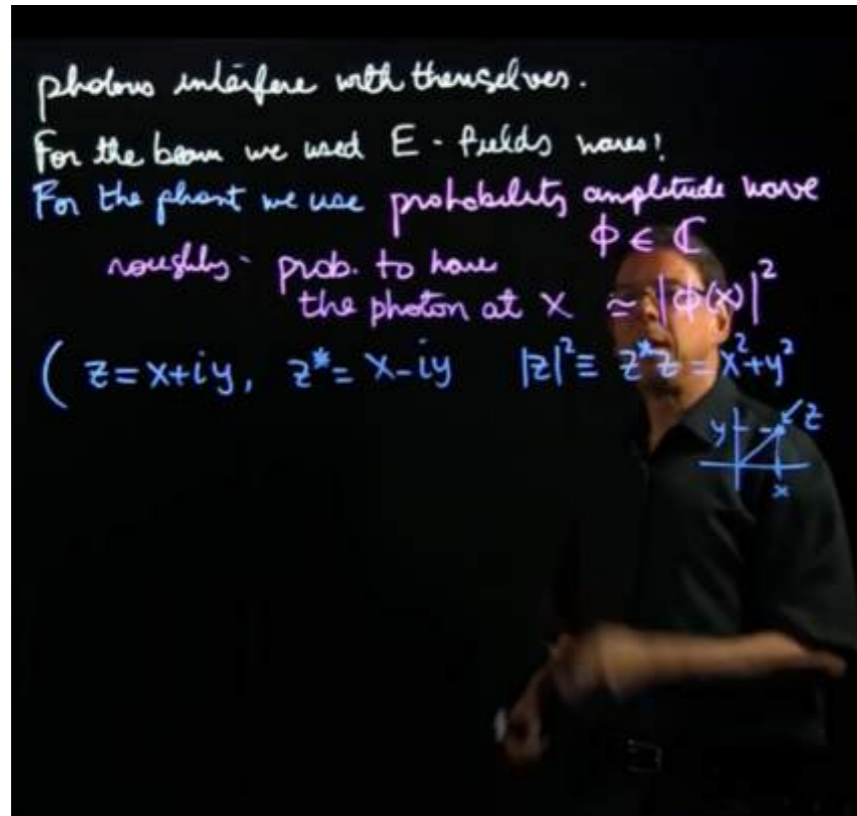


Worldwide Usage



ODL

photons interfere with themselves.
For the beam we used E - fields waves!
For the photon we use probability amplitude wave
roughly - prob. to have the photon at $x \approx |\phi(x)|^2$
 $\phi \in \mathbb{C}$
($z = x + iy$, $z^* = x - iy$ $|z|^2 \equiv z^* z = x^2 + y^2$)



Protomold 'design cube'

- What is the molding orientation?
- Where are the ejector pins?
- What defects do you notice?
- ...

Video Gallery
Free the video

MITx Courses

Wolfgang Ketterle

<http://odl.mit.edu/news-events/blog/wolfgang-ketterle-transformative-power-digital-education> (video)

Lorna Gibson

<https://www.youtube.com/watch?v=DvzoDFWQtHw&feature=youtu.be> (video)

Simona Socrate <http://odl.mit.edu/sites/default/files/Case-Study-2.001.pdf> (case study)

Popular Courses Starting Soon

[View All Courses](#)



VERIFIED

PennX
Software Development Fundamentals

Starting Soon
Starts: May 15, 2017



VERIFIED

DartmouthX
Retail Fundamentals

Starting Soon
Starts: May 10, 2017



VERIFIED

UCSanDiegoX
How Virtual Reality (VR) Works

Starting Soon
Starts: May 15, 2017 - Self-Paced



VERIFIED

Microsoft
Analyzing and Visualizing Data with Excel

Current
Self-Paced



VERIFIED

ColumbiaX
Machine Learning for Data Science and Analytics

Starting Soon
Starts: May 15, 2017 - Self-Paced



CREDIT-ELIGIBLE

BerkeleyX
Agile Development Using Ruby on Rails - Basics

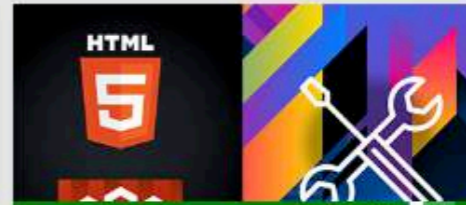
Starting Soon
Starts: May 9, 2017



VERIFIED

CatalystX
Communication Skills for Bridging Divides

Current
Self-Paced



VERIFIED

W3Cx
HTML5 and CSS Fundamentals

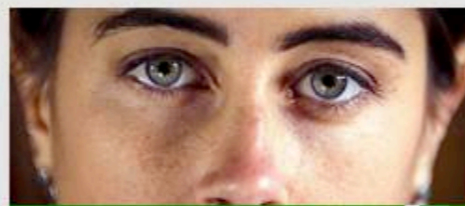
Starting Soon
Starts: May 30, 2017 - Self-Paced



VERIFIED

HKUSTx
Introduction to Java Programming - Part 1

Current
Self-Paced



VERIFIED

UQx
The Science of Everyday Thinking

Current
Self-Paced



VERIFIED

ETSx
TOEFL® Test Preparation: The Insider's Guide

Current
Starts: May 3, 2017



PROFESSIONAL EDUCATION

Wharton
Managing the Value of Customer Relationships

Current
Self-Paced

edX Programs Starting Soon

[View All Programs](#)



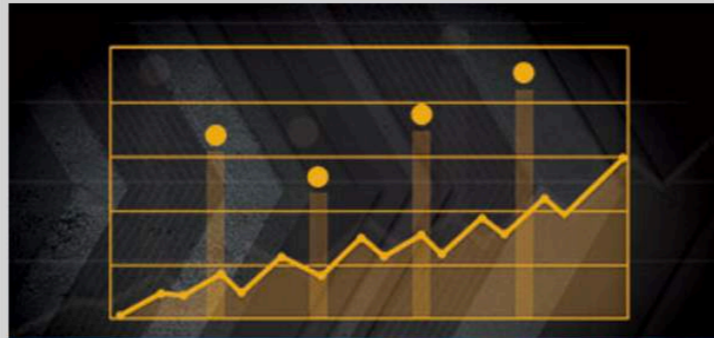
PROFESSIONAL CERTIFICATE PROGRAM

PennX

Computer Science Essentials for Software Development

Learn essential computer science concepts in order to design efficie...

Current



MICROMASTERS PROGRAM

GTx

Analytics: Essential Tools and Methods

Learn fundamental, in-demand analytics skills to maximize busine...

Current



MICROMASTERS PROGRAM

RITx

Cybersecurity

Launch your career in a high demand industry that projects 2...

Current

