




**Unlocking Knowledge, Empowering Minds.**

Stephen Carson - [scarson@mit.edu](mailto:scarson@mit.edu) 5 November 2008

**MITOPENCOURSEWARE**  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY



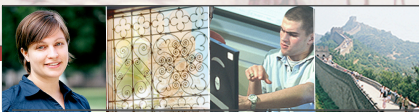
**Unlocking Knowledge  
Empowering Minds  
The Challenge Ahead**



## Unlocking Knowledge Vision

*"OCW expresses MIT's goal of advancing education around the world through a global community in which knowledge and ideas are shared openly for the benefit of all."*

— Susan Hockfield,  
President of MIT



## Unlocking Knowledge What is OCW?

MIT OpenCourseWare IS NOT:

- An MIT education
- Intended to represent the interactive classroom environment
- Degree-granting

MIT OpenCourseWare IS:

- A Web-based publication of virtually all MIT course content
- Open and available to world
- A permanent MIT activity



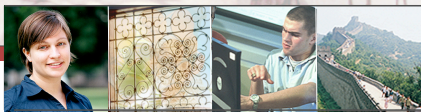
## Unlocking Knowledge A Community Achievement

Covers:

- The entire undergraduate and graduate curriculum
- 33 academic departments

Voluntary contributions from:

- 78% of MIT faculty
- 2,600 members of the MIT community
- More than 5,000 individuals and organizations in total



## Unlocking Knowledge 1,857 Courses

- 1,857 Syllabi & reading lists
- 15,000 lecture notes
- 9,000 problem sets
- 900 exams

Many include:

- Audio/video (~60)
- Complete texts (~30)
- Simulations/animations

<http://ocw.mit.edu>



## Unlocking Knowledge Open License

Obliges users to meet three use requirements:



Use must be non-commercial



Materials must be attributed to MIT and original author or contributor



Publication or distribution of original or derivative materials must be offered freely under identical terms, or "share alike"

7

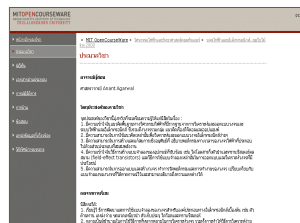
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## Unlocking Knowledge Translations

- Chinese (395)
- Spanish (99)
- Portuguese (95)
- Thai (15)
- Persian (44)



8

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## Unlocking Knowledge iTunes U & YouTube

- 49 courses
- 1,085 total tracks

iTunes U MIT Main Page

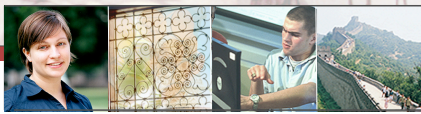
The screenshot shows the iTunes U MIT Main Page with a list of courses. The 'Linear Algebra, Spring 2005' course by Prof. Gilbert Strang is highlighted. The course description states: 'This is a basic subject on matrix theory and linear algebra. Emphasis is given to topics that will be useful in other disciplines, including systems of equations, vector spaces, determinants, eigenvalues, similarity, and positive definite matrices.'

#	Name	Time	Artist	Album	Price
1	Lecture 01: The Geometry	39:58	Gilbert Strang	MIT OCW 18.06 L.	Free
2	Lecture 02: Elimination w.	49:56	Gilbert Strang	MIT OCW 18.06 L.	Free
3	Lecture 03: Multiplication	49:38	Gilbert Strang	MIT OCW 18.06 L.	Free
4	Lecture 04: Factorization	52:20	Gilbert Strang	MIT OCW 18.06 L.	Free
5	Lecture 05: Transposes, Pt.	47:48	Gilbert Strang	MIT OCW 18.06 L.	Free
6	Lecture 06: Column Space	46:07	Gilbert Strang	MIT OCW 18.06 L.	Free
7	Lecture 07: Solving Ax = b	43:21	Gilbert Strang	MIT OCW 18.06 L.	Free
8	Lecture 08: Solving Ax = b	47:20	Gilbert Strang	MIT OCW 18.06 L.	Free
9	Lecture 09: Independence	50:31	Gilbert Strang	MIT OCW 18.06 L.	Free
10	Lecture 10: The Four Fund.	49:26	Gilbert Strang	MIT OCW 18.06 L.	Free
11	Lecture 11: Matrix Spaces	46:08	Gilbert Strang	MIT OCW 18.06 L.	Free
12	Lecture 12: Graph, Netwo.	48:03	Gilbert Strang	MIT OCW 18.06 L.	Free
13	Lecture 13: Quiz 1 Review	47:53	Gilbert Strang	MIT OCW 18.06 L.	Free
14	Lecture 14: Orthogonal M.	49:32	Gilbert Strang	MIT OCW 18.06 L.	Free

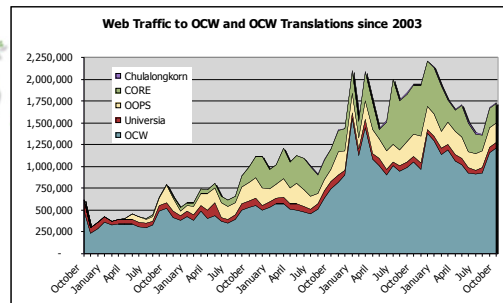
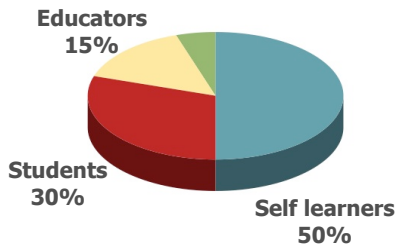
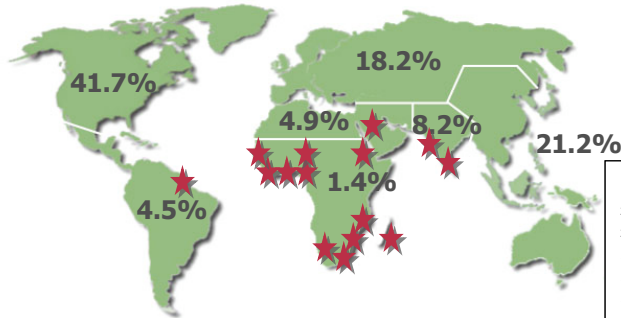
The screenshot shows the MIT YouTube channel main page. A featured video is titled 'MIT OpenCourseWare Highlights for High School'. The channel description states: 'The mission of MIT is to advance knowledge and technical skills in science, technology, and other related disciplines that will better prepare the nation and the world in the 21st century.'

MIT YouTube channel main page

iTunes U OCW Course Page



## Empowering Minds A Global Audience



Visits since 10/03



## Empowering Minds Traffic by Country – Oct 08

Country	Visits
1 United States	569,687
2 China	141,308
3 India	90,233
4 South Korea	60,763
5 Canada	42,820
6 United Kingdom	40,465
7 Iran	24,653
8 Turkey	24,651
9 Japan	24,557
10 Germany	22,832

Country	Visits
11 Brazil	17,550
12 France	16,710
13 Australia	14,724
14 Italy	13,765
15 Egypt	12,871
16 Singapore	12,720
17 Spain	12,014
18 Pakistan	11,780
19 Mexico	9,564
<b>45 Peru</b>	<b>3,518</b>



## Empowering Minds Use by Role

Use Scenario	%	
<b>Educators</b>	Enhancing personal knowledge	34%
	Learning new teaching methods	21%
	Incorporating OCW materials into teaching materials	18%
	Finding reference material for students	17%
<b>Students</b>	Enhancing personal knowledge	42%
	Complementing a subject currently taking	37%
	Planning course of study	18%
	Other	4%
<b>Self learners</b>	Exploring topics outside professional field/for personal enjoyment	40%
	Reviewing basic concepts in my professional field	18%
	Keeping current in latest professional field developments	17%
	Preparing for future formal study	16%



## Empowering Minds Case Studies



*"It's not simply the information that's valuable, but also the glimpse OCW offers into how MIT has structured its teaching and research."* - **Educator, Indonesia**

*"Last semester, I had a course in metallurgical engineering. OCW helped me gain a deeper understanding of the material."* - **Student, Nigeria**



*"Communications for Managers' is an excellent presentation of how managers can improve communication. That was something I could use and apply immediately."* - **Self learner, Bahrain**



## Empowering Minds Visitor Feedback

According to users, MIT OpenCourseWare is:

*"... the Eighth Wonder of the World."*

*"... the Big Bang of the Knowledge Universe."*

*"... the greatest thing any institution of higher learning has ever done."*

*"... like falling in love."*

*"... the coolest thing on the Internet."*

*"... worthy of the next Nobel Peace Prize."*



## Empowering Minds Benefits to MIT

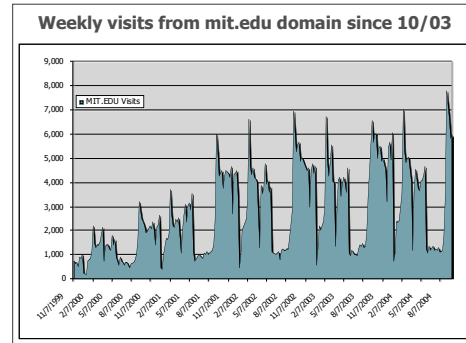
- Connecting with students and alum; improving teaching/learning; fostering international engagement

Among freshmen who knew of OCW before choosing MIT:

- 35% say OCW influenced their choice significantly

Used by:

- 90% of students
- 84% of faculty
- 50% of alumni and staff



## Empowering Minds MIT Student Use

### Aron Walker

Junior, environmental science and chemical engineering major, sees OCW as highlighting the real benefits of an MIT education.







## Empowering Minds MIT Student Use

*"OCW brings into focus the things that you can only find here at MIT, and not on the Web. It highlights the programs that aren't on OCW because they can't be — things like research, and doing programs with other students who are all really focused and excited about the work."*



## Empowering Minds MIT Faculty Use

### **Professor Karen Willcox**

Teaches foundational course to MIT juniors in Department of Aeronautics and Astronautics





## Empowering Minds MIT Faculty Use

***"I realized there was this huge disconnect between the math department and the engineering department – who are the downstream users of the material that's taught in the math classes... I had no idea how or what was being taught."***



## Empowering Minds Benefits to Faculty Reputation

- 34% of faculty who have published on OCW say the site has increased their professional standing
- 58% of faculty say the site has enhanced the reputation of their department
- 95% of faculty say OCW reflects positively on MIT



## Empowering Minds Faculty Stars



- Both Walter and Gil have been featured in major media including *The New York Times*, the Associated Press, the *Wall Street Journal* and *The Washington Post*
- Their courses receive over 600 visits a day and have attracted more than 1 million total visits each



## The Challenge Ahead Transition to Steady State

- \$4 M US annual budget
- To date largely funded by grants and MIT general Institute budget
- Anticipated model a mix of:
  - Endowment
  - General Institute budget
  - Corporate sponsorship
  - Visitor donations



## The Challenge Ahead Improve the Platform

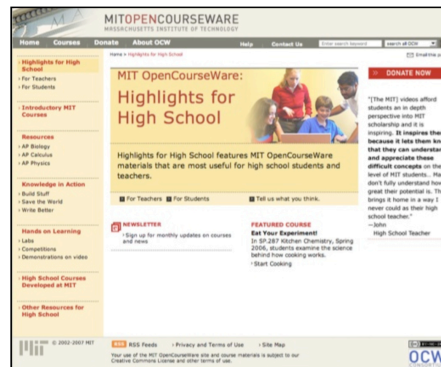
- Update approximately 150 courses a year
- Add 50 new courses a year
- Improve depth of content
- Add multimedia
- Add user features



## The Challenge Ahead Innovate on the Platform

Highlights for High School - Nov. 28

- Organizes ~70 introductory courses
  - For Teachers
  - For Students
- Maps ~2,600 resources to US AP curriculum
  - AP Biology
  - AP Calculus
  - AP Physics
- Provides materials to inspire STEM study
  - Knowledge in Action
  - Build Stuff
  - Save the World
  - Write Better





## Unlocking Knowledge Inspiring a Movement

### The OpenCourseWare Consortium



<http://ocwconsortium.org>

- 200+ institutions
- 100 live OCW sites
- ~6,400 courses



## The Challenge Ahead Where are we now?

The end of the very beginning.



**Thank You!**

Visit MIT OpenCourseWare online at  
**<http://ocw.mit.edu>**

