

# Believe It Or Not, Education is Frequently Free (or nearly so)

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# Today's Objective

- There is a nearly infinite amount of information out there
- Provide an insight into the types of formal and other opportunities that are available.
  - Brick-and-mortar opportunities.
  - Formal courses from universities on the Internet.
  - Courses on CD and/or DVD.
  - Ad hoc lectures and mini-courses.
- Encourage browsing for more and more educational opportunities. Since they are free, there is no downside to exploration.

# Start by Playing Around

- I only have 3 minutes
  - <http://bigthink.com/>
- I have 15 minutes
  - Find a 10-15 minute video
  - TED Talks: 11 of the most popular at [http://www.ted.com/playlists/77/new\\_to\\_ted.html](http://www.ted.com/playlists/77/new_to_ted.html)
- I have an hour
  - Find a lecture
  - Kennedy Library <http://www.jfklibrary.org/Events-and-Awards/Forums.aspx?f=2012>
- I can put in some quality time
  - Lets find a course
  - Coursera <https://www.coursera.org/courses?orderby=upcoming>

# OSHER Lifelong Learning Programs

- **Osher Lifelong Learning**

- Funded by Bernard Osher
- ~120 programs across the country, 4 in Massachusetts. Must be 50 or older.
- Osher Lifelong Learning Institute homepage: <http://usm.maine.edu/olli/national/>
- Prices vary as do length of courses. Most have supplemental lunchtime seminars and other benefits
- Primarily Peer taught courses; varies by program
- No tests, No papers, No grades (usually)

## **Osher Lifelong Learning Institute at Brandeis University (BOLLI)**

60 Turner Street; Waltham, MA 02454-9110

Website <http://www.brandeis.edu/bolli>

## **Osher Lifelong Learning Institute at Tufts University**

039 Carmichael Hall, Tufts University; Medford, MA 02155

Website <http://ase.tufts.edu/lli>

## **Osher Lifelong Learning Institute at University of Massachusetts, Boston**

McCormack Hall, 3rd Fl.,

UMass Boston, 100 Morrissey Blvd; Boston, MA 02125-3393

Website <http://www.olli.umb.edu/>

# Example: Brandeis BOLLI Program

- 45 peer-led study groups, most are 10 weeks long
- 2 courses/semester plus third optional
- Noontime Lunch & Learn lectures
- Enhancement programs
- Seminars by Brandeis faculty members, Fridays talks  
Language affinity groups, Book club, Theater parties  
New Yorker fiction salon, Play readings, Film viewings
- Access to Brandeis concerts, museums and libraries

# Example: UMass Boston OLLI Program

- Over 120 courses offered/year, typically 4-12 weeks long.
  - Approx. 80 lunchtime Brown Bag (BB) presentations per year.
  - Many classes video conferenced from Boston to Hingham and Plymouth.
  - Full members (\$175/yr.) may take 3+ courses/semester, space permitting.
  - Full members have free access to UMass Boston fitness center, pool, etc.
  - Associate members (\$50/yr) may attend BBs, social events, domestic and international travel programs, Special Interest Groups and Book Clubs.
  - Diverse membership of over 1,000 adults (ages 50+).
  - Accessible by public transportation (JFK/UMass station – MBTA Red Line)
- [http://www.umb.edu/news\\_events\\_media/news/umass\\_bostons\\_first\\_mooc\\_offers\\_a\\_classroom\\_in\\_the\\_cloud](http://www.umb.edu/news_events_media/news/umass_bostons_first_mooc_offers_a_classroom_in_the_cloud)
- ARR Contact: Barry Hass
  - <http://www.umb.edu/olli>



# Non-OSHER Lifelong Learning programs

- Regis College (LLARC); Weston MA
  - [http://www.regiscollege.edu/campus\\_community/life\\_long\\_learning.cfm](http://www.regiscollege.edu/campus_community/life_long_learning.cfm)
  - Open enrollment. Pay for courses only, or membership includes lunchtime programs
  - \$425/year
  - 25+ Peer taught courses, Tuesday Lunch & Learn
- Harvard Institute for Learning in Retirement -- HILR
  - <http://www.hilr.harvard.edu>
  - HILR is restrictive and you must pass an interview to be selected
  - \$800 per year; ~550 students in program
  - ~65 courses/semester, lunchtime programs, Friday seminar series
  - Peer taught courses; up to 3/semester
- Boston University Metropolitan College (minimum age 58)
  - <http://www.bu.edu/met/>
  - Audit course @ \$160/course
  - Attend individual special lectures @ \$50

# **University Courses through the Internet**

## **MOOCs**



# **Three Major Consortiums offer MOOCs:** **Massive Open On-line Courses**

- Outgrowths of free programs begun at MIT and elsewhere.
- Free to all registrants.
- Generally no prerequisites, or they are offered as suggestions.
- May have restrictions on start and completion dates.
- Most have many optional quizzes and tests, all computer-graded.
- Those who complete all material usually get certificates.
- 10-20% (maybe) complete the material.
- Many enroll merely for enjoyment.
- Three largest programs are Coursera, Udacity and EdX.
- See <http://www.skilledup.com/blog/the-best-mooc-provider-a-review-of-coursera-udacity-and-edx/>

# Comparison of Programs

	Coursera	Udacity	EdX
Biology & Life Sciences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business & Management	<input type="radio"/>	<input type="radio"/>	
Computer Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics & Finance	<input type="radio"/>		
Education	<input type="radio"/>		
Electrical & Materials Engineering	<input type="radio"/>		<input type="radio"/>
Food & Nutrition	<input type="radio"/>		
Health and Society & Media Ethics	<input type="radio"/>		<input type="radio"/>
History			<input type="radio"/>
Humanities	<input type="radio"/>		
Information technology & Design	<input type="radio"/>		
Law	<input type="radio"/>		<input type="radio"/>
Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medicine	<input type="radio"/>		
Music, Film & Audio Engineering	<input type="radio"/>		
Physical & Earth Sciences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Sciences	<input type="radio"/>		
Statistics & Data Analysis	<input type="radio"/>	<input type="radio"/>	

# Coursera <https://www.coursera.org/>

- 62 Universities currently participate ranging from Brown to Berklee College of Music. Currently 325 courses available
- Courses taught in English, Spanish, French, Chinese and Italian
- 23 Categories range from humanities to Computer Science to Law

Take the World's Best Courses, Online, For Free.

Join **2,829,359** Courserians

Excited to be starting 2 new courses today on Coursera! Learning something new that will help me enhance my skills as a biz owner. - Andres Vega

Learn with videos, quizzes, and assignments | Interact with thousands of other students | Advance your knowledge and career

## COURSES (325)



Introduction to Music Production

Berklee College of Music

Started 2 days ago (6 weeks long)



Leading Strategic Innovation in Organizations

Vanderbilt University

Starts in 2 days (8 weeks long)



Women and the Civil Rights Movement

University of Maryland, College Park

Started 6 days ago (12 weeks long)

# Coursera Cont'd

- Varying durations
- Must be begun after start date; material kept on the web for some time.
  - Take courses on YOUR schedule (sort of).



Columbia University

## Financial Engineering and Risk Management

with Martin Haugh, Garud Iyengar & Emanuel Derman

Feb 24th 2013

10 weeks long



Columbia University

## Natural Language Processing

with Michael Collins

Feb 24th 2013

10 weeks long



Emory University

## AIDS

with Kimberley Sessions Hagen

Feb 25th 2013

9 weeks long

# EdX <https://www.edx.org/>

- Outgrowth of an MIT-Harvard Initiative



- “Along with offering online courses, the institutions will use edX to research how students learn and how technology can transform learning—both on-campus and worldwide.”
- 27 courses currently available for registration.
- I took <https://www.edx.org/press/eric-lander-secret-of-life> “MIT’s introductory biology course, covering topics in biochemistry, genetics and genomics”.
- Walter Lewin’s three basic physics courses are available through MIT, now Electricity and Magnetism is redone for EdX.

# EdX Cont'd

- I took Sandel's excellent Justice course on-line directly from Harvard.

NEW  
7.00x Introduction to Biology - The Secret of Life →



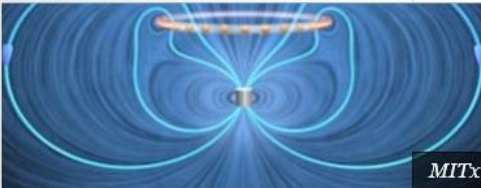
MITx

CS191x Quantum Mechanics and Quantum Computation →

$$\frac{1}{\sqrt{2}}|\text{cat}\rangle + \frac{1}{\sqrt{2}}|\text{dog}\rangle$$

BerkeleyX

8.02x Electricity and Magnetism →




MITx

NEW  
CB22x The Ancient Greek Hero →



HarvardX

NEW  
ER22x Justice →



HarvardX

NEW  
PH2/8x Human Health and Global Environmental Change →




HarvardX

NEW  
2.01x Elements of Structures →



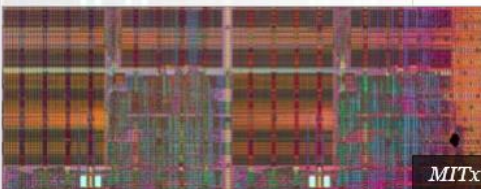
MITx

NEW  
CS184.1x Foundations of Computer Graphics →



BerkeleyX

NEW  
6.002x Circuits and Electronics →



MITx


# Udacity <https://www.udacity.com/courses>

- Beginner, Intermediate and Advanced; Technical and Business.
- Available at all times.
- I took Stanford's Artificial Intelligence.


**UDACITY** Course Catalog Sign In Sign Up

### Course Catalog


What's hot



[Introduction to Computer Science](#)




COMING SOON  
[The Design of Everyday Things](#)



```
public static void main(St  
(  
    Picture rocket = new Pic  
    rocket.translate(100,  
    rocket.rotate(45);  
    canvas.add(rocket);  
    canvas.translate(100, -100);
```

[Intro to Programming in Java](#)



COMING SOON  
[Mobile Web Development](#)

Browse Courses in  All Levels

# Other On-line Courses from Universities

- Open University. <http://www.open.ac.uk/openlearn/home.php> Open University is UK's largest academic institution with ~600 courses BUT MOST NOT FREE
- Carnegie Mellon. <http://oli.web.cmu.edu/openlearning>. CMU offers about a dozen free online courses and materials.
- Tufts University. <http://ocw.tufts.edu/TuftsOER>. Courses are sorted by school (i.e., School of Arts & Sciences, Medicine, etc.) and include assignments, lecture notes and other materials. But Arts & Science has only 15 courses and the material is pretty sketchy.
- University of Southern Queensland. <http://ocw.usq.edu.au> 10 courses including Introduction to Tourism. All available as text and audio, with an Australian accent..
- iTunes U has more than 100,000 educational audio and video files from top universities, famous museums, public media organizations, and other cultural institutions from around the world.
  - In *iTunes*, click *iTunes Store* (below Store).
  - Click *iTunes U* at the top of the iTunes Store window.



# Universities Online (Cont'd)

- [Stanford Courses on iTunes U](#) (stanford.edu)
  - 10/3/2011 started a free course on Artificial Intelligence enrolled in by >120,000. See <http://www.ai-class.com/> (now Udacity)
- [Kutztown University of Pennsylvania](#).  
[http://kutztownsbdc.org/course\\_listing.asp](http://kutztownsbdc.org/course_listing.asp). Kutztown's Small Business Development Center offers 90 free business courses including accounting, finance, government, business law, marketing and sales. Comprehensive text, interactive case studies, slides, graphics and streaming audio are available. To utilize the material you must become a member, free, at their home page. Each state has something like this, but there is no standardization.
  - Use [www.asbdc-us.org](http://www.asbdc-us.org) to browse.

# **Purchase Courses or Borrow from the Library**

# Massachusetts Libraries

- The Minuteman Library Network <http://www.mln.lib.ma.us/> includes 35 towns and 7 colleges (mostly small). See list at <http://www.mln.lib.ma.us/info/>
- The Merrimack Valley Library Consortium permits cross sharing of library cards <http://www.mvlc.org/>. Includes another 35 libraries.
- All assets from these libraries can be searched on-line and sent to the library of your choice (except for DVDs).
- Massachusetts has a Virtual Catalog <http://mblc.state.ma.us/books/catalogs/vc/index.php> providing searching across Massachusetts. Search capabilities are limited and it is best to have an ISBN.
  - Different libraries and library systems have different ways of coding objects, making it difficult to locate things like Voice CDs

# CD and DVD Courses

- *Teaching Company* has ~800 “Great Courses”.
  - <http://www.teach12.com/teach12.aspx?ai=16281>
  - Nearly all as DVD (also as CDs). Length from 6 to 30+ hours
  - Minuteman shows 285 records (some duplicates); Merrimack shows 298.
  - Very broad range of subjects; very high quality
- *Modern Scholar* has about ~175 courses
  - Many available through local libraries
  - <http://www.learnoutloud.com/Resources/Publishers-and-Retailers/Modern-Scholar/80>
- Personalized *Teaching Company* calendar of upcoming “cultural events” near Boston and 18 other cities. Arranged by subject matter, they complement many of the courses.
  - <http://www.thegreatcourses.com/tgc/accounts/events.aspx?ai=52597>

Note: Many courses can be downloaded to iTunes or to various players

## [www.Linda.com](http://www.Linda.com)

Charges ~\$25/month for access to thousands of courses about computers and software.

Includes:

- [Photography](#)
  - [Photoshop](#)
  - [Web](#)
  - [3D + Animation](#)
  - [Developer](#)
  - [Audio](#)
  - [Video](#)
  - [Business](#)
  - [Microsoft](#)
- [Apple](#)  
[Adobe](#)  
etc. etc. etc.

# Khan Academy

<http://www.khanacademy.org/>

- *Time Magazine* named Salman Khan in annual 2012 list of 100 most influential people in the world.
  - MIT: BS in mathematics '97, BS in electrical engineering and computer science, and an MS in computer science; MBA from Harvard Business School.
  - Retired as Hedge Fund Manager in 2009 to develop videos full time.
- >4,000 short videos including arithmetic to physics, finance, history and Test Prep (SAT, etc.).
- Link to “ABOUT” and view 11 minute video on offerings.
- Great for your grandchildren.

# Other Educational Opportunities

# Free Books On-line

- <http://www.ebooksread.com/>. Currently 324,000 free ebooks from 122,000 authors.
- Project Guttenberg <http://www.gutenberg.org/catalog> 42,000 free ebooks (as of 3/2/2013)
  - Partners and affiliates to Project Guttenberg have another 100,000 titles.  
[http://www.gutenberg.org/wiki/Gutenberg:Partners%2C Affiliates and Resources](http://www.gutenberg.org/wiki/Gutenberg:Partners%2C_Affiliates_and_Resources)
  - Free kindle books, download them or read them online.
  - PG ebooks are free in the United States because their copyright has expired.
- Most Libraries now provide eBooks.



# Podcasts

Podcast technology: Once you load/subscribe a podcast you can have it automatically download additional shows as they become available. There are 100K – 150K.

- BBC-4
  - <http://www.bbc.co.uk/podcasts/>
  - <http://www.bbc.co.uk/ahistoryoftheworld/> History of the world in 100 objects, each in the British Museum. 15 minute podcasts, but additional information is available through the BBC website.
  - <http://thehistoryofrome.typepad.com/> is currently at 179 episodes and is available as podcasts or directly through the web
- Scientific American: <http://www.scientificamerican.com/podcast/>
- National Geographic: <http://www.nationalgeographic.com/podcasts/>
- Smithsonian: <http://www.si.edu/podcasts/> (this is vast!!!)
- Etc. etc. etc.

# Stumbleupon Learns Your Interests

- <http://www.stumbleupon.com/> has 15 million members and provides internet recommendations on a weekly and/or ad-hoc basis.
- I receive recommendations weekly.
- The system is seeded by your identification from >500 areas of interest
  - As you rate what is identified to you it refines its knowledgebase
  - Areas can be added or deleted
- There is a good 1 minute explanation of the site <http://www.stumbleupon.com/productdemo/>
- And here is something interesting I found there <http://www.stumbleupon.com/su/1k0CXS>  
The scale of the universe.

# Technology, Entertainment & Design: (TED)

[www.ted.com](http://www.ted.com)

- Formed in 1984, a nonprofit devoted to “Ideas Worth Spreading.”
- Currently over 1,500 talks.
- All sub-titled in English
- Funded by ~25 major corporate sponsors: Microsoft, IBM, Coca-Cola ....
- See the following site for a fascinating talk on cheap water filtration.

[http://www.ted.com/talks/lang/eng/michael\\_pritchard\\_invents\\_a\\_water\\_filter.html](http://www.ted.com/talks/lang/eng/michael_pritchard_invents_a_water_filter.html)

The image shows a screenshot of the TED website's filtering and sorting interface. It is divided into three main sections:

- Show talks subtitled in:** A dropdown menu with "English" selected.
- Show by event:** A dropdown menu with "All Events" selected.
- Show by length:** A dropdown menu with "All lengths" selected.

In the center, there is a section titled "Show talks related to:" with a list of categories, each with a checkbox:

- all
- technology
- entertainment
- design
- business
- science
- global issues

On the right, there is a section titled "Order talks by:" with a list of sorting options, each with a checkbox:

- Newest releases
- Date filmed
- Most viewed
- Most emailed this week
- Most comments this week
- Most popular this month
- Rated jaw-dropping
- ... persuasive
- ... courageous
- ... ingenious
- ... fascinating
- ... inspiring
- ... beautiful
- ... funny
- ... informative

# TED Talks Cont'd



**Sugata Mitra: Build a School in the Cloud**

22:31 Posted: Feb 2013  
Views: 277,173 | Comments: 154

Rated: **Inspiring** Fascinating ...



**Mitch Resnick: Let's teach kids to code**

16:48 Posted: Jan 2013  
Views: 327,847 | Comments: 84

Rated: **Inspiring** Informative ...



**Steve Jobs: How to live before you die**

15:04 Posted: Oct 2011  
Views: 10,104,688 | Comments: 1262

Rated: **Inspiring** Courageous ...



**Erik Schlangen: A "self-healing" asphalt**

06:50 Posted: Feb 2013  
Views: 225,363 | Comments: 91

Rated: **Ingenious** Informative ...



**Pranav Mistry: The thrilling potential of SixthSense technology**

13:50 Posted: Nov 2009  
Views: 9,683,393 | Comments: 1625  
Rated: **Jaw-dropping** Inspiring ...



**Fahad Al-Attiya: A country with no water**

08:46 Posted: Jan 2013  
Views: 261,902 | Comments: 77

Rated: **Informative** Inspiring ...

# Saturday Morning Physics

- <http://www.saturdaymorningphysics.org> from U. of Michigan since 1985.
- Free on-line courses in Spring and Fall semesters.
- Classes remain on the web for a number of years.
- Find descriptions of past events at:  
<http://www.lsa.umich.edu/physics/events/saturdaymorningphysics/pastevents>
- Find Lecture Archives at: <http://lecb.physics.lsa.umich.edu/CWIS/SPT-BrowseResources.php?ParentId=184>

# Kennedy Library Forums

- Kennedy Library runs free Forums.
  - Mostly during rush hour.
  - Reserve seats; seating is tight
  - 617-514-1643 or <http://www.jfklibrary.org/webcast>

OR

- View Forums at your leisure on the internet:
  - <http://www.jfklibrary.org/webcast>
  - Archived forums from 1998 to the present.

# YouTube

## Viewership

- ~800 million unique users visit YouTube each month.
- >4 billion video hours watched each month.
- 72 hours of video are uploaded to YouTube every minute.
- 70% of YouTube traffic comes from outside the US
- YouTube is localized in 53 countries and across 61 languages
- In 2011, YouTube had more than 1 trillion views or around 140 views for every person on Earth

**Many Courses are available through YouTube. For example:**

Yale: <http://www.youtube.com/watch?v=pnm3pIYUs2A>

Stanford: <http://www.youtube.com/user/stanforduniversity>

# Lexington Veterans

[www.lexingtonveteransassociation.com](http://www.lexingtonveteransassociation.com)

1:15 - 3:00 PM

Cary Memorial Library FOR INFORMATION  
1874 Massachusetts Avenue (781) 862-2502  
Lexington, Massachusetts [A300Bill@Gmail.com](mailto:A300Bill@Gmail.com)

MONDAY 13 JAN, 2014 **Benjamin Franklin**

Voice on Public Policy and American War Negotiations

by Robert Allison, Ph.D. Chair, History Dept, Suffolk University

MONDAY 10 FEB, 2014 **B29 Incendiary Raids on Japan:April-August 1945**

by Staff Sgt John Ryan, US Army Air Corps

MONDAY 10 MAR, 2014 **Suicides in Today's Military**

A Perplexing Problem

by Col Bill Mark, US Army (Ret)

MONDAY 14 APR, 2014 **Seven Years and Six Months as a POW in North Vietnam**

by Hugh Buchanan

MONDAY 12 MAY, 2014 **"Unvexed to the Sea"**

The US Navy and the Struggle to Take Vicksburg

by Dan Breen, Professor of History, Newbury College

MONDAY 9 JUN, 2014 **Flying the X49A (SpeedHawk) Helicopter in Afghanistan**

by Rich Jackson



# Really Neat Science Videos

- <http://www.youtube.com/user/Vsauce?feature=watch>

## In Summary

- This education is mostly flexible; sample what you wish
- Hundreds of thousands of options available.
- Material will be posted.