

EVENTOS

XII Jornadas CRAI

2014

e

MOOC Planning, Pedagogy and Production

XII Jornadas CRAI



Barcelona, 22 y 23 de mayo de 2014

MOOC Planning, Pedagogy and Production

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Online Education Initiatives

Duke University



THE CHRONICLE OF HIGHER EDUCATION

11 de mayo 2014

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...or here

What would your MOOC headline say?

MOOCtastic!

“MOOCs: Learning becomes a joy again”

Financial Times - March 9, 2014

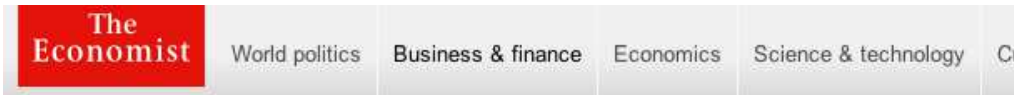
“The Big Idea That Can Revolutionize
Higher Education: MOOC”

The Atlantic – May 11, 2012

“MOOCs? They’re a cracking good idea”

Times Higher Education - Jne 27, 2013

MOOCpocalypse!!



Higher education

The attack of the MOOCs

An army of new online courses is scaring the wits out of traditional universities. But can they find a viable business model?

Jul 20th 2013 | NEW YORK | From the print edition



“The End of Higher Education’s Golden Age”

Clay Shirky blog – Jan. 31, 2014

“Report Warns of 'Avalanche' Approaching for Global Higher Education”

Inside Higher Ed – Mar. 11, 2013

MOOCcollapse!!!

“MOOCs: Been There, Done That”

Chronicle of Higher Education, Jan. 21, 2014

“2014: The Year the Media
Stopped Caring About MOOCs?”

Chronicle of Higher Education – April 14, 2014

“Beyond MOOC Hype”

Inside Higher Ed – July 9, 2013

MOOCs are...

- Different from in-person courses or even traditional online courses
- Different from each other
- Changing rapidly
- Part of an overall ecosystem in higher education and technology
- Too new to have one right way of creating and teaching them

Overview

- Establishing goals, general planning
- Pedagogy, personnel and production planning
- Project management
- Teaching the course
- Assessment
- Impact on teaching and learning
- Trends for the future



Duke University

Home of the Blue Devils, Duke University has about 13,000 undergraduate and graduate students and a world-class faculty helping to expand the frontiers of knowledge. The university has a strong commitment to applying knowledge in service to society, both near its North Carolina campus and around the world.

Duke's initial goals for MOOCs:

- Promote innovation in teaching
- Share knowledge in service to society
- Showcase Duke's academic excellence

New Duke MOOCs by school

School	2012-13	2013-14	2014-15*	Grand Total
Arts & Sciences				
<i>Natural Sciences</i>	2	3	2	7
<i>Humanities</i>	2	1		3
<i>Social Sciences</i>	1		1	2
Medicine	2		2	4
Public Policy		2	1	3
Engineering	2			2
Business	1			1
Law		1		1
Environment		1		1
Nursing	1			1
University Libraries			1	1
Grand Total	11	8	7	26

**Planned to date*

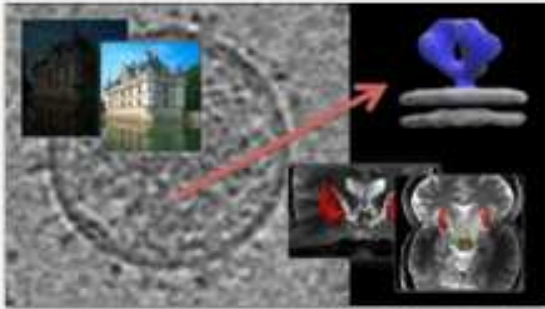


Image and video processing: From Mars to Hollywood with a stop at the h...
Date to be announced.



21st Century American Foreign Policy
Date to be announced.



Introduction to Chemistry
Date to be announced.



Introduction to Genetics and Evolution
Date to be announced.



Marine Megafauna: An Introduction to Marine Science and Conservation
Date to be announced.



Responding to 9/11
Date to be announced.



Introductory Human Physiology
Date to be announced.



International Human Rights Law: Prospects and Challenges
Date to be announced.

Full list of current Duke MOOCs at <https://www.coursera.org/duke>

Pedagogical planning – First, take a look around



UDACITY

Udacity: 9 courses in data analysis
<https://www.udacity.com>



edX

EdX: 23 courses in data science
<https://www.edx.org/>



COURSERA

- Coursera: 66 courses in data analysis
<https://www.coursera.org>



Open Learning Initiative
Transforming higher education through the science of learning.

- Open Learning Initiative: 2 statistics courses
<http://oli.cmu.edu/>



KHANACADEMY

- Khan Academy: many tutorials & quizzes
<https://www.khanacademy.org/math/probability>

Pedagogical Planning

- What MOOCs are and are not
- How should lessons learned from early MOOCs affect new courses?
- What constraints are there for the course?
- What expertise do different people bring to the project?
- Who provides quality assurance?
- How to balance instructor autonomy and institutional needs?

Personnel Planning

Individual course needs

- Instructor(s)
- Pedagogical consultant
- Materials producer
- Teaching assistance
- Tech support
- Assessment help
- Copyright help
- Librarian

Overall program needs

- Overall champion
- Communications
- Budget planning and management
- Faculty governance
- University IP and Policy advice

And others, depending on your programmatic goals

Production planning

Course

- Video
- Readings
- Student practice and assessment
- Discussion & social interaction
- In-person meetings and other activities

Program

- Project management
- Internal communication
- Press, external communication
- Interaction with hosting group or vendors
- Media storage
- Personnel management

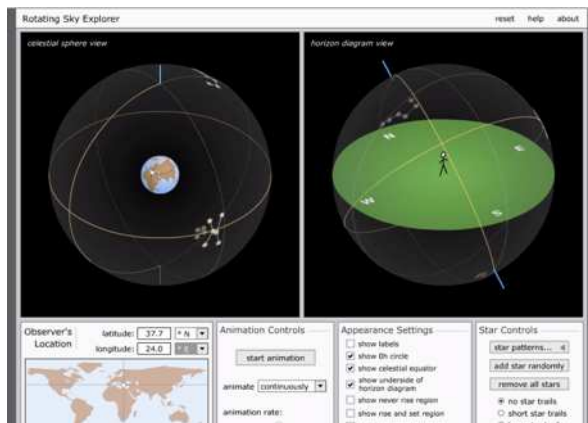
Duke planning guide: <http://bit.ly/1jcMqFa>

Course material production

Are you sure video is best?

Keep it short.

Avoid talking heads.





<http://vital.oit.duke.edu/video-kits/>



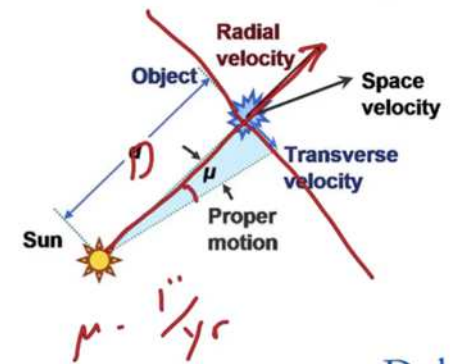
Proper Motion

$$d = D - \mu \cdot 206265''$$

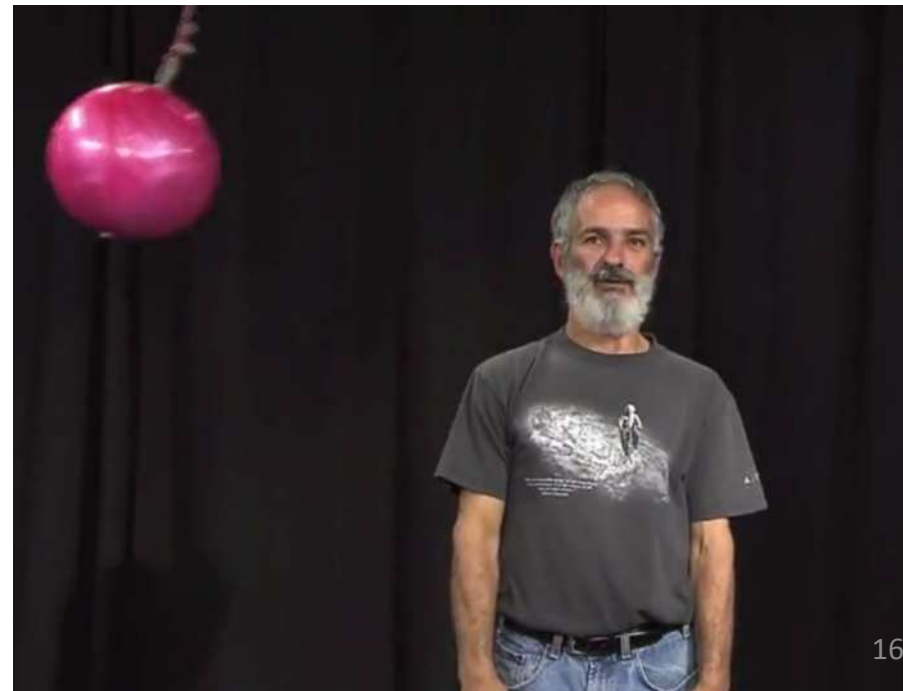
- Some nearby stars observed to **move** relative to distant stars
- Find **tangential** velocity v_T from angular **proper motion** μ

$$v_T = 4.74 \mu D$$
- **Radial** velocity from Doppler

$$v_r = c(\lambda/\lambda_0 - 1)$$



Duke UNIVERSITY



Materials production tracking

Week #	Clip #	Descriptive Title	record? (this is useful if	Recorded (Y/N)	Final Edit (Y/N)	Length	Review eby?	Upload server?	Upload Course ra?	server filename
Week 1										
4/15/2013		INNOVATING IN HEALTHCARE								
	1	Introduction to the Course	M&B	Y	Y	7:57:00		Y		01_01_Introduction_to_the_Course
	2	The Healthcare Dilemma Part 1	M	Y	Y	10:32:00		Y		01_02_1_The_Healthcare_Dilemma
	3	The Healthcare Dilemma Part 2	M	Y	Y	11:51:00		Y		01_02_2_The_Healthcare_Dilemma
	4	The Healthcare Dilemma Part 3A	M	Y	Y	14:11:00		Y		01_02_3_The_Healthcare_Dilemma
	5	The Healthcare Dilemma Part 3B	M	Y	Y	14:37:00		Y		01_02_4_The_Healthcare_Dilemma
	6	The Healthcare Dilemma Part 4	M	Y	Y	19:15:00		Y		01_02_5_The_Healthcare_Delimma
	7	The Innovation Process Part A	B	Y	Y	12:08:00		Y		01_03_1_The_Innovation_Process
	8	The Innovation Process Part B	B	Y	Y	14:19:00		Y		01_03_2_The_Innovation_Process
	9	Healthcare Entrepreneurship and	B	Y	Y	11:20:00		Y		01_04_1_Healthcare_Entrepreneursl
	10	Healthcare Entrepreneurship and	B	Y	Y	14:19:00		Y		01_04_2_Healthcare_Entrepreneursl
	11	What is Healthcare Engineering? Part A	B	Y	Y	15:58:00		Y		01_05_1_What_is_Healthcare_Engir
	12	What is Healthcare Engineering? Part B	B	Y	Y	8:21:00		Y		01_05_2_What_is_Healthcare_Engir
	13	Week 1 Concluding Conversation	M&B	Y	Y	11:08:00		Y		01_06_Week_1_Concluding_Conver
Week 2		FINDING WHATS NEEDED		y						
4/22/2013	14	Understanding the Clinical Context/ Scott	M	Interview	At DMS					
	15	Disease Fundamentals and Treatment	B	Y	Y	15:15:00				02_02_1_Disease_Fundamentals_&
	16	Disease Fundamentals and Treatment	B	Y	Y	21:34:00				02_02_2_Disease_Fundamentals_&
	17	Observe and Document Without	M	Y						
		Observe and Document Without	M	Y						
	18	Uncover Patters Through Six Sigma and	B	Y	Y	16:16:00				02_04_1_Uncovering_Patterns_Thro
	19	Uncover Patters Through Six Sigma and	B	Y	Y	13:36:00				02_04_2_Uncovering_Patterns_Thro
	20	Week 2 Concluding Conversation	M&B	Y	Y	10:23:00		Y		02_08_Week_2_Concluding_Conver
		week 2 in-video questions entered into	W	Y						
		week 2 quiz entered into Coursera, all	W	Y						
		week 2 in-video questions and quiz	bob emailed							
		toolkit page edited by Willie/Amy and		Y						
		revising/editing questions and quiz by		Y						
		create week 2 sub-forums and set correct		Y						

Course project management

TIMELINE		Date:	Duration						
		4/7/2014	8	here					
General planning		Materials preparation							
Pre-planning tasks (complete most BEFORE video production starts)	start date	Week number	Instructor lead (for courses with two or more instructors)	Faculty member done with their recording	Quizzes and materials for specific course week completed by faculty and given to OCA/TA	Video post-processing and editing by CIT or OIT done	Video upload to Coursera for captioning	Captioning done, in-video quizzes done, and all materials ready for student viewing	Start date for that week of the course
intensive consulting/course planning begins, including signing Duke-Coursera faculty agreement	11/18/2013	1		2/10/2014	2/10/2014	2/24/2014	3/3/2014	3/24/2014	4/7/2014
course description page (landing page) created (if not already) and reviewed by Coursera	12/2/2013	2		2/17/2014	2/17/2014	3/3/2014	3/10/2014	3/31/2014	4/14/2014
course outline/plan complete	12/16/2013	3		2/24/2014	2/24/2014	3/10/2014	3/17/2014	4/7/2014	4/21/2014
copyright review of necessary materials initiated	12/16/2013	4		3/3/2014	3/3/2014	3/17/2014	3/24/2014	4/14/2014	4/28/2014
video kit available	12/16/2013	5		3/10/2014	3/10/2014	3/24/2014	3/31/2014	4/21/2014	5/5/2014
OCA identified and available about 25%-50% time	12/16/2013	6		3/17/2014	3/17/2014	3/31/2014	4/7/2014	4/28/2014	5/12/2014
representative videos complete	12/30/2013	7		3/24/2014	3/24/2014	4/7/2014	4/14/2014	5/5/2014	5/19/2014
OCA available at least 50% time	1/13/2014	8		3/31/2014	3/31/2014	4/14/2014	4/21/2014	5/12/2014	5/26/2014
Coursera Course Development Agreement (Forms A, B, C) completed and signed	1/27/2014	9		4/7/2014	4/7/2014	4/21/2014	4/28/2014	5/19/2014	6/2/2014
'Initial Vision' Project									18

Teaching the course

- Instructor and teaching adjustments
- Course management and student response management
- Tech support
- Course data gathering
- Duke: Online Course Associates (but other schools have different approaches)

<http://library.duke.edu/about/jobs/oca>

QUESTIONS SO FAR?

Assessment activity

1. Individually: Write down three things you would want to know about any MOOC created at your school

BREAK / INTERACTION

2. Partners: Find two other people to talk to. As a small group, decide on the top two questions you would want answered to assess a MOOC.

Motivation and completion rates

I'm going to fail... but I'm also going to learn.

I'm a university finalist and have exams in a totally different subject to prioritise!

[Certificate] for me is VERY IMPORTANT!!!

Had I known the course would depend so heavily on math skills, I might not have signed up.

I'm doing the quizzes and spending a lot of time for the certificate.

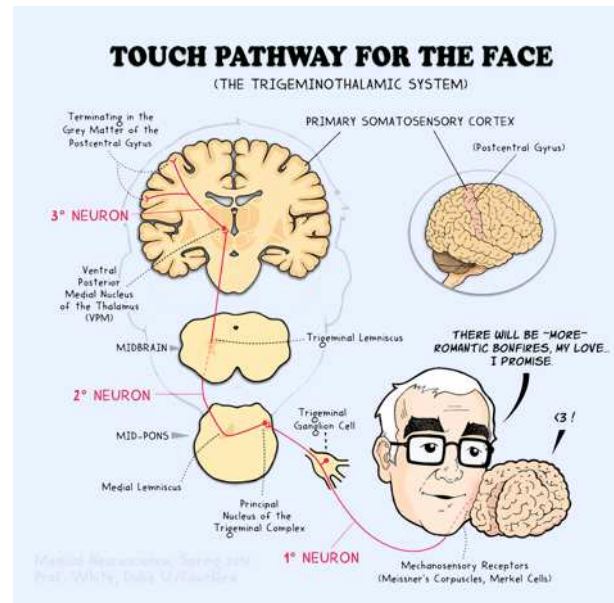
As a result of the storm Sandy, I have not been able to maintain this course ... Is it possible that I could retake this course at a later time?

There's more to life than passing a Coursera. There's knowing enough to shut down the other smartypants in the car!

Assessment planning

- What do you want to know?
- What kinds of data can you collect?
- Who will analyze and report?
- Challenges so far
- Assessment resources (See bibliography)

Connecting pedagogy, production and assessment



Neuropsychology @neuropsychblog

Run, don't walk, to enroll in 2d offering of Duke's "Medical Neuroscience" @coursera course should it be offered again in future.

#MedNeuro

Expand

28 Jun

MOOC impact at Duke

- Gather feedback for course improvement
- Conduct research or study teaching and learning
- Try out new tools and teaching techniques
- Sharpen course design & learning objectives
- Extend curricular offerings
- Provide online materials for on-campus courses
- Flip courses
- Add project work to courses
- Train graduate students
- Encourage discussion of pedagogy
- Experiment with flexible course lengths and modular curricula

Overall future trends for education

- Lifelong
- Global
- Social
- Personalized
- Open

intersecting with cost, access and quality

Lifelong - Bioelectricity: A Quantitative Approach

...a final year medical student from Brazil...
here to brush up on some of the Biophysics

...in Maryland, doing research in the area of cardiac bioelectricity. I took a similar course during grad school but when I saw that the course is offered by Dr. Barr, pioneer of the field, I wanted to hear about it from the master himself.

...from China, now a bio med engineering undergrad at Boston University

...from Colorado. I have been in nursing for 20 years now and have a great interest in bio-electricity as it relates to the cardiac muscle

...finishing high school. Biology has always fascinated me so I'm choosing my future studies through coursera, bioelectricity might be the one to go for :)

...a vet from Spain interested in neurobiology

...a freelance Technical writer for healthcare, communications, customer service, and business





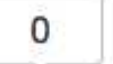



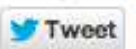



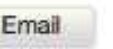

...an electrophysiologist and a full-time working mother with a young baby, so I don't expect to be competitive but to enjoy whatever I can learn

Global

edX Partners with Facebook to Bring Online Education to the Unconnected World

Published: February 24th 2014, 11:32am

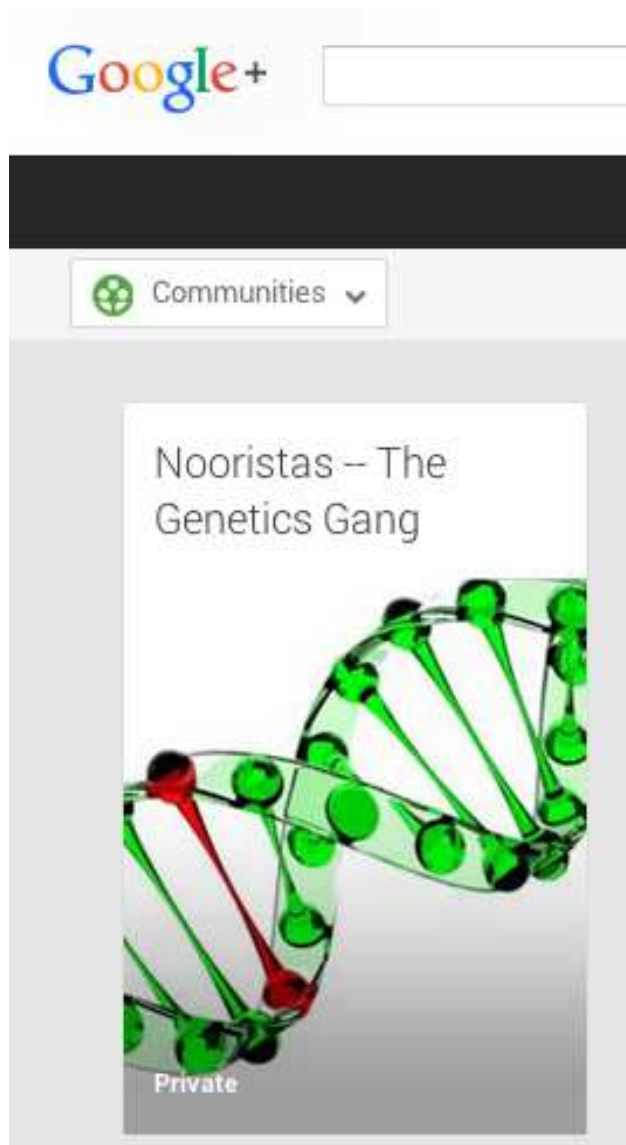
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 15	 26	 3	 2	 0		 0
 Like	 Tweet	 Share	 +1	 Comment	 Email	 +1 StreetCred



[://bit.ly/1c1UdmY](http://bit.ly/1c1UdmY)

Social



The image shows a Facebook group page. At the top is a banner with five small photos of people. Below the banner is the group name 'Introduction to Astronomy, Coursera 2012-13 - Português' with 'About' and 'Photos' links. The group is an 'Open Group'. The description reads: 'Grupo de apoio e estudos em língua portuguesa do curso Introduction to Astronomy, da Coursera e Duke University. De 27 de novembro e até o final de janeiro.' Below this is a 'RECENT POSTS' section. The first post is by Bruno Martins, featuring a small profile picture and a link to a Terra.com.br article: 'http://noticias.terra.com.br/ciencia/espaco/voyager-1-cruza-limite-do-sistema-solar-e-chega-ao-espaco-intere...'. The article preview shows the Terra logo and the headline 'Voyager 1 cruza limite do Sistema Solar e chega ao espaço interestelar'. Below the article preview are sharing options, a timestamp 'September 13 at 12:00am near Campo Grande, Mato Grosso do Sul, Brazil', and a notification 'Fernando Cordeiro likes this.' with 'Seen by 10'.

Personalized

The screenshot shows the Khan Academy interface for a Math Pretest. At the top, the user's name 'lynneo51' and '150 energy points' are visible. The main heading is 'Math Pretest' with a sub-message: 'Don't worry if you don't know some answers. Everything you get right is a b...'. Below this, the section 'Your Pre-Test Results Are In!' is followed by a progress bar for '52 Skills Earned'. The progress bar is divided into four categories: 'Practiced' (represented by a grid of blue squares), 'Level One' (two blue squares), 'Level Two' (seven blue squares), and 'Mastered' (four blue squares). A message states: 'Yay! Based on your assessment, we've filled some skills in your progress bar that we think you're familiar with.' A highlighted box on the right shows 'Representing numbers' with the status 'You Earned PRACTICED'. At the bottom, a 'BADGES EARNED' section features a 'Math Pretest Champion' badge with the text: 'You finished the math pretest in the learning dashboard. Good work!'. The page number '30' is in the bottom right corner.

KHANACADEMY

lynneo51

150 energy points

Math Pretest

Don't worry if you don't know some answers. Everything you get right is a b...

Your Pre-Test Results Are In!

Your 52 Skills, Grouped by Estimated Familiarity.

less familiar → more familiar → most familiar

52 Skills Earned

Practiced Level One Level Two Mastered

Yay! Based on your assessment, we've filled some skills in your progress bar that we think you're familiar with.

Representing numbers You Earned PRACTICED

BADGES EARNED

Math Pretest Champion
You finished the math pretest in the learning dashboard. Good work!

30

WAYS TO TAKE THIS EDX COURSE:

Simply Audit this Course

Audit this course for free and have complete access to all course material, tests, and the online discussion forum. You can do whatever you want and how much you want to do.

Free to All

[More about A](#)

or

Try for a Certificate

Looking to test your mettle? Participate in all of the course material and abide by the edX Honor Code. If your work is satisfactory, you will receive a personalized certificate to showcase your achievement.



Student Reviews

★★★★★
186 Reviews

[Write a review](#)



by CourseTalk student

★★★★★

This is a very fun course that has an array of interesting discussion videos that initiates the student into the world of how our thoughts and feeling ... [more](#)



by CourseTalk student

★★★★★

I had no prior experience with this subject (that I knew about, but then discovered that I already had to some extent). The course is well planned an ... [more](#)



by CourseTalk student

★★★★★

As far as MOOCs go, this course is the best. It has made me see the world differently in just a few weeks. I enjoy the videos very much and do not wa ... [more](#)

[Read More Reviews](#)

Open

- Expanded access
- Creation and use of open content
- Visible teaching

I'm certain I would be denied access to this course if it there were a long list of pre-requisites. It takes vision to open a topic like this to a wider audience and I feel grateful ...

Having spent the last few years teaching introductory courses at a university, I have been awestruck by the extraordinary size and organization of this course. I take my hat off to you, Roger Coke Barr, for doing this and doing it so well.

Duke Coursera student meet up



Questions and comments?