What the MOOC?

Massive Open Online Courses at Northwestern University

January 15, 2014
AHEAD Meeting at Norris Center

Marianna Kepka, Assistant Provost for Academic Administration
Joel Shapiro, Associate Dean of Academic Programs, School of Continuing Studies
Bob Taylor, Senior Director, Academic Technologies, NUIT
Outline

• Northwestern’s Short History in Online Education
• Campus Structures for Supporting New Initiatives
• Elements of a MOOC
• Lessons Learned to Date
NORTHWESTERN’S HISTORY IN ONLINE LEARNING
Northwestern’s Short History in Online Education

• 2006: NU School of Continuing Studies has 176 active students in online courses
• 2012: NU School of Continuing Studies has 1500+ active students in online courses
• From $1.5M revenue in 2006 to $12M+ in 2012
Northwestern’s Short History in Online Education

• Five fully online degree programs by 2012
  – MS in Medical Informatics
  – MS from Medill School of Journalism, Media, Integrated Marketing Communications
  – MS in Public Policy and Administration
  – MS in Information Systems
  – MS in Predictive Analytics
Northwestern’s Short History in Online Education

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Northwestern’s Short History in Online Education

• Provost began conversations with Daphne Koller (co-founder of Coursera) in Spring 2012 about online education opportunities
• Provost hosted campus forums for online education
  – Koller invited to speak in November 2012
• Spirit of experimentation in new pedagogical models and technological tools
• Better to learn hands-on than sitting on the sidelines
• Looking for faculty who share this spirit of investigation
Northwestern’s Short History in Online Education

- Announced participation in the Coursera effort in February 2013
- Announced participation in the 2U Semester Online effort in March 2013
CAMPUS STRUCTURES FOR SUPPORTING NEW INITIATIVES
Why MOOCs?- Provost’s Goals

• Explore new pedagogical and course delivery methods and support innovative efforts
• Provide access to meaningful learning opportunities to wide variety of students
• Evaluate learning outcomes from new modes of education
• Expand the visibility and impact of Northwestern and its faculty
• Showcase what is special about Northwestern
• Help shape the evolution of higher education
Why MOOCs?- Strategic Plan Pillars

Discover Creative Solutions
• Inspiring research, new knowledge, and creative expression

Integrate Learning and Experience
• Extending the academic experience outside the classroom

Connect our Community
• Growing stronger through the richness of our diversity

Engage with the World
• Expanding our impact at home and abroad
Northwestern Environment

- School of Continuing Studies
- Academic & Research Technologies (NUIT)
- Searle Center for Advancing Learning & Teaching
- Digital Collections, Library
- Faculty in 12 schools
Online Learning @ NU

- Faculty Distance Learning Workgroup
  - Faculty Assessment Subgroup
  - Faculty Curriculum Subgroup
- 2U Ad hoc group
  - Provost’s Office
  - NUIT
  - School of Continuing Studies
  - Library
- Coursera Administrators (Website Access)
  - Provost’s Office
  - NUIT
  - School of Continuing Studies
- Coordinated Service Center
  - Provost’s Office
  - NUIT
  - Searle Center for Advancing Learning & Teaching
  - Library
MOOC Support Team

Coordinated Service Center

- Associate Provost, Academic Initiatives
- Vice President, Information Technology
- Senior Director, Academic Technologies
- Associate Director, Searle Center for Advancing Learning and Teaching
- Associate Dean, Academic Programs, School of Continuing Studies
- Assistant Provost, Academic Administration
- Director, Digital Collections, Library
- Project Manager, NU Information Technology
MOOC Support Team Roles

- Policy development
  - Intellectual Property
  - Royalties
  - Copyrights
- Assessment
  - In conjunction with Faculty Distance Learning Workgroup
- Financial support and oversight
  - Direct support from Provost
- Formal project management and oversight
  - Timelines
  - Budget
- Course design
- Frequent communication with course instructors
  - Faculty cohort approach
1. RFP
• Provost issues a request for proposals to all schools with criteria and process for selection

2. Preliminary Proposal
• Faculty member develops a proposal for developing a MOOC
• Proposal is reviewed and approved for further development by the faculty's department and Dean’s Office

3. Committee Review
• Faculty drafts a more detailed course description and schedule for offering the MOOC
• It is reviewed by the Faculty Distance Learning Workgroup (FDLW)

4. Provost Approval
• FDLW makes recommendations for approval by the Office of the Provost

5. MOOC Development
• Faculty member collaborates in MOOC production and setting schedule with appropriate support units, based on the Coursera guidelines

6. Final Approval
• Office of the Provost reviews and approves the MOOC that has been developed

7. Launch
• MOOC is delivered
• Faculty collaborates with appropriate support unit on assessment

8. Assessment
• Faculty reports back to the FDLW and Coordinated Service Center on assessment of the MOOC
• Assessment is shared with respective dean’s office

Consultation with Coordinated Service Center
• Faculty works with the Coordinated Service Center for development support from one, or a combination, of the support units:
  • School of Continuing Studies
  • NUIT Academic & Research Technologies
  • Searle Center for Advancing Learning and Teaching
  • School-based
  • Other
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  • Other
Northwestern Coursera MOOCs

Understanding Media by Understanding Google
Owen R. Youngman (Journalism)
Launched September 16
Enrollment: 42k

Content Strategy for Professionals: Engaging Audiences for Your Organization
John Lavine and Candy Lee (Media Management Center/Journalism)
Launched January 13
Enrollment: 36k

Everything is the Same: Modeling Engineered Systems
Todd D. Murphey (Engineering)
Launched September 23
Enrollment: 16k

How Green is that Product: Introduction to Life Cycle Assessment
Eric Masanet (Engineering)
Launches January 25
Enrollment: 7k

Law and the Entrepreneur
Esther Barron and Steve Reed (Law School)
Launched October 23
Enrollment: 30k

Fundamentals of Digital Image and Video Processing
Aggelos Katsaggelos (Engineering)
Launches March 31
Enrollment: 15k
Understanding Media by Understanding Google

Prof. Owen R. Youngman

Few people who "just Google it" to find an answer to their every question understand just what the company does (and why). Through this course, you'll join the minority that really gets it.

Workload: 2-4 hours/week

Sessions:
Sep 16th 2013 (6 weeks long)  

Future sessions

About the Course

Google Inc. is one of the key success stories of the Internet era. The company has expanded beyond its original search business through innovation and acquisition to touch the lives of nearly every person who lives life online. Americans spend more than 3,400 hours per year using consumer media, the field where Google's impact is most profound, and increasingly must understand what the company has wrought not

About the Instructor

Owen R. Youngman
Northwestern University
Everything is the Same: Modeling Engineered Systems

Todd D. Murphey

Learn modeling and analysis techniques for electrical, mechanical, and chemical systems and discover how engineered systems that seem very different are actually very similar.

Workload: 5-7 hours/week

Sessions:
Sep 23rd 2013 (8 weeks long) Sign Up

About the Course
Students in this class will learn modeling and analysis techniques applicable to electrical, mechanical, and chemical systems. This “systems” view, that focuses on what is common to these different physical systems, has been responsible for much
Law Professors Barron and Reed

Law and the Entrepreneur

This course will highlight the critical legal and business issues entrepreneurs face as they build and launch a new venture. We will explore real world scenarios, and address the legal and business issues that entrepreneurs face, from the moment they conceive of the “million dollar idea” to all of the important junctures along the path to success.

About the Course

Are you a passionate entrepreneur with a new business idea, but feeling intimidated by the law? Or perhaps you are a lawyer or aspiring lawyer looking to break into the exciting world of start-ups? This course addresses the legal aspects of entrepreneurship, and is appropriate both for entrepreneurs and lawyers who hope to represent entrepreneurs. Entrepreneurs face many challenges as they pursue a new business idea. With the right legal tools, they can take steps that provide significant legal protections and avoid future liability. Among other subjects, the course will cover American law on choice of entity (corporation, limited liability company, partnership, sole proprietorship), selection of a company name and trademark, protecting intellectual property of the business with patent, trade secret, trademark and copyright law, structuring agreements among owners, venture capital and other equity and debt financing arrangements, and the relationship between attorneys and entrepreneurs. In addition to discussing applicable legal rules, the

Course at a Glance

- 5-7 hours of work / week
- English
- English subtitles

About the Instructors

Esther Barron
Northwestern University
Medill Professor John Lavine

Content Strategy for Professionals: Engaging Audiences for Your Organization

This professional Content Strategy MOOC is for people anywhere in an organization who have content development experience and now want to significantly improve their abilities to understand audiences and develop strategic words, pictures, graphics, and videos to convey their organization’s most important goals.

About the Course

Why Content Strategy is essential for professionals in any organization – business, non-profit, or government.

Content Strategy is a conversation that provides thought-leadership. It starts a “conversation” with users and stakeholders inside and outside an organization. Conversations are the natural way people think about complex issues. Conversations also enable people to develop “stories,” which lead to understanding and helpful mental pictures. Content Strategy practitioners are at all levels of the best enterprisises – in all departments and sectors from the top leader to the newcomer in

Sessions

Jan 13th 2014

Learn for Free

Course at a Glance

5 weeks
Medill Professor John Lavine

Earn a Verified Certificate.

NORTHEASTERN UNIVERSITY
Content Strategy for Professionals: Engaging Audiences for Your Organization
Bobby Calder, Candy Lee, Randy Hlavac, Andrew Gruen, John Lavine and Rachel Davis Mersey

$39.00
for a limited time
Original price: $59.00

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Join Signature Track
Show the world that it’s your work, your identity.

Earn Your Certificate
Earn official recognition from universities and Coursera with a verifiable electronic certificate.

Share Your Success
Share your course record with employers and educational institutions through a secure URL and LinkedIn integration.
ELEMENTS OF A MOOC
Video Lectures

Video Gallery

The video gallery below highlights examples from our classes. There’s no “formula” for success! Find a method that plays to your strengths as a teacher.

To explore these and other courses, use the login ‘instructor@coursera.org’ with the password ‘teachtheworld’. Have examples to add to the gallery? Share them here!

Multimedia

Gamification

In this example we see a fun introduction to the Gamification course. Kevin Werbach introduces his course as an avatar in a video game. He does this by embedding a video of the videogame footage into Powerpoint while narrating over it.

Kevin Werbach, University of Pennsylvania

Calculus: Single Variable

Robert Ghrist has created intricate and colorful animated hand-drawn slides which he often overlays with green screen-PIP composites.

Robert Ghrist, University of Pennsylvania
In-video Quizzes

In-Video Quiz Gallery

In-video quizzes are a type of informal assessment that appears within lecture videos, typically after a key concept has been taught, quizzes, and correct answers are not required to continue watching the rest of the lecture video. In-video quizzes are available but cannot be factored into the final grade of a course.

In-video quiz questions are usually designed such that a student should be able to answer within about 10 seconds if they watch the minutes of lecture video. You can specify the precise moment in the lecture video that the in-video quiz appears.

To learn more about in-video quizzes, please check out our demonstration video here:

You can also find out more by reading our in-video quizzes documentation. Have fun making your own in-video quizzes!
What question types can I set in a quiz?

Basic quiz question types:
- Radio (Multiple Choice)
- Dropdown
- Checkbox

Advanced quiz question types:
- Numeric
- Multiple Numeric (Vector)
- Short Answer
- Short Answer (Regular Expression)
- Short Answer (Math Expression)
- JavaScript
Peer Assessment

Peer Assessment Gallery

The peer assessment gallery below highlights examples from Coursera classes.

What is a peer-graded assessment?

In peer assessments, students evaluate and provide feedback on each other's work. Instructors provide students both an assignment (e.g. "Write an essay about...") and a list of peer evaluators of each others' work. Students learn by being both "student" and "teacher".

Not all assignments lend themselves easily to automated grading by a computer. For example, in a poetry course, an instructor may want students to practice critical thinking by evaluating each other's poetry. Similar issues arise when we are evaluating business plans, engineering designs, medical chart reviews, or many others.

Peer assessments accomplish two important functions in a MOOC. First, assignments that are graded by peers (rather than instructors and course staff) make personal feedback possible. Peer assessment is also consistent with pedagogical literature outlining their effectiveness in learning.

Click Check it out below to access the assignments in the gallery. Note that the evaluation rubrics appear alongside the assignment for this gallery. This is something we are experimenting with to prevent students from seeing potential answers before the submission deadline.

Peer Assessments in Scott Klemmer's Human Computer Interaction (Stanford University) are structured in a five assignment arc over the course as part of the Big Five: concepts at the beginning of the course. The five assignments then guide students through the design principles of needfinding, rapid prototyping, and testing their project on real users. Students share their experiences by uploading pictures (e.g. of their project in use) and writing text.

Eric Rabkin's Fantasy and Science Fiction: The Human Mind, Our Modern World (University of Michigan) challenges students to write an essay...
Welcome to the course discussion forums.

Please help all of us experience the best learning environment possible:
- Be friendly and considerate when talking to your fellow students. (Example)
- Use up-votes to bring attention to thoughtful, helpful posts. (Example)
- Search before you post. (Example)
- Post in the appropriate sub-forum. (Example)
- Please flag posts to report inappropriate content or violations of the honor code.

Sub-forum

**Weekly Discussion Questions**
This forum contains the forums for the weekly discussions.

**General Discussion**
General discussion about the course, life, and everything under the sun.

**Study Groups**
Find friends and arrange meet ups!

**Lectures**
Specific questions about the lectures.

**Assignments**
Specific questions and clarifications about the assignments.

**Course Material Feedback**
Please use this forum to report any potential errors in the lectures, assignments/grading, and other course materials to the teaching staff.

**Technical Feedback**
Please report any video playback issues, 404 errors, and other technical issues and bugs to Coursera staff here.
Welcome to Experimental Genome Science. The goal of this course is to provide you with the tools of genomics and proteomics. We will take you through genome sequence, expression profiling, genotyping, and several application areas. Although there are many interesting computational issues associated with these areas, this course is mainly concerned with the biological issues.

This course is aimed at the entry-level graduate student. Over the years, upper-level undergraduates have also taken this course. At a minimum you'll need a strong understanding of molecular biology. For students with a computational background, we will introduce many of the tools you may have heard of, and discuss issues of interpretation. It's hard to compute on data when you don't understand how it was created. We will give an overview of many different methodologies and how they are applied at scale. Even if you are an expert on some topics, this is likely to be a new experience for you.

Contents

- The Genome
- Genetics in the Genome Era
- Functional Genomics
- Plasmodium Genomics
- Lectures Not Yet Categorized
Meet Ups

2118 Coursera communities

NEAR EVANSTON, IL

Chicago
163 Courserians

Check out our next Meetup
Top Meetup planners

Evanston
10 Courserians

Check out our next Meetup
Top Meetup planners

Barrington

About Coursera Meetups Everywhere

17,946 COURSERIANS  1,832 CITIES

Learning for life.
Education for everyone.

Coursera Meetups are a great way to meet your fellow Courserians, swap stories, share ideas, form study groups, and have a great time.

Find a meetup near you, or start a new one. These events are for you, by you, so meet wherever you like. You choose the topic, the time and the venue.

For help with the meetup group, please email everywherehelp@meetup.com. To contact Coursera, email us at community@coursera.org.

Help us grow

Coursera Site
Be our fan on Facebook
Follow us on Twitter
Get widgets for your site
Coursera Learning Hubs
(physical locations)
Coursera Learning Hubs (physical locations)
Google Hang Outs
LESSONS LEARNED TO DATE
Indirect Benefits: 1\textsuperscript{st} Generation of Northwestern Coursera MOOCs

- MOOC content feeds into on-campus hybrid courses
- Alumni outreach with “Wildcat Track” in our Coursera MOOCs
- Global impact and presence (Coursera Translation services)
- On-campus instance of Coursera platform, for free
Challenges

• Process for launching courses
• Assessment of initiatives
• Intellectual property and copyright policy
• Engagement with faculty
  – Lack of culture of online learning
Lessons

• Better leverage opportunities for branding and visibility
  – Globally
  – With NU alumni/community

• Importance of high-level support
Owen Youngman’s MOOC Students
Lessons

• Continue to evolve and articulate clear goals around initiatives
• Integrated approach to support online learning initiatives
• Proactive about setting policies
  – Intellectual Property
  – Royalties
  – Continue to engage with schools
    • Release time from teaching
    • Funding
    • TA support
Lessons

• Oversight/ Quality Control vs. Flexibility
• Leveraging technology to innovate pedagogy
  – Integrating MOOC into on-site course
  – Using MOOC as a refresher course
  – Using MOOC as a foundation for an executive education course
  – New tools
Questions and Discussion
For follow-up email:

• Marianna Kepka  m-kepka@northwestern.edu
• Joel Shapiro  jshapiro@northwestern.edu
• Bob Taylor  bob-taylor@northwestern.edu