University of Colorado Boulder

UNIVERSITY OF COLORADO
CEAE DEPARTMENT
FACULTY MEETING MINUTES

Date	May 14, 2013	**Time**	9:00 AM – 2:00 PM
Facilitator	Keith Molenaar	**Scribe**	Keith Molenaar
Location	UMC 247		
Subject	2013 Spring Planning Retreat		
Attendees	Balaji, Bielefeldt, Crimaldi, Cook, Dashti, Goodrum, Halek, Hearn, Javernick-Will, Leil, McCartney, Pak, Ryan, Saouma, Sideris, Silverstein, Summers, Xi, Zhai, Znidarcic		

Key Points discussed

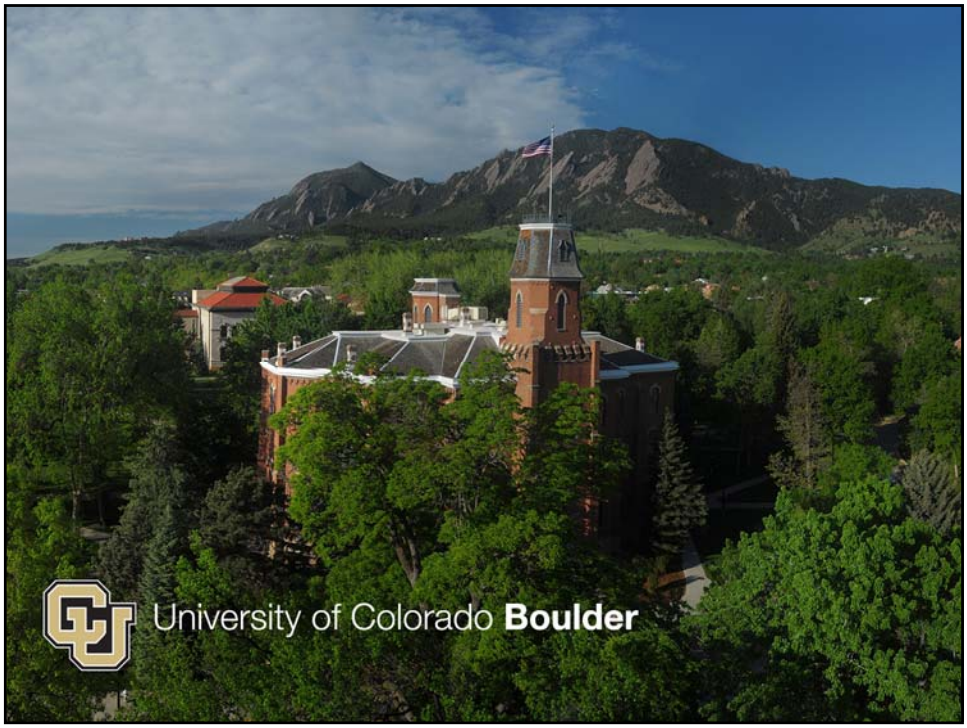
No.	Topic	Highlights
1	2013 State-of-the-Department – Keith Molenaar	• Keith presented highlights of the 2013 year. The agenda included department facts, people, programs and places. • Please see Keith presentation attached.

2	International Programs – Diane Seiber	• Diane Seiber described the new strategy for global engagement in the college.
		• There will be a new staff position in the college to support international activities.
		• Please see Diane's presentation attached.
		• CEAE can get plugged in by:
		  ○ Using the new college resources, including staff support and advising support.
		  ○ Sending any existing interuniversity MOUs and/or descriptions of international activities to Diane. She is currently collecting these activities.

3	Undergraduate Update – Angela Bielefeldt	• Angela gave highlights of the undergraduate activities for the year. The discussion focused on freshman recruiting, alternate college optioned (ACO'd) students, first year Intro to Engineering course, advising, capstone design and FE exam pass rates. • The faculty voted unanimously to move CVEN capstone design from fall to spring. This will allow students to complete more of their design courses in the fall prior to taking capstone design. • Please see Angela's presentation attached.
4	Advisory Board	• Two of our advisory board members, Jon Jones and Ben

	"Town Hall" – Jon Jones, Wright Water & Ben Nelson, Martin/ Martin	Nelson, joined us for a discussion and "town hall" meeting. They started the presentation by answering two questions: ○ Why do you hire our civil and environmental engineering graduates? ○ What do our freshman need to know to be successful when the graduate in 4 years? • Ben Nelson spoke first. Some highlights include: ○ Ben stated that all his employees are expected to be licensed PEs, so they must pass their FE to be considered. ○ Furthermore, in the structures area, he noted that the MS is the entry level degree. ○ He emphasized the need to tell our students about the importance of professional licensure. • Jon spoke next. ○ Jon wanted us to stress that we work for the public and we must hold the wellbeing of the public foremost in all of our decisions. ○ He stated that we should not be afraid to push our students with work as they must learn time management. ○ We should be sure that students are prepared to be professionals, continue their education and get involved in service. ○ Wright water looks for high quality students who are well rounded. They believe that CU provides these types of students. • Questions from the faculty… ○ Should MS students be required to do a research project? BN – Yes, the thesis is a good option as long as it is topical for the employer. ○ What courses should be taken as a structural engineer? BN – Be sure that the fundamentals are covered (e.g., steel, concrete, timber, masonry) and then higher level graduate courses (e.g., earthquake engineering, etc.) ○ If the fifth year is required for entry, how do we accommodate those students who cannot get into graduate school? Both – There was not a good answer at this point, but they did not want to dilute the quality of the graduate degree. We should keep our standard

		for entry high. ○ What are the new markets for building? BN – Sustainability, retrofitting and repurposing? ○ What are the new markets for water? JJ – The changing codes and environmental policies continue to generate new work and upgrades to existing facilities in the water area. • The department thanked Jon, Ben and all of the advisory board members for their time and contributions.
5	MOOCs – Michael Lightner	• Michael Lightner joined the retreat to discuss massive open online courses. The University of Colorado joined "Coursera" as the platform to participate in the MOOC landscape. • MOOCs have the potential to significantly change the way in which we delivery our classes. They can be used to flip courses at the undergraduate level and provide learning prior to lectures and homework assignments. They may significantly impact the approach to delivering professional master's degree programs. • Please see Mike L.'s presentation attached.
6	Graduate Committee Update – Keith Molenaar for Michael Brandemuehl	• Mike could not attend the meeting, but sent ahead a summary of activities from the graduate committee. • The graduate committee completed a revision of the graduate rules, implemented a new graduate student database and implemented a new set of Doctoral Assistantships for excellence. • Please see Mike B.'s slides attached.
7	Open Discussion	• The open discussion was brief. The topic of upgrading group websites was discussed. There was some interest in organizing a one or two-day "hackathon" to revise the discipline websites. Keith will take the action to contact CU web communications and find some faculty volunteers to complete the task over the summer.



Agenda

Meeting Goals

- Catch up on the year's accomplishments (overall, undergraduate & graduate)
- Gain insights from advisory board leadership
- Explore our place in CEAS international programs
- Explore our place in the landscape of MOOCs and changing graduate education landscape

Agenda

9:00-9:30 State-of-the-department (Keith)

9:30-10:15 International programs (Diane Sieber)

10:30-11:00 Undergrad Ed update (Angela)

11:00-11:45 Advisory board "town hall" discussion (Ben Nelson & Jon Jones)

11:45-1:00 MOOCs (Michael Lightner)

1:00-1:30 Grad Ed update (Keith for Mike B)

1:30-2:00 Wrap-up and open discussion (Keith)

State-of-the-Department

- Just the facts
- Highlights of accomplishments in 12-13
- Upcoming challenges and opportunities

Just the Facts

Our department serves ~931 students

- 657 undergraduate students
  - 292 CVEN (+17% in 5 years)
  - 149 AREN (-46% in 5 years)
  - 216 EVEN (+200% in 5 years)
- 274 graduate students
  - 158 MS (+58% in 5 years)
  - 116 PhD (+61% in 5 years)

~16,394 SCH – most in the college
but down ~1,000 from 2011
MS program – largest in college

Just the Facts

45 faculty in our department

- 23 Professors
- 7 Associate Professors
- 9 Assistant Professors
- 3 Instructors
- 1 Scholar in Residence
- 2 Research Faculty

15:1 Ugrad/Fac Ratio
6:1 Grad/Fac Ratio
3:1 PhD/Fac Ratio

New faculty
Fall 13 – Kasprzyk, Ren and Sideris
Spring 14 – Srubar
Fall 14 – Cook + SESM

12-13 Accomplishments

Completion of strategic plan

- People
- Places
- Programs

12-13 Accomplishments

People

- Engagement in high school recruiting
- Increasing freshman enrollments
  - 46 CE, 47 EN & 30 AE incoming in 2013
  - 31 CE, 47 EN & 20 AE incoming in 2012
- Increasing Staff Support
  - 0.75 FTE for EVEN (Carrie)
  - 0.50 FTE for Facilities (Scott)
  - 0.25 FTE for Communications (Amanda)

12-13 Accomplishments

People

- One new TT growth line (EVEN – Cook)
- New endowed faculty support
  - Bennett-Lindstedt Faculty Fellowship
  - Beavers CEM Faculty Fellowship
  - New DiLaura Faculty Fellowship
- 31 different faculty awards!
- No faculty have left!!!

12-13 Accomplishments

Programs

- First AREN graduate students in spring 13
- New Water Engineering & Management Certificate
- New EDC Professional Masters Program proposal
- RMLA Kickoff in June

12-13 Accomplishments

Programs

- External expenditures increased 83% in 5 yrs
  - New NSF SRN, SEP and sole PI grants
  - Averaged more than 4 papers/faculty in 2012
- 25% ICR return to faculty
- New Doctoral Assistantships for Excellence
- New CEAE seminar series support
- New CEAE graduate student funding assistance

Places

Places

- Completed graduate student space
- Nearing completion of Env sustainability space
- New $325K Larson Lab proposal pending
- New beautification funding

ECOT Hall	Lighting Lab
EVEN Meeting	EVEN Kitchen
Bechtel Upgrades	*ECCE Hall*

Challenges

1. How do we cope with the growth of the EVEN undergraduate program?
2. Can we successfully launch an EVEN graduate degree?
3. How can we ensure that the AREN undergraduate enrollment continues to rebound?
4. Can we help the SbD RAP grow?
5. Where do we fit in the new college GEEN degree?
6. Can we continue to retain our best faculty?
7. How do we optimize our budget best support our faculty, staff and students?

Administrative Updates

- Carrie Olson is supporting EVEN faculty financial needs
- Erin Jerick is full-time AREN advising
- Sandra Vasconez will serve as interim Associate Chair for Undergraduate Education
- We will be hiring a new lab technician for the civil labs next year
- I will be going on sabbatical in Fall 2014 (as promised…)

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1:30-2:00	Wrap-up and open discussion (Keith)

The Global Engineer
CEAS' International Strategy

CEAE Faculty Retreat
May 14, 2013

Previous International "Strategy"

- Increase international student recruitment, enrollment and retention by 10%
- Increase participation in global programs up to 8%
- Increase globally focused research, creative work, teaching and service by 10%
- Internationalize the undergraduate curriculum to educate global citizens
- Develop internationally focused graduate programs
- Develop comprehensive international partnerships

Previous strategy had many relevant and important initiatives; not linked to a global strategy and prioritized outcomes

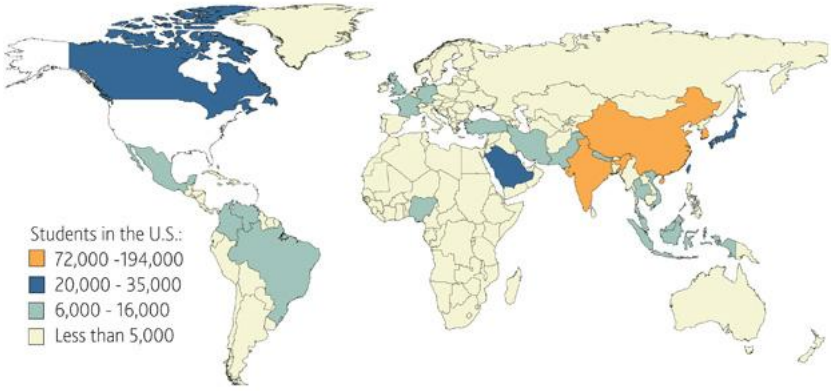
2012

Benchmarking of Peers' Programs

	dual degrees	tech course transf agreemts	faculty-led tech courses abroad	industry internships	research internships	% int'l students u/g	global courses in US	Int'l certs or minors	int'l degree track	unique programs
Cornell U	•	•	•	•	•	19%		•	•	1st-year global seminars, global fellows program
Georgia Tech	•	•	•	•	•	18%	•		•	"international plan" (language, engineering, internship)
Penn State	•	•	•	•	•	19%	•	•		intro + capstone global design courses
Purdue U	•	•	•	•	•	21.8% (16.5)	•	•		Global minors: language, internship; faculty-led quarter abroad
UCLA	•	•	•	•	•	16%	•	•		1st-year global seminars
U of Illinois U-Ch	•	•	•	•	•	13%	•	•		26 international student organizations participate in education
U of Pittsburgh	•	•	•	•	•	16%		•		
UT-Austin	•	•	•			15%	•			focus on underserved communities US/abroad
Va Tech	•	•		•	•	16%	•	•		
CU-Boulder CEAS				•	•	14% (6/31.5)	•	•		residential language/tech program Global Engineering/EWB

International offerings have become a competitive requirement. Unique programs are the differentiator

International students in the US (2012)



30% of international students in U.S. are in engineering or computer science programs.

Global Engineering Strategy

- Produce globally competent graduates who are equipped to work across cultures and, as a result, can better identify opportunities, understand market foci, and successfully research and commercialize new technologies.
  - Define the key competencies of the global engineer
  - Plan and prioritize for directed approach to achieving competencies
  - address 3 disparate communities:
    - CU students studying or working abroad
    - CU students remaining on campus
    - International students studying at CU

Engineering is a ***global*** profession. Industry and students expect an education that prepared graduates for success.

Key Global Engineer Competencies

- Broad comparative knowledge of world economies, markets, and international business issues
- Ability to deliver discipline practice across cultures, political and economic work systems
- Ability to work in and influence cross-cultural teams, both in person and through IT-mediated communication platforms
- Knowledge of regulatory requirements, business/engineering ethics

These competencies are important components for developing a ***Global Engineering mindset***

Strategic Alignment

Program	Actions Needed	1st	2nd	3rd
College Strategy Alignment	Agree competencies, strategic objectives, priority of focus areas			
	Agree outcomes assessment plan			
Campus Leverage	ID opportunities to influence and leverage campus resources and programs			
Program Director	Hire/onboard director with shared vision			
Branding and Communications Plan	Align on College differentiators; develop branding and marketing messages			

CEAS Students Out

Program	Actions Needed	1st	2nd	3rd
Study Abroad	Inventory current classroom partnerships; estab best practices; ID country/degree gaps			
	New partnerships with tech institutes; obtain agreement on curriculum/degree transfer			
Research Abroad	Inventory current research collaboration agreements			
	Establish new collaborations with tech institutes			
Work Abroad (co-ops, interns)	Inventory current industry relationships; ID gaps and best practices			
	Develop additional industry relationships/commitments			
Service Abroad	Develop agency relationships with charitable orgs that foster student summer work			

Global Engineering Students In

Program	Actions Needed	1st	2nd	3rd
Recruitment	Develop College Global Recruitment Strategy (countries/outreach)			
	Targeted recruitment visits for growing student interest; finding study abroad relationships			
Orientation	Develop College program; link to language/cultural immersion; tie to campus program			
Advising	Allocate resources and train for global student integration			
Cultural Integration	Create programming to integrate global student culture into engineering students experience in College			
	Faculty and Staff cross-cultural training to equip for classroom issues and questions on visas, US regs, etc			
	Cross-cultural programs for students to broaden awareness and sensitivity; build informed/sensitive College culture			

Exchanges

Program	Actions Needed	1st	2nd	3rd
Student Exchanges	Inventory current agreements and ID best practices; understand balances and future viability usage			
	Establish new exchanges with technical institutes			
Research Exchanges	Inventory current agreements and ID best practices; understand balances and future viability usage			
	Establish new exchanges with technical institutes			

Integrating Global Engineering across CEAS

Program	Actions Needed	1st	2nd	3rd
RAPS	Implement Global Eng RAP (GERAP)- Spanish language			
	GERAP - add French and Portuguese			
	GERAP - add Mandarin			
Certificates	Implement Global Certificate			
	Grow International Certificate			
Minors	Develop multi-college global minors with A&S			
EWB/EDC	Survey participants to determine value and opportunity for improvement			
	Grow participation			
Global Curriculum	Develop financial support for curriculum changes			
	GEEN 1500/GEEN 1400			
Intl Ambassadors	Elevate group to be springboard for cultural broadening; fund 1 event/month			
Intl Faculty	Leverage FIRST Scholar summer program and other visiting faculty opportunities			

Questions for Discussion

- Are we targeting the right global competencies for students?
- How does this strategy differentiate our students and College? What is missing?
- How do you propose that departments and programs bring a global focus to their curricula?
- Anything else for consideration?

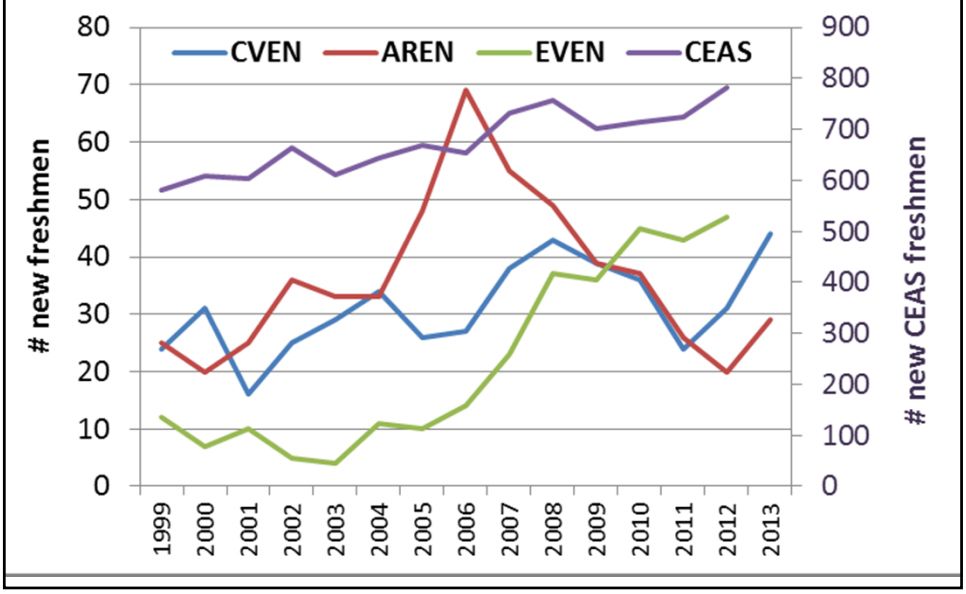
Undergraduate Updates

CEAE Faculty Retreat

May 14, 2013

Angela Bielefeldt

First Year Student Enrollment



Recruiting Activities

- Four CEAE seniors called admitted AREN/CVEN students
- Bielefeldt emailed admitted AREN/CVEN students (multiple times); + ACOd
- Gregor sent a letter to all admitted AREN students
- Balaji/Gregor/Keith admitted students day in April
- Participation in Oct. and on-campus recruiting events
- Advisory board, Keith, ASCE, etc. making presentations at local high schools
- Improved website (Erin, Amanda)
  - http://ceae.colorado.edu/prospective-students/undergraduate-studies/

149 admitted CVEN [44], 98 admitted AREN [29]; ACOd 49 [21] CVEN, 62 [34] AREN

ACOd & Pre Engineering Program

- Alternate College Option
  - Do not meet CEAS criteria, admitted into College of Arts & Sciences
  - ~480 expected at CU in fall 2013
- New CEAS Pre Engineering program in cooperation with A&S
  - We emailed and recommended SBD RAP
  - They will have A&S and engrg advisor
  - Taking GEEN 1500; some new spring sections of GEEN 1400
- About 500 ACOd students confirmed into PreEng

First Year Intro to Engrg Course

- Fall 2012 GEEN 1500-2 cr not received well by students / lots of work for all depts
- Fall 2013 GEEN 1500 pilot version 3
  - back to 1 credit; req'd OPEN, ACOd PreEng, …
  - NOT yet required for all engrg students
  - CEAE provide lecture, "experiences"
- AREN 1316/CVEN 1317 (2 cr) combined
  - *What to do with missing 1-credit for transfers (?)*

Advising

- Erin all AREN students
- Christina all CVEN students
  - http://ceae.colorado.edu/category/advising-blog/
  - Plans for individualized advising each semester as frosh/sophomores; replace group advising (?)
- New placement into Calculus/pre-calc via ALEKS
  - Block diagrams showing path to graduation
  - Other calculus concerns w/ students avoiding APPM
  - *Does CEAE want to require APPM ?*
- New College-wide drop date and withdraw date

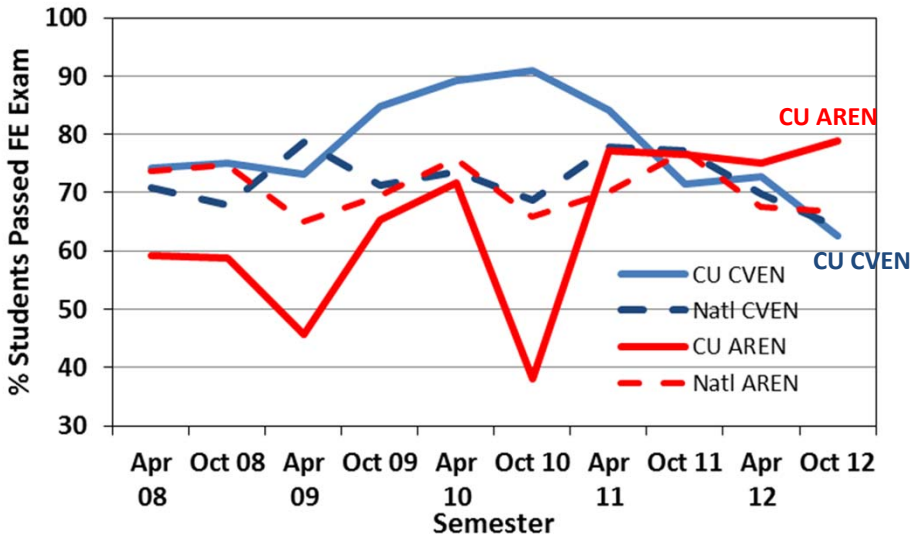
Curriculum Committee 2012/2013

- Special topics course process
- Sub-committee Geomatics / CAD
  - Tad, Milan, Paul G.
- AREN & CVEN tracks in general engrg degree
- Structures JEC in April 2013
- Implementation details for new AREN curriculum (started Fall 2012)
- Implementation for new CVEN curriculum to start Fall 2013
  - New CEM courses
  - Desire to move senior design to senior spring

Motion from CEAE curriculum committee: switch CVEN 4899-4 cr Senior Design and new 2-cr Prof Issues course in the CVEN block diagram

8TH SEM	16	CVEN 4899-4 Sr Design #	Tech Elective-3	Tech Elective-3	proficiency 3 3 cr		3 UD S-H Elective
7TH SEM	17	CVEN Professional Issues – 2 #	Tech Elective-3	Tech Elective-3	proficiency 2 3 cr	**FREE ELECTIVE** 3 cr	3 UD S-H Elective
6TH SEM	15	CVEN 3227-3 Prob & Statistic #	CVEN 3111-3 Analytical Mech II		proficiency 1 3 cr	**FREE ELECTIVE** 3 cr	WRTG 3030 -3
5TH SEM	18	FUND 1 CVEN 3246-3 Intro. Construct	FUND 2 CVEN 3323-3 Hydraulic Eng #	FUND 3 CVEN 3525-3 Struct Analysis	FUND 4 CVEN 3414-3 Fund. of Env. Eng	FUND5 CVEN 3708-3 Geotech Eng I	3 S-H Elective

AREN good job on FE exam



Next Year 2013/2014

- FE practice exam in CVEN senior design
- FE exam online in spring 2014
- DARS degree audit system (Erin/Christina)
- JECs (CEM, geotech; meet spring 2014)
- New General Engineering Degree (recruit F2014 class)

MOOCs, Online and Engineering

5-14-13

CEAE Retreat

M. Lightner

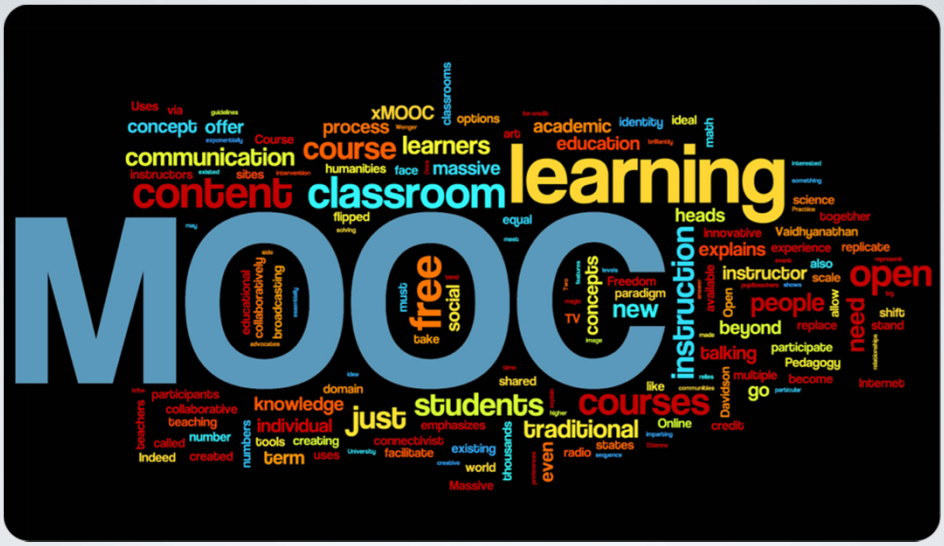
MOOCs -The short form

- Taking advantage of/driving
  - Pedagogical changes in online ed
  - Power of crowdsourcing
  - Pressures to reduce cost of higher ed
    - Time-to-Degree, completion rates
    - Continued erosion of public support of higher ed
    - Fed pressure for competency-based learning
- Much cheaper the CMU OLI courses
  - OLI - $1M/course – but proven effective

MOOCs and Engineering

- Major PR – 3.2M pairs of eyes
- Significant improvement in student learning
  - SJSU – Circuits – 55% pass rate normal course, 90% pass rate, blended with EdX(MIT) course
- Significant improvement in online pedagogy
  - Note: CU LearnChemE 1M hits on YouTube
- Significant peer interaction

Massive Open Online Courses



Office of Academic Affairs
Thursday, February 21, 2013

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What is a MOOC?

Massive: A typical classroom holds 30 students. An auditorium holds 300. A MOOC can go exponentially beyond these numbers, to thousands and hundreds of thousands.

Open: Available for free to anyone willing and able to participate, regardless of geography.

Online: Anyone with access to the internet can participate anywhere in the world.

Course: A sequence of lessons sharing the knowledge of the instructor and the group. The possibilities are endless.

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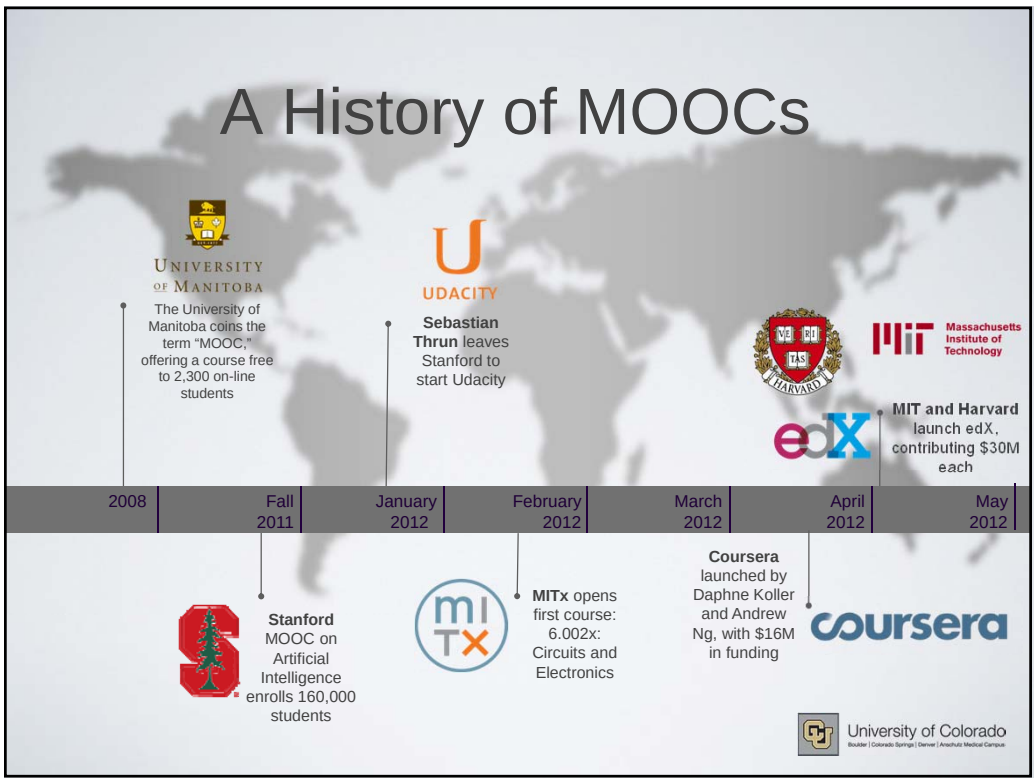
A History of MOOCs



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A History of MOOCs

Udacity announces partnership with Pearson for online testing

The University of Virginia Board fires and reinstates President Teresa Sullivan

UC Berkeley joins edX

Antioch contracts with Coursera to license MOOCs and offer them to Antioch students for credit

University of Texas system joins edX

Wellesley & Georgetown join edX

Coursera announces **Coursera Career Services** to match employers and students

June 2012 | July 2012 | August 2012 | September 2012 | October 2012 | November 2012 | December 2012

12 more universities join Coursera, including Virginia Tech

17 more universities join Coursera

American Council on Education initiates credit-equivalency evaluation of several MOOCs.

12 British universities form a new MOOC platform, **FutureLearn LTD**

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A History of MOOCs

Coursera announces details for selling certificates using "keystroke biometrics"

CU Boulder joins Coursera

Coming Soon:

- Intro to Physics
- Graphic Novels and Comics
- Linear Programming
- Power Electronics

January 2013 | February 2013 | March 2013 | April 2013 | May 2013 | June 2013 | July 2013

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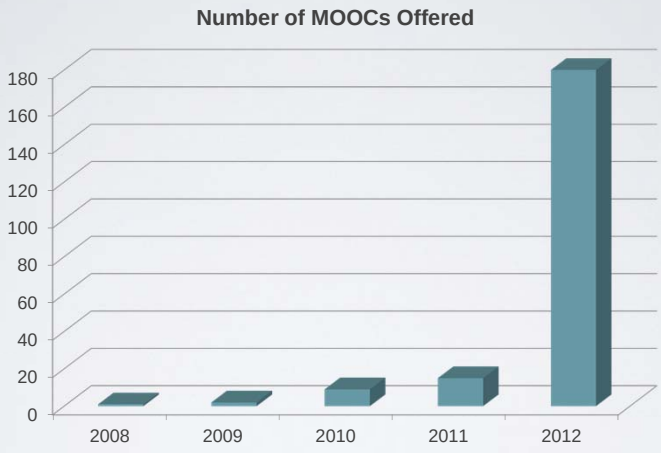
Growth of the MOOC



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Major MOOC Platforms

udacity

Funding
$15 Million

Courses
24

Participating Schools
Not school based

Participating Students
160,000+

coursera

Funding
$22 Million

Courses
338

Participating Schools
62

Participating Students
3,322,940

edX

Funding
$60 Million

Courses
32

Participating Schools
12

Participating Students
360,000+

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What is Coursera?

Coursera is a social entrepreneurship company that partners with the top universities in the world to offer courses online for anyone to take, for free. Coursera envisions a future where the top universities are educating not only thousands of students, but millions. Its technology enables the best professors to teach tens or hundreds of thousands of students.

Coursera is a hub for learning and networking

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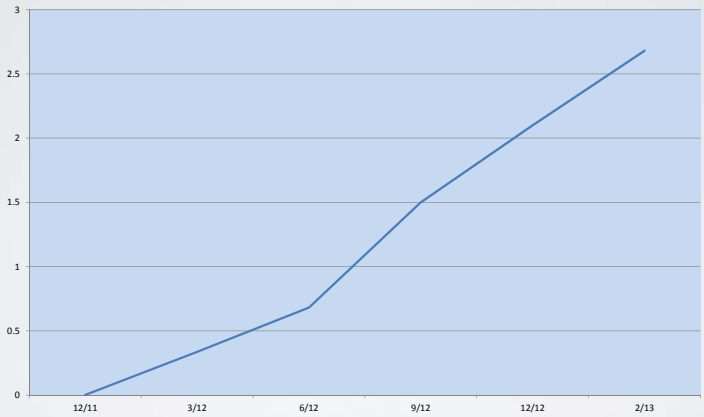
The Growth of Coursera

More than 3.3 Million Students Worldwide



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34 University Partners

(and growing)

University of Maryland
Princeton University
Wesleyan University
Penn
Columbia University in the City of New York
University of London International Programmes
Duke University
University of Virginia
Illinois
University of Colorado
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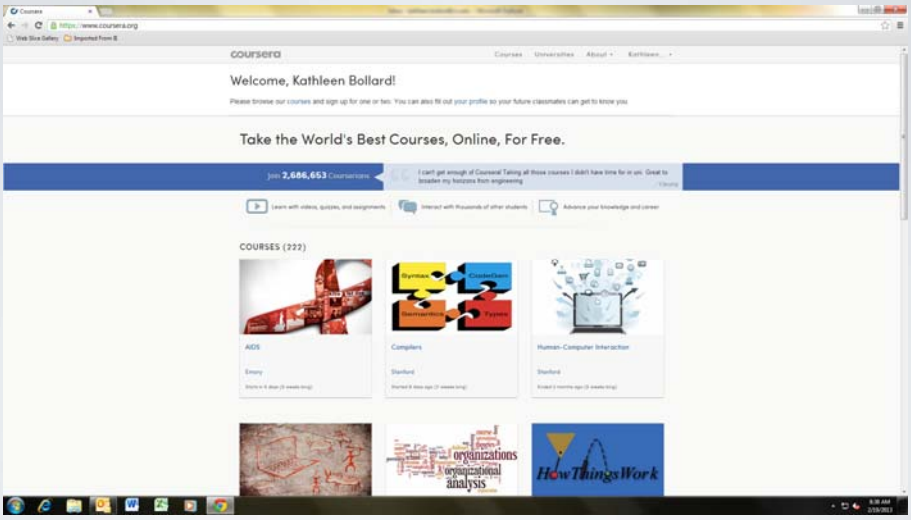
Brown
University of Toronto
University of Pittsburgh
UF University of Florida
Coursera
Berklee college of music
Johns Hopkins University
香港科技大學 The Hong Kong University of Science and Technology
Stanford
University of Michigan
UCIrvine
The Ohio State University
Caltech
Emory University
The Hebrew University of Jerusalem
The University of Edinburgh
The University of Melbourne
Rice
Georgia Tech
UCSF University of California San Francisco
UBC The University of British Columbia
a place of mind
Icahn School of Medicine at Mount Sinai
EPFL École Polytechnique Fédérale de Lausanne
Vanderbilt University
University of Washington

The Coursera Course



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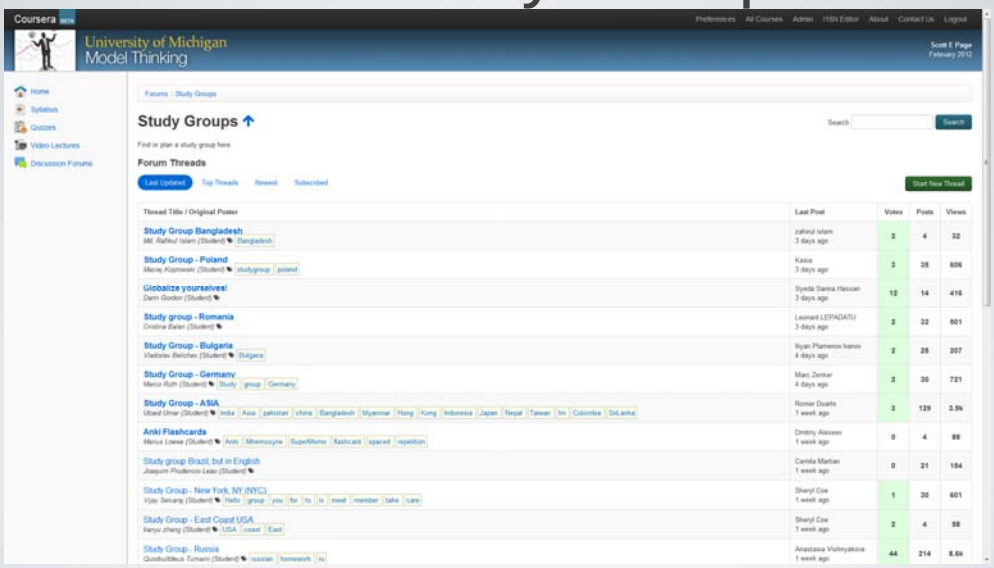
Local Study Groups



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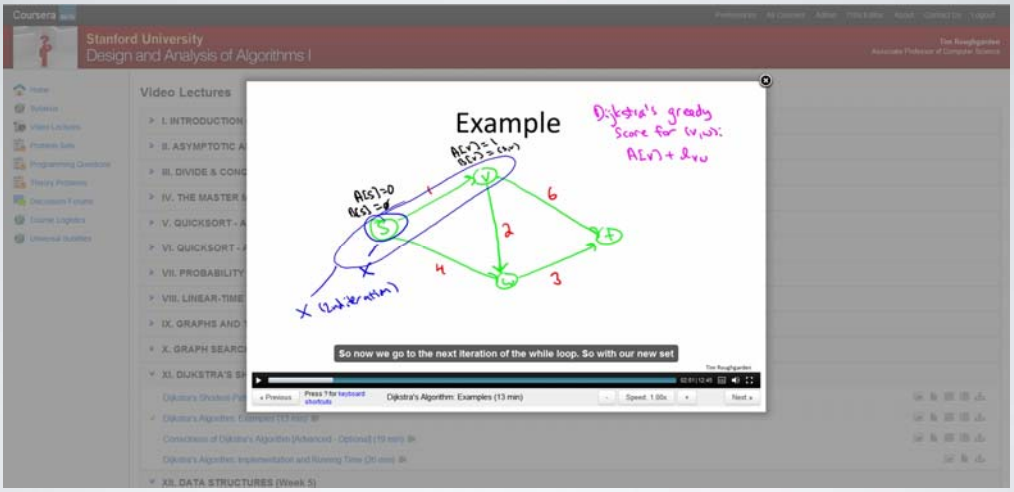
Video Lecture



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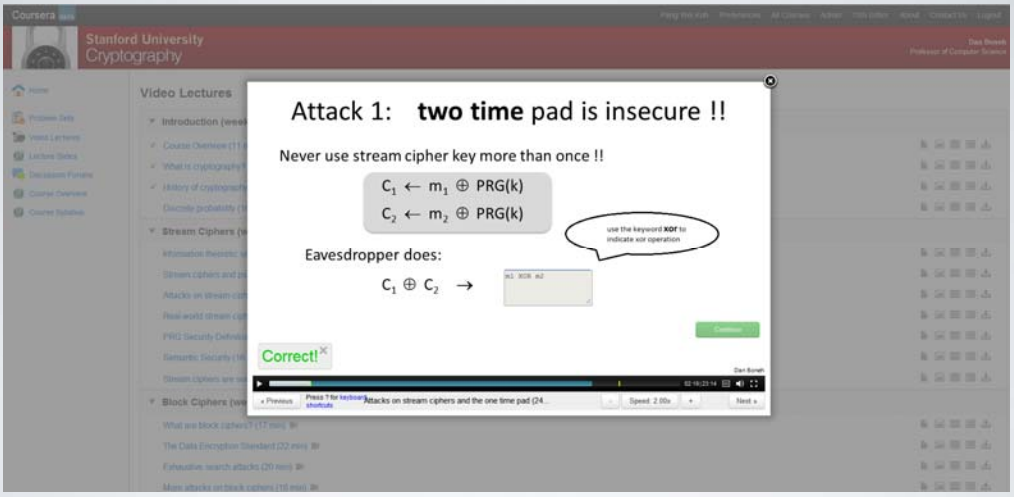
Community Video Conference

In-Video Quiz



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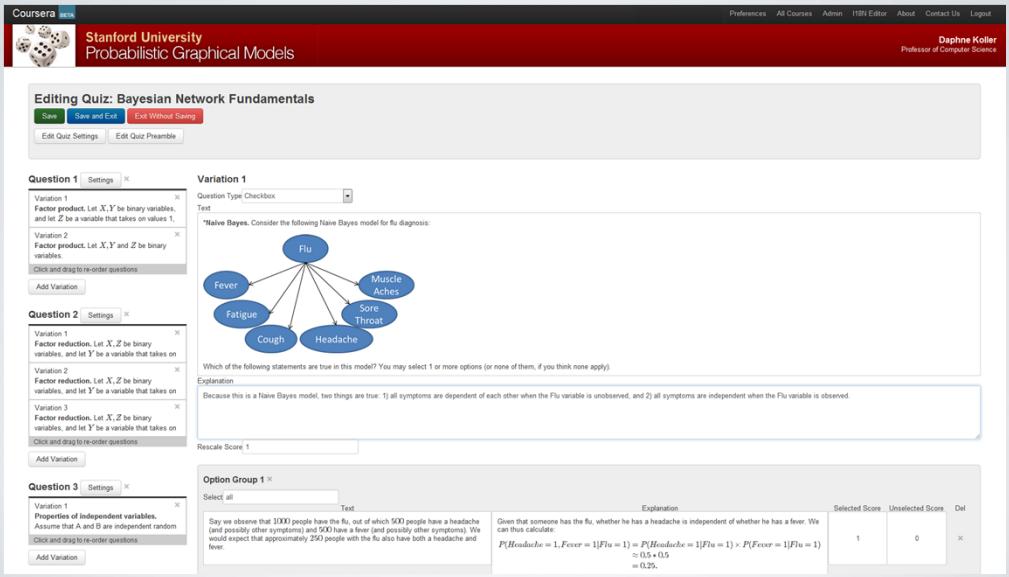
Editing Quiz



The potential for CU

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CU Participation in MOOCs

Udacity participation is based on individual faculty proposals, not branded as CU, and so backlogged with proposals that there is little chance of coordinated input from CU

EdX – elite, invitation only (we asked and were not invited, at least currently) and requiring significant investment to partner – think $10M

CU Participation in MOOCs

Coursera – many peer institutions participating

- No entry fee for institution
- Have been focused on AAU campuses, or top 10% in other countries
  - Some special exceptions
- Daphne Koller, co-founder, presented to System staff, Chancellors, Provosts and CFOs

Coursera

If CU was to participate Boulder would have to take the lead

Many questions, but the system task force recommended that if Boulder wanted to join Coursera that it could be good for CU and provide important experience for the other campuses

Coursera

Over a period of a few months a contract with Coursera was developed and signed and we were part of the last 'launch announcement'

Contract requires no $ from CU and we can withdraw with simple notice

Non-exclusive – we can be part of other MOOCs, e.g. EPFL in Coursera and EdX

Coursera

Boulder is entering Coursera with an experimental mindset – no great expansion, but rather a careful testing of the waters and then an evaluation on how to proceed

Plan was to have a faculty committee vet proposals for courses and review materials to help put the best face on CU

Coursera

However, a lapse in communication caused the late realization that we needed to announce courses in order to be part of the 'launch'. A small number of courses were suggested at the campus level and then reviewed and approved by the Provost

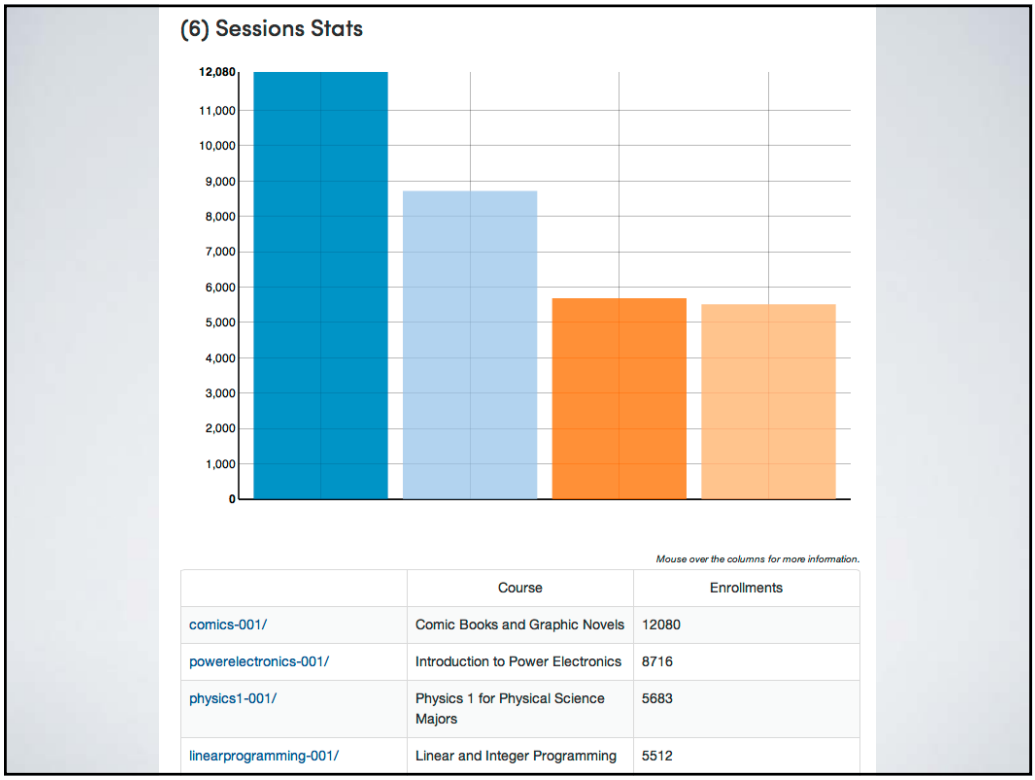
Initial Courses

Introductory Physics with calculus (freshman)

Comics and Graphic Novels

Linear and Integer Programming

Power Electronics (graduate)



	Course	Enrollments
comics-001/	Comic Books and Graphic Novels	12080
powerelectronics-001/	Introduction to Power Electronics	8716
physics1-001/	Physics 1 for Physical Science Majors	5683
linearprogramming-001/	Linear and Integer Programming	5512

System Task Force for New Technology

Formed by President Benson

Faculty from all campuses, recommended by campus leadership

Co-Chairs, VPAA Kathleen Bollard, Michael Lightner

Boulder Members of Task Force - Solicited and Selected by Russ Moore

Michael Grant
Noah Finkelstein
Mike Eisenberg
Mary Ann Shea
Diane Sieber
Deborah Keyek-Franssen
Michele Jackson
Chris Braider
Geoffrey Rubinstein
(Mike Lightner, Melinda Piket-May)

President Benson's Interests

Can technology be used to increase access to CU and still maintain the quality of our student experience?

Can technology improve the learning experience of our students?

Can technology reduce the cost of higher ed?

Can technology provide an avenue to increase revenue for CU?

Board of Regents

Share the interests of President Benson

Why a System-level committee?

- Look for synergies and/or efficiencies working across the campuses
- Share best practices
- Help highlight difference across campuses

Initial Tasks

Gather available information from campuses on technology usage in support of learning

Informally explore exciting practices among cognate disciplines across the campuses

Review and make recommendations regarding MOOCs

Going Forward

Provost has requested that the Deans provide names of faculty to serve on a campus committee – Academic Affairs Oversight Committee

Among the charges for the committee will be determining mechanism for deciding on proposals for offering courses on Coursera and tracking the progress and quality of CU courses on MOOCs

Going Forward

- CU-Boulder – total 'enrollments' have exceeded 27,759
  - All faculty offering MOOCs are getting some additional support
    - At least half is coming from departments, mostly in the form of course buyout or additional TA support, the rest is coming from a redeployment of campus level fellowship support
    - No additional salary for faculty
    - No CU credit for Coursera courses

Going Forward

Coursera contract is non-exclusive and IP remains with CU

We could decide to offer our own MOOC – supported by D2L

We could decide to participate in other MOOCs as they develop

We could also, with experience, decide that we do not want to continue to offer MOOCs

Higher Ed is Changing

- MOOCs are a disruptive influence on higher ed
  - UT - $50M center – lab courses coming
  - MITx – simulations for courses
  - Georgia Tech – 51 courses in preparation
  - SUNY System – wants to add 100,000 new students
  - Only one year old
  - Major technological improvements coming quickly
  - New ecosystem for app development

Higher Ed is Changing

Courses from our peers and betters in many areas of engineering and applied science

EdX driving into community colleges – can this help GoldShirt students? Transfers?

Course-only MS degrees are likely to be threatened

Higher Ed is Changing

We need to be a player

- Participate, innovate, leverage
- Make the value proposition of bricks and mortar institution clear – we need compelling case of our existence and our cost

Thank you

Questions?

Civil, Environmental, and Architectural Engineering

Graduate Committee Activities

University of Colorado Boulder

Overview

- Revised Graduate Rules
- Database implementation
- Application review
- Fellowships
- AREN degree

Graduate Rules

- Graduate Committee reviewed departmental rules in Fall 2012
- Objectives
  - Improve consistency and clarity
  - Mend some loopholes
  - Identify and revisit variations from Graduate School Rules
- Changes to take effect Fall 2013

Major Changes

- Transfer Credits
  - For PhD students, increase the maximum number of course work transfer credits from another institution from 15 to 21 credits
  - For PhD students, increase the maximum number of transfer credits from CU MS course work from 21 to 30 credits
- Eliminate requirement that half of course work from CEAE courses

Major Variations from Graduate School Rules

GRADUATE SCHOOL

- Up to 6 credits of 3000/4000 may be applied to Master's degrees
- Courses with grades of C or higher may be applied to Master's degrees

CEAE

- Up to 6 credits of 4000 outside CEAE may be applied to Master's degrees
- Courses with grades of B- or higher may be applied to Master's degrees, C or C+ with approval of advisor

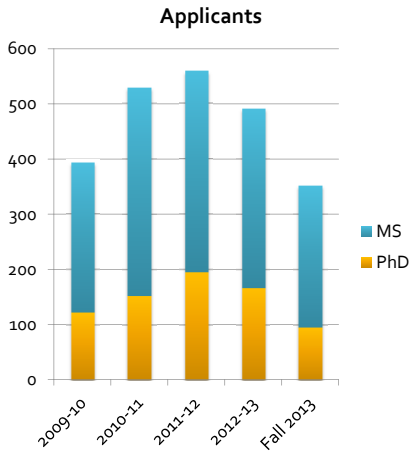
Applicant Test Requirements

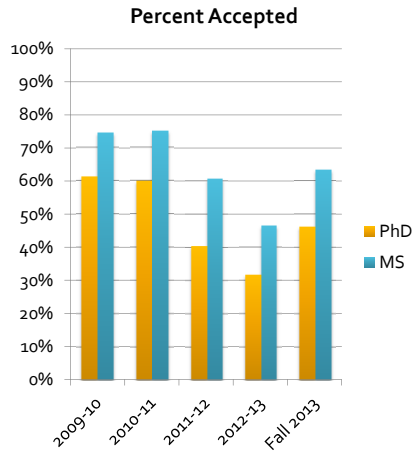
- GRE required for applicants to be considered for financial aid (assistantships and fellowships)
- Minimum TOEFL score of 100
  - Exceptions allowed

Graduate Student Database

- All Fall 2013 applicants processed through new database
- Provides online access to application materials and faculty review comments
- Will be expanded to include current students

Application Numbers





University of Colorado Boulder
Civil, Environmental, and Architectural Engineering

Fellowships and Assistantships

- Six Doctoral Assistantships for Excellence (DAE) awarded for Fall 2013
  - At least 3 year commitment
  - Department/Faculty split funding
- Fifteen Teaching Assistantships
  - Two each for the six groups
  - Three in interdisciplinary areas (civil systems, geoenvironmental, engineering science, EDC)

AREN Graduate Degrees

- Began accepting students for Fall 2013
- No degree subplans
  - Single set of prerequisites
  - Common core courses
- Four specializations defined by Graduate Certificates (under development)
  - Construction Engineering and Management
  - Building Energy Systems
  - Building Illumination Systems
  - Renewable Energy for Buildings
- Beginning Spring 2014, BSP will not be offered in CVEN and CEM will be offered in both AREN and CVEN