

# Looking forward to the future of OCW

## AROOC

**November 1-2**

**Taipei, Taiwan**

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OpenCourseWare Consortium<sup>1</sup>, Handong Global University<sup>2</sup>

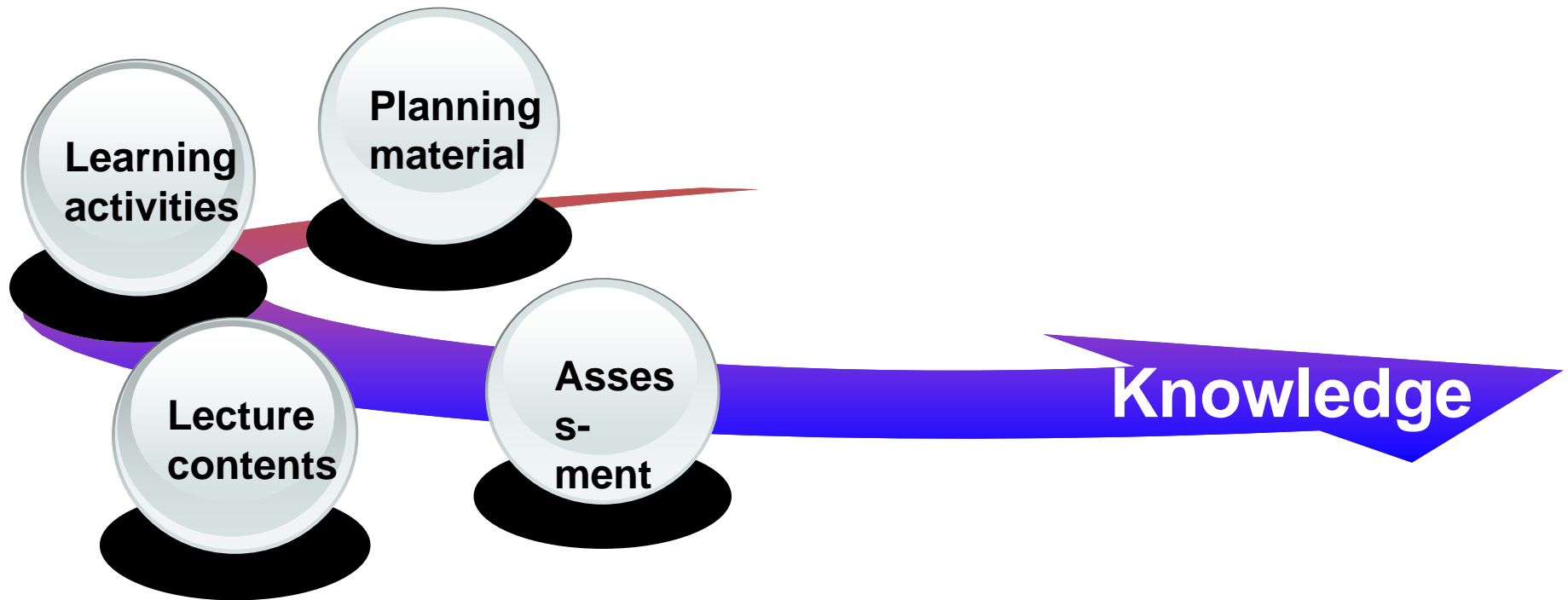
[igorlesko@ocwconsortium.org](mailto:igorlesko@ocwconsortium.org), [idebtor@handong.edu](mailto:idebtor@handong.edu)

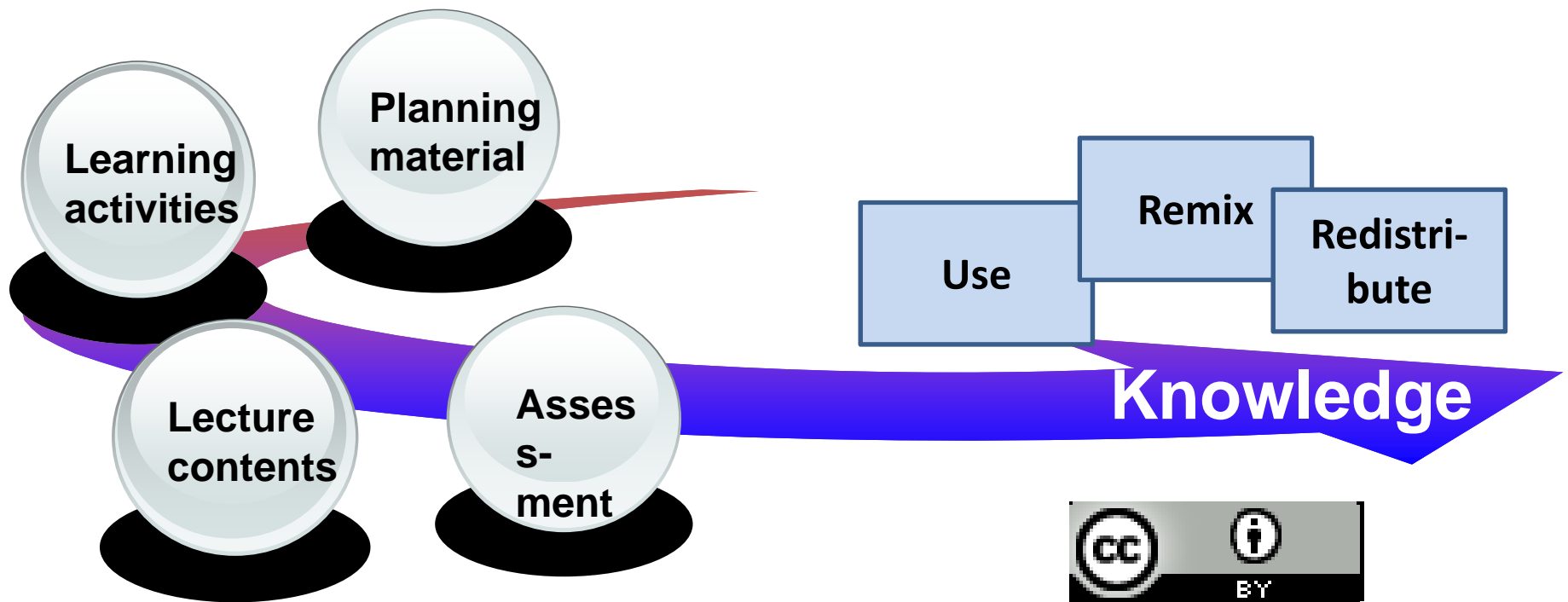
## Table of Contents:

- About OCW and OCW Consortium Slides: 3 - 19
- How can OCW make a difference? Slides: 20 - 31
- Case studies Slides: 32 - 58
- Conclusion Slides: 59 - 84
- This presentation can be downloaded from  
Slideshare:  
<http://www.slideshare.net/OCWConsortium/arooc-november-1-2taiwan-2010leskokim-5631323>

## What is OpenCourseWare?

- High quality educational materials organized as courses





Learning activities

Planning material

Lecture contents

Assesment

Use

Remix

Redistri-bute

Knowledge



# Syllabus

## Syllabus

The typical student enrolled in 16.050 is a junior in the Department of Aeronautics and Astronautics at MIT. The student will have completed Unified Engineering while a sophomore. Unified Engineering (16.01-16.04) presents, among other disciplines, first courses in thermodynamics and propulsion.

### Subject Information

#### Concepts Addressed in 16.050

Energy exchange in propulsion and power processes; the second law of thermodynamics; reversible and irreversible processes; quantification of irreversibility and connection to lost work; application of the first and second laws to engineering systems (propulsion cycles, gas and vapor power cycles, reacting flows); rates of energy transfer and heat exchange in aerospace devices.

### Learning Objectives

Be able to:

1. Use the Second Law of Thermodynamics to evaluate the limitations on thermal-mechanical energy conversion in aerospace power and propulsion systems;
2. Estimate heat transfer rates in simple engineering situations such as a convectively cooled turbine blade;
3. Carry out conceptual design of basic aerothermal components and systems.

### Measurable Outcomes [Assessment Method]

Be able to:

1. Explain the physical content and implications of the second law in non-mathematical terms [concept quiz, quiz];
2. Define entropy [concept quiz, homework];
3. Estimate the thermodynamic efficiency and power production of an arbitrary ideal cycle [concept quiz, homework, quiz];
4. Obtain a basic physical intuition for the thermodynamic performance of real power and propulsion devices as indicated by recognition of what good, average, and poor performance is (metrics and numbers) for engineering power and propulsion devices [concept quiz, homework];
5. Use entropy calculations as a tool for evaluating irreversibility (lost work) in engineering processes

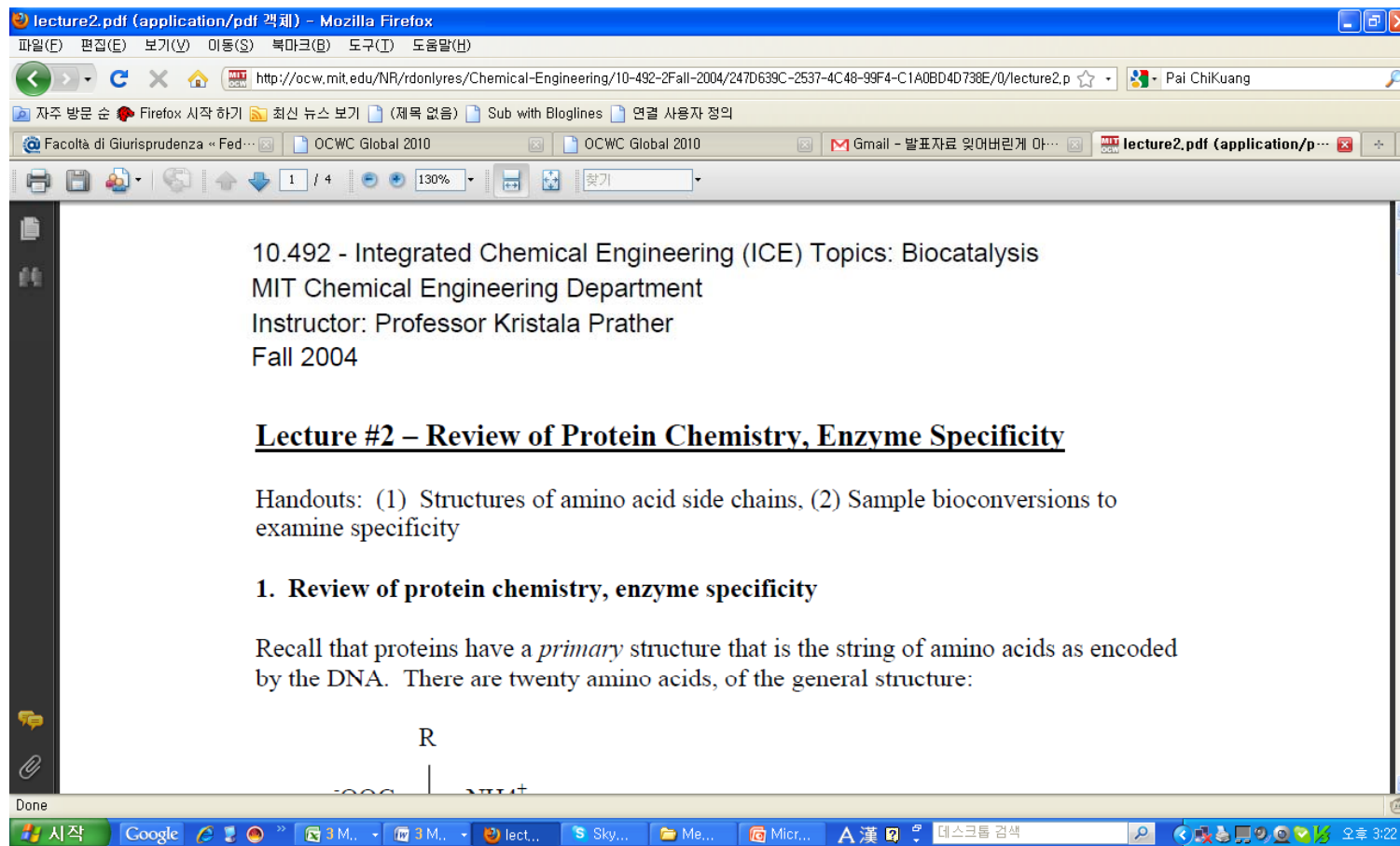
# Course Calendar

## Calendar

The calendar below lists the major parts and sub-parts of the course. For details of included topics, please refer to the course [syllabus](#).

LEC #	TOPICS
1-3	<b>Prelude: Introduction and Review of Unified Engineering Thermodynamics</b>
4-13	<b>The Second Law of Thermodynamics</b>
4-6	Background to the Second Law of Thermodynamics
7-9	The Second Law of Thermodynamics
10-13	Applications of the Second Law
14-26	<b>Applications of Thermodynamics to Engineering Systems</b>
14-19	Gas Power and Propulsion Cycles
20-23	Power Cycles with Two-Phase Media (Vapor Power Cycles)
24-26	Introduction to Thermochemistry
27-37	<b>Fundamentals of Heat Transfer</b>
27-29	Introduction to Conduction Heat Transfer
30-32	Introduction to Convection Heat Transfer
33-34	Applications of the Concepts: Heat Exchangers
35-37	Introduction to Thermal Radiation and Radiation Heat Transfer

# Lecture Notes





# Lecture Videos



<http://oyc.yale.edu/classics/introduction-to-ancient-greek-history/content/sessions/session-3-the-dark-ages-cont>.

# Tests

EXAM PAPER ADVANCED STATISTICAL MECHANICS  
AP3021G

**Time:** 16 January 2004 9:00–12:00 uur  
**Place:** Zaal 2 TN

GOOD LUCK!

- Consider a large, closed container which is thermally insulated. Which are the control parameters (i.e. the parameters which are fixed in time)? Which would be the appropriate ensemble for describing the system in equilibrium?
  - Now we place a small, closed steel container inside the previous one. What are the control parameters for the contents of this small container? Which ensemble describes the system inside this container (in equilibrium)?
  - Now we make a hole in the wall of the steel container. The same questions as in (a) and (b) for (i) the system inside the small steel container; (ii) the system in the large container (including the small steel container).
- A system of non-interacting bosons has a spectrum of energy-eigenvalues  $\epsilon_i$ . The number of particles varies; the chemical potential is  $\mu$  and the temperature  $T$  is fixed.

  - What is the probability that level  $i$  is occupied?
  - The density of states (DOS)  $D(\epsilon)$  is defined as the distribution for having a level at energy  $\epsilon$ , in other words, the number of energy levels between  $\epsilon$  and  $\epsilon + d\epsilon$  is given by  $n(\epsilon)d\epsilon$ . How many particles can then be found with energy between  $\epsilon$  and  $\epsilon + d\epsilon$  for a given DOS  $n(\epsilon)$ ?
  - We now consider particles with mass  $m$  in a cubic container of size  $N \times N \times N$ . The particles do not interact. What is the density of states  $D(\epsilon)$  for these particles?
  - For massless particles, such as photons, we have  $E = \hbar\omega = \hbar ck$ . Derive the Planck distribution (up to an overall constant). Remember the Planck distribution gives the energy radiated per unit volume at frequency  $\omega$ , and  $\omega = c|k|$ . You must take  $\mu = 0$  in this case.
- The cluster expansion for an ideal gas at density  $n$  and volume  $V$  reads:

$$\frac{P}{nk_B T} = 1 - b(T)n + c(T)n^2 + \dots$$

where

$$b(T) = \frac{1}{2} \int f(r) d^3r.$$

Here  $f(r)$  is the Mayer function

$$f(r) = \exp[-\beta u(r)] - 1,$$

with  $\beta = 1/k_B T$  and  $u(r)$  is the two-particle interaction energy.

1

<http://ocw.tudelft.nl/courses/nanoscience/advanced-statistical-mechanics/exams/>





**OPEN**COURSEWARE  
CONSORTIUM

**OPEN**COURSEWARE  
CONSORTIUM



Who we are

# The OCW Consortium

- ~ 250 members
- ~ 100 live OCW sites
- ~ 13,000 courses



The Open University

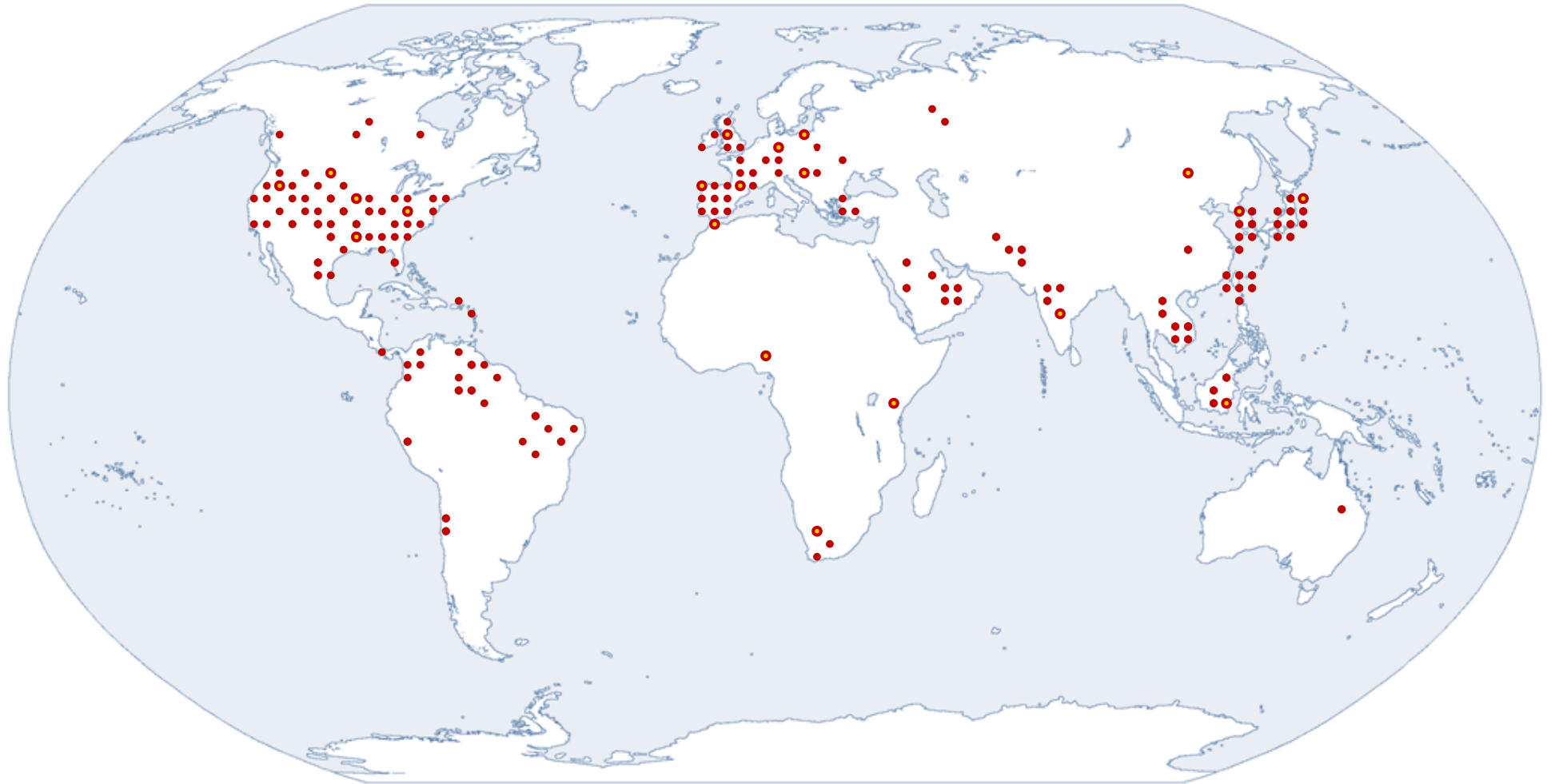


UNIVERSITY OF THE WESTERN CAPE



<http://www.ocwconsortium.org>

# GEOGRAPHIC SPREAD OF MEMBERS



## Course Languages

ENGLISH

SPANISH

FRENCH

CHINESE

JAPANESE

CATALAN

KOREAN

RUSSIAN

POLISH

DUTCH

PORTUGUESE

PERSIAN

HEBREW

ARABIC

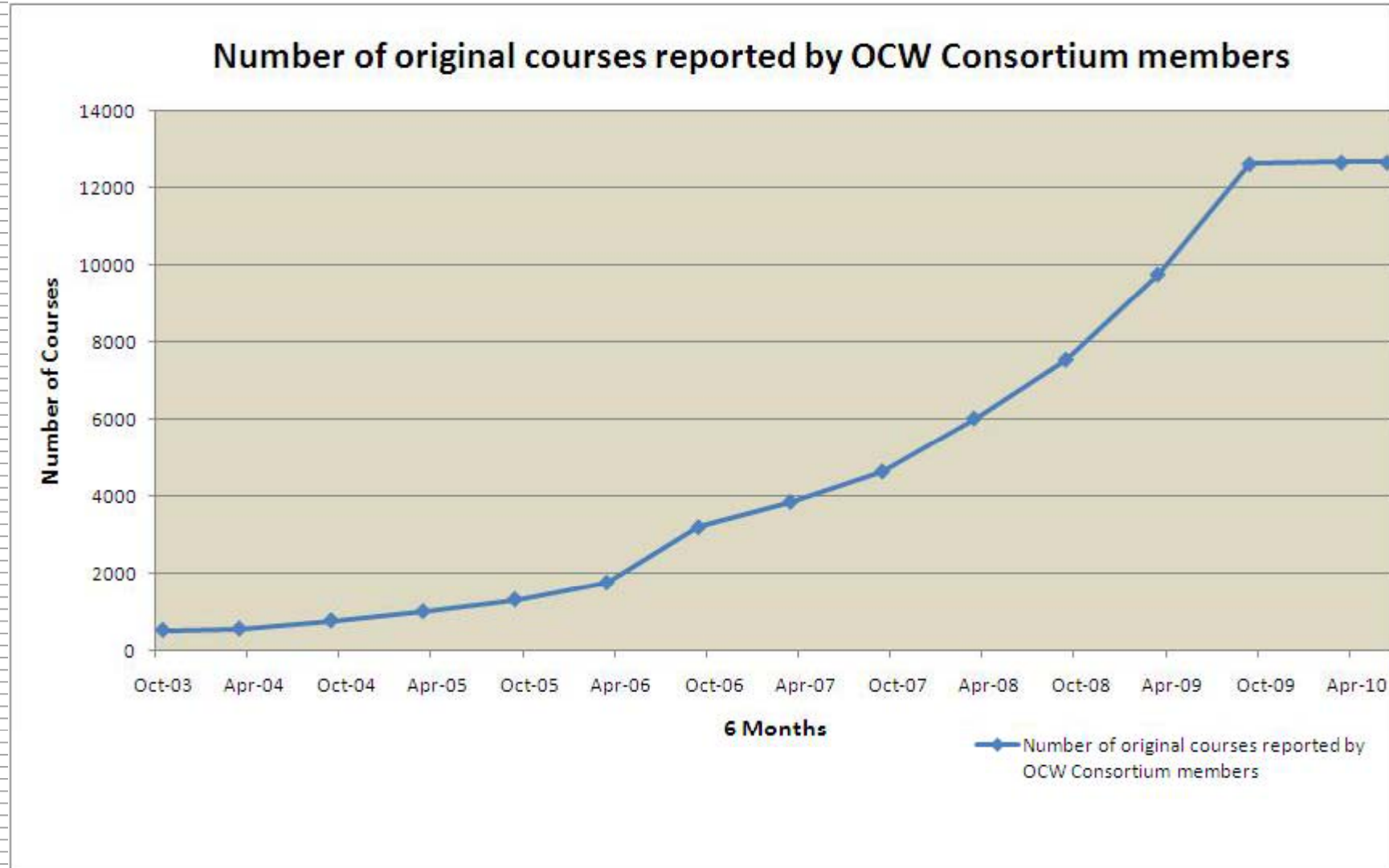
INDONESIAN

GERMAN

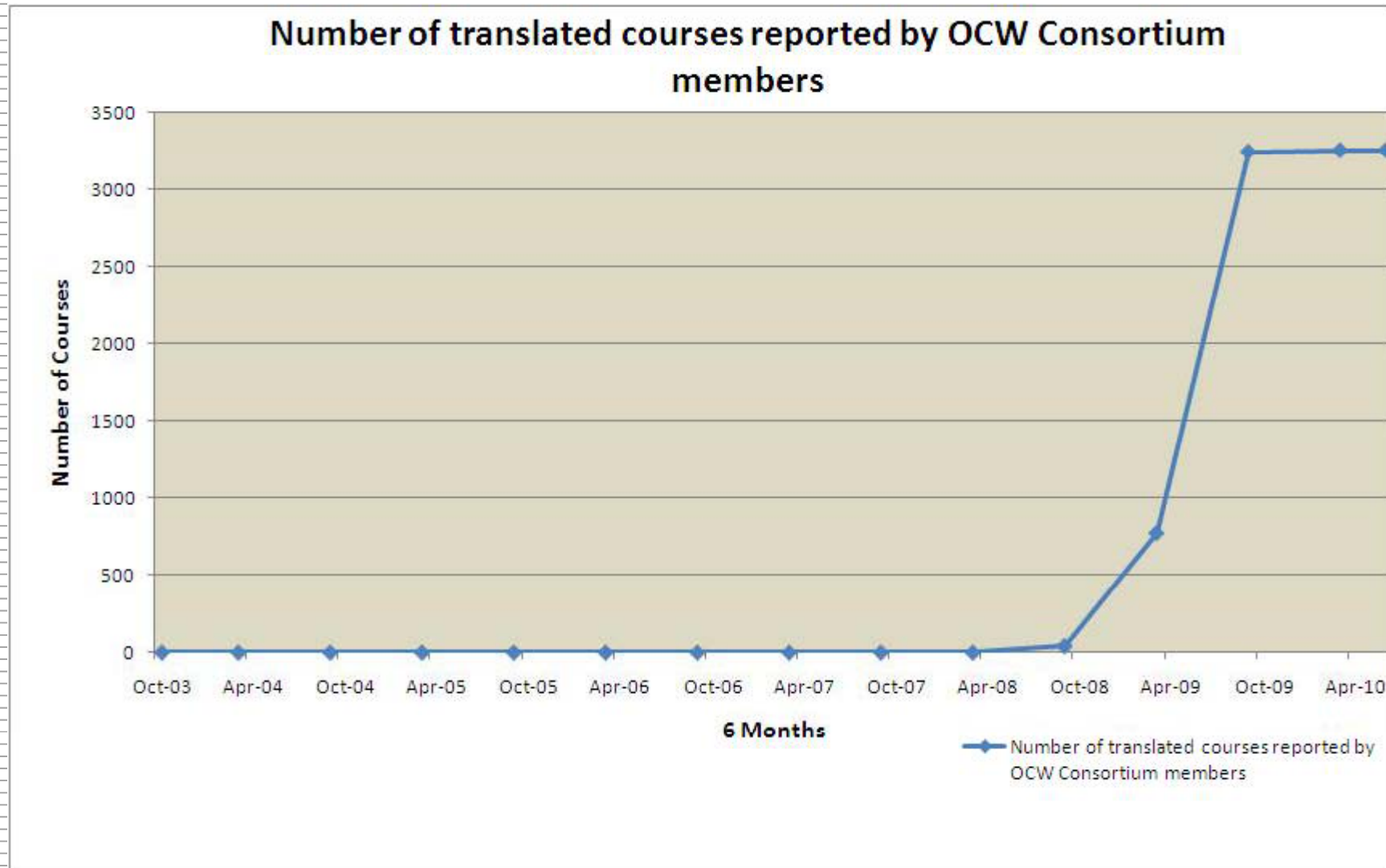
VIETNAMESE

TURKISH

# OCW Course Growth Globally



# OCW Course Growth Globally





# OCW Course Growth Globally

The screenshot shows the Persian interface of the MIT OpenCourseWare website. At the top, there is a header with the MIT OpenCourseWare logo on the left and the Persian text 'دوره های آزاد رایانه ای پروژه مشترک دانشگاه شهید بهشتی و دانشگاه MIT' on the right, accompanied by the Shahrood University of Technology logo. Below the header is a navigation menu with links for 'فهرست دروس', 'پاسخ به سوالات', 'معرفی OCW', and 'پیشنهادات'. A search bar is located on the right side of the menu. The main content area features a central article titled 'به دوره های آزاد رایانه ای دانشگاه MIT (MIT OCW) خوش آمدید'. To the left of the article is a profile of a woman, identified as 'نظرات ریاست دانشگاه MIT خانم دکتر سوزان هاگفیلد'. The article text discusses the growth of OCW courses and the role of MIT. To the right of the article is a sidebar with a section titled 'نظرات و پیشنهادات' containing a call to action: 'از نظرات شما استقبال می کنیم'. Below this is another section titled 'دوره های آزاد رایانه ای دانشگاه MIT'.

MIT OPEN COURSEWARE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

دوره های آزاد رایانه ای  
پروژه مشترک دانشگاه شهید بهشتی و دانشگاه MIT

جستجو

پیشنهادات

معرفی OCW

پاسخ به سوالات

فهرست دروس

MIT

دوره های آزاد رایانه ای دانشگاه MIT

نظرات و پیشنهادات

لطفاً نظرات و پیشنهادات خود را درباره مطالب و ترجمه های این وبگاه به لینک زیر ارسال فرمایید.

[از نظرات شما استقبال می کنیم](#)

به دوره های آزاد رایانه ای دانشگاه MIT (MIT OCW) خوش آمدید

این دوره ها منبع آموزشی آزاد و بدون هزینه ای برای استادان، دانشجویان و خودآموزان در اقصی نقاط جهان به شمار می آیند، که با هدف پیشبرد علم در قرن 21 توسط دانشگاه MIT به کار گرفته شده، و با در نظر گرفتن پیشگامی و مراتب اعتباری آن دانشگاه در قالب طرح «دوره های آزاد رایانه ای: پروژه مشترک دانشگاه شهید بهشتی و دانشگاه MIT» در اختیار شما علاقمندان قرار گرفته است.

MIT OCW

نظرات ریاست  
دانشگاه MIT خانم  
دکتر سوزان  
هاگفیلد

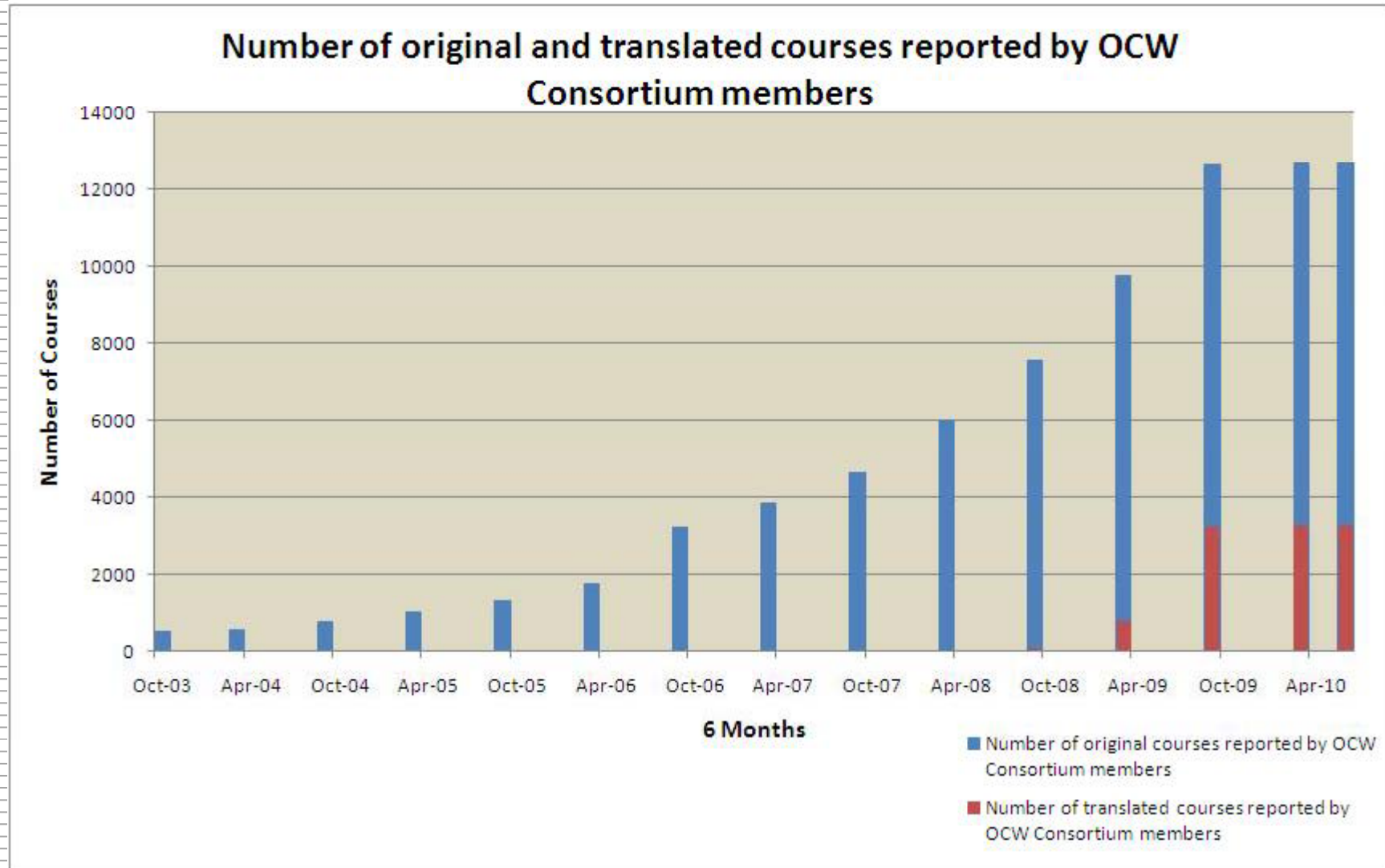
OCW هدف بلند مدت MIT را در پیشبرد آموزش در سراسر جهان ارائه مینماید. مربیان و دانشجویان در اقصی نقاط

دوره های آزاد رایانه ای دانشگاه  
MIT

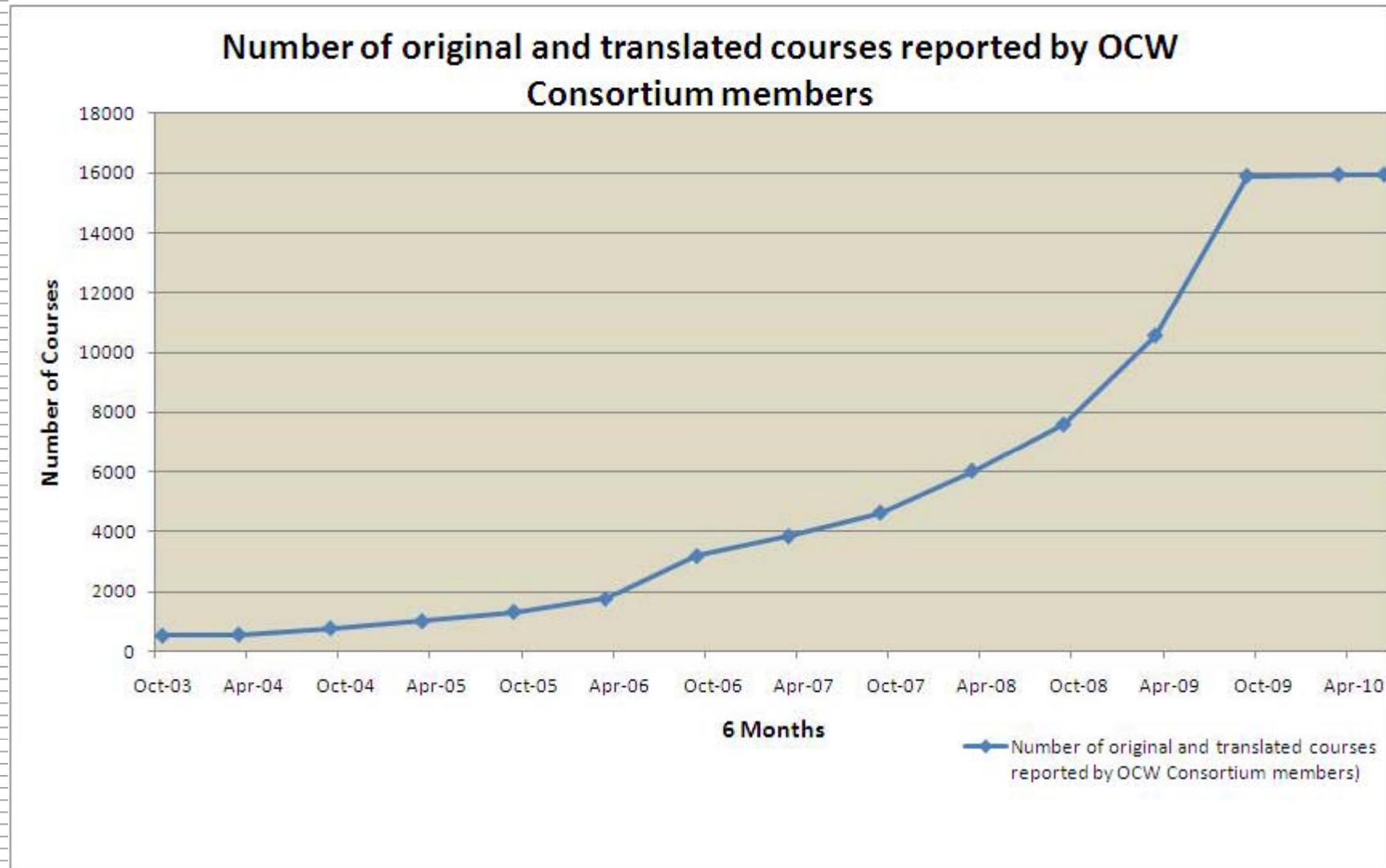
دوره های آزاد رایانه ای

SBU-MIT JOINT PROJ

# OCW Course Growth Globally



# OCW Course Growth Globally



# How can OpenCourseWare make a difference?

## Current Roles of OCW

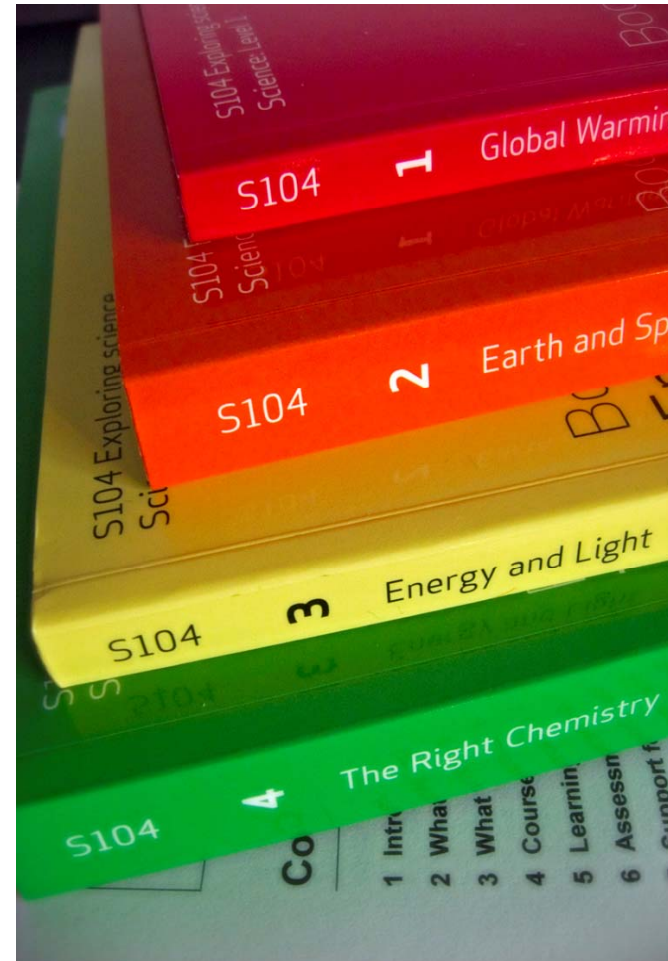
Expands access  
to education



## Current Roles of OCW

Showcases existing courses and educational quality

- Many universities choose to start by opening their specialties



James Cridland - CC BY 3.0

<http://www.flickr.com/photos/jamescridland/613445810/>

## Current Roles of OCW



trey.menefee  
<http://www.flickr.com/photos/trey333/2185461746/>  
CC BY-NC-SA 3.0

Strengthens teaching  
and curricular  
alignment within an  
institution

## Current Roles of OCW

### Services to students and institution:

- Increased visibility of institution on local and global stages
- Virtual advising tool
- Keeping alumni attached
- Community relations through lifelong learning
- Faculty development
- International engagement



## Future of OCW



Bridge between  
secondary and higher  
education

## Future of OCW

### Workforce development

- Updating skills
- Retraining sectors that are downsizing or becoming dated
- Pathways to short courses or certificates



Alex Proimos

<http://www.flickr.com/photos/proimos/4045973322/>

CC BY 3.0

# Future of OCW

## Public education



<http://www.flickr.com/photos/powi/2403585007/>

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## Future of OCW

### Curricular mapping on a grander scale

- National
- Regional
- Global



<http://www.flickr.com/photos/dnorman/436670816/>  
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## Future of OCW

Increased faculty  
engagement and  
global knowledge  
generation through  
examining critical  
global issues



<http://www.flickr.com/photos/randysonofrobert/335549836>

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## Future of OCW

Cultural  
understanding  
and citizen  
diplomacy



<http://www.flickr.com/photos/1village/2860751706/>  
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## Future of OCW

New mobile platforms for greater accessibility



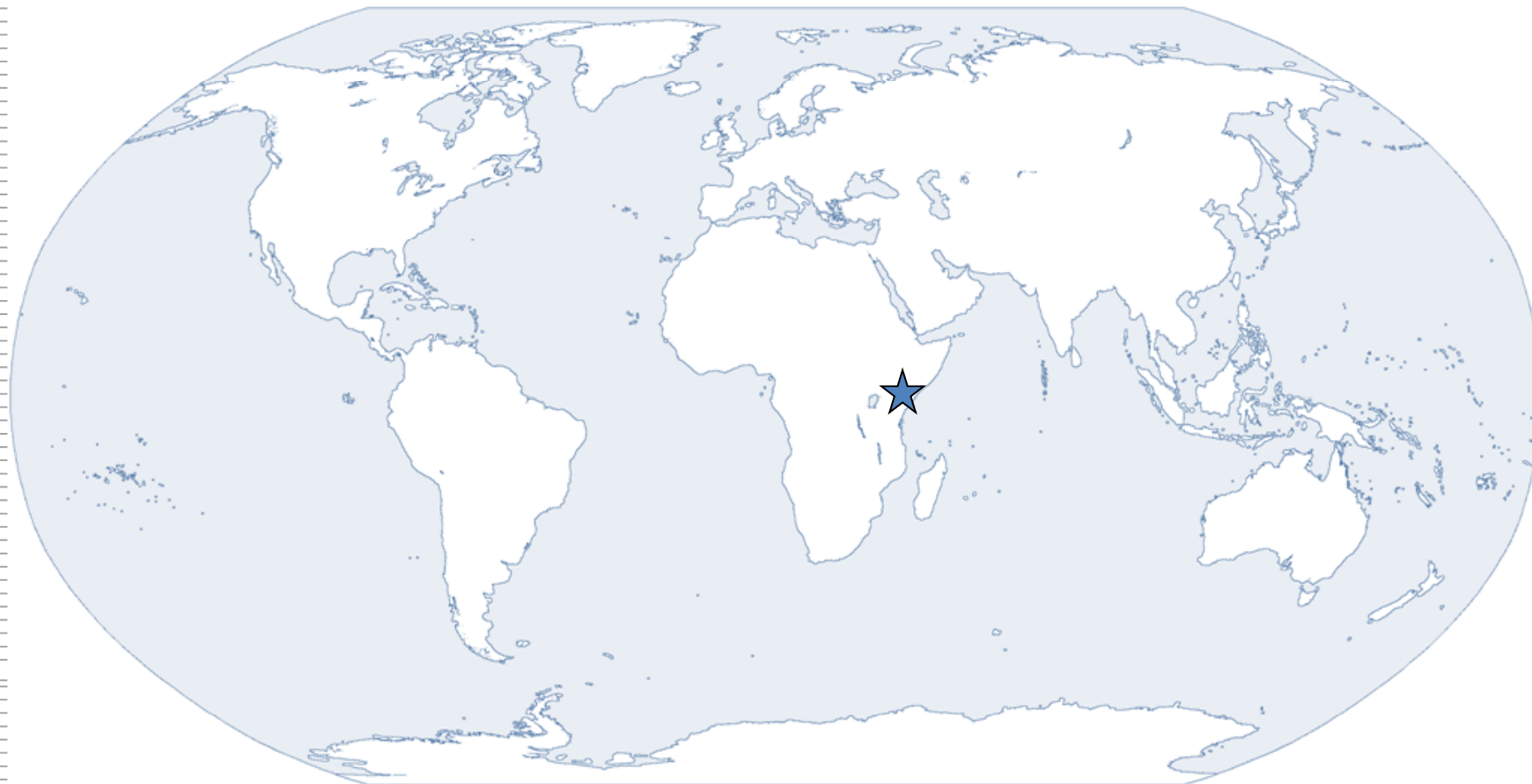
<http://www.flickr.com/photos/adselwood/3158195615/>

CC BY 3.0

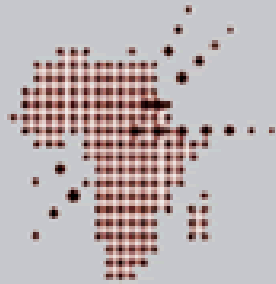
Steps being taken now:

Case Studies of OER around the  
world





## African Virtual University



AFRICAN VIRTUAL UNIVERSITY  
UNIVERSITE VIRTUELLE AFRICAINE  
UNIVERSIDADE VIRTUAL AFRICANA

Inter-governmental Charter

Increase access to high quality higher  
education and training

[About Us](#)[Why Study at AVU?](#)[Academic Programs](#)[> Degree Programs](#)[> Diploma Programs](#)[> Short Courses](#)[> New Programs](#)[Instructional Design](#)[Technology](#)[AVU](#)[Learning Centers](#)[Learning Resources](#)[News and Events](#)[Email](#)[Academic Programs](#)

AVU offers undergraduate and postgraduate programs based on prioritized needs of students and education institutions at tertiary level. Certificate and diploma programs are offered in specialist areas. The following areas are considered critical for economic development and are a priority for AVU: Computer Science, Computer Engineering, Electrical and Mechanical Engineering, Public Health, Teacher Training, Business Management.

AVU currently offers the following programs through the AVU Partner Institutions.

**Degree Programs**

[Bachelor of Business Administration \(BBA\) – English](#)

[Bachelor of Applied Science \(Computer Science\) – English](#)

[Programme Universitaire de formation en informatique – French](#)

**Diploma Programs**

[Diploma of Business Administration – English](#)

[Diploma of Computer Science - English](#)

[Diploma of Computer Science - French](#)

**Certificate & Short Courses**

[Certificate in Journalism](#)

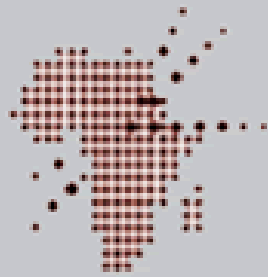
[IT Master Certificate](#)

[Certificate in Business Communication in English](#)

[Certificat: Conception de Sites Web et Gestion de Réseaux](#)

**The AVU Pedagogy**

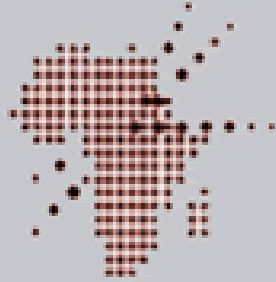
[View the AVU Model](#)



AFRICAN VIRTUAL UNIVERSITY  
UNIVERSITE VIRTUELLE AFRICAINE  
UNIVERSIDADE VIRTUAL AFRICANA

## Change of Direction

- What is most relevant for African learners?
- Create networks to enhance sharing and open sharing
- Localize and create content

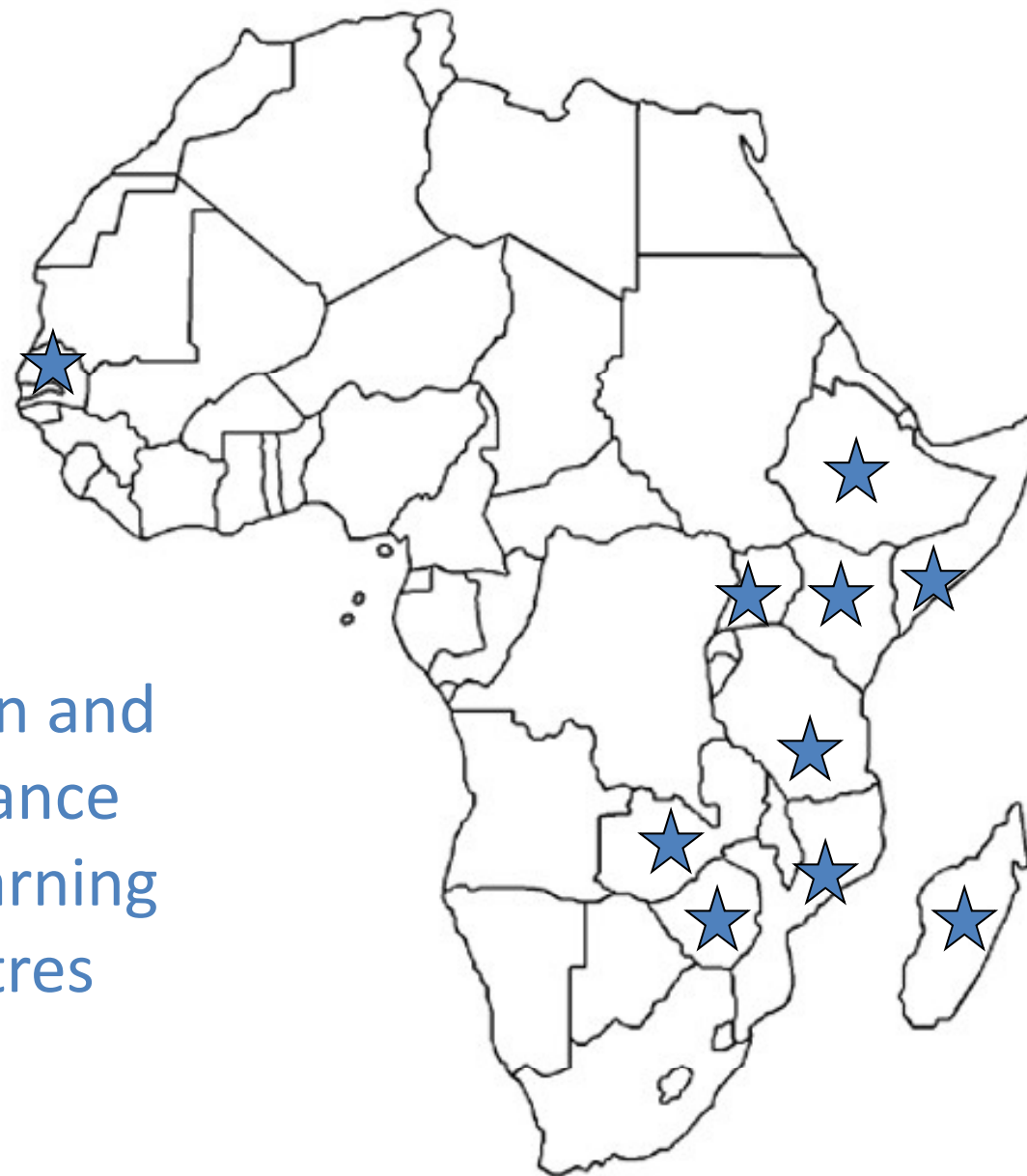


AFRICAN VIRTUAL UNIVERSITY  
UNIVERSITE VIRTUELLE AFRICAINE  
UNIVERSIDADE VIRTUAL AFRICANA

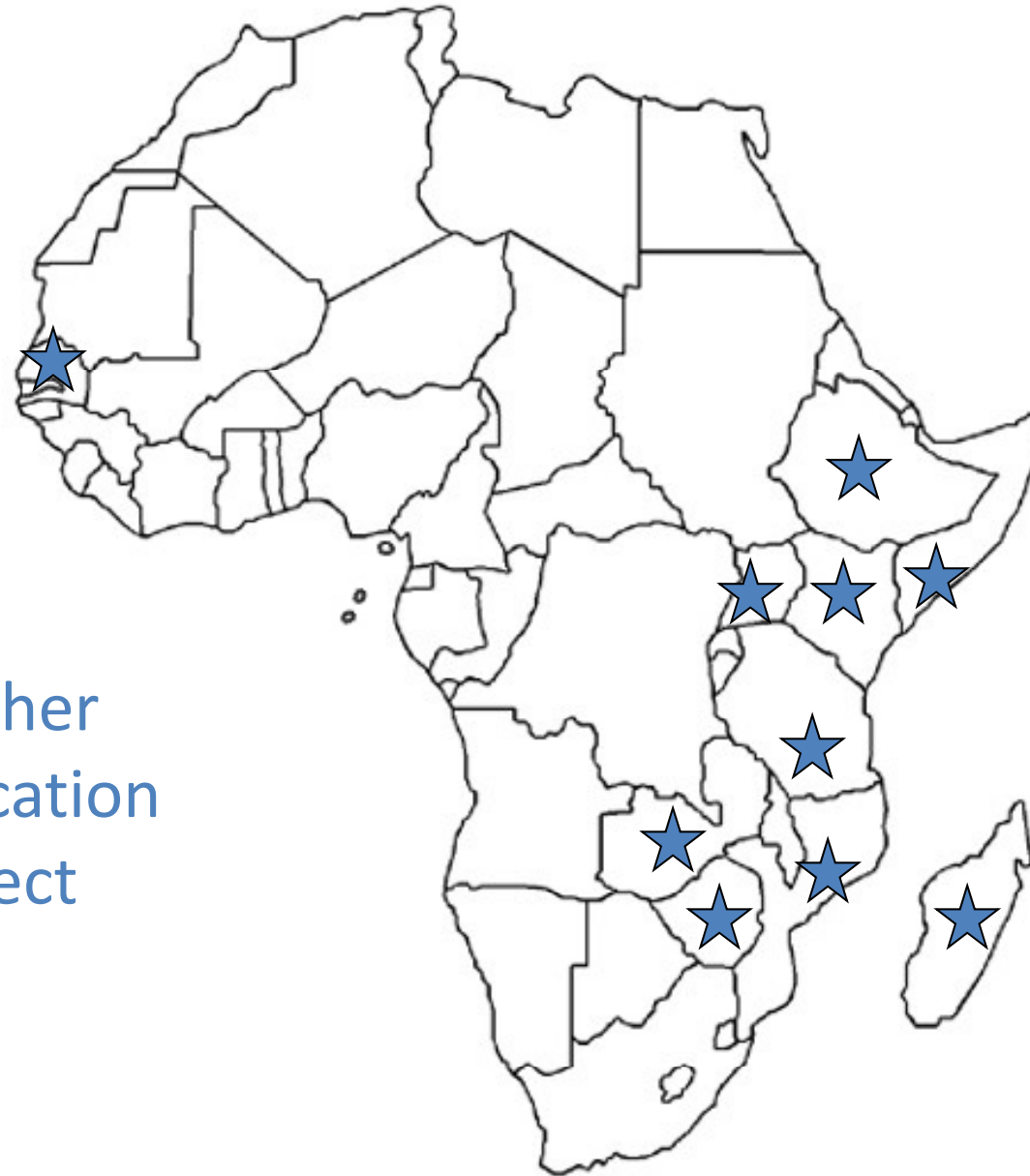
Open and Distance eLearning Centers

Teacher Education Project

OER Repository



Open and  
Distance  
eLearning  
Centres



Teacher  
Education  
Project



## The AVU OER Repository

[Printer Friendly Version](#)

[Home](#) > [Faculty](#) > [The AVU OER Repository](#)



### Coming Soon

#### The new OER@AVU Repository

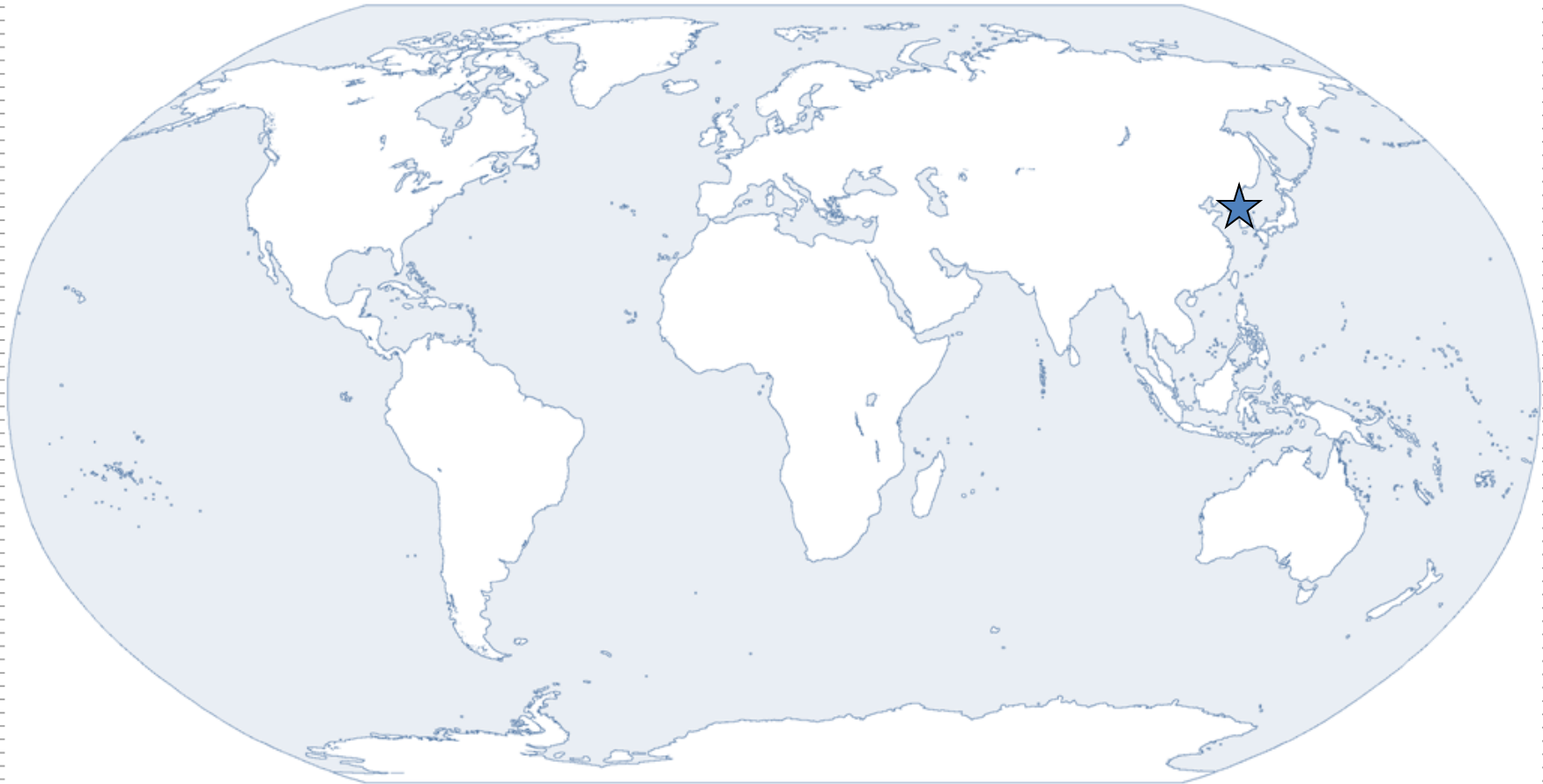
In line with the AVU Business Plan 2009-2014, the AVU hired a consultant to coordinate the development of a new OER Repository. OER@AVU will serve as a platform to publish the 73 modules of ICT Integration in Mathematics, Biology, Physics, Chemistry and Education, ICT Basic Skills and B.Ed. professional courses that were developed and released as OERs through the AfDB- and UNDP-funded Teacher Education Program. The AVU OER Repository will also serve as a platform for tertiary-level African educators to make their educational resources available to others, discuss and comment on them, and collaborate in developing them further. It will host all of AVU's open education resources in areas such as Business Studies, Computer Sciences, Agriculture and Environment studies. The new AVU OER Repository, OER@AVU, is funded by the African Development Bank.

### Faculty

- [AVU Instructors](#)
- [AVU Training Opportunities](#)
- [AVU OER Repository](#)
- [Teacher Education Virtual Consortium](#)

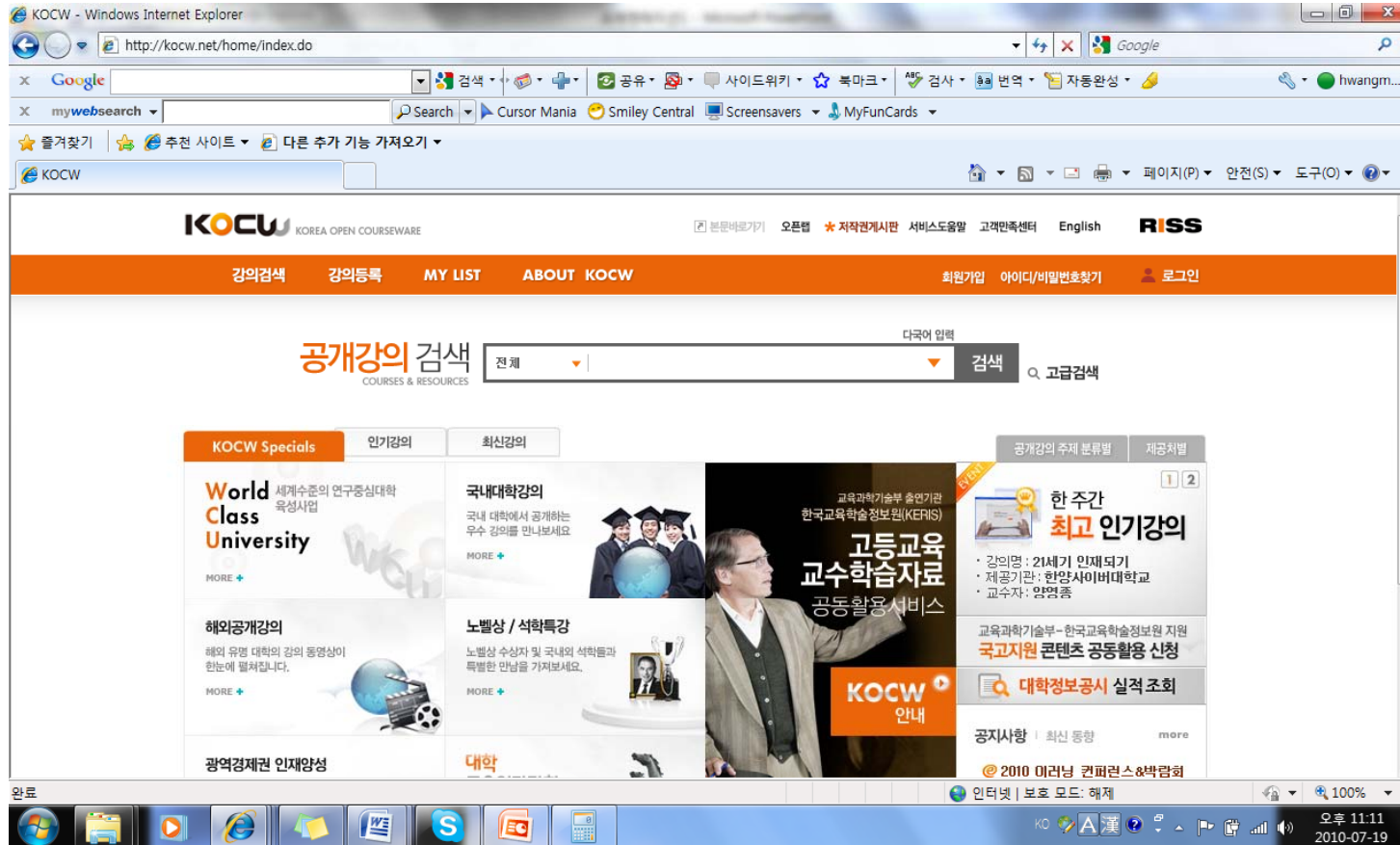






## OER in South Korea

# K-OCW



Central Repository

Requirement for government  
funded university projects

# ACE project

Purpose: to use OER/OCW as means to improve quality of education. Based on thoughts That transparency in education improves teaching and ultimately learning experiences.

ACE project: grant program awarded to 10 teaching universities to improve education. One of the selection criteria was opening educational content, and all schools submitted Proposal for OER/OCW projects.



<http://www.flickr.com/photos/ehргеизier/2925185513/>

CC BY NC SA 3.0

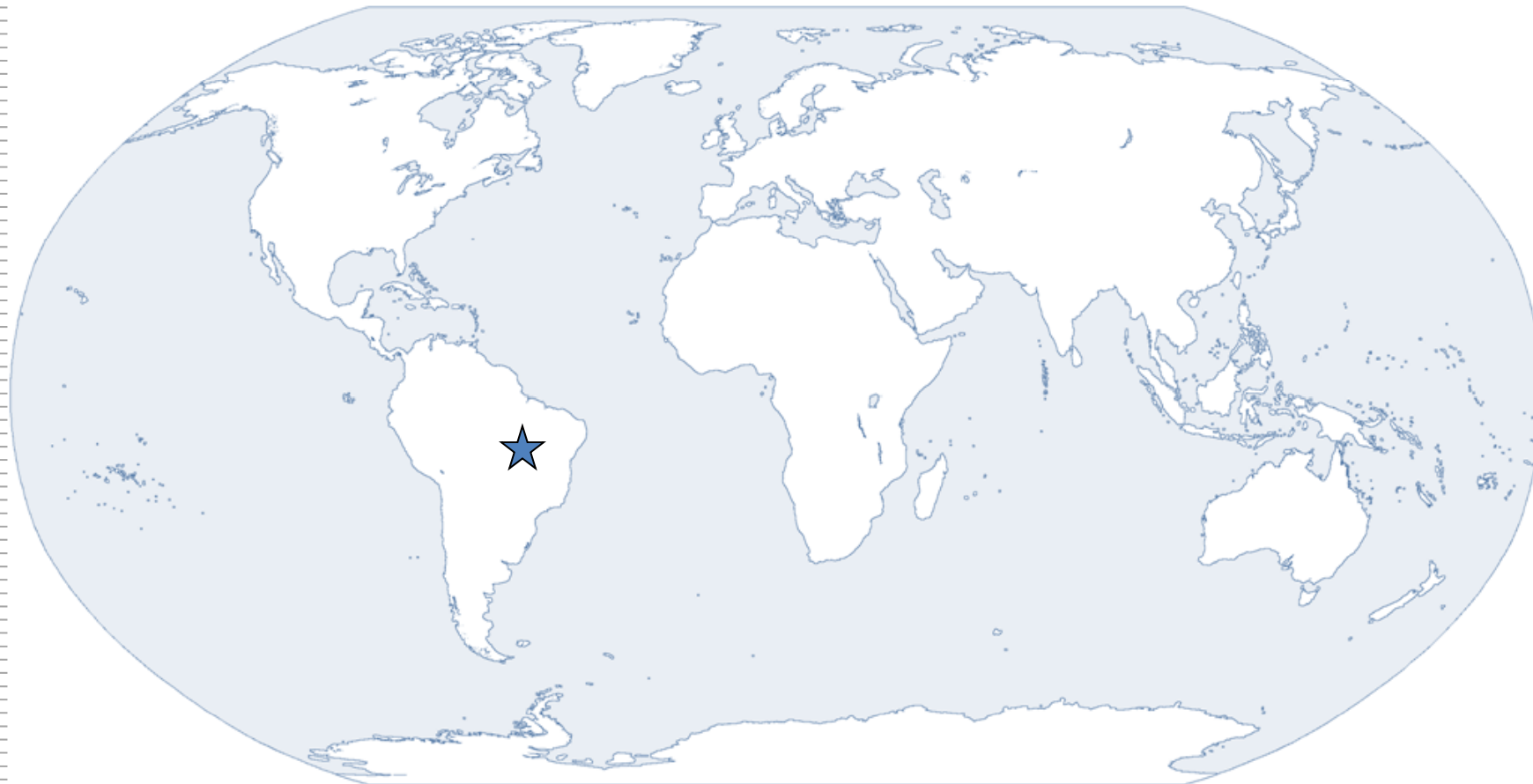
# Korea OCW Consortium

The screenshot shows the Korea OpenCourseWare Consortium website in a Mozilla Firefox browser window. The browser's address bar displays the URL <http://kocwc.org/>. The website's header features the KOCWC logo and a navigation menu with links for '강의 자료' (Lecture Materials), 'KOCWC 소개' (Introduction), '도움말' (Help), and '커뮤니티' (Community). The date 'Tuesday 20 July 2010' is shown in the top right corner. The main content area is divided into several sections:

- 회원교 현황** (Member Institutions): A list of universities including 고려대학교, 대구한의대학교, 부경대학교, 부산대학교, 서울산업대학교, 신라대학교, 인하대학교, 한동대학교, 한림대학교, and 한양대학교.
- 이용할 수 있는 강좌** (Courses Available): A section titled '이용할 수 있는 강좌' (Courses Available) with sub-sections for '오존코스웨어 알아보기' (Learn about Ozone CourseWare) and '공동 OCW/OER 강좌' (Joint OCW/OER Courses).
- 사이트 뉴스** (Site News): A news item titled 'OCWC 3월 뉴스레터 한국어 번역본' (OCWC March Newsletter Korean Translation) dated 2010년 4월 2일, with a link to the PDF file: [OCWCConsortium\\_Newsletter\\_March\\_2010\\_Korean.pdf](#).
- 해외 OCW 프로젝트** (Overseas OCW Projects): A list of international OCW projects including MIT, Berkeley, Yale, 카네기멜론, Stanford Univ., 노트르담 대학교, 유타주립대학교, 영국 오픈대학교, OpenLearn, 네덜란드 델프트공대, Tufts, UC Irvine, Keio U, and Osaka U.
- 기본메뉴** (Basic Menu): Links for '사이트 뉴스', '생방송', and 'wiki'.
- OCWC 행사안내 (Webinar)** (OCWC Event Guide): A link for 'How to use the edumcommons' by Tom Caswell.

The browser's taskbar at the bottom shows the system tray with the time '오후 2:32' and various application icons.

University network, no government sponsorship



## OER in Brazil

Observation:

Brazil supportive of Open Access, but little done in education

Question:

How to get widespread adoption of OER?

Answer:

Need support from both grassroots movements and policy makers

How?



*create networks of support*



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# RECURSOS EDUCACIONAIS ABERTOS

[HOME](#)[CONTATO](#)[DOCUMENTOS](#)[PROJETOS](#)[SOBRE](#) 

## Apresentações do seminário na Câmara dos Deputados

Bráulio Araújo (GPOPAl-USP). pdf

Carolina Rossini (Direito GV e Universidade de Harvard).pdf

Carolina Rossini (Direito GV e Universidade de Harvard).ppt

Mary Lane Hutner (Secretaria de Educação do Estado do Paraná).pdf

Mary Lane Hutner (Secretaria de Educação do Estado do Paraná).ppt

OBS: as apresentações estão no formato proprietário ppt porque, infelizmente, esta versão do WordPress não permite o upload do formato livre odp.

[Add comment](#) | 13 13UTC Julho 13UTC 2010

## Encaminhamentos da Audiência na Câmara

### Folder



### Tags

aula **brasil** Brasilia brazil  
camara dos deputados

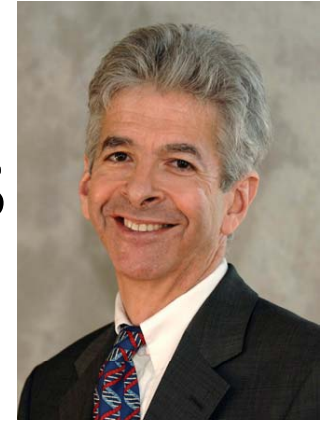
<http://rea.net.br/>

8 July 2010: Congressional Hearing on OER



<http://www.flickr.com/photos/reanetbr/sets/72157624349249017>

# National initiative: Wikiwijs



- > June 2008: policy of *'schoolbooks for free'*
- > Sept. 2008: Advice of the Education Council to the Parliament: *'Make more use of OER for innovation of education'*
- > December 2008: Minister of Education launches *Wikiwijs* as a national OER initiative
- > April 2009: *broad support in Parliament*
- > May 2009: OU & Kennisnet start preparing this programme
- > July 2009: delivery Programme Plan
- > 12th Aug. 2009: *Minister's final OK*

# Wikiwijs offers ...



- a *Repository* of open educational resources
- a *Referatory* to digital educational resources:
  - > open and closed
  - > free access and access to be paid for
  - > public and commercial
- easy to use arrangement and development *tools* for teachers / professors
- end-user *support* for teachers / professors when creating and using learning materials

هنوز وارد سایت نشده اید (ورود به سایت)

فارسی (fa) ▼

## منابع درسی آزاد فارابی Farabi Open CourseWare

### OCW Consortium Member



info@iui.ir

تقویم خورشیدی  
modir@iui.ir  
(0261)3409067

### آخرین اخبار

(هنوز خبری ارسال نشده است)

### Online Users

(last 5 minutes)  
هیچ

### Search Forums

Go

Advanced search

### Upcoming Events

### منابع درسی آزاد فارابی Farabi Open CourseWare



International University of Iran - Farabi Institute of Higher Education

### درسهای موجود

Human Ecology - 2 Units

اکولوژی انسانی

Information Technology - 2 Units

فناوری اطلاعات

IT Workshop - 2 Units

کارگاه فناوری اطلاعات

Human Resources Management - 3 Units

مدیریت منابع انسانی

Organization & Management - 3 Units

میانی سازمان و مدیریت

### ورود به سایت

نام کاربر

رمز ورود

ورود به سایت

هم اکنون با ایجاد یک حساب کاربری جدید شروع کنید!  
?Lost password

### محتوی اصلی

اخبار سایت



### سایت های اطلاع رسانی



موسسه آموزش عالی فارابی  
دانشگاه بین المللی ایران

### دوره های آموزشی



کارشناسی ارتد فناوری اطلاعات  
کارشناسی ارتد مدیریت اجرایی

### سامانه های آموزشی



سایت آموزشی نیمسال دوم 87-88  
سایت آموزشی نیمسال سوم 88-89  
سایت دانشجویان دانشگاه تبریز

### دانشجویان سال 88-1387





Opening the Treasures of the Mind

**PE'ER**

Open Access to Textbooks and Study Materials



The Open University of Israel



SHOHAM

[pe'er](#) [Books](#) [About Us](#) [Media Coverage](#) [YouTube](#) [Contact Us](#) [עברית](#)

The Open University of Israel (OUI) is the first academic institution in Israel to join the worldwide trend toward providing access to knowledge for the public good. As part of this trend, within the framework of the **Pe'er** project (the Hebrew acronym for "**Opening the Treasures of the Mind**"), the OUI offers Hebrew readers in Israel and throughout the world free access to its most valuable assets: textbooks and study materials. This project is related to one of the core missions of the Open University: enhancing accessibility to higher education.

Through the **Pe'er** website, the OUI provides free access to tens of academic textbooks in electronic format. Many of the books are accompanied by a full audio version, enabling users to listen to them through the Internet or download them to their personal computers and listen on mobile players. Some of the books are also complemented by video lectures by the authors or experts in the field that offer an additional perspective or emphasize certain topics. In addition to the books, the **Pe'er** portal offers free on-line access to an extensive collection of online learning objects such as lesson plans, presentations, interactive exercises, glossaries and other learning aids, developed by the university's academic teaching staff, and that until now were accessible only to OUI students.

### Registered Visitor Login

Registration is free!

[Register](#) [Forgot Password](#) [Why](#)

[For students and OUI employees](#)

E-Mail

Password

Sign in

Clear



## Thomas Edison Program for Environment and E-Learning Development, India



<http://www.thomasedisonprogram.org>



All initiatives require  
participation and leadership







## African Virtual University



## OER in Brazil

# Conclusion

- **Our Recent Activities**
- **How can you participate in the OCW Consortium and OCW Community?**

## Our Recent Activities

- **Assessing** the needs of our members
- **Exploring** possibilities for collaboration
- **Coordinating** communities of interests
- **Writing grant proposal in OER** (collaborative effort among the members)
- **Preparing** for various projects: OER/OCW accessibility and discoverability, OER/OCW and certification opportunities

# How can you participate in the OCW Consortium and OCW Community?

- Attend an OCW Consortium Annual Conference

# How can you participate in the OCW Consortium and OCW Community?

- Join the OCW Consortium Board of Directors
  - elected by Consortium members at the OCWC annual conference each year
  - A call for nominations for the Board of Directors of the OpenCourseWare Consortium is issued each year in March

# How can you participate in the OCW Consortium and OCW Community?

- Participate in Working Groups and Committees
  - One of the best ways of participating in the OCWC is to actively engage with working groups and committees
  - These both give you the chance to share your expertise, learn from others, and shape the direction of the OCW Consortium.

# How can you participate in the OCW Consortium and OCW Community?

- Join Communities of Interests

**OCW Consortium**  
OCW Consortium Interest Groups

Main Invite My Page Members Forum Events Groups Blogs

A page for all the OCW Consortium interest groups to share and exchange ideas and experiences

**Members**

+ Invite More View All

**Events**

**OCWC Global 2010**  
May 5, 2010 at 6pm to May 7, 2010 at 7pm – Hanoi, Vietnam

**Groups**

**Policy and OCW/OER**  
3 members

**Agriculture**  
1 member

**OCW for Primary and Seco...**  
1 member

+ Add a Group View All

**Blog Posts**

+ Add a Blog Post

**Chat**

1 Online



## How can you participate in the OCW Consortium and OCW Community?

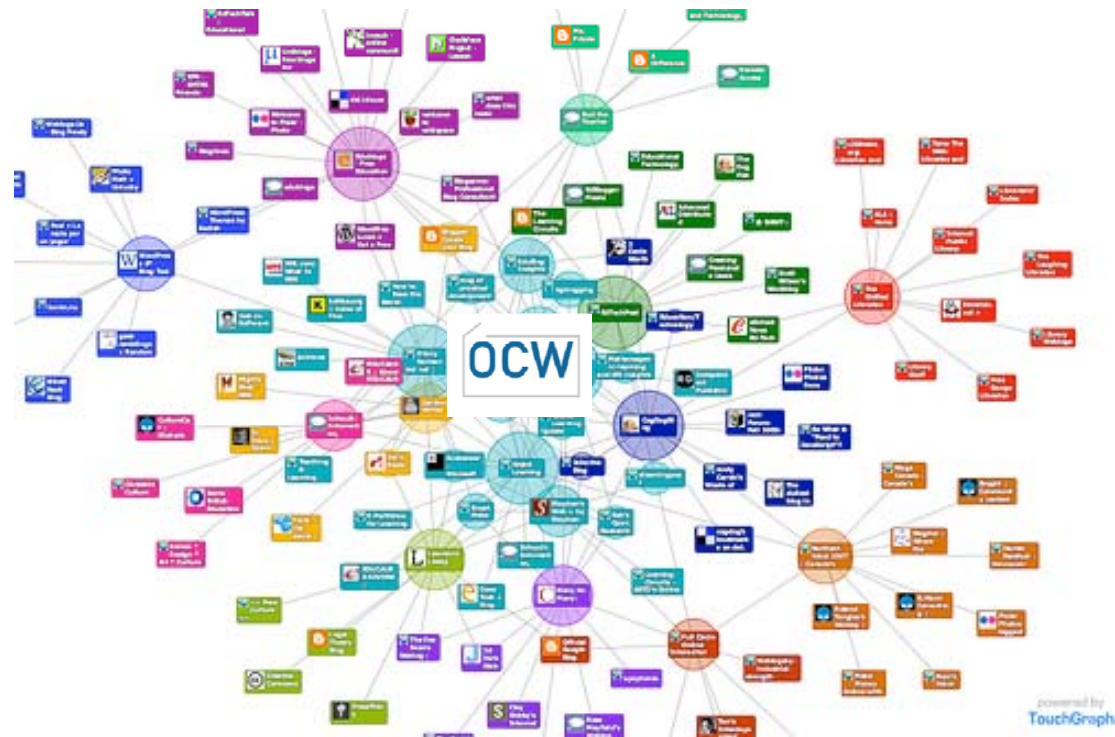
- Collaborate On Other OCW- related Projects
  - Creating guideline for copyright in OCW



<http://www.flickr.com/photos/chicagolau/4209836904/> CC-BY-NC-SA

Get the word out – raise awareness

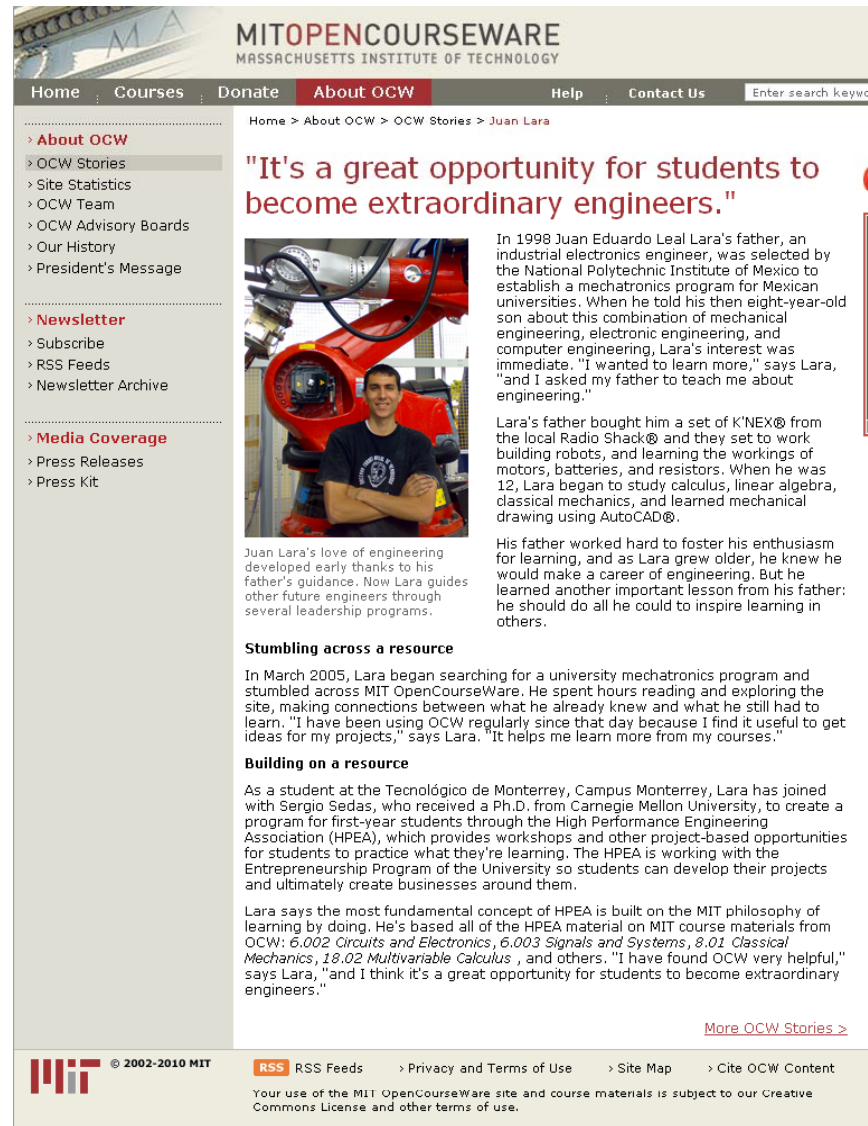
# Impact



<http://www.flickr.com/photos/dnorman/436670816/>

CC BY 3.0

Develop a  
library of OER  
case studies  
for everyone  
to access




The screenshot shows the MIT OpenCourseWare website. At the top, the MIT logo and 'MIT OPEN COURSEWARE MASSACHUSETTS INSTITUTE OF TECHNOLOGY' are visible. A navigation bar includes 'Home', 'Courses', 'Donate', 'About OCW', 'Help', and 'Contact Us'. A search bar is on the right. The main content area features a sidebar with links to 'About OCW', 'Newsletter', and 'Media Coverage'. The main article is titled '"It's a great opportunity for students to become extraordinary engineers."' and includes a photo of Juan Lara with a red robotic arm. The article text describes his background and his use of OCW. At the bottom, there is a footer with the MIT logo, copyright information, and links to RSS feeds, privacy terms, site map, and OCW content.

MIT OPEN COURSEWARE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Home Courses Donate About OCW Help Contact Us Enter search keywords

Home > About OCW > OCW Stories > Juan Lara

## "It's a great opportunity for students to become extraordinary engineers."



In 1998 Juan Eduardo Leal Lara's father, an industrial electronics engineer, was selected by the National Polytechnic Institute of Mexico to establish a mechatronics program for Mexican universities. When he told his then eight-year-old son about this combination of mechanical engineering, electronic engineering, and computer engineering, Lara's interest was immediate. "I wanted to learn more," says Lara, "and I asked my father to teach me about engineering."

Lara's father bought him a set of K'NEX® from the local Radio Shack® and they set to work building robots, and learning the workings of motors, batteries, and resistors. When he was 12, Lara began to study calculus, linear algebra, classical mechanics, and learned mechanical drawing using AutoCAD®.

His father worked hard to foster his enthusiasm for learning, and as Lara grew older, he knew he would make a career of engineering. But he learned another important lesson from his father: he should do all he could to inspire learning in others.

### Stumbling across a resource

In March 2005, Lara began searching for a university mechatronics program and stumbled across MIT OpenCourseWare. He spent hours reading and exploring the site, making connections between what he already knew and what he still had to learn. "I have been using OCW regularly since that day because I find it useful to get ideas for my projects," says Lara. "It helps me learn more from my courses."

### Building on a resource

As a student at the Tecnológico de Monterrey, Campus Monterrey, Lara has joined with Sergio Sedas, who received a Ph.D. from Carnegie Mellon University, to create a program for first-year students through the High Performance Engineering Association (HPEA), which provides workshops and other project-based opportunities for students to practice what they're learning. The HPEA is working with the Entrepreneurship Program of the University so students can develop their projects and ultimately create businesses around them.

Lara says the most fundamental concept of HPEA is built on the MIT philosophy of learning by doing. He's based all of the HPEA material on MIT course materials from OCW: *6.002 Circuits and Electronics*, *6.003 Signals and Systems*, *8.01 Classical Mechanics*, *18.02 Multivariable Calculus*, and others. "I have found OCW very helpful," says Lara, "and I think it's a great opportunity for students to become extraordinary engineers."

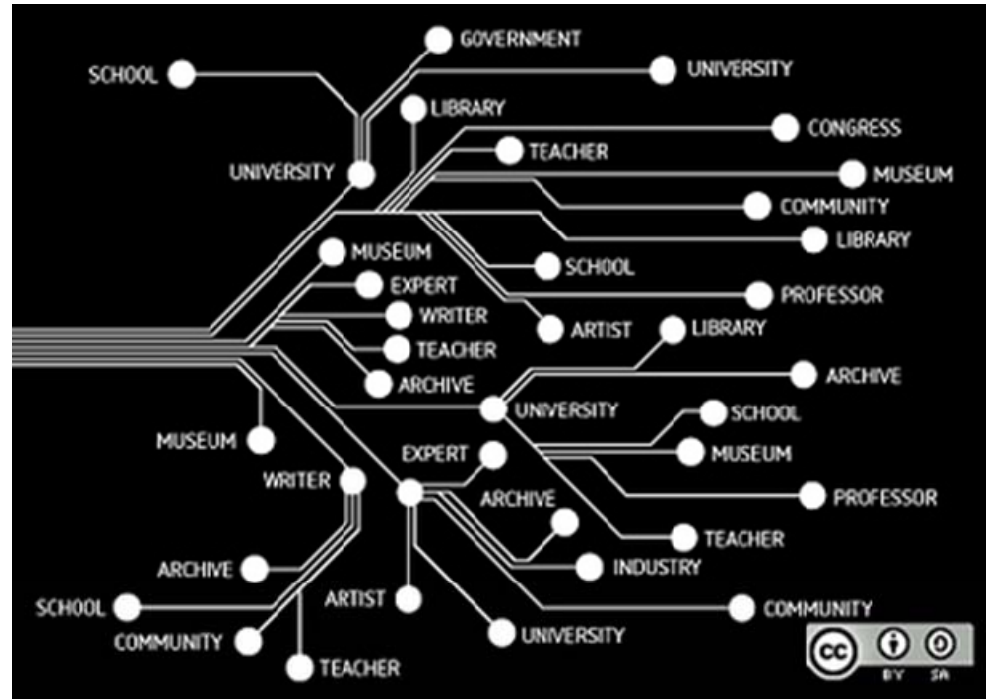
[More OCW Stories >](#)

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Your use of the MIT OpenCourseWare site and course materials is subject to our [Creative Commons License](#) and other terms of use.

## Promote and disseminate research





Continue OER Advocacy



Greater Usability

# Stay Informed

- OCW Consortium on YouTube and Vimeo

**You** **Tube**

**Search options** "OpenCourseWare Consortium"

**OCW Consortium Webinar: eduCommons 3.2.1 Part 1**  
Tom Caswell, the project manager of the **OpenCourseWare Consortium** gives a presentation on the new features of eduCommons 3.2.1. This is no rating 6 months ago 112 views [OCWConsortium](#)

**Philipp Schmidt talks about the Workshop on OER in South Africa**  
co-hosted by the University of Western Cape, the **OpenCourseWare Consortium**, and the University of Cape Town. Read more about it at no rating 1 month ago 26 views [OCWConsortium](#)

**OCW Consortium Webinar: Moodle for OCW part 1**  
Jenny Gray from the OOUK's OpenLearn presents on using Moodle for **OpenCourseWare** no rating 1 month ago 22 views [OCWConsortium](#)

**Translate Aspectos estratégicos en el OpenCourseWare**  
Aspectos estratégicos en el **OpenCourseWare Consortium** por Stephen Carson. Jornada Internacional sobre Recursos Educativos en Abierto no rating 1 year ago 143 views [UPM](#)

**OCW Consortium Webinar: eduCommons 3.2.1. Part 2**  
Tom Caswell, the project manager of the **OpenCourseWare Consortium**




# Stay Informed

- OCW Consortium on Facebook and Flickr

The screenshot shows the Facebook profile page for the OpenCourseWare Consortium. At the top, there is a blue navigation bar with the Facebook logo, a search bar, and links for 'Keep me logged in' and 'Forgot your password?'. Below the navigation bar, there is a green 'Sign Up' button and a message: 'OpenCourseWare Consortium (and friends) is on Facebook. Sign up for Facebook to connect with OpenCourseWare Consortium (and friends)'. The main profile area features the OCW Consortium logo on the left and the name 'OpenCourseWare Consortium (and friends)' with a 'Join' button on the right. Below the name are tabs for 'Wall', 'Info', 'Discussions', and 'Photos'. The 'Info' tab is selected, showing 'Basic Info' and 'Contact Info'. The 'Basic Info' section includes the name, category ('Organizations - Academic Organizations'), and a detailed description of the consortium's mission. The 'Contact Info' section lists the email address, website, office address, and location.

**facebook**    [Keep me logged in](#) [Forgot your password?](#)

**OpenCourseWare Consortium (and friends) is on Facebook**  
Sign up for Facebook to connect with OpenCourseWare Consortium (and friends).

 **OpenCourseWare Consortium (and friends)**

[Wall](#) [Info](#) [Discussions](#) [Photos](#)

**Basic Info**

Name: OpenCourseWare Consortium (and friends)  
Category: Organizations - Academic Organizations  
Description: The OpenCourseWare Consortium is a collaboration of more than 200 higher education institutions and associated organizations from around the world creating a broad and deep body of open educational content using a shared model. The mission of the OpenCourseWare Consortium is to advance education and empower people worldwide through opencourseware.  
Privacy Type: Open: All content is public.

**Contact Info**

Email: [feedback@ocwconsortium.org](mailto:feedback@ocwconsortium.org)  
Website: <http://ocwconsortium.org>  
Office: <http://ocwconsortium.org>  
Location: 1 Broadway  
Cambridge, MA

**Information**

Category: Organizations - Academic Organizations  
Description: The OpenCourseWare Consortium is a collaboration of more than 200 higher education institutions and associated organizations from around the world creating a broad and deep body of open educational content using a shared model. The mission of the OpenCourseWare Consortium is to advance education and empower people worldwide through opencourseware.  
Privacy Type: Open: All content is public.

# Stay Informed

- OCW Consortium on Twitter

The screenshot shows the Twitter profile for the OCW Consortium (@ocwnews). At the top, the Twitter logo is on the left, and a 'Sign in' button is on the right. Below the logo is a promotional banner with the text: 'Get short, timely messages from OCW Consortium. Twitter is a rich source of instantly updated information. It's easy to stay updated on an incredibly wide variety of topics. Join today and follow @ocwnews.' A yellow button labeled 'Give it a try >' is on the left, and a link to get updates via SMS is on the right. The profile header includes the OCW Consortium logo (ICV NSORTI) and the name 'ocwnews'. To the right of the header, profile details are listed: Name (OCW Consortium), Location (Global), Web (http://ocwblog.org), and Bio (News about OCW related things. A project of the OCW Consortium). Below the header, statistics show 62 following, 253 followers, and 26 listed. A 'Tweets' section shows 586 tweets, and a 'Following' section shows a row of profile pictures.

twitter

Have an account? [Sign in](#)

**Get short, timely messages from OCW Consortium.**

Twitter is a rich source of instantly updated information. It's easy to stay updated on an incredibly wide variety of topics. [Join today](#) and **follow @ocwnews**.

[Give it a try >](#)

Get updates via SMS by texting **follow ocwnews** to your local code. [Codes for other countries](#)

**ICV NSORTI ocwnews**

**Name** OCW Consortium  
**Location** Global  
**Web** <http://ocwblog.org>  
**Bio** News about OCW related things. A project of the OCW Consortium.

62 following 253 followers 26 listed

**Tweets** 586

[Favorites](#)

**Following**

# Stay Informed

- OCW Consortium's Blog



« Older Entries

## Dues, present and future

Published by Steve Carson on April 8, 2010 in [OCWC Board](#), [OCWC Conference](#), [ocw consortium](#) and [opencourseware](#). 0 Comments

On behalf of the staff and board of the Consortium, I'd like to thank the membership for the smooth introduction of dues as a facet of Consortium membership. While we were pleased and grateful to announce the recent [charter sustaining member commitments](#), we recognize that the majority of members are not in a position to make a commitment at this level. The regular dues payments made by the broader membership, however, are equally important to the ongoing sustainability of the organization and we appreciate the financial support for the Consortium.

The staff and board are committed to continually increasing the value members received for their support, providing better visibility for member websites, more opportunities for best practice exchange, and increased support for workgroups and other member-driven activities. We are also committed to careful and responsible

go

### Recent Posts

- [Dues, present and future](#)
- [Kicking off the Strategic Planning Online Discussion](#)
- [April OCW Consortium Webinar: Connexions](#)
- [OCW Consortium Newsletter March 2010](#)
- [Invitation to participate: GlobalPulse 2010](#)

### Recent Comments

- [Dues, present and future at OCW Blog on Leading global universities make commitments to OpenCourseWare's future](#)
- [Meena Hwang on TU Delft OpenCourseWare](#)
- [Ronald Lewis Loans on Play With Our OPML. Seriously.](#)

# Stay Informed

- OCW Consortium Conference Website
- OCW Consortium Newsletter
- OCW Consortium Monthly Webinars

# Stay Informed

- **OCW Consortium Website** : <http://www.ocwconsortium.org/>
- **OCW Consortium Wiki**:  
[http://wiki.ocwconsortium.org/index.php?title=Main\\_Page](http://wiki.ocwconsortium.org/index.php?title=Main_Page)
- **OCW Consortium Toolkit**: <http://www.ocwconsortium.org/community/toolkit>
- **OCW Consortium Blog**: <http://ocwconsortium.org/blog>
- **OCW Consortium Conference website** : <http://conference.ocwconsortium.org>
- **OCW Consortium news on Twitter** : <http://twitter.com/ocwnews>
- **OCW Consortium Facebook** : <http://www.facebook.com/OCWConsortium>
- **OCW Consortium Videos** : <http://www.youtube.com/ocwconsortium>;  
<http://www.vimeo.com/ocwconsortium>
- **OCW Consortium Newsletter** : <http://ocwconsortium.org/newsletter>
- **OCW Consortium on Flickr** : <http://www.flickr.com/photos/50482208@N04/>
- **OCW Consortium Monthly Webinar**

# Stay Informed

- **OCW Consortium Committees and Working Groups mailing lists :** <http://www.ocwconsortium.org/maillinglists>
- **OCW Consortium Interest Groups:** <http://communities.ocwconsortium.org>

Activities of the OpenCourseWare Consortium are generously supported by:

The William and Flora Hewlett Foundation

Sustaining Members of the OCW Consortium:

African Virtual University  
China Open Resources for Education  
Delft University of Technology  
Japan OpenCourseWare Consortium  
Johns Hopkins Bloomberg School of Public Health  
Korea OpenCourseWare Consortium  
Massachusetts Institute of Technology  
Open Universiteit  
Tecnológico de Monterrey  
Tufts University  
Universia.net  
Universidad Politécnica de Madrid  
University of California, Irvine  
University of Michigan  
University of the Western Cape

And contributions of member organizations





# Key Activities 2011

**OPEN**COURSEWARE  
CONSORTIUM

2011 Global Conference

Celebrating  
10 Years of  
OpenCourseWare



Boston, USA

May 4-6, 2011

<http://www.flickr.com/photos/brentdanley/2578799899/>



**OPEN**COURSEWARE  
CONSORTIUM

advancing formal and informal learning through the  
worldwide sharing and use of free, open, high-quality  
education materials organized as courses.

**OPEN**COURSEWARE  
CONSORTIUM

[www.ocwconsortium.org](http://www.ocwconsortium.org)

[feedback@ocwconsortium.org](mailto:feedback@ocwconsortium.org)



# Open Sharing, Global Benefits

The OpenCourseWare Consortium

[www.ocwconsortium.org](http://www.ocwconsortium.org)



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*Opensourceways* <http://www.flickr.com/photos/opensourceway/4371000710/> cc-by-sa