



Open Education and OERs repositories



Course Report

Massive Online Open Course coordinator
Manuel Castro

New Project Initiative
IEEE Education Society
October 16th 2017

1. Staff organization

Coordinator: Manuel Castro, (IEEE Fellow Member, Past President Senior EdSoc, BoG IEEE EdSoc Spain Chapter)

On-going proposal: Edmundo Tovar (IEEE Senior Member, VP Educational Activities EdSoc, BoG IEEE EdSoc Spain Chapter), Sergio Martin (IEEE Senior Member, BoG IEEE EdSoc Spain Chapter), Rebecca Strachan (IEEE Member, IEEE EdSoc BoG member at large) and Oscar M Bonastre (IEEE Senior Member, BoG IEEE EdSoc Spain Chapter, Spain Section)

Local Advisory Committee

Oscar Martinez-Bonastre, Edmundo Tovar, Martin Llamas, Manuel Caeiro, Javier Garcia-Zubia, Manuel Gericota, Gabriel Diaz, Francisco Arcega, Sergio Martin

IEEE Education Society BoG involvement

Claudio da Rocha Brito, Melany Ciampi, Jim Sluss, Russ Meier, Lance Perez, Tony Maciejewski, Rebecca Strachan

IEEE Educational Activities involvement

Jill Bagley, Marguerite Corazza, Jonathan Dahl, James Moesch, S. K. Ramesh

2. About This Course

We have gathered subject matter experts academia to join the course as guest lecturers. These experts provide further insight into their particular topics of expertise. Please visit the Appendix at the end of this document to see their biographies.

Open education and open educational resources are deeply influencing and transforming the educational environment. This course offers a practitioner's view of open education, open educational resources, repositories and applications for educators and professionals.

This 4-week course is designed to provide a comprehensive understanding of the ways in which open education and open educational resources are changing the rules of education. The purpose of the course is to help faculty and professionals dedicated to education to understand the advantages of open education and how they can apply it to their everyday teaching.

Prerequisites

No previous knowledge is necessary.

Time Commitment

Approximately 3-5 hours per week.

Deadlines

Course starts on August 19. All course requirements must be completed by 17 September 2017 at 23:30 UTC.

Learning outcomes

On completing this course, you will strengthen your knowledge and career potential by demonstrating an understanding of:

1. Foundations of open education and open educational resources (OERs)
2. Open licences that apply to OERs;
3. How to search, create, use, remix and share OERs;
4. OERs repositories;
5. OERs Applications to Academia & Industry

Course Outline

Unit 1: Introduction to Open Education & OERs

- Open source way
- Open education
- Open educational resources
- Open courses: from OCW to MOOCs

Unit 2: Repositories

- Communities based on OER Repositories. Repositories of general purpose
- Open practices based on repositories
- Challenges to use OER from repositories
- Open engineering communities. The case of IT and CS communities in Merlot repository

Unit 3: Applications to Academic and Industry

- Teaching through Open Education
- Research and Open Access
- Industry and Open Education
- The Future

Unit 4: Applications for OERs

- OERs: properties, formats and tools
- Creative Commons Licenses and their use
- OERs and media: presentations and documents / video (creation and modification)
- Other OERs (Lesson Plans, Rubrics, Assessments, etc.)

The modules distribution among partners was the following:

Unit 1. – Introduction to Open Education & OERs – UNED (Spain)

Unit 2. – Repositories – UPM & Miguel Hernandez University (Spain)

Unit 3. – Applications to Academia & Industry – Northumbria University (UK)

Unit 4. – Applications for OERs – Vigo University (Spain)

Resources developed

The resources developed for the course include video. These videos include intro videos, video-lectures (figure 1), video conclusions and video lectures as additional resources.

The screenshot displays a virtual course interface. At the top, the course title is 'edX IEEEx: FOE01.x Foundations to Open Education and OERs repositories' with a user profile 'semagu'. Below this, a navigation bar shows 'Ver este curso como: Equipo' and 'Ayuda'. The main content area is titled 'Curso > Week 4. OER Applications > 4.1 OERs: Properties, Formats and Tools in Practice > Video'. A video player is embedded, showing a lecture by Manuel Caeiro Rodriguez. The video title is '4.1 OERs in Practice' and the content includes a transcript on the right side of the player. The transcript discusses the practical aspects of using open educational resources, noting that they are not static entities but living beings that require ongoing attention and support.

Figure 1. Screenshot of the virtual course with a video lecture.

The course also includes mandatory and additional readings, basically consisting on links to website and digital resources where to learn more in detailed the contents explained in the video lectures. And finally each module includes several research exercises where the students must research about a certain topic on the Internet and discuss about it in the forum with the peers (Figure 2).

edX IEEE: FOE01.x Foundations to Open Education and OERs repositories semagu

Ver este curso como: Equipo Ayuda

Curso Discusión Progreso Learn About IEEE Instructor

Curso > Week 4. OER Applications > 4.1 OERs: Properties, Formats and Tools in Practice > Research exercise

< Anterior [grid icon] [document icon] [document icon] [document icon] Siguiente >

Research exercise VER LA UNIDAD EN STUDIO

[Marcar esta página](#)

Research on the Internet about open formats and open source tools for 3 different types of resources that you may be interested in. You can also propose some proprietary format or tool if you think they can be useful. We encourage you to publish your findings in the following thread of the forum and provide opinion about yours and other students' findings.

[Access forum thread](#)

Figure 2. Screenshot of the virtual course with a research exercise.

The following list details the resources developed in each module:

Unit 0: Course introduction

- Questionnaires: 0
- Videos: 1 intro vídeo and 1 promo video
- Transcriptions: Yes
- Mandatory reading: 0
- Additional resources: 0
- Research exercises: 0
- Forum threads created to foster collaboration in the exercises: 0

Unit 1: Introduction to Open Education & OERs

- Questionnaires: 1 Pretest (for self-evaluation) and 1 post-test (graded)
- Videos: 1 intro vídeo, 5 video lectures, and 1 conclusion video (4-14 minutes)
- Transcriptions: Yes
- Mandatory reading: 8 links
- Additional resources: 4 link
- Research exercises: 4
- Forum threads created to foster collaboration in the exercises: 4

Unit 2: Repositories

- Questionnaires: 1 Pretest (for self-evaluation) and 1 post-test (graded)
- Videos: 1 intro vídeo, 4 video lectures, and 1 conclusion video

- Transcriptions: Yes
- Mandatory reading: 2 links
- Additional resources: 9 link, 1 video (30 min) and 1 journal article
- Research exercises: 1
- Forum threads created to foster collaboration in the exercises: 1

Unit 3: Applications to Academic and Industry

- Questionnaires: 1 Pretest (for self-evaluation) and 1 post-test (graded)
- Videos: 1 intro video, 5 video lectures, and 1 conclusion video
- Transcriptions: Yes
- Mandatory reading: 6 links
- Additional resources: 30 links
- Research exercises: 4
- Forum threads created to foster collaboration in the exercises: 4

Unit 4: Applications for OERs

- Questionnaires: 1 Pretest (for self-evaluation) and 1 post-test (graded)
- Videos: 1 intro video, 4 video lectures, and 1 conclusion video (aprox. 3-9 min)
- Transcriptions: Yes
- Mandatory reading: 2 links
- Additional resources: 33 links
- Research exercises: 3
- Forum threads created to foster collaboration in the exercises: 4

Unit 5: Conclusions

- Questionnaires: 0
- Videos: 3
- Transcriptions: Yes
- Mandatory reading: 0
- Additional resources: 0
- Research exercises: 0
- Forum threads created to foster collaboration in the exercises: 0

3. Enrolment data

Currently there are 1173 students enrolled in the course (figure 3). Most of them were enrolled from July 25, 2017.

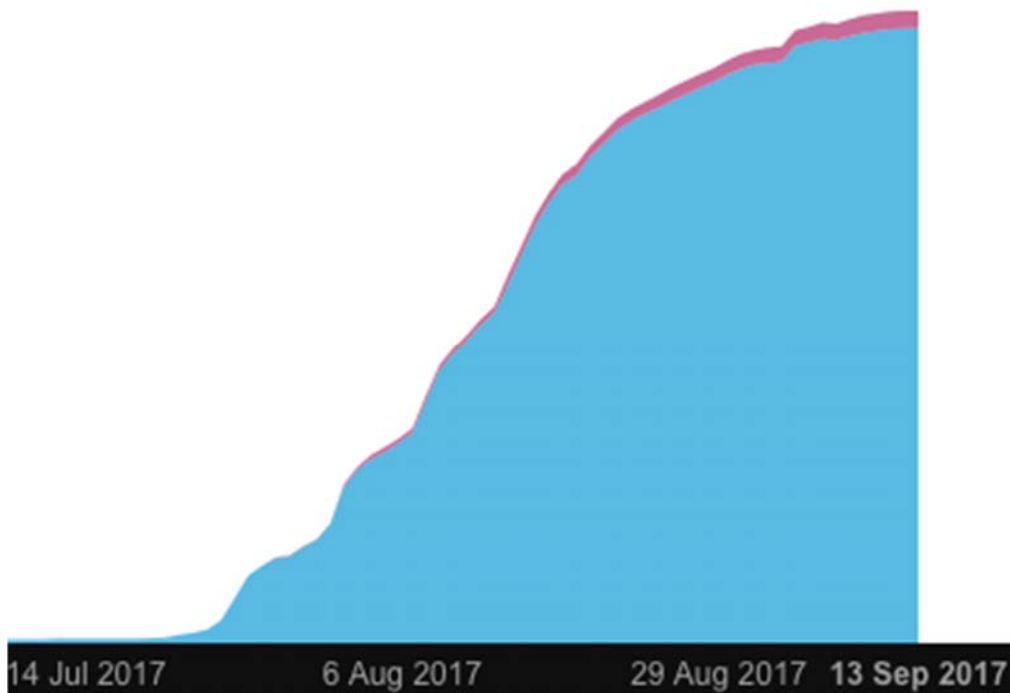


Figure 3. Daily learner enrollment

Demographics. Age

Learners (Self-Reported)



Figure 4. Graph showing the age demographics

Regarding the Median Learner Age, the midpoint of the learner ages, computed from the provided year of birth is 37. The percentage of learners aged 25 years or younger is 17.3%.

The percentage of learners aged from 26 to 40 years (of those who provided a year of birth) is 41.8%. The learners with 41 and Over are the 40.8%.

Demographics. Studies

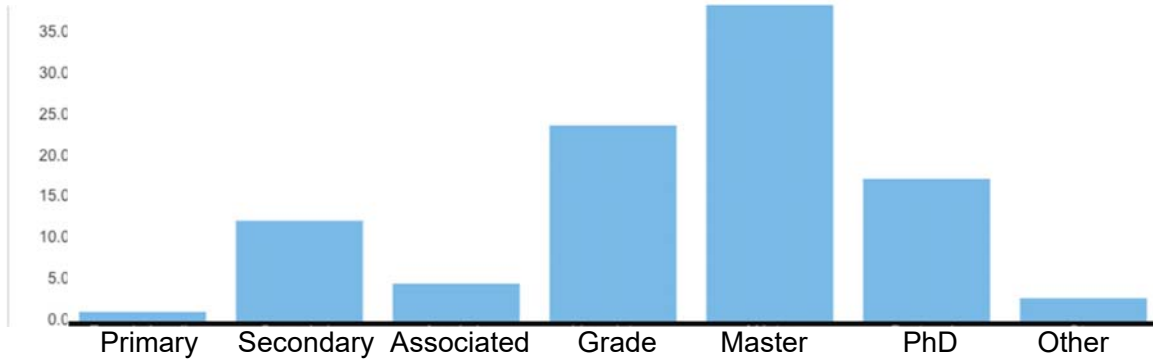


Figure 5. Graph showing the studies demographics

The 29.5% of the participants had a University degree and 55.1% Master or PhD.

Demographics. Genre

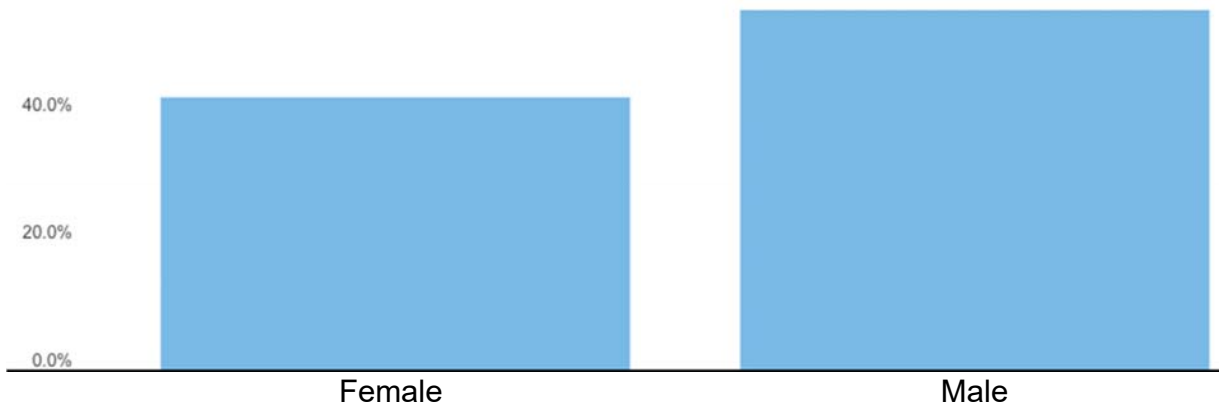
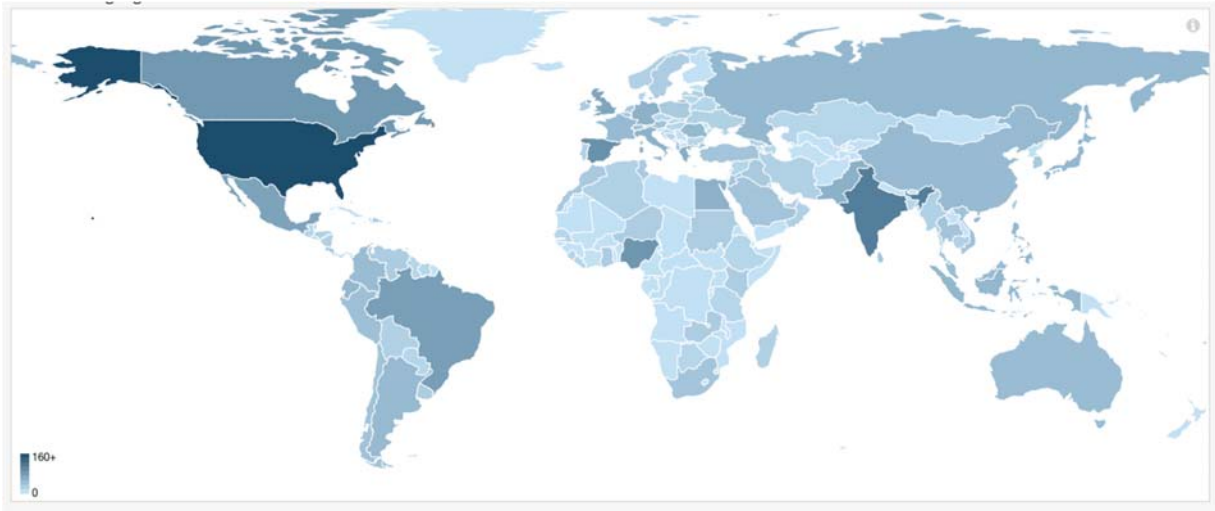


Figure 6. Graph showing the genre demographics

Regarding genre, 57.3% of the participants were male and 41.6% female.

Geographic distribution

There are students from 117 countries. The country with more students is USA with 17.4% of the total, followed by Spain (6.9%) and India (6.8%).



Country	Percentage	Current enrollment
USA	17,4%	192
Spain	6,9 %	76
India	6,8 %	75
Unknown	5,9 %	64
Nigeria	3,9 %	43
Canada	3,6 %	39
Brazil	3,6 %	39
México	3,4 %	37
UK	2,7 %	30
Italy	1,7 %	19
Pakistan	1,6 %	18
Greece	1,6 %	18
Egypt	1,6 %	17
Germany	1,6 %	17
Ecuador	1,6 %	17

Country	Percentage	Current enrollment
Indonesia	1,5 %	16
Japan	1,3 %	14
Philipines	1,3 %	14
Russia	1,2 %	13
Romania	1,2 %	13
Argentina	1,2 %	13
China	1,2 %	14
France	1,1 %	12
Australia	1,1 %	12
Colombia	< 1%	10
Malasia	< 1%	10
Peru	< 1%	9
Austria	< 1%	8
Chile	< 1%	8
Vietnam	< 1%	7
Albania	< 1%	7
Belgium	< 1%	7
Switzerland	< 1%	7
Hong Kong	< 1%	7
Jordan	< 1%	6
Saudi Arabia	< 1%	6
Thailandia	< 1%	6
Turkey	< 1%	6

Country	Percentage	Current enrollment
SouthAfrica	< 1%	6
Costa Rica	< 1%	6
Sri Lanka	< 1%	6
Irak	< 1%	6
South Korea	< 1%	5
Libanon	< 1%	5
Mororcco	< 1%	5
The Netherlands	< 1%	5
Poland	< 1%	5
Tunicia	< 1%	4
Taiwan	< 1%	4
Dominican Republic	< 1%	4
Ghana	< 1%	4
Ireland	< 1%	4
Kenia	< 1%	4
Niger	< 1%	3
Sudán	< 1%	3
Sweeden	< 1%	3
El Salvador	< 1%	3
Uruguay	< 1%	3
Venezuela	< 1%	3
Zambia	< 1%	3
United Arab Emirates	< 1%	3

Country	Percentage	Current enrollment
Bolivia	< 1%	3
Belice	< 1%	3
Argelia	< 1%	3
Georgia	< 1%	2
Honduras	< 1%	2
Croatia	< 1%	2
Iran	< 1%	2
Camboya	< 1%	2
Letonia	< 1%	2
Madagascar	< 1%	2
Birmania	< 1%	2
Nicaragua	< 1%	2
Norway	< 1%	2
Oman	< 1%	2
Puerto Rico	< 1%	2
Portugal	< 1%	2
Ucrania	< 1%	2
Azerbaiyán	< 1%	2
Bosnia y Herzegovina	< 1%	1
Barbados	< 1%	1
Banglades	< 1%	1
Bulgaria	< 1%	1
Bahamas	< 1%	1

Country	Percentage	Current enrollment
Botsuana	< 1%	1
Bielorrusia	< 1%	1
Czech Republic	< 1%	1
Denmark	< 1%	1
Ethiopia	< 1%	1
Fiji	< 1%	1
Guatemala	< 1%	1
Guyana	< 1%	1
Hungary	< 1%	1
Jamaica	< 1%	1
Kuwait	< 1%	1
Kazajistan	< 1%	1
Santa Lucia	< 1%	1
Liberia	< 1%	1
Lituania	< 1%	1
Luxemburgo	< 1%	1
Malta	< 1%	1
Mauricio	< 1%	1
Estado de Palestina	< 1%	1
Paraguay	< 1%	1
Catar	< 1%	1
Eslovaquia	< 1%	1
Sierra Leona	< 1%	1

Country	Porcentage	Current enrollment
Senegal	< 1%	1
Surinam	< 1%	1
Siria	< 1%	1
Trinidad yTobago	< 1%	1
Tanzania	< 1%	1

4. Learner performance data

The following graph shows the students weekly interaction during the course:

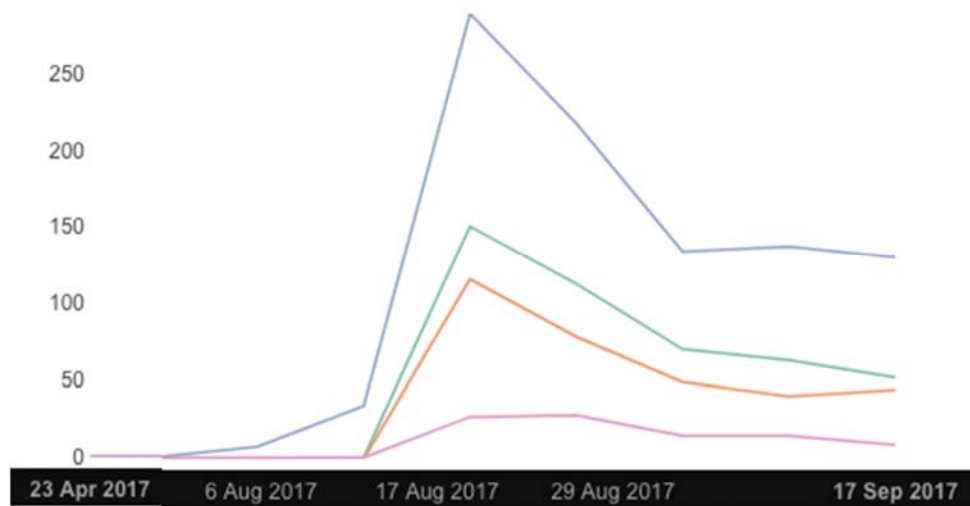


Figure 7. Graph showing the weekly performance

The following table shows the analysis of the interaction of students with the resources:

Weekend	Active studentds	Watched a video	Attempt to solve a task	Participated in Discussions	Percent of Current Learners
September 10, 2017	136	63	40	15	12,5 %
September 3,2017	133	70	49	15	12,9 %
August 27, 2017	215	112	78	28	22,2 %
August 20, 2017	285	149	115	27	33,3 %
August 13, 2017	34	1	0	1	5,9 %

Regarding video visualization, the following graph and table show the evolution of learner activity:

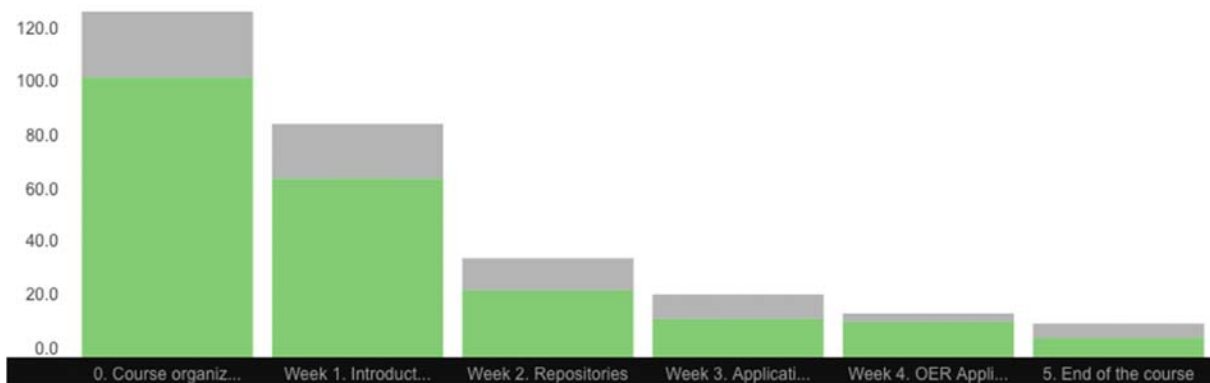


Figure 8. Graph showing the learner activity

Module	Videos	Average of full views	Average of incomplete views	Percent Complete
0. Course organization	2	105,0	24,5	81,1 %
Week 1. Introduction to Open Education & OERs	7	67,3	20,4	76,7 %
Week 2. Repositories	5	25,0	12,0	67,6 %
Week 3. Applications to Academia & Industry	5	14,4	9,0	61,5 %
Week 4. OER Applications	6	13,3	3,2	80,8 %
5. End of the course	3	7,3	5,3	57,9 %

Regarding discussion forums, there were a total of 37 discussion threads. The most active forum discussions were the ones associated to the research exercise of the modules. The activity decreases in the forums according to the activity in the different units. For example, the research exercise of unit 1.2 had 80 messages, the exercise of unit 1.3 had 49 messages, 25 the exercise 1.4 and 24 the exercise 1.5. The following screenshot of the forum activity ordered by activity shows this evolution:

Mostrar todas las publ \downarrow
por mayor actividad \updownarrow

1.2 Research exercise Research on the Internet ab...	80
1.3 Research exercise There are many examples o...	49
1.4 Research exercise There are many examples o...	25
1.5 Research exercise YouTube contains many mil...	24
2.1 Research exercise Choose one of the open rep...	17
4.1 Research exercise Research on the Internet ab...	12
3.5 Research exercise Read the following article a...	7
Introducing myself Hi, all, My name is Vera. I a...	2 nuevos 6
OERs & Open/Free Education in India I just wanted to share the in...	4
2.4 Research exercise Steps to do: 1) Watch an int...	4
4.2 Research exercise There are many different tv...	4

1.2 Research exercise

discusión publicada hace hace 4 meses por **semagu**

Research on the Internet about real examples of the open source movement applied to environments different than software. We encourage you to publish your conclusions answering this message and provide opinion about other students' conclusions.

Esta publicación es visible para todos.

Añadir una respuesta

39 respuestas

JohanJouck

hace 30 días

One interesting open source example I found was the Open Furniture Movement. Furniture makers can share their designs with the world. These downloadable designs can often be configured to the client's taste. You just take the design to a local furniture maker or the parts can be shipped to your home. For more information you can click on following link: <http://makezine.com/2014/03/18/open-source-furniture-2/>

The big advantage of this concept is of course that you can choose from a larger variety of furniture from your home. In case of spatial restraints in your home, you can always modify the existing model to your needs (a larger/smaller table) instead of ending up buying your second or third choice. Local furniture makers can benefit from OFurniture because clients ask them to make the designs they found on the internet. This way production is not limited to the house style. These makers can also contribute by sharing their own designs with the community or modified furniture from other designers.

Very cool! I have seen much the same (except on a smaller scale) with files for 3D printers. Once you have the set up file (and of course the printer and the plastic) you can make exactly what you want and then offer the file for free under some license or

Regarding grading, most students (93%) did not attempt any module assignment. Only 7% (82) of the students attempted any test. From these students 56.1% (46) passed the course obtaining at least a 5 in a scale from 0 to 10. In the global of the 1155 students enrolled in the course (during the period where was open), it means that only 3.98% of students passed the course.

From the 46 students that passed the course, 16 requested a verified certificate from edX. This means that 34.7% of the students that passed the course requested a paid certificate. In the global of the total enrolled students, only 1.39% of students passed the course and requested a paid certificate.

5. Final comments

The first IEEE Education Society MOOC course was located at IEEEEx inside his area under the umbrella of the edX platform.

IEEEEx: FOE01.x Foundations to Open Education and OERs repositories

<https://courses.edx.org/courses/course-v1:IEEEEx+FOE01.x+3T2017/course/>

Videos

The majority of the videos are located at YouTube, starting with the promotional video,

<https://www.youtube.com/watch?v=GDmTVsfeOkY>

as well as some other links that can be included here,

Course organization,

<https://www.youtube.com/watch?v=mDNi2l2BGtM>

Units

<https://www.youtube.com/watch?v=WjO1kqk7YNU>

<https://www.youtube.com/watch?v=yCmvgdKEHME>

<https://www.youtube.com/watch?v=ROXwM0H5a58>

<https://www.youtube.com/watch?v=W6qDb25Wz5k&t=27s>

<https://www.youtube.com/watch?v=qY2oNRiBJnE>

<https://www.youtube.com/watch?v=uyPWIPV1QyY>

<https://www.youtube.com/watch?v=cigPXttvDAg>

<https://www.youtube.com/watch?v=ue20kGbueJo>

https://www.youtube.com/watch?v=f_f26y5TzFE

<https://www.youtube.com/watch?v=DZ44wjuYGUE>

<https://www.youtube.com/watch?v=raoYYRwNac4>

Course conclusions,

<https://www.youtube.com/watch?v=3d22D7GnScE>

As a final part of the MOOC, we included some videos regarding IEEE and IEEE Education Society activities,

IEEE Advancing Technologies for the Humanity

https://www.youtube.com/watch?v=HRDvQ_twa_g

IEEE Organization Units

<https://www.youtube.com/watch?v=ysrm8ltBEE4>

As finally, some snapshots of those final videos >>>



UNED

5.3 IEEE Organizational Units

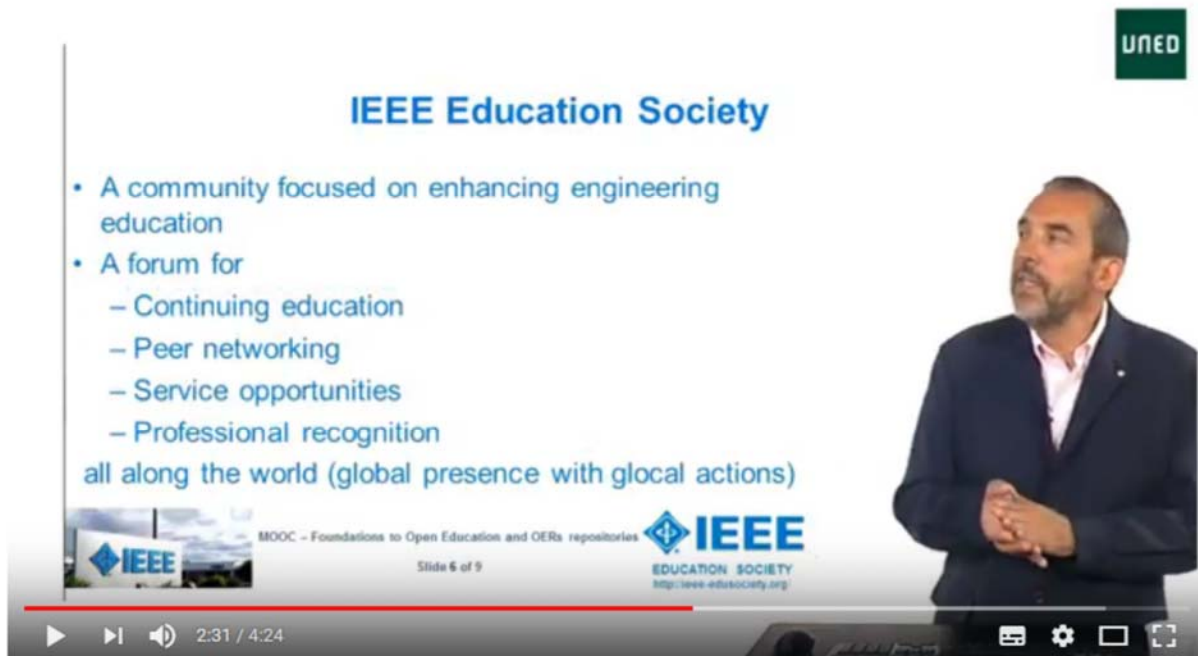
MOOC – Foundations to Open Education and OERs repositories

IEEE EDUCATION SOCIETY
<http://ieee-edusociety.org/>

Manuel Castro, PhD (mcastro@ieec.uned.es)
UNED – Spanish University for Distance Education
Full professor
IEEE Fellow member

UNED

0:07 / 4:24



UNED

IEEE Education Society

- A community focused on enhancing engineering education
- A forum for
 - Continuing education
 - Peer networking
 - Service opportunities
 - Professional recognition

all along the world (global presence with glocal actions)

MOOC – Foundations to Open Education and OERs repositories

IEEE EDUCATION SOCIETY
<http://ieee-edusociety.org/>

Slide 6 of 9

2:31 / 4:24



And finally, the syllabus document that is annexed to this final report covering the entire course outline.



Course Guide

Course coordinator
Manuel Castro

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IEEE Education Society*

