

Massive Open Online Courses (MOOC): An Instrument for ETP and STI Capacity Building, Experiences from Universities in Bremen and Germany



Reindustrialization of Tunisia:
Towards equitable and sustainable development, and further democracy.
Tunis, 12. - 13. February 2016

Dr. Yildiray Ogurol (Managing Director)
Center for Multimedia in Higher Education (ZMML)
University of Bremen, Germany

Overview

1. Bremen University and ZMML
2. MOOC Basics, up to date Statistics and Trends
3. Germany and Bremen University Perspective
4. Tunisia Perspective

University of Bremen

- Founded in October 1971
- 18.000+ Students
 - 30% from Bremen
 - 30% from Lower Saxony
 - 25% from other German federal states
 - 15% from abroad
- 3.200+ Staff
 - 1.990+ Scientists and Scholars
 - including 280+ tenured Professorships
 - 750 Researchers are financed by external funding
 - 1.240+ Administrative, Technical and Secretarial staff



The E-Learning-Center

Center for Multimedia in Higher Education (ZMML)

- **E-Learning-Plattform (LMS)**

70%+ of lectures run on the platform

(elearning.uni-bremen.de)

- **E-Assessment / Testcenter**

8.500+ eExam / semester

(eassessment.uni-bremen.de)

- **Media Services**

1.400+ recordings of lectures

Pre-Production in Green screen Film Studio

(mlecture.uni-bremen.de)

(egs.uni-bremen.de; e-lecture.uni-bremen.de; www.va-bne.de)

- **Training / Consulting / Support**

Instructional Design

www.zmml.uni-bremen.de

What do MOOCs promise?

Open up Higher Education
by providing
university courses
for free or at low cost
for everyone
who is interested in learning

The different types of MOOCs

- xMOOC (content-based):
 - Formal, structured teaching
 - Traditional relationship between teacher and learner
 - Behaviorist and cognitivist approach (drill and practice, problem sets)
- cMOOC (connectivist MOOC):
 - Based on on a connectivism theory of learning with networks developed informally
 - Changed relation between teacher and learner (lerner centric, instructor guided)
 - Content as a starting point, learners expected to create and extend
 - Multiple technologies to connect learner (LMS, Blogs, Twitter, Facebook,...)

MOOC Example (2011)

160.000+
Students enrolled

13% Completion rate
(20.000+ Students)

www.udacity.com



The instructors



Sebastian Thrun

Sebastian Thrun is a Research Professor of Computer Science at Stanford

University, a Google Fellow, a member of the National Academy of Engineering and the German Academy of Sciences. Thrun is best known for his research in robotics and machine learning.



Peter Norvig

Peter Norvig is Director of Research at Google Inc. He is also a Fellow of the American

Association for Artificial Intelligence and the Association for Computing Machinery

Check out our new classes at www.udacity.com!

Class has ended, but you can still log in here. [Sign in](#) [Visitor](#)

I am convinced that learning via the internet from leaders in the field is the way forward in education.

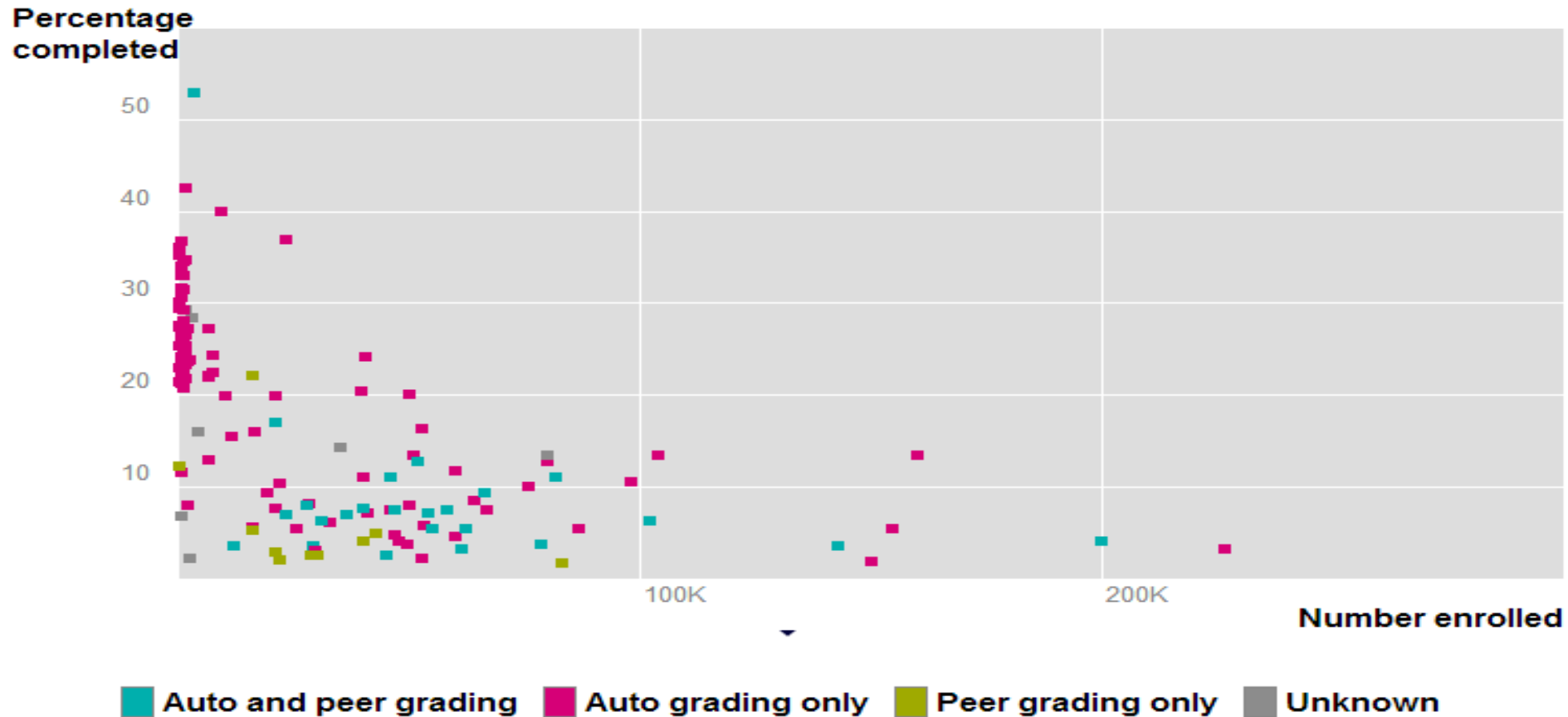
Balakrishnan

[More testimonials...](#)

Enrollment is closed. We hope to offer more online classes in the future, and you can watch the lectures for this course on [youtube](#).

A bold experiment in distributed education, "Introduction to Artificial Intelligence" will be offered free and online to students worldwide from October 10th to December 18th 2011. The course will include feedback on progress and a statement of accomplishment. Taught by Sebastian Thrun and Peter Norvig, the curriculum draws from that used in Stanford's introductory Artificial Intelligence course. The instructors will offer similar materials, assignments, and exams.

Completion rates



Via <http://www.katyjordan.com/MOOCproject.html>

World's Largest Single Session of a MOOC (2015)

370.000+
Students enrolled

Free,

but £29 for a
“Statement of participation”

www.futurelearn.com



Courses

About

Partners

Sign in

Register

FREE ONLINE COURSE

Understanding IELTS: Techniques for English Language Tests

Improve your English and prepare for tests, such as IELTS reading, writing, speaking and listening, with this free online course.

[Join now – starts 25 Apr](#)

ABOUT THE COURSE

Anyone thinking about taking an English language test, such as IELTS, will find this course particularly useful, but all English language learners will benefit from the tips and advice given in the course.

The course focuses on the **IELTS test (International English Language Testing System)**. IELTS is the world's most popular English language test for higher education and global migration. IELTS is accepted by over 9,000 organisations worldwide including universities, employers, immigration authorities and professional bodies. Over 2.2 million IELTS tests were taken globally last year.

This course will take you through each stage of the IELTS test — reading, writing, speaking and listening. At each stage there will be advice from our video tutor and a team of experienced IELTS



FREE online course

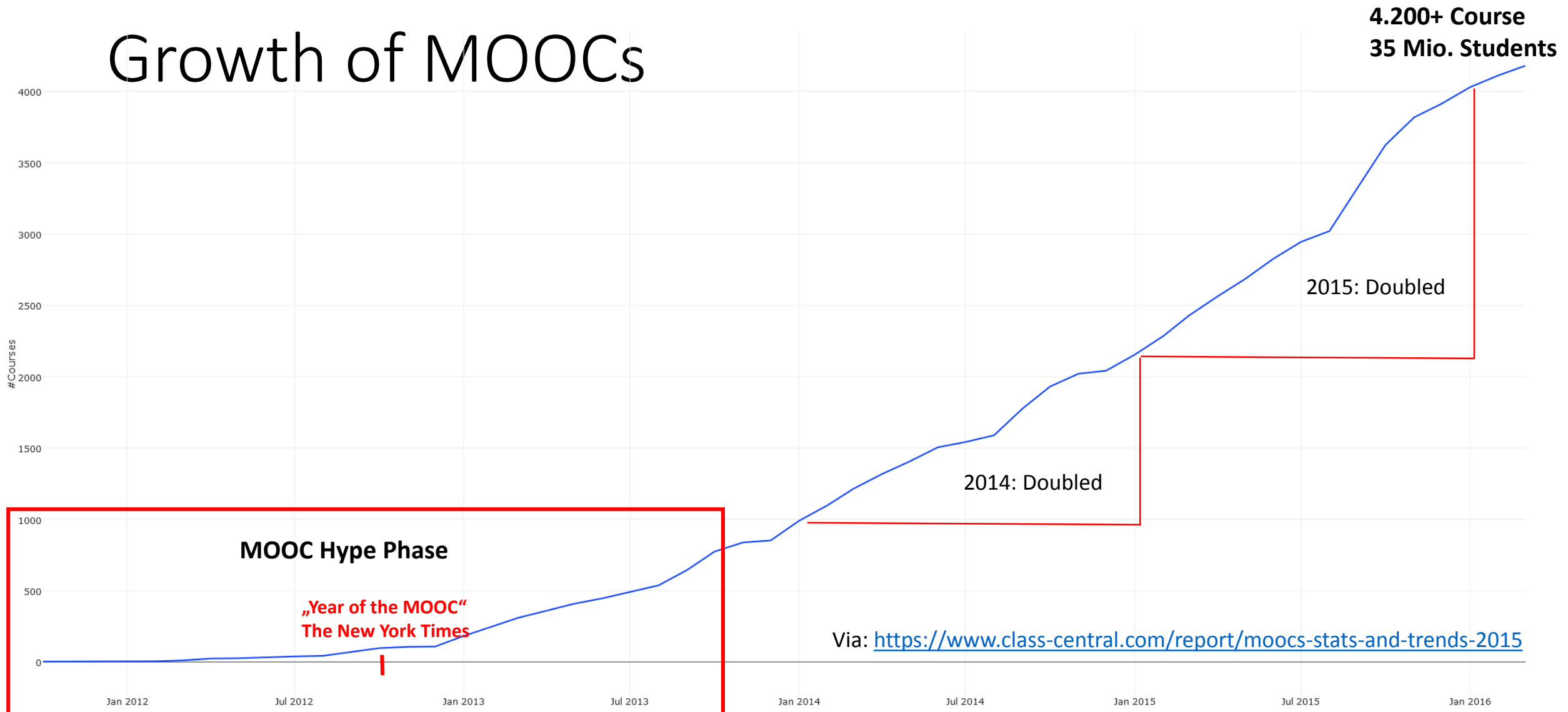
Duration: 6 weeks

2 hours pw

Certificates available



Growth of MOOCs



Via: <https://www.class-central.com/report/moocs-stats-and-trends-2015>

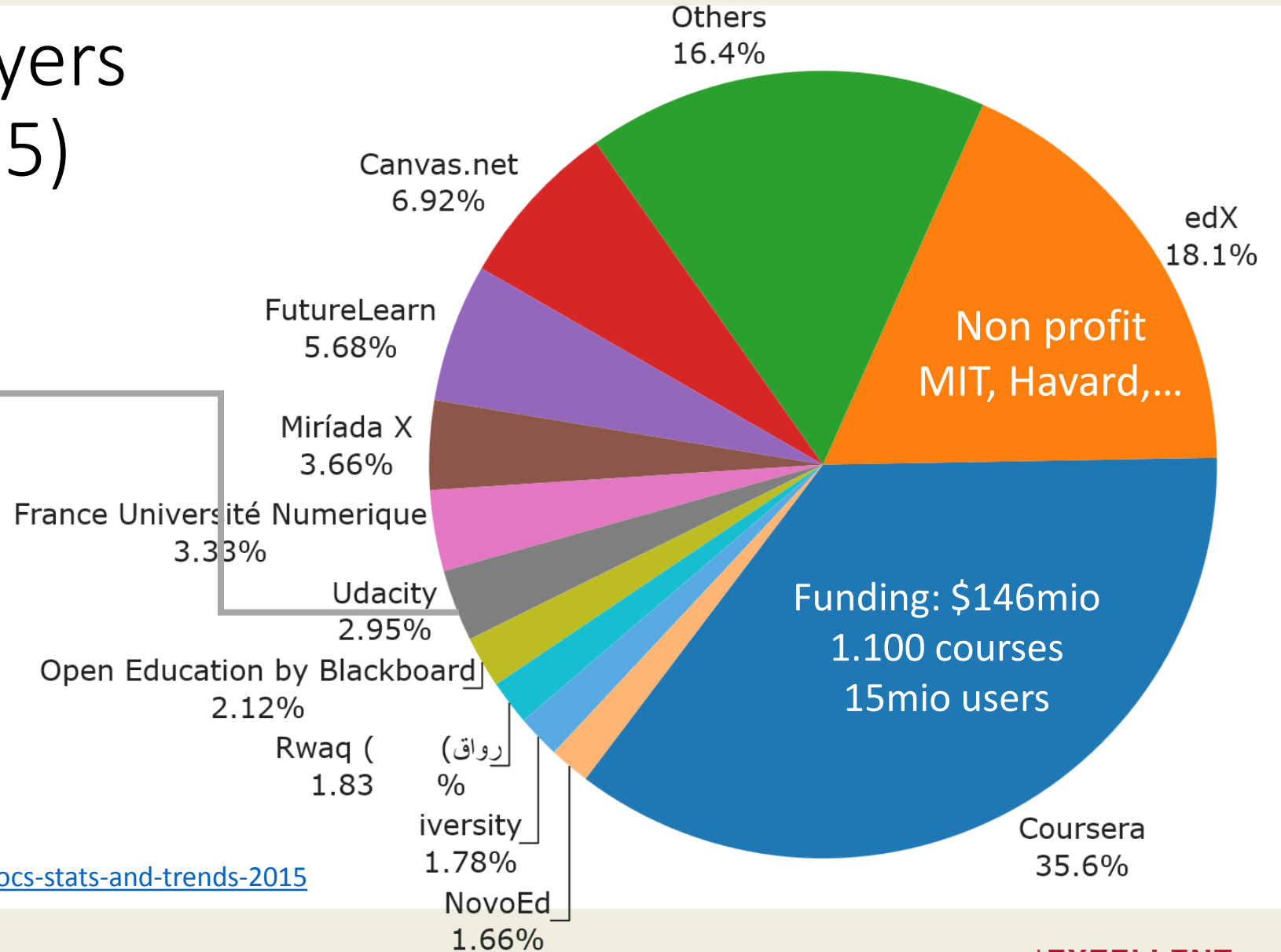
Prediction: The global MOOC market is expected to grow by
56.61% CAGR* between 2014 and 2018
(Report of market research provider Sandler Research)

- Key market driver:
Increasing cost of Education
- Key Market Challenge:
Low Course Completion Rate
- Key Market Trend:
Big Data Tools and Analytics

*CAGR, or compound annual growth rate, a commonly used method to calculate the average return of investment funds

Major MOOC Players by #Courses (2015)

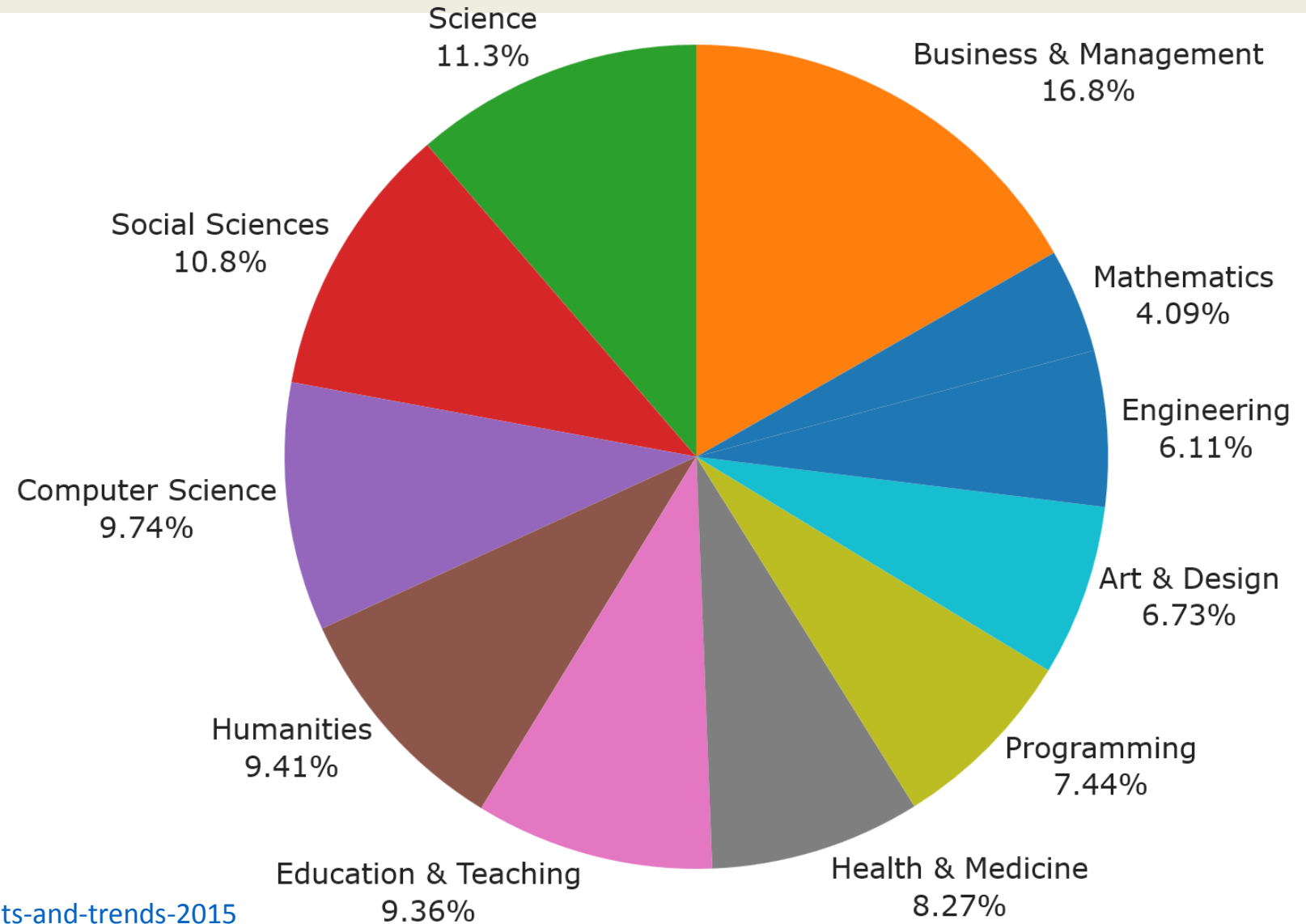
Udacity
 Funding: \$160mio
 Google, Facebook, AT&T, ...



Funding: \$146mio
 1.100 courses
 15mio users

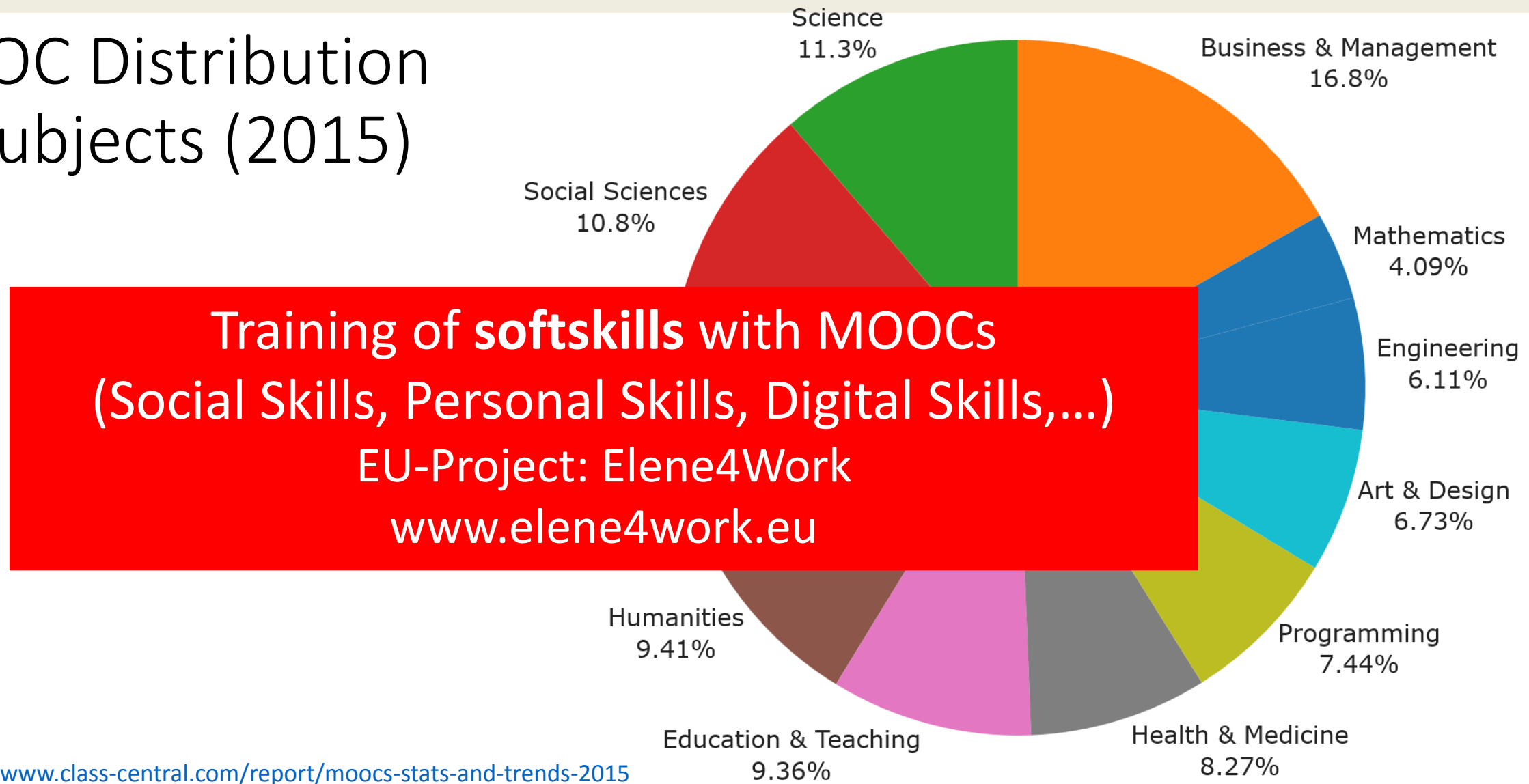
Via: <https://www.class-central.com/report/moocs-stats-and-trends-2015>

MOOC Distribution by Subjects (2015)



Via: <https://www.class-central.com/report/moocs-stats-and-trends-2015>

MOOC Distribution by Subjects (2015)



Training of softskills with MOOCs
(Social Skills, Personal Skills, Digital Skills,...)
EU-Project: Elene4Work
www.elene4work.eu

Via: <https://www.class-central.com/report/moocs-stats-and-trends-2015>

Why offer a MOOC? University Perspective

- Benefits
 - Marketing the university
 - Innovations in teaching and learning (new pedagogical approaches)
 - High quality lectures for huge number of students at low cost
- Challenges
 - Finding a viable model that allows for sustainability;
Won't directly generate revenue; Requires investments
 - Concerns about the pedagogy and quality,
e.g. Completion rates, Accreditation

MOOC Trends 2015

- **The Death of Free Certificates (New Business Models)**
 - Udacity: Nanodegrees
 - Coursera: Specializations
 - edX: Xseries

(Cost per certificate \$50-60)
- **Rise of Self-Paced Courses (vs Session Based)**
- **MOOCs Targeted at High Schoolers with Collection of Courses**
e.g. edX High School Initiative (US), Future Learn(UK)

Trend 2016: Global crediting transfer system for MOOC

- Six universities from Australia, Europe, Canada and the US are seeking to establish a new alliance in which each organisation's MOOCs are formally accredited by partner institutions.
- The proposed scheme is similar to the European Credit Transfer System (ECTS).
- That will allow students to count participation in MOOCs towards their degrees.

Involved Universities: [Delft University of Technology](#); Swiss Federal Institute of Technology in Lausanne ([EPFL](#)); the Australian National University; the University of Queensland; the University of British Columbia; and Boston University

German Perspective

- German Platforms: Iniversity, openHPI, mooin
- The German expert group for science and innovation (EFI) report in 2015:
 - Recommends perceiving MOOCs more as an opportunity rather than a risk for education in Germany.
 - MOOCs can relieve the universities from the teaching of standard knowledge and create a scope for more research-oriented teaching.
- DAAD: Central challenge for using MOOCs in higher education institutions, only if crediting and transfer is recognized

University of Bremen Perspective

SPOC

Small

Private

Online

Course

SPOC

Universität Bremen

eGeneral Studies

University funded Project

- 3 ECTS
- 1.100+ Students/Semester
- 550+ eExams/Semester
- Content is free
- Registration and graded Assessment on only Students of Bremen University

www.egs.uni-bremen.de

Online-Veranstaltungen

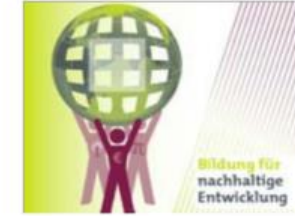
Informationen für Studierende

Informationen für Lehrende

News

Klausurtermine

Kontakt



Donnerstag, den 09. April 2015 um 00:00 Uhr

NEUE LEHRVERANSTALTUNGEN ZUM SOSE15

Zum kommenden Semester bieten wir zwei neue Lehrveranstaltungen an:

1. Weltfinanzsystem und Nachhaltigkeit: Die Lehrveranstaltung befasst sich mit der Geschichte des Finanzsystems, erklärt die hohe Überschuldung und deren Ursachen und erläutert Schritt für Schritt die Funktionen des Weltfinanzsystems, so wie es heute ist. Innerhalb der Veranstaltung wird erklärt, wie es 2009 zur Finanzkrise kam, welche Mechanismen dahinter steckten und welches politische und wirtschaftliche Handeln notwendig ist, um diese ein weiteres Mal zu vermeiden. **WICHTIG:** Der erste Prüfungstermin wird vor Ende des Semesters sein. Den genauen Termin werden wir noch bekannt geben.

und **2. Technik, Energie und Nachhaltigkeit:** Die Lehrveranstaltung beleuchtet das Thema Nachhaltigkeit sowie verschiedene Nachhaltigkeitsstrategien unter energiepolitischen Gesichtspunkten. Dabei wird insbesondere auf die Thematik der Erneuerbaren Energien eingegangen, deren Potenziale und Auswirkungen betrachtet und auch auf deren Akzeptanz in der Gesellschaft eingegangen. Des Weiteren wird im Bereich der Erneuerbaren Energien die Entwicklung, der aktuelle Stand und die Herausforderungen des Betriebs von Windenergie-technik genauer betrachtet. **Der erste Prüfungstermin für dieses Fach findet am 17. Juni statt.**

Tragen Sie sich wie gewohnt in Stud.IP zu den Veranstaltungen ein, dort finden Sie sämtliche Lernbegleitmaterialien.Ä

Herzliche Grüße,
das eGeneral Studies Team

Donnerstag, den 12. Februar 2015 um 00:00 Uhr

WICHTIG: SCHEINABHOLUNG

Liebe Studierende,

Scheinabholung ist jeden Mittwoch zwischen 14 - 16 Uhr in der Wilhelm-Herbst-Straße 12 (WING-Gebäude), Büro 0.17/0.16

Bei sämtlichen Fragen zu den eGeneral Studies schreiben Sie bitte **ausschließlich uns eine Mail an**

SPOC

Universität Bremen

eGeneral Studies

University funded Project

- 3 ECTS
- 1.100+ Students/Sem
- 550+ eExams/Sem
- Content is free
- Registration and graded Assessment
- Students of Bremen

- Students need up to 30 ETCS from General Studies for their study
- Faculties have capacity problems to provide sufficient number of courses
- Reach huge number of students with high quality lectures at low costs
- Learn anytime, anywhere

www.egs.uni-bremen.de

Online-Veranstaltungen Informationen für Studierende Informationen für Lehrende

News Klausurtermine Kontakt



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2. Nachhaltigkeit: Die Lehrveranstaltung thematisiert das Thema Nachhaltigkeit und entwickelt Nachhaltigkeitsstrategien unter Berücksichtigung der verschiedenen Ansatzpunkte. Dabei wird die Ökonomie, Ökologie und Ökonomie der Erneuerbaren Energien und deren Akzeptanz in der Gesellschaft erörtert. Des Weiteren wird im Rahmen der Veranstaltung die Entwicklung der erneuerbaren Energien und deren Herausforderungen des Betriebs genauer betrachtet. **Der erste Prüfungstermin findet am 17. Juni statt.**

Bitte loggen Sie sich in Stud.IP zu den Veranstaltungen und finden Sie sämtliche Informationen zum Kurs.

am



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SPOC/MOOC

Universität Bremen

Virtual Academy of Sustainability

Funded by
German Federal Environmental Foundation (DBU)

- 3 ECTS
- Content is free
- Registration is free
- Graded Assessment only for Students of Partner Universities

www.va.bne.de

The three steps of the Virtual Academy of Sustainability



»Free courses on Sustainability«

All courses of the Academy



Weltfinanzsystem und Nachhaltigkeit

Dr. Dirk Solte

Inhalt: Die Veranstaltung vermittelt Kenntnisse über die Entstehung und die Probleme des heutigen Weltfinanzsystems und zeigt Alternativen für das System auf. [\[weiter\]](#)



Technik, Energie und Nachhaltigkeit

Prof. Dr. Helmut Horn, Prof. Dr. Stefan Gößling-Reisemann, Matthias Brandt

Inhalt: Die Veranstaltung gibt eine Einführung in die Nachhaltigkeitsthematik, vermittelt Kenntnisse zu erneuerbaren Energien und vertieft die Thematik der Windenergie. [\[weiter\]](#)



Menschliche Ernährung und Weltbevölkerung

Prof. em. Dr. Klaus Hahlbrock

Inhalt: Die Veranstaltung „Menschliche Ernährung und ökologische Folgen“ behandelt die Themen Nahrungsproduktion und Konsumverhalten vor dem Hintergrund des rapiden Weltbevölkerungswachstums. [\[weiter\]](#)



Weltbevölkerung und weltweite Migration

Prof. Dr. Rainer Münz, Univ.-Doz. Dr. Albert F. Reiterer

Inhalt: Die Veranstaltung „Weltbevölkerung und weltweite Migration“ beleuchtet die Thematiken des

ABOUT THE ACADEMY

UN-Decade ESD

Goals of the Academy

Organisation of the Academy

Partners and sponsors

FOR STUDENTS

Offer and advantages

Support

Cooperating Higher Education
Institutes

FOR LECTURERS

Integration of the courses

Teaching/Learning concept

Contribution

Coaching videos

SPOC/MOOC

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UN Decade of Education for Sustainable Development (2005-2014)

Subject of Sustainable Development
important and necessary for all Universities in
Germany, but universities have **capacity problems**
to provide high quality lectures for their students



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FOR LECTURERS

Integration of the courses

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SPOC

Universität Bremen

E-Lecture

Innovations-
management

e-lecture.uni-bremen.de

Kapitel 1: Grundlagen des Innovationsmanagement > Episode 1: Innovation und Innovationsmanagement

Im k01e01 Teil 01

Teil 1 Quiz Teil 2 Quiz Teil 3 Quiz Nachgefragt

Universität Bremen

Kapitel 1: Grundlagen des Innovationsmanagements

Was sind Innovationen und wozu brauchen Unternehmen ein Innovationsmanagement?

Prof. Dr. Martin G. Möhrle
Institut für Projektmanagement und Innovation IPMI
Universität Bremen

0:28 / 7:28

Weiter

Kapitel 0: Einleitung

Kapitel 1: Grundlagen des Innovationsmanagement

Episode 1: Innovation und Innovationsmanagement

Episode 2: Innovation in Zahlen

Episode 3: Inhalte und Kompetenzen

Kapitel 2: Innovationsprozess I

Kapitel 3: Aspekte des Fuzzy Front End

Kapitel 4: Innovationsklima und Rollen im Innovationsprozess

Kapitel 5: Innovationsprozess II

Kapitel 6: Reifegradmodell zur Analyse und Gestaltung des Innovationsprozesses

Kapitel 7: Innovationsmarketing I

Kapitel 8: Innovationsmarketing II

Kapitel 9: Innovationsmarketing III

Kapitel 10: Innovationsmarketing IV

Kapitel 11: Innovationsbewertung I

Kapitel 12: Innovationsbewertung II

Kapitel 13: Innovationsbewertung III

Kapitel 14: Wissen und Personal im Innovationsmanagement

Tunis Perspective

- UN Commission on Science and Technology for Development, report in 2015:
 - Low-income countries can utilize the full potential of MOOCs for the building and enhancing of human capacity
 - Enormous impact due to the potential of MOOCs to reach millions of students free of charge.
- Example: MOOC FOFLE
«apprentissage en ligne du Français en Afrique francophone et ailleurs» in supported by *Orange Foundation* in cooperation with *Virtual University of Tunis*.
- Survey 2015 „Use of MOOC in Tunisia“ conducted by Center for Professional Skills Development (CDCP, Tunisia)

Center for Professional Skills Development
(CDCP, Tunisia)
cdcp-tn.com



Survey 2015

The use of MOOC within companies, sectors of education and higher education and Tunisian public services.

Via: <http://cdcp-tn.com>

Survey MOOC En Tunisie

- 145 participants
 - 62% between 26..45 years old; 21% 46-65 years old
 - 78% in charge/active:
 - 49% master,
 - 20% university degree,
 - 12% doctorate

Result of Survey

- 30% Followed a whole MOOC (complete)
- 34% Followed a MOOC but not full
- 36% Did not follow a MOOC

Do you know MOOC?

- 59% Know exactly what does the acronym MOOC mean
- 17% Have heard of MOOC but do not know exactly what it is
- 24% Not familiar with this phenomenon

- Motivation:
 - Curiosity (50%)
 - Vocational Training (35%)
 - For Study (15%)
- 45% attended and/or completed 2 or more MOOC
- 85% says that the **educational objectives are clear**

Review of personal experience - What do you think of MOOC?

- 10% temporary fashion
- 80% A major educational revolution
- 6% Marketing tool for institutions
- 4 % A minor phenomenon and uninteresting

Review of personal experience

- 91% Think participation in this MOOC allowed them to acquire new knowledge?
- 91% Think they will use gained knowledge in their studies / in their professional and personal life?
- 86% Overall satisfied with MOOC experience
- 93% Plan to register to one or more other MOOC

Summary/Recommendations

- SPOC/MOOC as an instrument for marketing and to reach huge number of students with high quality lectures at low costs at any distance
 - Instrument for companies for employee training in cooperation with universities (Coursera survey: >90% say MOOC are same or better than company training)
 - Allows to easily build up national and international cooperations and networks for developing and providing joint lectures
 - Support Life Long Learning (L3)
 - Marketing
- > Think of recognizing crediting and transfer in Higher Education

Thank you!

Links:

- www.zmml.uni-bremen.de (ZMML)
- www.elearning.uni-bremen.de (LMS)
- www.eassessment.uni-bremen.de (E-Assessment)
- www.media.uni-bremen.de (Media Services)
- www.egs.uni-bremen.de (eGeneral Studies)
- www.va-bne.de (Virtual Academy of Sustainability)
- www.e-lecture.uni-bremen.de (E-Lecture: Innovationsmanagement)

Contact:

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