

MIT Online Education Policy Initiative (2016)



The Higher Cost Of HIGHER EDUCATION

An HSBC report compared the average cost of one year in a higher education program at universities in 13 different countries and territories for international students. Here's how they compared:



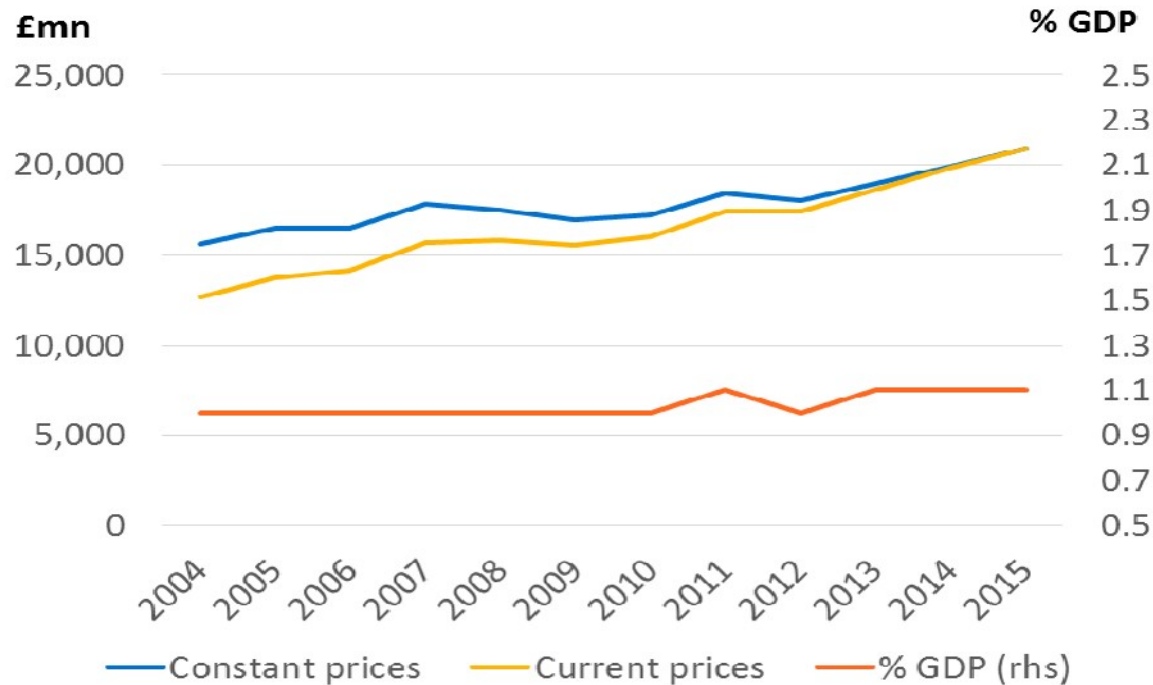
By Lisa Mahapatra

INTERNATIONAL BUSINESS TIMES

Source: HSBC report by Neil Brazil, titled "USA among World's Top Three Most Expensive Destinations for International Students"

- Economics and QoS have made China rise up as a favored education destination in the last 10 years.
- Massive online courses (e.g., MOOC) run into accreditation and poor monitoring problems.
- Education is becoming more and more interdisciplinary
- Internet and mobile platforms are breaking the other barriers: 6 hrs/day, classrooms, nation, ...
- But will the education sector get more money to adapt? **probably not!!**

Business R&D rises for third year running



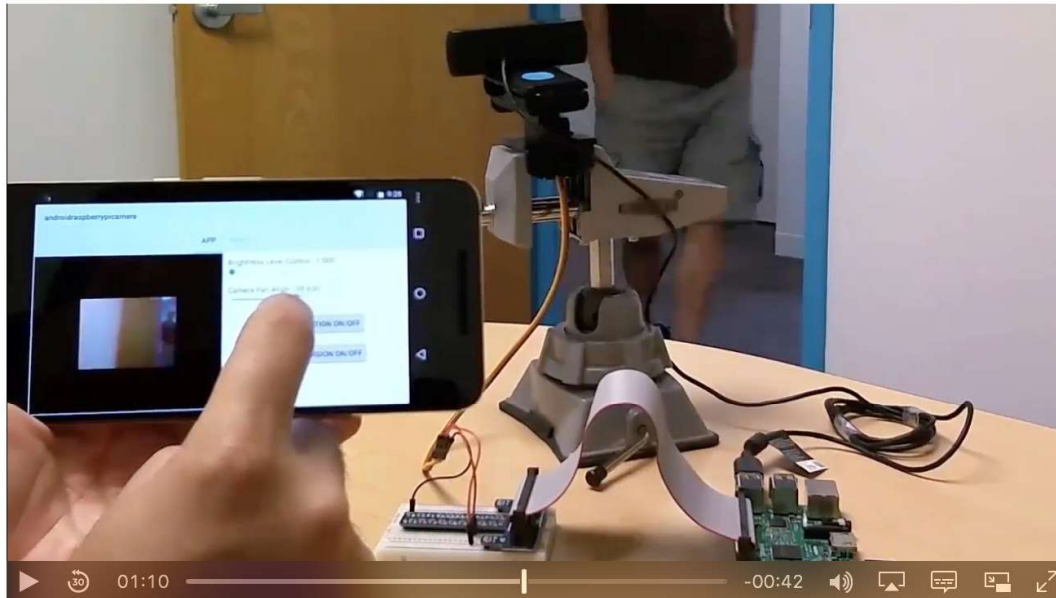
Source: ONS 2016

“We are ambitious for Britain to become the global go-to place for scientists, innovators and tech investors.” **Theresa May, 2017**



- So the key is for R&D/private sector to generate the technology and the education sector to disseminate it.
- With an estimated global market of \$257 billion, apps, gamification, augmented and virtual reality, 3D printers, robotics, and cloud-based platforms are all set to become key players in the modern classroom.
- Technology: personalised, flexible spaces, online, student-driven, rapid feedback, cloud-based labs
- Project-based learning, problem-based learning, active learning, flipped classrooms

MATLAB and Simulink Mobile Devices Challenge



Show off your project that uses MATLAB or Simulink with your iOS or Android device and you could win up to \$1000.

- Establish a **cloud-based digital connection** between students + teachers
- Social Learning: HelloTalk, Blackboard, Duolingo
- Flipped Lectures, students co-creating Wiki notes in Moodle environment
- Gamification: KnowRe, Zondle, ClassDojo, Socrative, MATLAB mobile
- Wearable Learning Technologies: Google cardboard

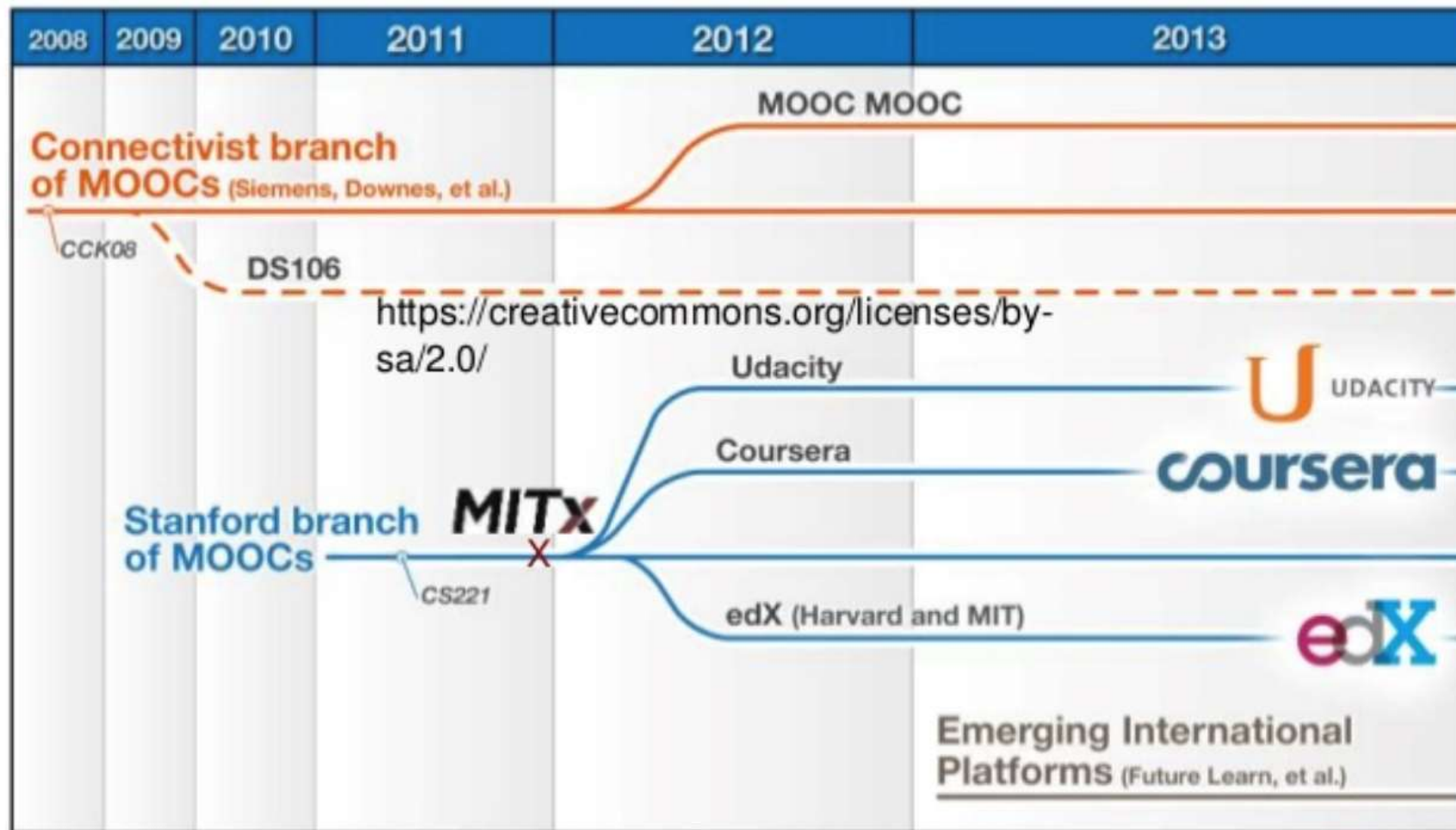
MATLAB and Simulink Mobile Devices Challenge

Win up to \$1000 by combining some of your favorite things – MATLAB, Simulink, and your smart phone or tablet. Whether you've developed a cool iOS or Android app that incorporates analytics developed in MATLAB or Simulink, or analyzed data from your device's built-in sensors, we want to hear what you're doing. Just **create a short YouTube video** that describes your project and **be sure to promote it to your friends and colleagues**, as the number of views and likes will play a significant role in helping you win the challenge. Scroll down for detailed instructions on how to enter.

[Submit your entry](#)

[Contact us with questions](#)

A Brief History of MOOCs



MOOC Timeline by Phil Hill is licensed under [CC BY-ND 3.0](https://creativecommons.org/licenses/by-nd/3.0/)

MINDWIRE

Between **30 to 50** on-campus courses use Residential MITx each semester.

4060

undergraduates at MIT use MITx in their classes.



of MIT undergraduate students have used Residential MITx for coursework.

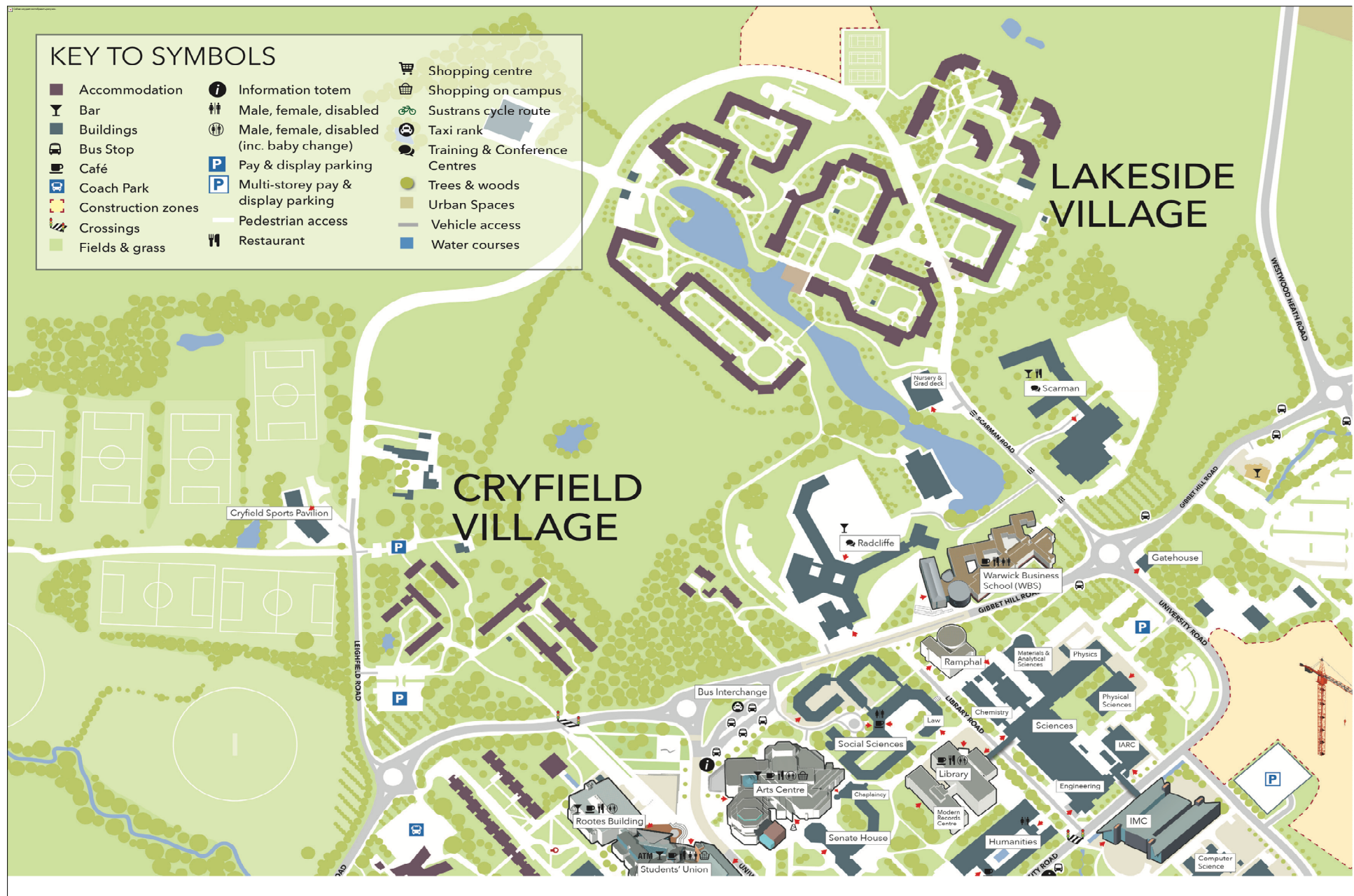
More than

90

MIT faculty & instructors

have experimented with the Residential MITx platform.

- ▶ Piloted at the University of Warwick in Spring 2017
- ▶ Automated grading, personalised hint-driven guidance (with SnapWiz & MathWorks Cody Courseware)
- ▶ Lecture videos + slides + transcripts, interactive online books (Wiley Plus)
- ▶ Students love it!

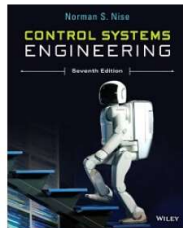


- ▶ Lecture capture and residential learning platform for 24/7 learning
- ▶ Wiley Plus textbooks and automated grading using MATLAB Cody Course ware



CONTROL SYSTEMS ENGINEERING

Control Systems Engineering 7e



Recent Activities

Problems
Lesson • Mar 09 at 8:31 PM

11.3: Lag Compensation
Lesson • Mar 09 at 8:31 PM

STUDY

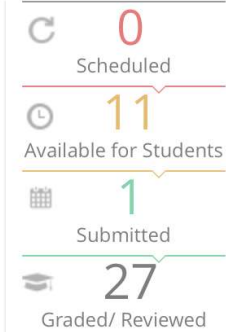
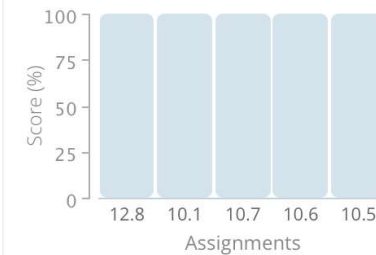
Assignments [\(View all\)](#)

[+ New Assignment](#)

Average Performance



Recently Graded



AVG CLASS PARTICIPATION

1

Contributions per student

Total class contributions: 2

AVG TIME SPENT

4hr
53min

Top 10% of the class: 7 hr 9 min

AVG QUESTION PERFORMANCE

87%

Top 10% of the class: 94%

AVG QUESTIONS ATTEMPTED

66

Top 10% of the class: 92

Class Activity

[See all](#)

- KULKARNI, VISH...** Instructor posted an assignment. ★
New Assignment - Feb 14, 09:03 PM
Due Date: Feb 20, 2017
- KULKARNI, VISH...** Instructor posted an assignment. ★
New Assignment - Feb 14, 09:01 PM
Due Date: Feb 20, 2017
- KULKARNI, VISH...** Instructor posted an assignment. ★
New Assignment - Feb 14, 09:00 PM
Due Date: Feb 20, 2017

Control Systems Engineering 7e

Control Systems Engineering

Help

KULKARNI, VISHWESH

Gradebook

Transferred Gradebook

Assignment Performance

Student Performance

Export to CSV

Gradebook Weighting

Class Performance on Assignments

0% - 59%

60% - 79%

80% - 100%

All

Average Grade (%)

7.2

10.2

6.1

6.3

6.5

6.5

3.1

3.2

3.3

3.4

3.5

3.6

75

100

55

55

85

100

65

90

100

85

100

100

Avg. Time Spent (min)

7.2

10.2

6.1

6.3

6.5

6.5

3.1

3.2

3.3

3.4

3.5

3.6

7

4

3

5

1

0

3

11

1

2

2

1

Metrics on Assignment

Assignments	Due Date	Student(s) Did Not Start	Student(s) Did Not Finish	Student(s) Finished	Average Time Spent	Average Grade
7.2 Concept Check Qu...	Jan 23, 2017	33% 1 out of 3 students	0% 0 out of 3 students	67% 2 out of 3 students	7 min(s)	80%
10.2 Concept Check Q...	Jan 20, 2017	0% 0 out of 3 students	0% 0 out of 3 students	100% 3 out of 3 students	4 min(s)	100%
6.1 Concept Check Qu...	Jan 20, 2017	0% 0 out of 3 students	0% 0 out of 3 students	100% 3 out of 3 students	3 min(s)	53%



CONTROL SYSTEMS ENGINEERING

Control Systems Engineering 7e



Control Systems Engineering 7e

Control Systems Engineering

Help



KUL

Assignments [\(View all\)](#)[+ New Assignment](#)Gradebook [\(Go to Basic View\)](#)

Transf

Assignment Performance

Student Performance

Export to CSV

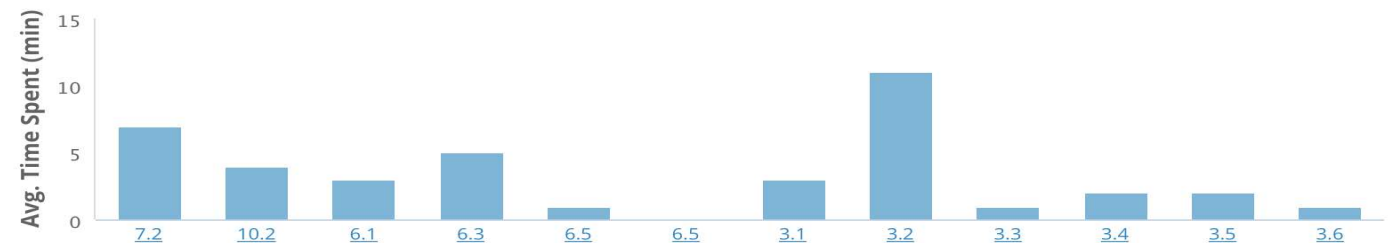
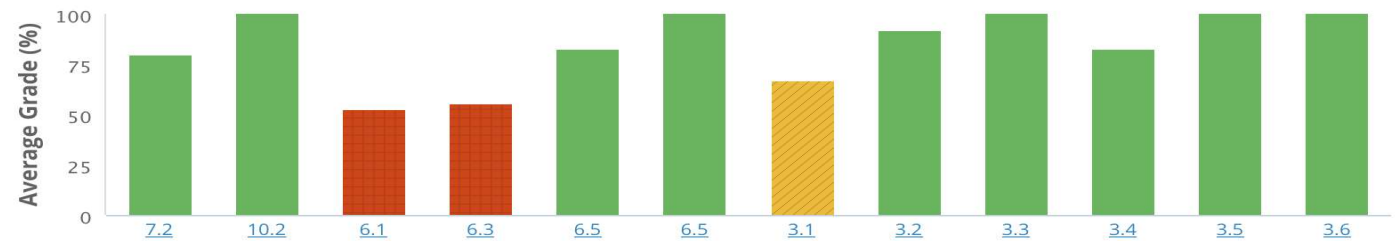
Gra

Class Performance on Assignments

0% - 59%

60% - 79%

80% - 100%



Metrics on Assignment

Assignments		Due Date	Student(s) Did Not Start	Student(s) Did Not Finish	Student(s) Finished	Average Time Spent
7.2 Concept Check Qu...	100%	Jan 23, 2017	33% 1 out of 3 students	0% 0 out of 3 students	67% 2 out of 3 students	7 min(s)
10.2 Concept Check Q...	100%	Jan 20, 2017	0% 0 out of 3 students	0% 0 out of 3 students	100% 3 out of 3 students	4 min(s)
6.1 Concept Check Qu...	100%	Jan 20, 2017	0% 0 out of 3 students	0% 0 out of 3 students	100% 3 out of 3 students	3 min(s)

AVG CLASS

Contributi

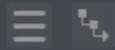
Total class

AVG QUESTIC

8

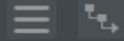
Top 10% c

Copyright © 2017



CONTROL SYSTEMS ENGINEERING

Control Systems Engineering 7e



Control Systems Engineering 7e

Control Systems Engineering

Help



KUL

Assignments [\(View all\)](#)[+ New Assignment](#)

Gradebook [\(Go to Basic View\)](#)

Transf

Assignment Performance

Student Performance

Export to CSV

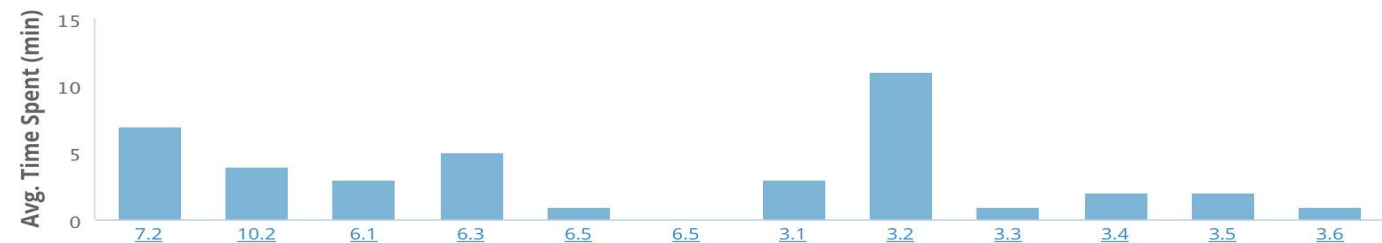
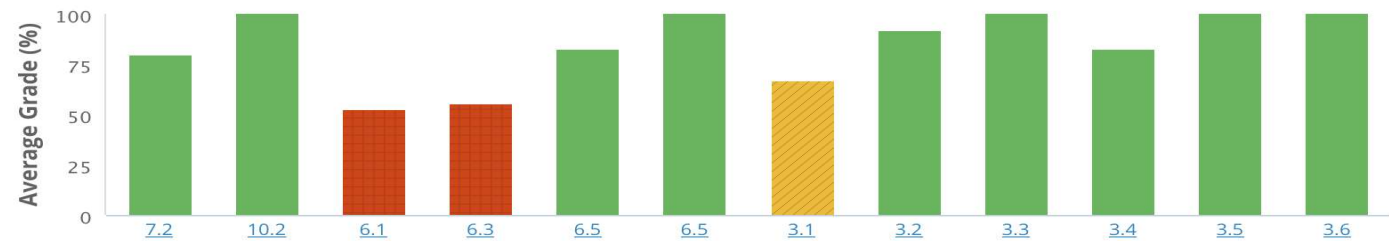
Gra

Class Performance on Assignments

0% - 59%

60% - 79%

80% - 100%



Metrics on Assignment

Assignments		Due Date	Student(s) Did Not Start	Student(s) Did Not Finish	Student(s) Finished	Average Time Spent
7.2 Concept Check Qu...	100%	Jan 23, 2017	33% 1 out of 3 students	0% 0 out of 3 students	67% 2 out of 3 students	7 min(s)
10.2 Concept Check Q...	100%	Jan 20, 2017	0% 0 out of 3 students	0% 0 out of 3 students	100% 3 out of 3 students	4 min(s)
6.1 Concept Check Qu...	100%	Jan 20, 2017	0% 0 out of 3 students	0% 0 out of 3 students	100% 3 out of 3 students	3 min(s)

AVG CLASS

Contributi

Total class







































AVG QUESTIC

8

Top 10% c

Copyright © 2017

Students by subject of study, 2004–05 and 2013–14

	2004–05	2013–14		CHANGE		% CHANGE
BIOLOGICAL SCIENCES	145,570	207,515		61,945		42.6%
VETERINARY SCIENCE	4,210	5,935		1,725		41.0%
MATHEMATICAL SCIENCES	30,560	42,225		11,665		38.2%
MEDICINE & DENTISTRY	53,695	67,360		13,665		25.4%
AGRICULTURE & RELATED SUBJECTS	14,735	18,360		3,625		24.6%
PHYSICAL SCIENCES	75,080	93,265		18,185		24.2%
ENGINEERING	132,025	159,010		26,985		20.4%
BUSINESS & ADMINISTRATIVE STUDIES	290,455	336,600		46,145		15.9%
CREATIVE ARTS & DESIGN	147,215	168,860		21,645		14.7%
SOCIAL STUDIES	189,425	210,580		21,155		11.2%
MASS COMMUNICATIONS & DOCUMENTATION	45,720	49,525		3,805		8.3%
LAW	84,610	89,225		4,615		5.5%
ARCHITECTURE, BUILDING & PLANNING	48,770	49,160		390		0.8%
HISTORICAL & PHILOSOPHICAL STUDIES	96,045	89,610		-6,435		-6.7%
SUBJECTS ALLIED TO MEDICINE	296,870	273,235		-23,635		-8.0%
LANGUAGES	131,725	117,660		14,065		-10.7%
EDUCATION	198,120	173,015		-25,105		-12.7%
COMPUTER SCIENCE	128,360	91,565		-36,795		-28.7%
COMBINED	123,070	56,635		-66,435		-54.0%

Source: HESA Student record



Change in non-UK students by region of origin, 2004-05 and 2013-14

