

# RAEng Visiting Professors (VPs)



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November 2016



# VPs: Some facts

- Purpose is to support teaching
  - 250+ VPs during last 20 years
  - 50+ at any one time
  - 20+ new appointments each year
  - Usually 3-year term
  - Principal funding from BIS
  - Honorarium negotiable
- 
- “Professor” title is in gift of host university
  - Often from industry, but can be retired
  - RAEng VP title ends at end of award

## Building A Future For Engineering

Do universities need to  
change the way  
engineering is taught?



The Academy is  
committed to engaging  
higher education (HE)  
and supporting  
engineering work in  
academia.



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## Industry

The following are Academy schemes to facilitate closer contact between the academic and industrial worlds.

As the site grows we encourage others to have their industrial schemes on this site. If you know of any other suitable schemes then email [Higher Education](#).

### Visiting Professors



This industry-into-academia initiative aims to the experience of the Visiting Professors from industry to enhance student learning as well as the employability and skills of UK engineering graduates.

### Sainsbury Management Fellowships



The Sainsbury Management Fellowship scheme, funded by the [Gatsby Charitable Foundation](#), enables engineers of high career potential to undertake full time MBA courses at major international business schools. Since 1987, the scheme has supported more than 300 engineers.



# Exchanges between industry and academia

## Grants and prizes >

[Royal Academy of Engineering Award Winners 2016](#)[Schemes for students](#)[Exchanges between industry and academia](#)[Support for research](#)[International research and collaborations](#)[Prizes and medals](#)[Ingenious: public engagement awards](#)[Support for entrepreneurs](#)[Online grants management system \(GMS\)](#)

The Academy runs a series of schemes to encourage engineering research and facilitate closer contacts between the industrial and academic worlds.

For Research Chairs and funding to support academic research, visit:

[Support for research](#)

### Industrial Secondment scheme

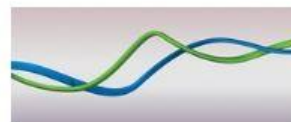
Supports early to mid-career academics to spend 6-12 months in industry



### Visiting Professors



### Sainsbury Management Fellowships



### Visiting Teaching Engineers



**MOTOROLA SOLUTIONS**  
**FOUNDATION**

Visiting Teaching Engineer -  
Motorola Solutions  
Foundation



# Visiting Professors

## Exchanges between industry and academia

[Industrial Secondment scheme](#)[Visiting Professors](#)[How to apply](#)[Current VP Awardees](#)[Guidelines for Current Awardees](#)[Centres of Excellence in Sustainable Building Design](#)[Sainsbury Management Fellowships](#)[Visiting Teaching Engineers](#)[Visiting Teaching Engineer - Motorola Solutions Foundation](#)

Applications for the 2016 cohort are now closed. The next round for new applications will be in early 2017.

This industry-into-academia initiative aims to utilise the experience of the Visiting Professors to enhance student learning as well as the employability and skills of UK engineering graduates.

Under the scheme, senior industry practitioners deliver face to face teaching and mentoring at the host university. They may also contribute to postgraduate teaching, curriculum development (such as the development of new modules/programmes) and strategy development. This award provides up to £10,000 per year over three years for a Visiting Professor to support the university with these activities.

## Scheme events

The Academy organises an annual Visiting Professors Conference for our cohort of Visiting Professors and their academic partners. The purpose of this event is to develop a community of practitioners and share best practice in industry-inspired teaching and its impact upon student learning.

In 2015, the Visiting Professors/Visiting Teaching Fellows Annual Conference was held at Aston Business School on 19-20 November. Attendance at this conference is by invitation only.

## Publications

The Academy has published six reports to date to support these schemes, the most recent, *Educating engineers to drive the innovation economy*, was published in April 2012.

[Educating engineers to drive the innovation economy \(1,018.68 KB\)](#)[Rough Guide to being a RAEng Visiting Professor \(459.24 KB\)](#)

# Current Visiting Professor Awardees

## Exchanges between industry and academia



[Industrial Secondment  
scheme](#)

[Visiting Professors](#)

[How to apply](#)

[Current VP Awardees](#)

[Guidelines for Current  
Awardees](#)

[Centres of Excellence in  
Sustainable Building Design](#)

[Sainsbury Management  
Fellowships](#)

[Visiting Teaching Engineers](#)

[Visiting Teaching Engineer -  
Motorola Solutions Foundation](#)

## 2015/16 Awardees

The following people have been named as Visiting Professors in the 2015/16 funding round:

- Richard Baker (Rolls-Royce plc) at University of Leeds  
Visiting Professor in Engineering Supply Chain Innovation
- Pierre French (Retired) at University of Huddersfield  
Visiting Professor in Innovation and Employability in Automotive Powertrain Systems
- Dr Walter Holweger (Schaeffler Technologies AG & Co.) at University of Southampton  
Visiting Professor in Material Science, Tribology and Lubrication Chemistry
- Malcolm Fox (Nylacast Ltd) at University of Bradford  
Visiting Professor in Innovative Polymer Engineering and Tribology
- Dr Ivan Lucic (London Underground) at City University London  
Visiting Professor in Developing skills and enhancing employability through Systems Safety and Reliability
- Brian MacFarland (McFarland Associates Ltd) at Queen's University Belfast  
Visiting Professor in Managing ageing infrastructure and structural health monitoring in Civil Engineering
- Dr Michael Raxworthy (Neotherix Ltd) at University of Leeds  
Visiting Professor in Medical Technology Innovation and Translation
- Aaron Smith (Microsoft Research) at University of Edinburgh  
Visiting Professor in Compiler Engineering and Computer Architecture Undergraduate Education
- Colin Eddie (UNPS Ltd) at University of Warwick  
Visiting Professor in Innovation and Tunnelling
- Dr Ian Robertson (IBM Global Technology Services) at University of Warwick  
Visiting Professor in Applied information security management
- Dr Scott Owens (National Nuclear Laboratory) at Imperial College London  
Visiting Professor in Nuclear Engineering
- Chris Lawrence (Rail Safety & Standards Board) at University of Nottingham  
Visiting Professor in Embedded Professional Skills in Civil Engineering Education
- Professor David Daniels (Short Range Radar Systems Ltd) at University of Manchester  
Visiting Professor in Enhancing the electromagnetics experience
- Dr David Goddard (National Nuclear Laboratory) at University of Manchester  
Visiting Professor in Nuclear Fuel
- Dr Steve Graham (National Nuclear Laboratory) at University of Liverpool  
Visiting Professor in Nuclear Engineering

# VPs: Some examples of activity

- Write new modules or lectures
  - Deliver new modules or part-modules
  - Suggest, supervise, moderate, judge, assess project work
  - Lead industry liaison
  - Mentor staff or students
  - Stimulate competition entries
  - Advise on and critique programmes, curricula and syllabi
  - (Advise and collaborate in research bids and projects)
  - Anything your host would find helpful ....
- 
- But they should leave a permanent mark, not just be a short-term stopgap.
  - .... and make them feel a part of your Department/School/Faculty

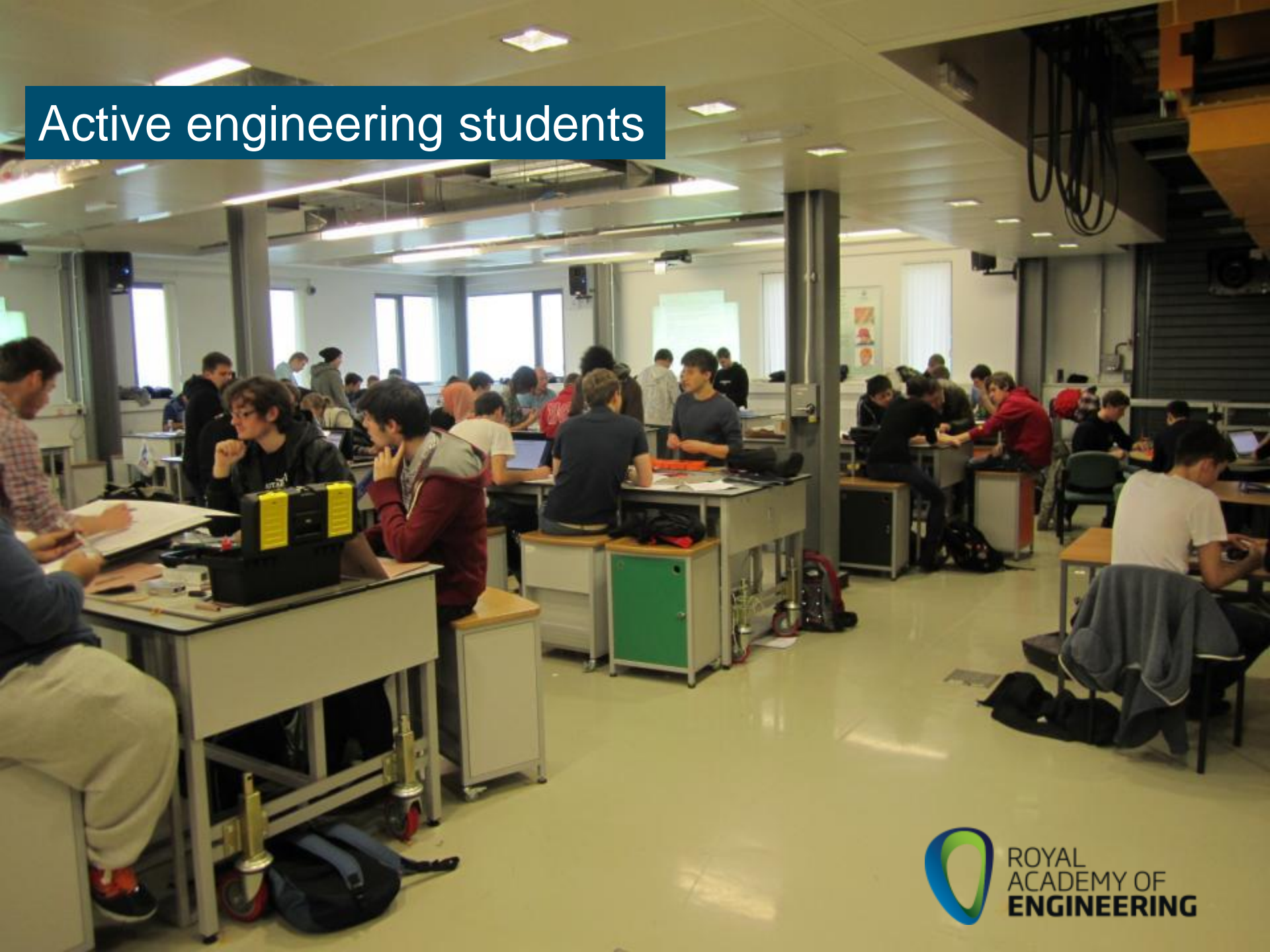


# Engineering students

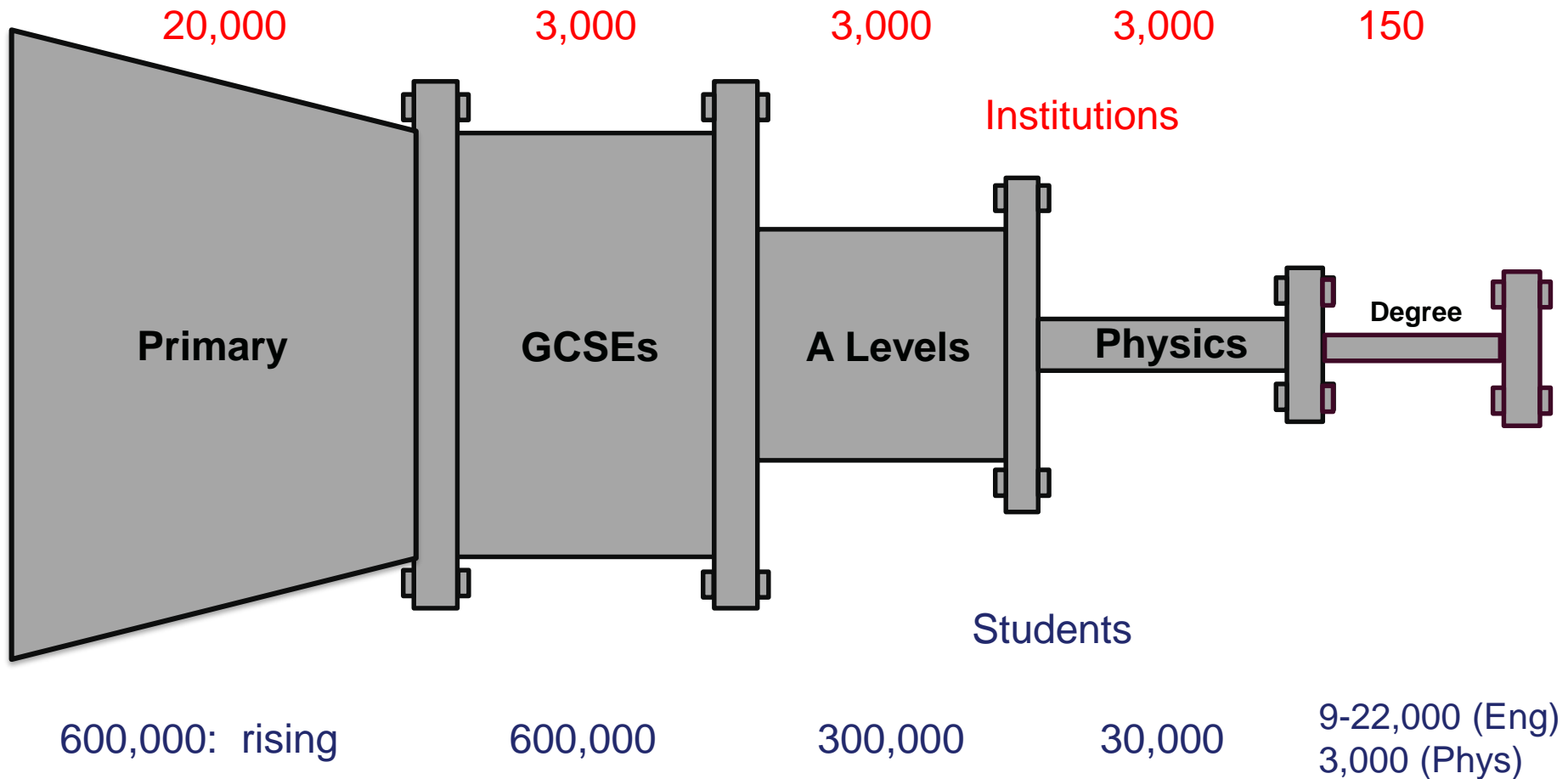


... and where they come from

# Active engineering students



# The UK pipeline



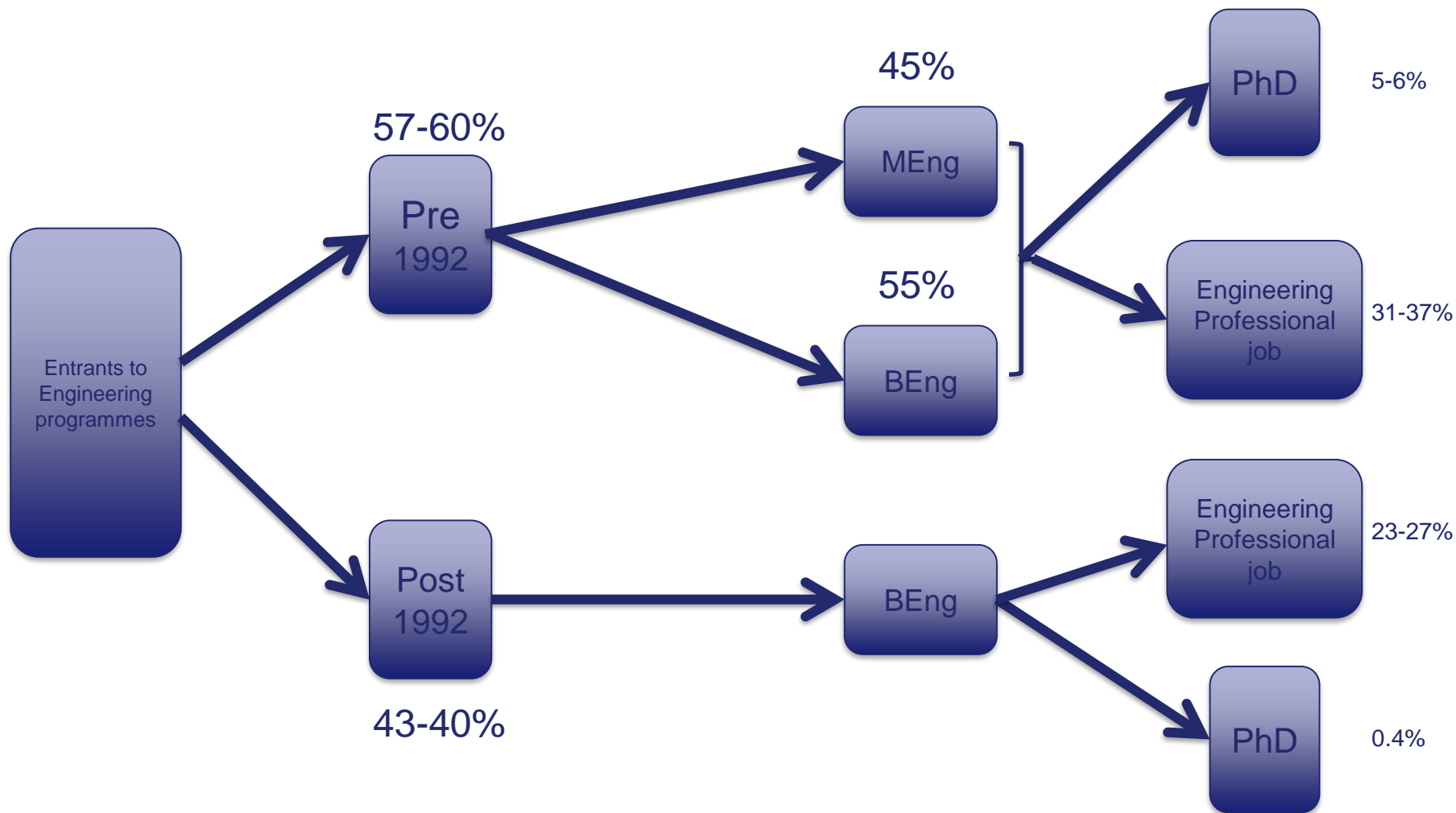
## Degree programmes chosen by those with A level Physics in 2011

Engineering	10,000+
Physics	3,000
Mathematics	3,000
Computer Science	1,200
Chemistry	1,200

Medicine	1,000
Economics	850
Architecture	650

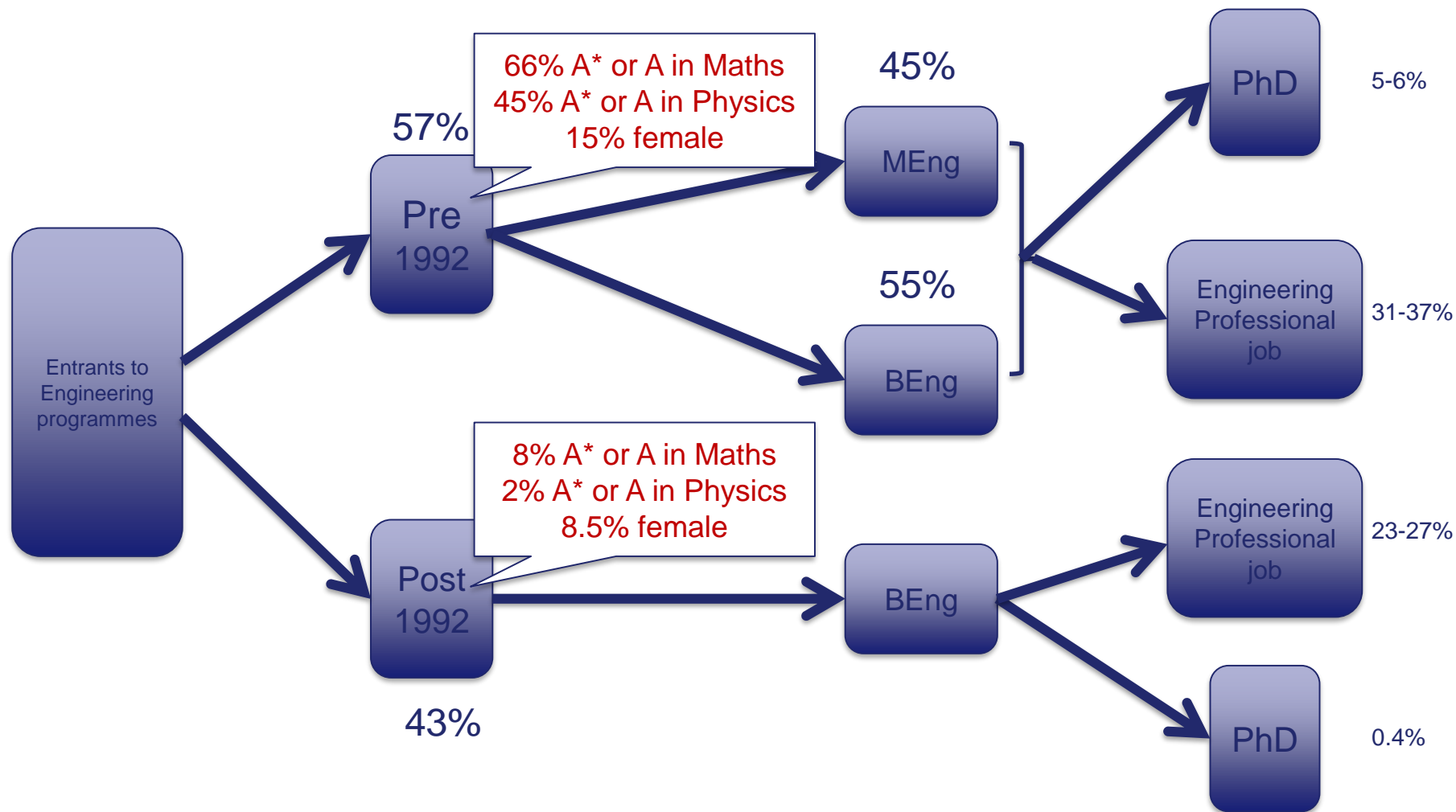


# When they undertake an engineering degree



[2010 data from UCAS, HESA, NSS]

# When they undertake an engineering degree



[2010 data from UCAS, HESA, NSS]

# A concept question

You are sitting in a boat in a small pond. You have a six-pack of beer. You throw it into the water and it sinks to the bottom.



Does the level of the water in the pond:

1. Rise?
2. Fall?
3. Stay the same?

## Some questions you might like to ask

What are the Department's strategic objectives?

What are LOs for the programme(s) on which I will be teaching?

Is the teaching “research led”? If so, how does this impact the undergraduate curriculum?

What pedagogic techniques are in use? [lectures; PBL; PjBL; flipped classes; ug research; .....]

How much maths is taught? By whom? Why?

What is the procedure for changing things? [content; LOs; teaching methodology; assessment methods .....]



## Some more questions

Do you have guidelines for deadlines?

How do you assess individual contributions to team work?

Do the students have access to specific software for PRS;  
or a twitter account for complaints, or other social media,  
or a VLE?

(of your AC) Which of us should write the first draft of our  
report?

How do I find out what the students have been taught in  
other modules?

## Some really important questions

Where do staff have coffee?

Where do I park? How much?

How do I get an ID card with as many rights as possible?

Why don't the students laugh at my jokes?

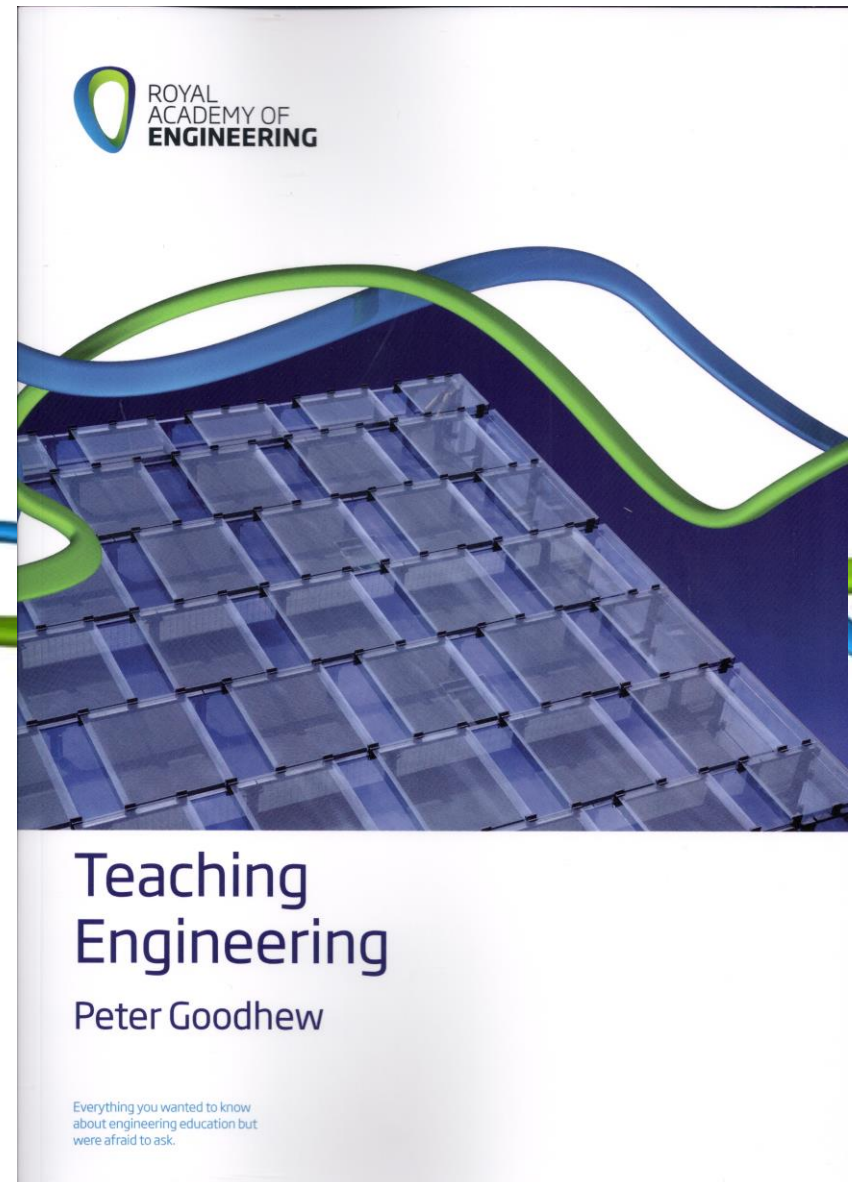
How should I handle students who: don't attend; talk incessantly; are constantly on facebook or snapchat; don't hand in any work?

How do I get out of this?

# A blatant advert

“Teaching Engineering” book:

Comment and print at  
[teachingengineering.liv.ac.uk](http://teachingengineering.liv.ac.uk)



**2012**

**Educating engineers to drive the  
innovation economy**

**2010**

**Engineering graduates for industry**

February 2010



**2007**

**Educating Engineers for the 21st Century**

June 2007



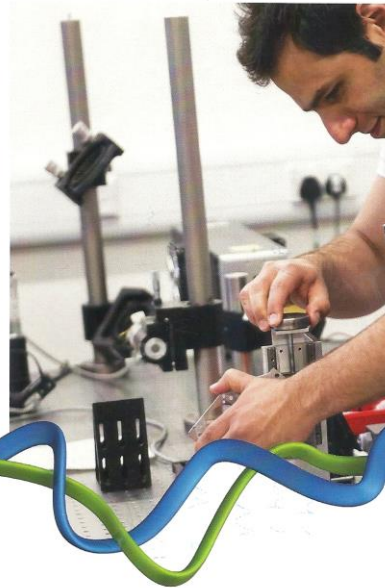
*“Engineering graduates should be able to do something”*





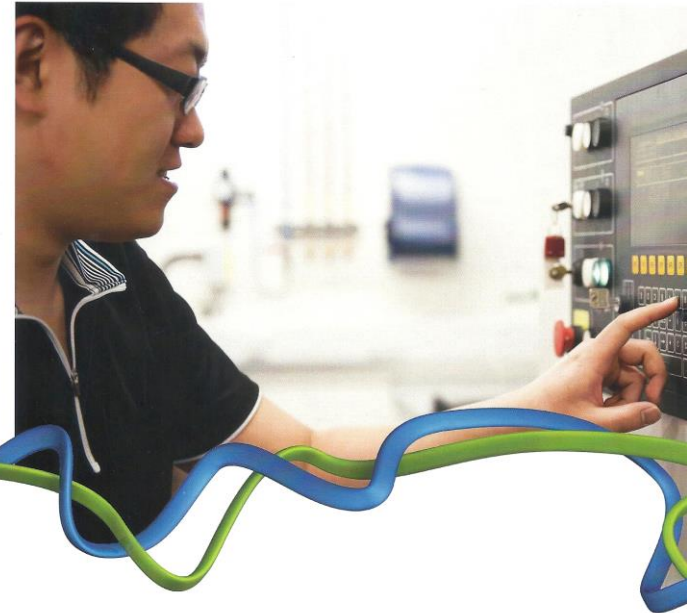
## Development of e-learning resources

- A good practice guide



## Experience-led learning for engineers

- A good practice guide



## Effective industrial engagement in engineering education

- A good practice guide

## Employment outcomes of engineering graduates: key factors and diversity characteristics



Please feel free to ask me for advice  
before (or after!) bidding for a VP  
([goodhew@liv.ac.uk](mailto:goodhew@liv.ac.uk))





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Over to you



... for questions or comments!