

Accreditation – An Academic's View

- Why?
- Who?
- How?
- Is it needed after 2010?

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Why Accredit? – The Institutions

- To ensure standards of educational degree programmes are in place to meet the stage 1 (academic) requirements for IEng and CEng.
- To provide global sustainable, economic growth and ethical standards in courses.
- To work and strengthen links with universities
(JBM)
- To facilitate a wider spread of good accreditation practice,
- To improve educational standards.
(EAB)

Why Accredited? – The Institutions

- Chartered Membership of the ICE is a qualification, not simply a registration
- To assess and ensure the technical competences of engineers meets UK and international standards
- Universities **apply** to be accredited – it is their choice
- Extend the procedure in full to MSc degrees?

Accreditation – The Universities

- **ALL** graduates from accredited programmes meet the stage 1 (educational) requirements for membership
- Accreditation attracts good students
- The process is by your peers and
- Maintains good practices
- Valuable in the protection of resources in a hard economic climate, but

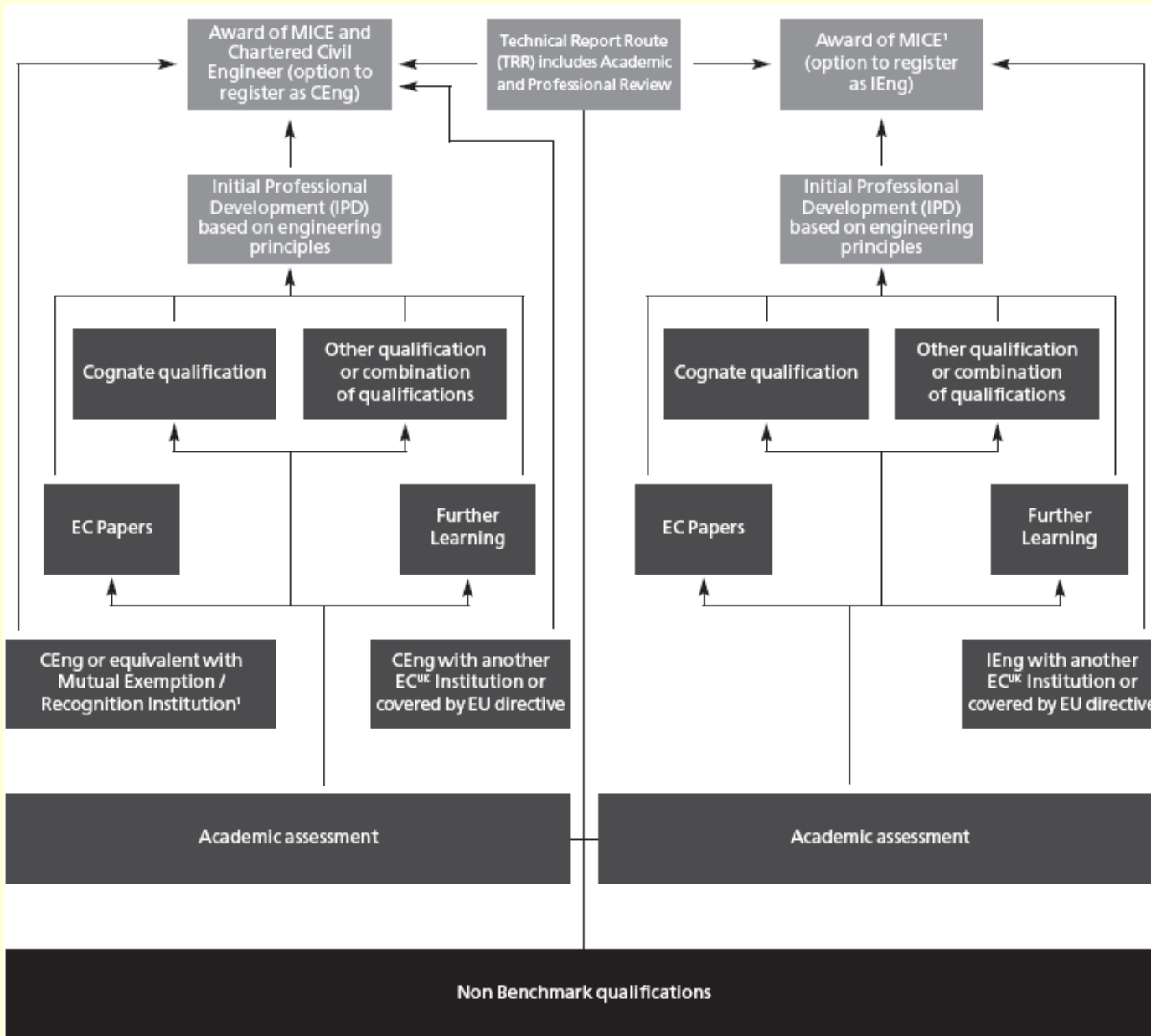
- Has it become too bureaucratic?
- Are we ‘over-monitored’?

Non – Accredited Degrees?

Assessed though an individual case procedure – ICE/IStructE Academic Qualifications Panels



ICE 3004



Class	Route	Situation	
1	CEng Exempt	(i) (ii) (iii) (iv)	Non-accredited Civil Engineering degree (or equivalent) plus appropriate Masters degree or PgD from JBM university (see note a). Cognate Honours level degree plus appropriate MSc in specialist area of Civil Engineering. Non-accredited MEng degree to appropriate standard. Accredited IEng Civil Engineering degree plus technical Masters degree or PgD from JBM university (see note a).
2	CEng Further Learning required (see note c)	(i) (ii) (iii)	Non-accredited Civil Engineering degree (or equivalent) at Honours level judged to be appropriate standard and content. Non-accredited Civil Engineering degree (or equivalent) at Honours level plus non-appropriate MSc. Accredited IEng Civil Engineering degree at Honours standard
3	CEng Route B* only (no further learning) *3 papers at grade B or above at Graduate Diploma level	(i) (ii) (iii) (iv)	Non-accredited MEng level degree where standard uncertain e.g. unknown overseas University. Non-accredited BSc/BEng Civil Engineering & MSc where standard uncertain e.g. both from unknown overseas University. Accredited IEng Ordinary Civil Eng degree plus relevant (but not approved) MSc. Cognate degree plus cognate MSc.
4	CEng (Route B* + Further Learning) or approved MSc *3 papers at grade B or above at Graduate Diploma level.	(i) (ii)	Non-accredited Civil Engineering honours level degree where level uncertain e.g. unknown overseas University. Accredited IEng Ordinary Civil Eng degree (see note b).
5	CEng (Route A* + Further Learning) or Approved MSc *5 papers at Grade C or above at Diploma Level.	(i) (ii) (iii) (iv) (v)	Non-honours Civil Engineering degree. Cognate honours level degree. Honours level degree in unrelated subject and non-cognate. Construction related honours level degree. HNC/D or DipHE in Civil Engineering or qualification of same standard.
6	CEng EC Specified limited number of papers only	(i) (ii)	Cognate Honours level degree plus appropriate MSc where standard of undergraduate degree uncertain e.g. from overseas University HNC/D or DipHE or equivalent plus appropriate MSc in specialist area of Civil Engineering.
7	CEng Technical Report Route	(i)	Accredited BEng (Hons), or an engineering or cognate degree with sufficient scientific basis - 7 yrs; HND/HNC - 10yrs; No appropriate qualifications -15 yrs.

Academic Qualifications Panel:
Academic decisions for CEng under UKSPEC

Class 1 – Exempt
Class 2 – FL required
Class 3 – EC Route B, no FL
Class 4 – EC Route B + FL
Class 5 - EC Route A + FL
Class 6 – Specified EC papers
Class 7 - TRR

Degree Assessments?

1. NARIC: National Recognition Information Centre for the UK (DfES)
2. Compares qualifications from > 150 countries
3. FEANI Index, 27 countries
4. EUR-ACE: Accreditation of European engineering education programmes
5. ICE knowledge, e.g. external examiner reports etc.

Academic Degree Controls

1. Accreditation – JBM/EAB, 5 years
2. QAA Periodic Reviews –Institutional, but, School ‘drill downs’ are possible, 5 years.
3. Institutional Audit Reviews:
 - Annual reports
 - Periodic (5 year) audit
4. QA documentation for new programmes and for programme change

JBM and EAB

JBM where accreditation is just by ICE, IStructE, IHT, IHIE

EAB where multi-institutional accreditation is necessary, e.g. at Manchester: ICE, IStructE, IHT, CIBSE, IMechE, RAeS, IET, EI – 8 Institutions in total!

Accreditation and QA Review

- All reviews require similar documentation – programme and unit specifications, procedure documents, exam papers, project reports, meeting staff and students etc.
- Combine accreditation and QA review visits?
- Not easy, but possible if managed and planned.
- Liked by the ‘customer’, not necessarily by the review teams
- **Are they too bureaucratic??**

Economic, social, and environmental context

- Knowledge and understanding of commercial and economic context of engineering processes;
- Knowledge of management techniques which may be used to achieve engineering objectives within that context;
- Understanding of the requirement for engineering activities to promote sustainable development;
- Awareness of the framework of relevant legal requirements governing engineering activities, including personnel, health, safety, and risk (including environmental risk) issues;
- Understanding of the need for a high level of professional and ethical conduct in engineering.

Engineering Practice

- Knowledge of characteristics of particular materials, equipment, processes, or products;
- Workshop and laboratory skills;
- Understanding of contexts in which engineering knowledge can be applied (eg operations and management, technology development, etc);
- Understanding use of technical literature and other information sources;
- Awareness of nature of intellectual property and contractual issues;
- Understanding of appropriate codes of practice and industry standards;
- Awareness of quality issues;
- Ability to work with technical uncertainty.

+ additional criteria for MEng degrees!

Rationalisation?

- Do we really need all the detail?
 - the 'output standards' matrix?
 - the full cohort analysis
 - YOUR suggestions to reduce bureaucracy!!
- Can we agree QA and accreditation documentation, combine visits?
- Do we need IEng/CEng split for BEng Hons degrees?
- Do we need accreditation?

Accreditation – needed after 2010?

2010 Bologna Agreement
implementation – 3 cycles:

1. Bachelor 180 – 240 ECTS credits
– *Technical (Incorporated)
Engineer?*
2. Master 90 – 120 ECTS credits,
60 credit minimum – *Diploma
(Chartered) Engineer*
3. Doctor (180 – 240 credits?)

'Bologna' BEng Level 1 degrees

- Do we need to distinguish between IEng and CEng?
- Make BEng Hons the minimum standard – benchmark for IEng and progression to CEng?
- Many universities will offer BEng to a higher standard than the minimum – less FL to progress to CEng? (year 3 exit from MEng?)
- Will accreditation take account of European professional recognition and QA standards (output requirements)

'Bologna' MEng/MSc Level 2 degrees

- Should the MEng be Bologna compliant? – a *professional* rather than *academic qualification*?
- MEng/MSc benchmark for CEng
- Need for Level 2 entry criteria as well as output standards?
- Accreditation to take account of European recognition and QA?

“[...] the Bologna process is not intended to lead to the standardisation or greater uniformity of European higher education provision. It is more a framework designed to ensure the highest level of **quality, consistency and coherence** between Europe’s respective national systems and between individual institutions.”

-DfES statement:

-“[...] it is about **recognition**, it is not about standardisation.” (Minister of Higher Education)

House of Commons Education and Skills Committee. The Bologna Process. 4th Report, 16 April 2007

Accreditation – final thoughts

1. Is accreditation of equal value to the Institutions and Universities?
2. Non- accredited degrees often assessed as acceptable, particularly for IEng – are they subject to the same rigour?
3. Are there too many controls on degrees – should we simplify, rationalise?
4. Bologna starts in 2010 – should the JBM/EAB/ECuk now start to start the rational review to accommodate Bologna?
5. The London (May) meeting – the last?
6. Do we need to accredit after 2010?

The Times: 1 May 2007...comment on the House report!!

Degrees of learning

MPs are up in arms because of the “Bologna Process”: the EU’s attempt to harmonise higher education in Europe. The trouble is that those meddling Eurocrats have counted the hours that students spend poring over their books. And by using this unsporting method they have come to the conclusion that a lot of British degrees are “lightweight”. How damned impertinent of them! Have they forgotten that it’s part of a UK citizen’s inalienable birthright to booze and bonk through university, and then be awarded at least a 2:2? Don’t they realise that the intellect of the average British 18-year-old is already so finely honed that further swotting is unnecessary?

Thank goodness our MPs are resisting this disgraceful attack on British values.