

IOP Institute of Physics

New IOP degree accreditation scheme - More flexibility in curriculum design

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Issues with the old scheme

- Focused on content and gave the impression skills were less important
- Seen as a tick box exercise
- The *Core* was restrictive
- Feedback from employers was that it was no longer meeting their needs, particularly with regard to graduate skills

Employer feedback

Physics graduates:

- Have a good knowledge of physics but can be limited in what they can do with that knowledge
- Their grasp of fundamental concepts can be weak
- Communication, teamworking, personal, and professional skills can be poor
- Can lack critical thinking, reasoning and complex problem solving skills
- Need to be prepared to learn for themselves and reflect on their learning
- Can find it difficult to describe what skills they have

The new scheme

- The *Core* is replaced by fundamental topics
- Skills have much greater prominence and are compulsory
- Focus is on how knowledge and skills are developed through the degrees and the outcomes that are expected
- Professional skills have been included
- Requirements cover the environment of the department and university
- There is an expectation that enhancement will occur over time
- Accreditation framework is made up of 5 overarching principles and 13 key expectations

The principles

Principle 1 Accredited degree programmes must meet the criteria detailed within the key expectations.

Principle 2 Accredited degree programmes should provide a positive and engaging experience of physics and encourage students to foster and maintain an intellectual curiosity in the discipline.

Principle 3 Universities and physics departments must have robust quality assurance and quality enhancement mechanisms in place and ensure that quality and standards are not compromised.

The principles

Principle 4 Universities and physics departments must have a clear commitment to equality, diversity and inclusion and this should be evident within the university and departmental culture, environment and physics curriculum.

Principle 5 Universities must ensure that physics departments are provided with adequate resources to support their accredited degree programmes, to enable the adoption of good teaching practice and to provide students and staff with a supportive environment.

Key Expectations

13 key expectations which are competency standards for accredited degrees

KE 1-7 cover bread and depth of knowledge

KE 8-13 cover physics skills, transferable skills and attributes

Which means there is an equal split between knowledge and skills within the key expectations

Implications

- Flexibility in curriculum will allow depts to give their degrees a unique flavour and meet local employer needs
- A reduction in content will be needed
- Depts should have a teaching strategy detailing where and how knowledge and skills are taught, developed and assessed
- Inclusivity will need to be considered
- Assessment may need to become more varied

Implications continued

- Depts may need to know what happens in the other subject (for joint or major/minor degrees)
- More freedom to teach and assess in innovative ways
- Depts will need to engage with educational research, support staff to do so, and adopt good practice
- Staff may need support to develop their teaching and assessment methods

Scheme introduction

- In operation from the coming academic year (22/23)
- Time to adapt to the new requirements will be given
- Supported by additional guidance, good practice events and departmental level advice

IOP ongoing work

- Development of additional guidance documents to support the new scheme
- Development of definitions of terms used
- Improved dissemination of good practice
- Support for increasing inclusivity in the physics curriculum
- Explanatory document for students
- Continued engagement with employers

The subtitle of the talk

How do we get the balance right between employability, skills and academic rigor and encourage innovation while also ensuring compliance with accreditation?

Are they two different things?

Thank you

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