

## Questions: Criteria for the Diploma qualifications in science at Advanced level

We are seeking views on draft criteria for the principal learning part of the Diploma qualification in science at advanced level. Principal learning is the mandatory component of the Diploma.

Once finalised, these criteria will define the knowledge, skills and understanding required for the principal learning component of the qualification. An awarding organisation will need to demonstrate that the principal learning component it has developed for the qualification will meet these criteria. The criteria for principal learning will be used alongside the Criteria for accreditation of Foundation, Higher and Advanced Diploma qualifications (insert link). These overarching criteria apply to all Diplomas.

Diploma qualifications are designed to meet the needs of particular sectors. Diploma development partnerships develop 'lines of learning statements' in which the rationale, vision and content for the relevant principal learning component is set out. The criteria must reflect the lines of learning statements. A line of learning statement for the Diploma qualification in science at advanced level is being finalised by the science Diploma development partnership, working with QCDA. QCDA is currently seeking views on this line of learning statement [www.qcda.gov.uk/26696.aspx](http://www.qcda.gov.uk/26696.aspx)

The draft line of learning statement has informed the draft criteria on which we are consulting. We are consulting on the criteria before the line of learning statement has been confirmed. This is to allow sufficient time for the development of qualifications. We will take any changes to the line of learning statement into account when we finalise the criteria.

We would welcome your views on the draft criteria. Please complete this questionnaire by **24th May 2010**.

### Please indicate your organisation type:

Awarding Organisation	
Centre	
Sector body	
Learner	
University / College or Employer	
Government body / agency	
Other:	√ - curriculum development organisation

### Question 1a

*The advanced science Diploma is intended to provide the practical skills and theoretical knowledge employers and higher education need and to boost participation and attainment in science.*

### To what extent will a qualification that meets the draft criteria satisfy these aims?

To the full extent	
To a great extent	
Unable to say	
To a small extent	√
Not at all	

**Question 1b**

**Please explain your answer...**

The research quoted in the line of learning consultation states "alongside scientific skills, mathematical skills need to be explicit and better developed". These draft criteria have little explicit mathematics in them (much less than the line of learning statement). They will allow awarding bodies to develop qualifications which do not have sufficient mathematics in them in terms of both breadth and depth. The only specific statistical content which I can find is "correlation and regression"; it is unclear why this has been chosen as the most important statistical content for science students to know.

**Question 2a**

*The criteria, when read with the Criteria for accreditation of Foundation, Higher and Advanced Diploma qualifications (insert link), should enable awarding organisations to develop qualifications that are fit for purpose and enable submissions from awarding organisations to be judged consistently and effectively.*

**To what extent would the draft criteria meet these purposes?**

To the full extent	
To a great extent	
Unable to say	
To a small extent	√
Not at all	

**Question 2b**

**Please explain your answer...**

The lack of detail about content in the criteria will make it impossible to judge submissions consistently unless Ofqual employ scientists and mathematicians of sufficient expertise to make such judgements. If such experts are not employed, there is a real danger that inadequate specifications will be accredited because they "meet the criteria". The question that needs to be addressed in accreditation is "does it meet the criteria and is it of the right standard". The lack of detail concerning assessment will make it difficult for awarding bodies to know whether their specifications are likely to be acceptable. In particular, there is a requirement that 180 GLH is externally assessed but it is not clear whether this will be required to consist of whole units or whether a mixture of internal and external assessment can be used in the same unit. If the former, then either topics 3.2, 3.3 and 3.4 will be externally assessed with the rest internally assessed or two of topics 3.1, 3.5, 3.6 and 3.7 will be externally assessed with the rest internally assessed.

### Question 3a

*The Diploma qualification in science at advanced level should provide a level of demand consistent with other qualifications at level 3. Level 3 qualifications should:*

- recognise the ability to gain, and where relevant apply, a range of knowledge, skills and understanding
- require the learner to obtain detailed knowledge and skills
- be appropriate for people wishing to go to university
- be appropriate for people working independently or, in some areas supervising and training others in their field of work.

**To what extent would a qualification that meets the draft criteria provide a level of demand consistent with other level 3 qualifications?**

To the full extent	
To a great extent	
Unable to say	√
To a small extent	
Not at all	

### Question 3b

**Please explain your answer...**

Our expertise is in mathematics rather than science so we are unable to judge the level of the science content. However, the specific mathematics and statistics content is very thin and could be commensurate with level 2 qualifications rather than level 3.

### Question 4a

*The line of learning criteria specify the requirements against which awarding bodies will develop their principal learning qualifications for the Diploma. The requirements set out in the criteria must be clear and understandable so that the purpose of the criteria and the requirements they make are clear for all.*

**To what extent are the requirements made in the criteria clear and understandable?**

To the full extent	
To a great extent	
Unable to say	
To a small extent	√
Not at all	

### Question 4b

**Please explain your answer...**

See answer to 2b.

### Question 5a

*Principal learning qualifications should provide opportunities for applied learning and at least half of the learning should be applied.<sup>1</sup>*

**To what extent are opportunities for applied learning made clear in the criteria?**

To the full extent	
To a great extent	
Unable to say	√
To a small extent	
Not at all	

### Question 5b

**Please explain your answer...**

Most of the topics are applications of science; however, we do not know how typical the tasks students will engage in are of those undertaken by scientists in the workplace.

### Question 6a

*Qualifications should be accessible to all learners and without the need to provide exemptions. Any aspects of the criteria that might stop a learner demonstrating their knowledge, skills and understanding should be included only and explicitly if they are essential to the integrity of the qualification.*

**Are there any aspects of the criteria what might make the qualification inaccessible to learners?**

Yes	√
No	

### Question 6b

**Please explain your answer...**

The requirement to engage in practical science will not be possible for a small minority of students but it is an essential requirement of such a qualification.

1. *Applied learning is defined as: Acquiring and applying knowledge, skills and understanding through tasks set in sector / subject contexts that have many characteristics of real work or are set within the workplace; most importantly, the purpose of the task in which learners apply their knowledge, skills and understanding must be relevant to the workplace [•]*