

15 January 2008

To: SQA Co-ordinator (secondary schools,
special schools and further education colleges)
Scottish Executive
HMIE
Directors of Education
Mathematics Assessment Panel members
Higher Education Institutions — Department of Education

**For the attention of all staff responsible for the delivery of
National Qualifications in Mathematics**

Response required
✓ Note and pass on
Note — update/information only

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Dear Colleague

National Qualifications update — Mathematics

This letter provides an update on National Qualifications and should be passed to the member of staff responsible for Mathematics.

The following items are included:

- 1 Removal of Courses from the National Qualifications Catalogue
- 2 Removal and addition of free-standing Units
- 3 Higher Mathematics
- 4 Advanced Higher Applied Mathematics: Statistics
- 5 Principal Assessor reports
- 6 Verification
- 7 Past papers and marking instructions
- 8 Understanding Standards
- 9 Progression routes to Higher
- 10 *Mathematical Modelling with Technology*
- 11 Functional/financial Mathematics
- 12 Intermediate 1 and Access 3 certification

1 Removal of Courses from the National Qualifications Catalogue

i) Higher

C102 12 *Mathematics: Maths 1, 2 and Statistics* has been removed.

The Unit D325 12 *Statistics* remains on the Catalogue as a free-standing Unit for the foreseeable future.

ii) Advanced Higher

C203 13 *Applied Mathematics: Numerical Analysis* has been removed.

The Units D328 13 *Numerical Analysis 1* and D329 13 *Numerical Analysis 2* remain on the Catalogue as free-standing Units for the foreseeable future.

2 Removal of Units from the National Qualifications Catalogue and addition of new Units

Following a Portfolio Review of National Units completed in 2006, the Units in the table below have been identified for possible removal from the NQ Catalogue. Where 'Mathematics' is the first word in the title, this has been omitted to make it easier to identify each Unit. Although stakeholders were consulted during the review, it is appreciated that some centres may wish to comment on these proposals. Once comments have been taken on board, the final list will be submitted for removal and centres will be notified. Centres would be able to enter candidates for the Units until July 2010.

title	Code	level
<i>Dealing with Money</i>	EA2Y	09
<i>Mathematics: Grade 1</i>	E9AF	09
<i>Dealing with Basic Measurements</i>	EA2X	09
<i>Using Measurement Skills in Everyday Situations</i>	EA38	09
<i>Mathematics: Engineering Numeracy</i>	E942	10
<i>Mathematics: Laboratory Numeracy</i>	E943	10
<i>Using Arithmetic Skills</i>	EA35	10
<i>Small Scale Planning, Estimating and Costing</i>	EA34	10
<i>Introduction to Statistics</i>	D1C9	11
<i>Business Statistics</i>	E9AL	12
<i>Statistics 2</i>	E9AK	12
<i>Applied Statistics</i>	ED14	12
<i>Statistics 3</i>	EA33	13
<i>Analysis/Algebra 3</i>	E9AG	13
<i>Analysis/ Algebra 4</i>	E9AN	13
<i>Calculus 2</i>	E9AP	13
<i>Calculus 3</i>	E9AR	13
<i>Numerical Methods 1</i>	E9AM	13

title	Code	level
<i>Numerical Methods 2</i>	E9AS	13
<i>Mathematical Modelling</i>	EA30	13
<i>Operational Research</i>	EA31	13
<i>Quality Control</i>	EA32	13

It should be noted that there will be some new Units in the near future which are currently going through the validation process.

There will be a new *Maths for Science* Unit (SCQF level 5) will be available from August 2008 and four new *Maths for Engineering* Units (two at SCQF 5 and two at SCQF 6) which will be available from August 2009. The latter Units will offer centres alternatives to *Engineering Numeracy*, which still has a fairly high uptake at the moment.

3 Higher Mathematics

The 2008 diet will be the first Higher Mathematics exam in the new format.

The examination will continue to consist of two papers, one of which will not allow the use of a calculator. The total time for the examination will remain unchanged (2 hours and 40 minutes with a 20 minute break between papers) as will the total mark allocation (130 marks).

Paper 1 (non-calculator) will consist of two sections:

Section A will contain 20 multiple choice questions, and have an allocation of 40 marks.

Section B will contain a balance of short questions designed to test knowledge and understanding and extended response questions which also test problem solving skills, and have an allocation of 30 marks.

Time allowed: 90 minutes.

Paper 2 (calculator) will contain a balance of short questions designed to test knowledge and understanding and extended response questions which also test problem solving skills, and have an allocation of 60 marks.

Time allowed: 70 minutes

Resources

There are two specimen papers available in the new format.

Centres have received an allocation of candidate booklets. It was not possible to predict the number of candidates in each centre and although extra copies were printed and distributed, a few centres still did not have enough booklets. The booklet is now available to download. It was originally placed on the secure area of SQA's website, but has now been moved to the Higher Mathematics page of SQA's website.

There is an item bank of 144 objective test items on the secure area of SQA's website. This will be added to over the next two years. In 2007, it was possible for centres to use this as the sole source of objective items for inclusion in a prelim examination. From 2008/09 onwards, centres should follow the usual guidelines for prelims which may be found in the publication *Estimates, Absentees and Appeals 2008*.

4 Advanced Higher Applied Mathematics: Statistics

Centres should be reminded that page 4 of the Arrangements document for this Course states the following:

‘Statistics 1 (AH) assumes knowledge of Outcome 2 of Statistics (H), while experience of Outcomes 1 and 4 of Statistics (H) would be advantageous.’

While some textbooks for Advanced Higher Statistics do not assume that candidates already have this knowledge and have therefore included it, centres should be aware that the content of the relevant sections of the Unit D325 12 *Statistics* will require to be covered at some point.

5 Principal Assessor reports

The Principal Assessor reports are available on the Mathematics page of SQA's website.

The Principal Assessor reports include details of: statistical information on entries; grade boundaries at C, B and A; and comments on candidate performance including areas where candidates performed well, areas where candidates had difficulties in the external assessment and areas of common misunderstanding. There is also advice for the future preparation of candidates.

The Principal Assessors reported that, in general, candidates were being presented at an appropriate level and had been well prepared for the examinations. It was recommended that centres consider how best to improve candidates' abilities in interpreting statistics, mathematical proof, algebraic manipulation and arithmetical precision.

6 Verification

Retrospective verification took place during the summer of 2007. The Senior Verifier will issue a report in 2008.

The Verifiers looked at Unit 3 for all levels. Centres should ensure that candidates sit the NAB for Unit 3 or pass a centre devised assessment which can be submitted to SQA for prior approval.

Centres are reminded that all instruments of assessment and marking instructions should be included with students' work when submitting material for external verification.

In response to requests and to assist centres in collating material for submission for external verification, examples of student and class checklists will be made available on SQA's website in the near future.

7 Past papers and marking instructions

The exam papers and marking instructions for all 2007 Mathematics examinations are available on SQA's website.

8 Understanding Standards

To learn more about SQA standards and how they are applied, you can visit the Understanding Standards website (www.understandingstandards.org.uk). The website is available to all those delivering SQA qualifications. It is designed to allow the opportunity to more fully understand the standards for assessment that are applied by the SQA examination teams.

Examples from Mathematics papers at Intermediate 1, Intermediate 2 and Higher are available. Candidate responses and marking instructions are shown. There is an opportunity to allocate a mark to the candidate before having a look at the marks allocated by the examination team.

9 Progression routes to Higher

As in previous years, there has been an increase in the number of centres using Intermediate 2 as a progression route to Higher. Candidates progressing through this route were:

- ◆ 2003 1818
- ◆ 2004 1842
- ◆ 2005 2192
- ◆ 2006 2672

Progression data for 2007 Higher Mathematics by qualification level attempted in 2006 is included in Appendix 1 of this letter.

10 *Mathematical Modelling with Technology*

This Unit has now been drafted and should be available for centres by August 2008.

11 Functional/financial mathematics

There has been increasing interest in the media and in centres in providing resources and qualifications in areas such as personal financial capability. SQA is currently running a pilot course in personal finance in a small number of centres in partnership with IFS (Institute of Financial Services).

Centres will be kept informed of future developments.

12 Intermediate 1 and Access 3 certification

From August 2007 onwards, SQA will automatically award an Access 3 Course to those candidates who have failed the external assessment of the corresponding Course at Intermediate 1 but have nonetheless met the Unit requirements of the Intermediate 1 Course. The Courses to which this applies can only be those where the component Units at Intermediate 1 and Access 3 are hierarchical. This applies to Mathematics.

To clarify further, to be eligible for this award of an Access 3 Course, candidates must meet the following criteria:

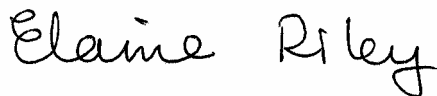
- ◆ passes in all the required internally-assessed Units at Intermediate 1
- ◆ a result of 8 or 9 for the Intermediate 1 external assessment

When candidates meet these criteria, SQA will create the corresponding Access 3 Course entry, if it has not already been submitted by the centre, and subsequently award the Access 3 Course.

Where a candidate does not attempt the external assessment, the centre would be required to create an Access 3 Course entry.

I hope you find the information in this letter helpful. Should you require any further information or wish to submit comments or suggestions regarding Mathematics qualifications please do not hesitate to contact me.

Yours faithfully



Elaine Riley

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National Qualifications: Performing Arts, Languages, Mathematics and Science.