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Guidance

GCSE subject-level conditions and requirements for astronomy (2022)

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Contents

Introduction

Print this page

About this document

This document is part of a suite of documents which sets out the regulatory requirements for awarding organisations offering GCSE qualifications (graded from 9 to 1) in 2022.

We have developed these requirements with the intention that GCSE qualifications (graded from 9 to 1) should provide:

- evidence of students' achievements against demanding and fulfilling content
- a strong foundation for further academic and vocational study and for employment
- a basis for schools and colleges to be held accountable for the performance of all of their students, if required

Requirements set out in this document

This document sets out the GCSE Subject Level Conditions for Astronomy (2022). These conditions will come into effect at 09:30 on 12 November 2021 for all GCSE qualifications (graded from 9 to 1) in Astronomy for Learners completing the qualification in 2022, except where the General Qualifications Alternative Awarding Framework applies.

It also sets out our requirements in relation to:

- interpretation of the content document - an awarding organisation must comply with these requirements under Condition GCSE(Astronomy)1.1(c)
- assessment objectives - awarding organisations must comply with these requirements under Condition GCSE(Astronomy)1.2
- assessment - awarding organisations must comply with these requirements under Condition GCSE(Astronomy)2.1

With respect to GCSE qualifications (graded from 9 to 1) in Astronomy in 2022, awarding organisations must also comply with:

- our General Conditions of Recognition, which apply to all awarding organisations and qualifications
- our GCSE Qualification Level Conditions
- all relevant Regulatory Documents

With respect to GCSE qualifications in Astronomy taken by Learners completing the qualification in 2023 and after, an awarding organisation must continue to comply with the GCSE Subject Level Conditions and Requirements for Astronomy.

Subject Level Conditions

GCSE Subject Level Conditions for Astronomy

Condition GCSE(Astronomy) 1: Compliance with content requirements
GCSE(Astronomy)1.1

In respect of each GCSE Qualification in Astronomy which it makes available, or proposes to make available, an awarding organisation must -

(a) comply with the requirements relating to that qualification set out in the document published by the Secretary of State entitled 'Astronomy GCSE subject content', document reference DFE-00202-2015,

(b) have regard to any recommendations or guidelines relating to that qualification set out in that document, and

(c) interpret that document in accordance with any requirements, and having regard to any guidance, which may be published by Ofqual and revised from time to time.

GCSE(Astronomy)1.2

In respect of each GCSE Qualification in Astronomy which it makes available, or proposes to make available, an awarding organisation must comply with any requirements, and have regard to any guidance, relating to the objectives to be met by any assessment for that qualification which may be published by Ofqual and revised from time to time.

Condition GCSE(Astronomy) 2: Assessment
GCSE(Astronomy)2.1

An awarding organisation must ensure that in respect of each assessment for a GCSE Qualification in Astronomy which it makes available it complies with any requirements, and has regard to any guidance, which may be published by Ofqual and revised from time to time.

Condition GCSE(Astronomy) 3: Observational work
GCSE(Astronomy)3.1

In respect of a GCSE Qualification in Astronomy which it makes available, or proposes to make available, an awarding organisation must require each Learner to complete observational work which meets the requirements specified in the document published by the Secretary of State entitled 'Astronomy GCSE subject content', document reference DFE- 00202-2015, as interpreted in line with the requirements published under Condition GCSE(Astronomy)1.1(c).

GCSE(Astronomy)3.2

In respect of a GCSE Qualification in Astronomy which it makes available, or proposes to make available, an awarding organisation must -

(a) set out in the specification for that qualification the range of permitted observational activities from which each Learner must select,

(b) promptly amend that specification when the awarding organisation makes any revision to the observational activities, and

(c) where such an amendment has been made to the specification, publish that specification as amended.

Subject content requirements

Requirements in relation to subject content for GCSE Qualifications in Astronomy

The subject content for GCSE Qualifications (graded 9 to 1) in Astronomy is set out in the Department for Education's Astronomy GCSE subject content, document reference DFE-00202-2015 (the 'Content Document').

Condition GCSE(Astronomy)1.1(c) requires awarding organisations to interpret the Content Document in line with any requirements, and having regard to any guidance, published by Ofqual.

We set out our requirements for the purposes of Condition GCSE(Astronomy)1.1(c) below.

Observational work

An awarding organisation must interpret the Content Document as if a Learner may observe the undertaking of observational work, or conduct observational work by virtual or simulated means, where public health requirements mean that it is not possible for the Learner to undertake observational work him or herself in the usual way.

Assessment objectives

Assessment objectives - GCSE Qualifications in Astronomy

Condition GCSE(Astronomy)1.2 allows us to specify requirements relating to the objectives to be met by any assessment for GCSE Qualifications in Astronomy.

The assessment objectives set out below constitute requirements for the purposes of Condition GCSE(Astronomy)1.2. Awarding organisations must comply with these requirements in relation to all GCSE Qualifications in Astronomy they make available.

Assessment objective	Description	Weighting
AO1	Demonstrate knowledge and understanding of: • scientific ideas • scientific techniques and procedures	40%
AO2	Apply knowledge and understanding of: • scientific ideas • scientific techniques and procedures	40%
AO3	Analyse information and ideas to: • interpret and evaluate astronomical observations, data and methods • make judgements and draw conclusions • develop and improve observational procedures	20%

Assessment requirements

Assessment requirements - GCSE Qualifications in Astronomy

Condition GCSE(Astronomy)2.1 allows us to specify requirements relating to the assessments for GCSE Qualifications in Astronomy.

We set out below our requirements for the purposes of Condition GCSE(Astronomy)2.1. Awarding organisations must comply with these requirements in relation to all GCSE Qualifications in Astronomy they make available.

Mathematical skills

The subject content for GCSE Qualifications in Astronomy is set out in the document published by the Secretary of State entitled 'Astronomy GCSE subject content', document reference DFE-00202-2015 (the 'Content Document').

Appendix 1 to the Content Document specifies the mathematical knowledge, skills and understanding which Learners will be required to use and apply in GCSE Qualifications in Astronomy (the 'Mathematical Skills').

In designing and setting the Assessments by Examination for a GCSE

Qualification in Astronomy which it makes available, or proposes to make available, an awarding organisation must ensure that -

(a) questions and tasks rewarding the use of 'Mathematical Skills' assess those skills within the context of other areas of the subject content, and not in isolation,

(b) in each set of assessments,[footnote 1] at least 20 per cent of the total marks for the qualification reward the use of Mathematical Skills at a Level of Demand which is not lower than that which is expected of Learners at Key Stage 3 as outlined in the Department for Education's document 'Mathematics programmes of study: key stage 3', document reference DFE-00179-2013, and

(c) without prejudice to the above requirements and those outlined in the Content Document, in each set of assessments Mathematical Skills are assessed across a range of Levels of Demand which supports effective differentiation in relation to the qualification.

Assessment of Learners in relation to observational skills

In designing and setting the assessments for each GCSE Qualification in Astronomy which it makes available, or proposes to make available, an awarding organisation must ensure that, taking the assessments for that qualification together -

(a) Learners' knowledge, skills and understanding in relation to observational work is assessed across assessment objectives AO1, AO2 and AO3,

(b) the number of marks used to credit such knowledge, skills and understanding is at least 15 per cent of the total marks available for the qualification,

(c) the questions and tasks which test Learners' knowledge, skills and understanding in relation to observational work draw on, and combine as appropriate, the theoretical and technical aspects of observation, and

(d) Learners are required to -

(i) show and apply knowledge and understanding of observational work, and

(ii) apply scientific thinking, use observational skills and strategies, and analyse and evaluate information.

Assessment of 'working scientifically'

Paragraph 6 of the Content Document states that -

" Specifications must encourage the development of knowledge and understanding in astronomy through opportunities for working scientifically."

Paragraph 9 of the Content Document goes on to set out 'the main ways in which working scientifically must be developed and assessed'.

An awarding organisation must design and set the assessments for each GCSE Qualification in Astronomy which it makes available, or proposes to make available, to ensure that, taking the assessments for that qualification together, Learners' knowledge, skills and understanding in relation to working scientifically is

assessed across assessment objectives AO1, AO2 and AO3.

1. For the purposes of these requirements, a ‘set of assessments’ means the assessments to be taken by a particular Learner for a GCSE Qualification in Astronomy. For clarity, the assessments taken by Learners may vary, depending on any possible routes through the qualification.↩