



Letter of support for International Baccalaureate Physics qualifications submitted for funding approval July 2023.

The purpose of this letter of support is to provide evidence of the University of Birmingham's recognition of the value of this qualification in preparing learners for transition to higher education courses in the subject, or a related area. This is provided to meet a requirement of the Department for Education's approval process for the funding of Alternative Academic Qualifications (AAQ).

This letter of support is in relation to the following qualifications

- IBO Level 3 Certificate in HL Physics (AAQ)
- IBO Level 3 Certificate in SL Physics (AAQ)

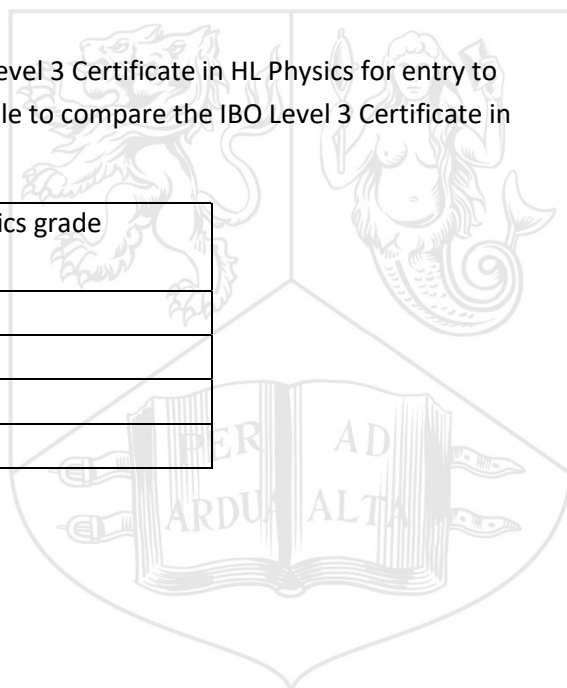
IBO Level 3 Certificate in HL Physics (AAQ)

- University of Birmingham recognises this qualification specifically as meeting subject entry requirements for courses such as: Physics BSc, Aerospace Engineering BEng, Chemical Engineering BEng for which an academic level 3 Physics qualification is a requirement.
- We recognise this qualification for entry onto many of our related courses where one or more academic level 3 science subjects are required or preferred.
- We recognise this qualification for entry to all undergraduate programmes for which there are no specific subject requirements, or as part of a qualifications profile which contains required subjects.

From our experience of admitting student to the university on the basis of this qualification we have found that IBO Level 3 Certificate in HL Physics (AAQ) provides sound academic preparation and a such is currently, and will be, accepted as a part of an applicant's Level 3 qualifications profile for admission to all Undergraduate degree programmes. Applicants offering IBO HL Physics are considered as being at least equally qualified for admission as those holding A level physics.

University of Birmingham has for many years accepted the IBO Level 3 Certificate in HL Physics for entry to undergraduate programmes, using the following equivalence scale to compare the IBO Level 3 Certificate in HL Physics to A level Physics:

IBO Level 3 Certificate in HL Physics (AAQ) grade	A Level Physics grade
7	A*
6	A
5	B
4	C



We have found that the grades achieved by applicants holding the IBO Level 3 Certificate in HL Physics are an accurate guide to potential achievement in undergraduate courses at the university and provide an effective basis for the selection process.

Whilst many students offering IBO HL Physics will do so within the IB Diploma programme, the University of Birmingham also accepts this qualification as either:

1. A standalone qualification offered in combination with other acceptable Level 3 qualifications: for example, IBO Certificate in HL Physics along with other IBO HL certificates, or alongside A levels or other acceptable Level 3 qualifications.
2. An academic component of the IB Career Related programme; whereby this qualification is accepted in combination with a suitable technical qualification such as a BTEC National Diploma. As such this qualification supports progression to our undergraduate programmes for learners who benefit from a mixed academic and technical curriculum at Level 3.

The IBO Level 3 certificate in HL Physics (AAQ) provides a firm foundation in the principles of physics allowing candidates to progress successfully to undergraduate courses where a deep knowledge of physics is a pre-requisite. The qualification content covers the fundamental principles of physics which includes:

Space, time and motion

- Kinematics
- Forces and momentum
- Work, energy and power
- Rigid body mechanics
- Galilean and special relativity

The particulate nature of matter

- Thermal energy transfers
- Greenhouse effect
- Gas laws
- Thermodynamics
- Current and circuits

Wave behaviour

- Simple harmonic motion
- Wave model

- Wave phenomena
- Standing waves and resonance
- Doppler effect

Fields

- Gravitational fields
- Electric and magnetic fields
- Motion in electromagnetic fields
- Induction

Nuclear and quantum physics

- Structure of the atom
- Quantum physics
- Radioactive decay
- Fission
- Fusion and stars

Additionally, the qualification develops the key skills necessary for students to access undergraduate physics and other undergraduate science courses:

- Experimental techniques
- The use of appropriate technology to collect, analyse and model data
- The use of mathematics

In all of our undergraduate courses, regardless of whether or not a physics qualification is pre-requisite, we expect our students to take an inquiring approach to their studies. The IBO Level 3 Certificate in HL Physics (AAQ) qualification supports this aspect through its inquiry process through which candidates demonstrate independent thinking, initiative, and insight through the following:

- Exploring and designing
- Collecting and processing data

- Concluding and evaluating

IBO Level 3 Certificate in SL Physics (AAQ)

We recognise this qualification for entry as part of a wider Level 3 qualifications profile.

The university welcomes applicants holding the IBO Level 3 SL certificate in Physics (AAQ) as it provides breadth to an applicant's studies and provides a complementary qualification alongside other IBO HL courses, or other acceptable Level Three qualifications. This is particularly valuable in providing them with the fundamental knowledge and understanding of physics which supports progression to a range of courses for which IBO HL or A level Physics are not prerequisite. We value the skills and knowledge that students with this qualification bring and the contribution to their success.

The IBO Level 3 Certificate in SL Physics (AAQ) provides a firm foundation in the principles of physics allowing candidates to progress successfully to undergraduate courses where a knowledge of physics is desirable. The course content covers the fundamental principles of physics which includes:

Space, time and motion

- Kinematics
- Forces and momentum
- Work, energy and power
- Rigid body mechanics
- Galilean and special relativity

The particulate nature of matter

- Thermal energy transfers
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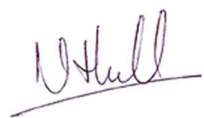
Additionally, the qualification develops the key skills necessary for students to access a wider range of undergraduate science courses:

- Experimental techniques
- The use of appropriate technology to collect data
- The use of mathematics

In all of our undergraduate courses we expect our students to take an inquiring approach to their studies. The IBO level 3 certificate in SL Physics (AAQ) supports this aspect through its inquiry process which includes:

- Exploring and designing
- Collecting and processing data
- Concluding and evaluating

University of Birmingham is therefore fully supportive of these qualifications continuing to be available to learners to support their progression to our undergraduate programmes of study.

A handwritten signature in black ink, appearing to read 'Nick Hull', with a horizontal line underneath.

Nick Hull
Director of Admissions
University of Birmingham