UNIVERSITY OF BIRMINGHAM

Letter of support for International Baccalaureate Biology 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 Biology (AAQ)
- IBO Level 3 Certificate in SL Biology (AAQ)

IBO Level 3 Certificate in HL Biology (AAQ)

a) University of Birmingham recognises this qualification specifically as meeting subject entry requirements for courses such as: Biology BSc, Biochemistry BSc, Medicine and Surgery MBChB, for which an academic level 3 Biology qualification is a requirement.

b) 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.

c) 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 Biology (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 Biology are considered as being at least equally qualified for admission as those holding A level biology.

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

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

- Biological molecules, water, nucleic acids, carbohydrates and lipids, proteins
- Cell structure and specialisation
- Membranes and membrane transport
- Organelles and compartmentalisation
- Diversity of organisms
- Classification and cladistics
- Evolution and speciation
- Conservation of Biodiversity
- Gas exchange
- Transport
- Muscles and motility
- Adaptation to environment
- Ecological niches
- Enzymes and metabolism
- Respiration
- Photosynthesis
- Chemical signalling
- Neural signalling
- Integration of body systems
- Defence against disease
- Populations and communities
- Transfers of energy and matter
- Mutations and gene editing
- Cell and nuclear division
- Gene expression
- Water potential
- Reproduction
- Inheritance
- Homeostasis
- Natural selection
- Stability and change
- Climate change

Additionally, the qualification develops the key skills necessary for students to access undergraduate biology 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 biology qualification is pre-requisite, we expect our students to take an inquiring approach to their studies. The IBO Level 3 Certificate in HL Biology

(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 Biology (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 Biology (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 biology which supports progression to a range of courses for which IBO HL or A level Biology 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 Biology (AAQ) provides a firm foundation in the principles of biology allowing candidates to progress successfully to undergraduate courses where a knowledge of biology is desirable. The course content covers the fundamental principles of biology which includes:

- Biological molecules, water, nucleic acids, carbohydrates and lipids, proteins
- Cell structure and specialisation
- Membranes and membrane transport
- Organelles and compartmentalisation
- Diversity of organisms
- Evolution and speciation
- Conservation of Biodiversity
- Gas exchange
- Transport
- Adaptation to environment
- Ecological niches
- Enzymes and metabolism
- Respiration
- Photosynthesis
- Neural signalling
- Integration of body systems
- Defence against disease
- Populations and communities
- Transfers of energy and matter
- Mutations and gene editing
- Cell and nuclear division
- Water potential
- Reproduction
- Inheritance
- Homeostasis
- Natural selection
- Stability and change
- Climate change

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 Biology (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.

Nick Hull
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