Course Specification

Published Date:	14-Sep-2020
Produced By:	Laura Clode
Status:	Validated

Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	Wolverhampton School of Sciences		
Course Code(s):	AB022S01UV	Full-time	2 Years
UCAS Code:	62C2		
Course Title:	HND Applied Biology		
Hierarchy of Awards:	Higher National Diploma Applied Biology awarded by the University of Wolverhampton Certificate of Higher Education Applied Biology awarded by the University of Wolverhampton University Statement of Credit University Statement of Credit		
Language of Study:	English		
Date of DAG approval:	04/Apr/2017		
Last Review:	2017/8		
Course Specification valid from:	2012/3		
Course Specification valid to:	2023/4		

Academic Staff

Course Leader:	Dr Roy Protheroe
Head of Department:	Georgina Manning

Course Information

Location of Delivery:	University of Wolverhampton
Category of Partnership:	Not delivered in partnership
Teaching Institution:	University of Wolverhampton
Open / Closed Course:	This course is open to all suitably qualified candidates.

Entry Requirements:

Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS

2018 Entry

- A-Level minimum of C or EE to include a Science subject preferably Biology.
- BTEC Level 3 Diploma in Applied Science grade PP or BTEC Level Subsidiary Diploma grade M.
- Access to Higher Education Diploma requires 60 credits overall, 45 credits at Level 3 to include at least 18 Science credits.
- Applicants will normally be expected to hold GCSE English and Maths at grade C+/4 or equivalent

International entry requirements and application guidance can be found here

Distinctive Features of the Course:

The emphasis throughout the course will be on the applied nature of the study of the biological sciences in terms of how fundamental knowledge can be applied to tangible vocational situations and problems, together with the acquisition of practical and generic skills. The intention of this approach will be to prepare students for their chosen career in any of the varied career options made available.

To achieve this the award is structured to enable challenges to apply information effectively, to work in teams, to gain actual industrial experience, to learn from the experiences of professionals, to acquire technical competence and to develop generic and time management skills.

Educational Aims of the Course:

The biological sciences are a vast and endlessly fascinating area – this course provides an in-depth education in the molecular cellular and genetic activities of micro-organisms, plants and animals.

With an emphasis on the applied aspects of the subject area, the course integrates technical, practical, problem solving and career relevant aspects of the award. Technical competence is an important aspect of the award hence you will be provided with ample opportunity to undertake hands-on experiments and computer based exercises which not only underpin theory, but also provide technical training.

Integrated throughout the course at all levels are transferable skills which range from written and oral communication to career and time management, together with numeracy and scientific writing. These skills will assist your studies and are valued by employers.

The award is technically supported by a full range of analytical equipment for the analysis of biological materials and for the investigation of microorganisms, plants and animals.

This HND Course is designed to offer a broad understanding of the subject which with either provide you with opportunities to work at the technical level in the are of the biological sciences or will offer you the opportunity to progress to one of a number of specialist degree courses (depending on the modules chosen).

Intakes:

September

Major Source of Funding:

Office for Students (OFS)

Tuition Fees:

Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

Year	Status	Mode	Amount
2020/1	H	Full Time	£8600.00
2020/1	Overseas	Full Time	£12250.00

PSRB:

None

Course Structure:

September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Year 1

Module	Title	Credits	Period	Type
4BC003	Cell Biology and Genetics	20	SEM1	Core
4AB023	Introduction to Biosciences	20	SEM1	Core
4AB026	Introduction to Plant Biology	20	SEM2	Core
4BM024	Introduction to Microbiology	20	SEM2	Core

For this option group you must choose a minimum of 20 credits and a maximum of 20 credits

Students who may wish to top-up to BSc (Hons) Biological Science should take 4AB010 or 4BM016.

Students who may wish to top-up to BSc (Hons) Biochemistry, BSc (Hons) Microbiology and Biotechnology or BSc (Hons) Genetics and Molecular Biology should take 4BC005.

4AB010	Animal Behaviour	20	SEM1
4BC005	Biochemistry for Life Science	20	SEM1
4BM016	Human Form & Function	20	SEM1

For this option group you must choose a minimum of 20 credits and a maximum of 20 credits

Students who may wish to top-up to BSc (Hons) Biological Science should take 4AB014 or 4BM023.

Students who may wish to top-up to BSc (Hons) Biochemistry, BSc (Hons) Microbiology and Biotechnology or BSc (Hons) Genetics and Molecular Biology should take 4PY009 or 4BM017.

4AB014	Ecology	20	SEM2
4PY009	Principles of Drug Action	20	SEM2
4BM017	Biomedical Basis of Disease	20	SEM2
4BM023	Human Biology Practicals	20	SEM2

September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Year 2

Module	Title	Credits	Period	Type
5BC001	Molecular Biosciences	20	SEM1	Core
5BC005	Molecular Biosciences Practical Techniques	20	SEM1	Core
5AB008	Cellular and Organismal Biosciences	20	SEM2	Core

For this option group you must choose a minimum of 20 credits and a maximum of 20 credits

Students wishing to top-up to BSc (Hons) Microbiology and Biotechnology should choose 5AB032 & 5AB027.

Students who wish to follow a genetics/molecular biology route and who might wish to top-up to BSc (Hons) Molecular Genetics should choose 5AB032 & 5BM061.

Students who wish to follow a biochemistry route and who might wish to top-up to BSc (Hons) Biochemistry should choose 5AB032, 5AB030 & 5PY010.

Students who wish to follow a biology route and who might wish to top-up to BSc (Hons) Biological Sciences should choose 5AB009 or 5AB015, and 5AB030 or 5BM046.

5AB032	Biochemistry	20	SEM1
5AB009	Conservation Biology	20	SEM1

For this option group you must choose a minimum of 40 credits and a maximum of 40 credits

Students wishing to top-up to BSc (Hons) Microbiology and Biotechnology should choose 5AB032 & 5AB027.

Students who wish to follow a genetics/molecular biology route and who might wish to top-up to BSc (Hons) Molecular Genetics should choose 5AB032 & 5BM061.

Students who wish to follow a biochemistry route and who might wish to top-up to BSc (Hons) Biochemistry should choose 5AB032, 5AB030 & 5PY010.

Students who wish to follow a biology route and who might wish to top-up to BSc (Hons) Biological Sciences should choose 5AB009 or 5AB015, and 5AB030 or 5BM046.

5AB030	Analytical Techniques in Biosciences	20	SEM2
5BM046	Human Physiology Practicals	20	SEM2
5AB027	Applied and Environmental Microbiology	20	SEM2
5BM061	Evolution & Development	20	SEM2
5AB015	Behavioural Ecology	20	SEM2
5PY010	Therapeutic Pharmacology	20	SEM2

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, to create the best learning experience.

Learning, Teaching and Assessment

Academic Regulations Exemption:

None

Reference Points:

UK Quality Code for Higher Education https://www.qaa.ac.uk/quality-code

UK Quality Code for Higher Education Advice & Guidance https://www.qaa.ac.uk/en/quality-code/advice-and-guidance

Subject Benchmark Statements https://www.qaa.ac.uk/en/quality-code/subject-benchmark-statements

Qualifications and Credit Frameworkshttps://www.qaa.ac.uk/en/quality-code/qualifications-and-credit-frameworks

Learning Outcomes:

HNC Course Learning Outcome 1 (HNCCLO1)

Demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study, and an ability to evaluate and interpret these within the context of that area of study

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HNC Course Learning Outcome 2 (HNCCLO2)

Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study

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HNC Course Learning Outcome 3 (HNCCLO3)

Evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work

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HNC Course Learning Outcome 4 (HNCCLO4)

Communicate the results of your study/work accurately and reliably, and with structured and coherent arguments

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HNC Course Learning Outcome 5 (HNCCLO5)

Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility

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HND Course Learning Outcome 1 (HNDCLO1)

Demonstrate an understanding of the biological relationships between the structure and activity of biomolecules and genetic organisation with the form and function of living organisms

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HND Course Learning Outcome 2 (HNDCLO2)

Perform molecular, cellular and biochemical techniques relevant to the study of biology, including

microorganisms, plants and animal cells

HND Course Learning Outcome 3 (HNDCLO3)

Participate in the development of science, to initiate theories, gather and formulate scientific information, reliably collate and analyse data, apply appropriate statistical tests, debate and draw conclusions

HND Course Learning Outcome 4 (HNDCLO4)

Use knowledge acquired to understand molecular biology and genetics, together with microbiological applications in industry, including where appropriate social and ethical considerations

HND Course Learning Outcome 5 (HNDCLO5)

Describe the skills, applications and career activities within the study of biology

Overview of Assessment:

Module	Title	Course Learning Outcomes
4AB010	Animal Behaviour	HNCCLO1, HNCCLO3, HNCCLO4
4AB014	Ecology	HNCCLO1, HNCCLO2, HNCCLO3, HNCCLO4
4AB023	Introduction to Biosciences	HNCCLO1, HNCCLO2, HNCCLO3, HNCCLO4, HNCCLO5
4AB026	Introduction to Plant Biology	HNCCLO1, HNCCLO2, HNCCLO4
4BC003	Cell Biology and Genetics	HNCCLO1, HNCCLO2, HNCCLO4
4BC005	Biochemistry for Life Science	HNCCLO1, HNCCLO2, HNCCLO4
4BM016	Human Form & Function	HNCCLO1, HNCCLO2, HNCCLO4
4BM017	Biomedical Basis of Disease	HNCCLO1, HNCCLO2, HNCCLO3, HNCCLO4
4BM024	Introduction to Microbiology	HNCCLO1, HNCCLO2, HNCCLO4
4PY009	Principles of Drug Action	HNCCLO1, HNCCLO2, HNCCLO3, HNCCLO4, HNCCLO5
5AB008	Cellular and Organismal Biosciences	HNDCLO4
5AB009	Conservation Biology	HNDCLO4, HNDCLO5
5AB015	Behavioural Ecology	HNDCLO4
5AB027	Applied and Environmental Microbiology	HNDCLO3, HNDCLO4, HNDCLO5
5AB030	Analytical Techniques in Biosciences	HNDCLO1, HNDCLO4, HNDCLO5
5AB032	Biochemistry	HNDCLO1, HNDCLO2, HNDCLO3
5BC001	Molecular Biosciences	HNDCLO1, HNDCLO4
5BC005	Molecular Biosciences Practical Techniques	HNDCLO1, HNDCLO2, HNDCLO3, HNDCLO4, HNDCLO5
5BM046	Human Physiology Practicals	HNDCLO3, HNDCLO4
5BM061	Evolution & Development	HNDCLO1, HNDCLO4
5PY010	Therapeutic Pharmacology	HNDCLO1, HNDCLO2, HNDCLO3

Teaching, Learning and Assessment:

Relevant course material will be delivered principally through lectures, classroom discussion, group work, e-media (e.g. e-portfolios, CANVAS) and practical sessions - including class and laboratory-based. Depending on the module studied there will be different emphases on different methods, however there will be a strong emphasis on applying knowledge through practicals and problem-solving approaches across all modules and levels of study.

Fundamental principles will be reinforced and given applied relevance by case studies within tutorials and seminars. Group working will be encouraged both within formal sessions and on-line. Practical skills will be undertaken and practiced to increasing levels of independence from the use of elementary equipment, and to more advanced skills development. Vocational experience and relevance will be promoted by the use within modules of presentations by guest speakers with vocational specialisms to emphasise the applied relevance of module content.

Digital literacy: Use of generic and subject-specific IT is essential to all aspects of the course. Students will routinely access e-information and engage with e-learning via CANVAS. Additionally they will develop familiarity with subject-specific IT, such as geographical information systems, digital media, Global Positioning Systems and animal tracking technologies.

Knowledgeable and Enterprising: Applying skills and knowledge to real-world scenarios is again a central tenet of the course and is evidenced throughout all levels. Such skills develop critical thinking and prepare students for the challenges posed by professional work environments.

Global citizens: The course has both by design and default a global perspective. Examples and case studies take an international viewpoint to reflect the student's wider interests.

Assessment Methods:

At the University of Wolverhampton, a variety of modes of assessment will be used to support and test your learning and progress and to help you develop capabilities that are valued beyond your University studies and into your working life. Your course may include a variety of assessment activities:

Written examinations (including online examinations, open and closed book examinations and quizzes)
Coursework (for example, essays, reports, portfolios, project proposals and briefs, CVs, poster presentation)
Practical (for example, oral and video presentations, laboratory work, performances, practical skills assessment)

In the final year of your undergraduate degree, and at the end of your postgraduate degree, you are likely to be expected to write an extended piece of work or research, such as a dissertation or a practice-based piece of research.

Student Support:

General University support:

University Learning Centres are the key source of academic information for students. Learning Centres provide physical library resources (books, journal, DVDs etc.) and offer a range of study areas to allow students to study in the environment that suit them best: Social areas, quiet and silent areas. Learning Centres also provide access to wide range of online information sources, including eBooks, e-Journals and subject databases.

Learning Centres also provide students with academic skills support via the Skills for Learning programme. Students on campus can attend workshops or ask for one-to-one help on a range of skills such as academic writing and referencing. Students can access a range of online skills material at: www.wlv.ac.uk/lib/skills

The University Student Support website offers advice on a variety of matters (careers, counselling, student union advice, etc.) Students can also access these services by booking appointment with the SU, careers, counselling services, etc.

Course Specific Support

A well established system of proven effectiveness will exist for student support throughout the course. Students will have readily accessible (made possible via the SAMS appointment system) separate personal and award tutors to give guidance and assistance with course and module related problems as necessary.

Academic skills will be introduced initially by the Introduction to Biosciences module which runs in Semester 1 of the first year to provide a foundation in literature searching, data collection, statistical analysis and scientific presentation, including writing, referencing and oral presentation. The skills module will support both generic and practical skills which will be used on related modules during the year.

These skills will then be developed throughout modules with specific emphasis on particular skills for example group working (4BM024), practical competence (5BC005 and 5AB030).

Development of skills will be assisted by workshops and formative assessment exercises to prepare for summative assessment with timely and constructive feedback from assessed work to foster experiential learning.

Specific subject support programmes are organised by Learning Centre staff provide additional wide ranging support, literacy, numeracy, report writing, literature searching and referencing, etc.

Associate Teachers, together with Graduate Teaching Assistants) provide sessions for module and course information. Feedforward and feedback assessment support is intended to not only assist in areas of weakness but to also to stretch and develop areas of competence.

The Faculty of Science and Engineering Student Support Office is accessible every working day for non-academic related matters.

Employability in the Curriculum:

As a diplomate of HND Applied Biology you will have gained practical and theoretical experience of a core of biology, coupled with the ability to start to specialise in an area within biology, such as microbiology or biochemistry. As a result many diplomates use their biological science skills and knowledge to enter into employment with a range of organizations in both the public or private sectors. Thus, you could find yourself working for a range of companies in areas such as pharmaceutical development, water and waste treatment companies, biotechnology, diagnosis and bioplastics.

HND qualifications are widely recognised in the scientific establishment as vocational courses which prepare students for vocational employment. As such, the skills provided in the course will provide opportunities in the technical disciplines at technician level.

This two-year full-time course is designed to facilitate transfer between this and a range of biology-based degree courses at the end of both year 1 and the completion of this course. You can transfer onto the following BSc honours courses: BSc Biochemistry, BSc Biological Science, BSc Microbiology and Biotechnology, and BSc Genetics and Molecular Biology.

HND qualifications are widely recognised in the scientific establishment as vocational courses which prepare students for vocational employment. As such, the skills provided in the course will provide opportunities in the technical disciplines at technician level. This course is designed to articulate and progress seamlessly to the appropriate BSc (Hons) degree programme.