

## Programme specification

*(Notes on how to complete this template are provide in Annexe 3)*

### 1. Overview/ factual information

<b>Programme/award title(s)</b>	BSc (Hons) Biological Sciences
<b>Teaching Institution</b>	American College of Thessaloniki
<b>Awarding Institution</b>	The Open University (OU)
<b>Date of first OU validation</b>	1st September 2022
<b>Date of latest OU (re)validation</b>	n/a
<b>Next revalidation</b>	2026-2027
<b>Credit points for the award</b>	360
<b>UCAS Code</b>	
<b>HECoS Code</b>	
<b>LDCS Code (FE Colleges)</b>	
<b>Programme start date and cycle of starts if appropriate.</b>	September 2022
<b>Underpinning QAA subject benchmark(s)</b>	<a href="https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-biosciences.pdf">https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-biosciences.pdf</a>
<b>Other external and internal reference points used to inform programme outcomes. For apprenticeships, the standard or framework against which it will be delivered.</b>	<p><a href="https://www.neche.org/wp-content/uploads/2020/12/Standards-for-Accreditation-2021.pdf">https://www.neche.org/wp-content/uploads/2020/12/Standards-for-Accreditation-2021.pdf</a></p> <p><a href="https://www.rsb.org.uk/images/accreditation_home/RSB_Accreditation_Overall_Handbook.pdf">https://www.rsb.org.uk/images/accreditation_home/RSB_Accreditation_Overall_Handbook.pdf</a></p> <p><i>Review of selective Biological Sciences programs in Greece, the U.K. and the U.S. was undertaken by the Division's faculty were consulted in the design of the program. In addition the Royal Society of Biology's Accreditation Programme guidelines were reviewed by the program leads for general guidelines and future direction of the program</i></p>
<b>Professional/statutory recognition</b>	Professional rights in Greece by <a href="#">ATEEN</a>
<b>For apprenticeships fully or partially integrated Assessment.</b>	N/A

<b>Mode(s) of Study (PT, FT, DL, Mix of DL &amp; Face-to-Face) Apprenticeship</b>	FT, PT, Face-to-Face
<b>Duration of the programme for each mode of study</b>	FT - 4 year, PT 4.5 + years
<b>Dual accreditation (if applicable)</b>	NECHE Accredited (US)
<b>Date of production/revision of this specification</b>	February 2022

**Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.**

**More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in student module guide(s) and the students handbook.**

**The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.**

## 2.1 Educational aims and objectives

In the face of global challenges such as climate change and environmental management, population growth and food security, and biotechnology and human health, the Biological Sciences have never been more important.

Recent discoveries in the field have advanced at breath-taking speeds with beneficial outcomes for mankind.

ACT's Biological Sciences degree program is building on the 15-year past experience in developing and delivering STEM curriculum in collaboration with leading American Universities, such as Northeastern University and Washington University. The degree will provide graduates with a solid foundation of scientific knowledge at the molecular, biochemical, cellular, organismal, and ecosystemic level. Furthermore, it will equip graduates with practical laboratory experience and research skills which are essential and valuable in a wide range of advanced studies or employment options.

A key strength of this degree is the exposure to the breadth of biological sciences, reflecting the interdisciplinary nature of modern biology, and the implementation of the scientific methodology in designing and executing experimental investigations, analyzing data, interpreting results, communicating findings via writing scientific papers while critically evaluating relevant literature.

In addition this program aims to prepare student for further studies and/or employment in the areas of:

- Analysis and diagnostics
- Biological and Health education
- Biomedical research, investigation, and reporting
- Cosmetic industry
- Dentistry
- Health and healthcare advising, policy and related professions
- Health bioinformatics/ health informatics
- Health prevention and promotion specialist
- Postgraduate research training
- Public & private research
- Science communication
- Veterinary Medicine

**Programme Learning Outcomes (PLOs)**

- A. Knowledge and Understanding
- B. Cognitive Skills
- C. Practical and Professional Skills
- D. Key/Transferable Skills

**2.2 Relationship to other programmes and awards**

(Where the award is part of a hierarchy of awards/programmes, this section describes the articulation between them, opportunities for progression upon completion of the programme, and arrangements for bridging modules or induction)

Degree candidates majoring in Biological Sciences at ACT and as part of their ACT degree are required to take General Education Modules (GERs) offered by other divisions. Similarly other Division students take modules offered by the Division of Science and Technology. For example Psychology majors take Biology 112 as part of their ACT degree.

**2.3 For Foundation Degrees, please list where the 60 credit work-related learning takes place. For apprenticeships an articulation of how the work based learning and academic content are organised with the award.**

N/A

#### 2.4 List of all exit awards

- **BSc (Ordinary) Biological Sciences:** 300 credits (120 at Level 4, 120 at Level 5, 60 at Level 6) - but not including Biology 493/ 494 – Thesis I / II)
- **Diploma of Higher Education in Biological Sciences:** 240 credits (120 at Level 4, 120 at Level 5)
- **Certificate of Higher Education in Biological Sciences:** 120 credits at Level 4

### 3. Programme structure and learning outcomes

*(The structure for any part-time delivery should be presented separately in this section.)*

#### Programme Structure - LEVEL 4

Compulsory modules	Credit points	Optional modules	Credit points	Is module compensatable?	Semester runs in
SNCB 112 - Biology 112: Principles of Biology	20			n/a	Varies
SNCB 113 - Biology 113: General Biology 2	20			n/a	Varies
SNCC 117 - Chemistry 117: Chemistry for Biological Sciences	20			n/a	Varies
STAT 210 - Statistics 210: Introduction to Statistics with R LAB	20			n/a	Varies
SNCH 115 - Anatomy and Physiology 115: Integrated Human Anatomy and Physiology I	20			n/a	Varies
SNCN 130 - Nutrition 130: Fundamentals of Human Nutrition	20			n/a	Varies

Intended learning outcomes at Level 4 are listed below:

<b><u>Learning Outcomes – LEVEL 4</u></b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>A1 <del>Express</del><b>Demonstrate an extensive</b> knowledge and understanding of concepts and theories relating to the biological sciences from the molecular and cellular to the whole-organism level</p> <p>A2 <b>Recall, identify</b> and <b>explain</b> terminology, nomenclature and classification systems.</p> <p>A3 <b>Describe</b> biological phenomena with the aid of fundamental principles of other disciplines.</p> <p>A4 <b>Describe</b> chemical phenomena using fundamental principles of chemistry</p> <p>A5 <del>Express</del><b>Demonstrate an extensive</b> knowledge and understanding of concepts and theories relating to statistical analysis</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p>

<b><u>Learning Outcomes – LEVEL 4</u></b>	
<b>3A. Knowledge and understanding</b>	
	<p>Assessment Methods</p> <ul style="list-style-type: none"> <li>• Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
<b>3B. Cognitive skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>B1 <b>Recall</b> Analyse, <b>describe</b> synthesise and <b>compare</b> summarise information <b>critically</b> from a variety of sources</p> <p>B2 <b>Locate</b> Obtain, <b>record</b>, <b>classify</b> collate and <b>reproduce</b> analyse data using appropriate techniques in the laboratory and/or field</p> <p>B3 <b>Identify</b> and <b>explain</b> the role of evolution as the unifying theory in biological sciences.</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>• Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>• E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>• Project and Placement Learning Methods</li> </ul>

3B. Cognitive skills	
	<ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>C1 <del>Express</del><b>Demonstrate</b> competence and progressive development in basic and core experimental skills on <a href="#">Biology, Chemistry, Anatomy and Physiology, Nutrition and Data Handling</a> <del>biochemistry, microbiology and molecular biology</del>.</p> <p>C2 <del>State</del> <b>Generate</b> a biomedical scientific hypothesis which can be experimentally evaluated</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● <a href="#">Scheduled Learning &amp; Teaching Methods</a></li> </ul>



3C. Practical and professional skills	
<p>C3 <b>Complete</b> laboratory and field work, and <b>construct</b> project reports, <b>practice</b> data handling.</p>	<ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> <li>● E-learning &amp; Blended Learning Methods               <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods               <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>D1 <b>Recognize</b> <del>Establish</del> intellectual, personal and team skills necessary for pursuing employment and/or further studies</p> <p>D2 <b>Describe</b> <del>Demonstrate a working knowledge of</del> how to cite and reference work in an appropriate manner, including the avoidance of plagiarism.</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p>

3D. Key/transferable skills	
	<ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods               <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods               <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods               <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p><b>Assessment Methods</b></p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>

[Certificate of Higher Education in Biological Sciences (120 credits at Level 4)]

<b>Programme Structure - LEVEL 5</b>					
<b>Compulsory modules</b>	<b>Credit points</b>	<b>Optional modules</b>	<b>Credit points</b>	<b>Is module compensatable?</b>	<b>Semester runs in</b>
SNCB 201 - Biology 201: Foundations of Microbiology	20			n/a	Varies
SNCB 230 - Biology 230 - Genetics and Molecular Biology	20			n/a	Varies
SNCB 320 - Biology 320 - Biochemistry	20			n/a	Varies
SNCB 330 - Biology 330 - Cell Biology and Histology	20			n/a	Varies
SNCC 215 - Chemistry 215: Organic Chemistry I	20			n/a	Varies
SNCC 216 - Chemistry 216: Organic Chemistry II	20			n/a	Varies

Intended learning outcomes at Level 5 are listed below:

<b><u>Learning Outcomes – LEVEL 5</u></b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>A1 <b>Explain</b> the fundamental principles of molecular biology and integrate them with cellular biology thereby illustrating how homeostasis is maintained at the cellular level.</p> <p>A2 <b>Relate</b> <del>Recall</del>, <b>identify</b> and <b>explain</b> terminology, nomenclature and classification systems.</p> <p>A3 <b>Outline</b> <del>Describe</del> the structure and function of tissues, organs and organ systems of the human body.</p> <p>A4. <b>Identify</b> and <b>compare</b> <del>describe</del> the structure and diversity of microorganisms, including their reproduction, metabolism and ecological niche.</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p>

<b><u>Learning Outcomes – LEVEL 5</u></b>	
<b>3A. Knowledge and understanding</b>	
	<ul style="list-style-type: none"> <li>Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
<b>3B. Cognitive skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>B1 <b>Construct</b> grammatically correct documents in an appropriate academic style and format, using and referencing relevant ideas and evidence</p> <p>B2 <b>Design</b> and apply the appropriate experimental protocol for addressing a research question, evaluate the outcomes and explain the limitations</p> <p>B3 <b>Appraise</b> the effects of behavioural patterns and adaptations on the physiology of organisms</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>Project and Placement Learning Methods <ul style="list-style-type: none"> <li>Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul>

3B. Cognitive skills	
	<p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>C1 Experimentally <b>examine evaluate</b> a hypothesis in a professional and systematic manner by performing experiments, with appropriate negative and positive controls</p> <p>C2 <b>Implement Understand and adhere to</b> good laboratory practises, <b>identify assess</b> risks associated with laboratory chemicals and <b>practice observe</b> Health &amp; Safety guidelines</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods</li> </ul>

3C. Practical and professional skills	
	<ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> <li>● Project and Placement Learning Methods               <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
D1 <b>Communicate</b> about their subject appropriately to a variety of audiences, including the general public, <b>using</b> a range of formats and approaches and <b>employing</b> appropriate scientific language	<b>Learning and Teaching Methods</b>

3D. Key/transferable skills	
	<p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>

**[Diploma of Higher Education in Biological Sciences / 240 credits (120 at Level 4, 120 at Level 5)]**



<b>Programme Structure - LEVEL 6</b>					
<b>Compulsory modules</b>	<b>Credit points</b>	<b>Optional modules</b>	<b>Credit points</b>	<b>Is module compensatable?</b>	<b>Semester runs in</b>
SNCB 350 - Biology 350 - Microbiology and Infectious Diseases	20				Fall
SNCB 410 - Biology 410 - Principles of Epidemiology and Public Health	15				Fall
SNCB 420 - Biology 420 - Environmental Health and Toxicology	20				Spring
SNCB 430 - Biology 430 - Biotechnology Principles and Applications	20				Fall
SNCB 450 - Biology 450 - Immunology	15				Spring
SNCB 493 - Biology 493 - Thesis I	15				Fall
SNCB 494 - Biology 494 - Thesis II	15				Spring

**Intended learning outcomes at Level 6 are listed below:**

<b><u>Learning Outcomes – LEVEL 6</u></b>	
<b>3A. Knowledge and understanding</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>A1 <b>Appraise</b> the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment</p> <p>A2 <b>Analyse</b> the biological and environmental factors that define the quality and sustainability of life and health and the biological responses to stressors.</p> <p>A3 <b>Critically evaluate</b> <del>Describe</del> the diverse cultural and social aspects of bioethical issues.</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p>

<b><u>Learning Outcomes – LEVEL 6</u></b>	
<b>3A. Knowledge and understanding</b>	
	<ul style="list-style-type: none"> <li>• Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
<b>3B. Cognitive skills</b>	
<b>Learning outcomes:</b>	<b>Learning and teaching strategy/ assessment methods</b>
<p>B1 <b>Critically</b> evaluate the strength of evidence provided by scientific publications</p> <p>B2 <b>Appraise</b> the ethical, social and legal issues that can be related to applications of biological sciences</p> <p>B3 <b>Revise Identify</b> the significance of biomedical technology for the identification, analysis and manipulation of biological macromolecules.</p> <p>B4 <b>Combine</b>, manipulate and <b>interpret</b> data from biological macromolecules databases</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>• Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>• E-learning &amp; Blended Learning Methods <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>• Project and Placement Learning Methods <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul>

3B. Cognitive skills	
	<p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>C1 <del>Demonstrate proficiency in</del> <b>Combine</b> the acquisition, quantitative <b>analysis</b> and <b>interpretation</b> of experimental data, and the ability to trouble-shoot</p> <p>C2 <del>Design</del> and <del>combine</del> <b>apply</b> multidisciplinary methodologies for the assessment of the health status of a population and the identification of potential risk factors.</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p> <ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods</li> </ul>

3C. Practical and professional skills	
	<ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> <li>● Project and Placement Learning Methods               <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p>Assessment Methods</p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>
3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>D1 <b>Appraise</b> <del>Demonstrate the acquisition of</del> the skills and attributes necessary for lifelong learning, including: intellectual independence, effective time management, the ability to work as part of a team,</p> <p>D2 <b>Combine</b> <del>Employ</del> the use of IT <b>with</b> the capacity to <b>access</b> and <b>utilise</b> a variety of resource materials</p>	<p><b>Learning and Teaching Methods</b></p> <p>Depending on the delivery mode, some or all of the following Learning and Teaching methods</p>

3D. Key/transferable skills	
<p>D3 <del>Demonstrate a working knowledge of how to cite and reference work in an appropriate manner, including the avoidance of plagiarism.</del>  <b>Interpret</b> findings from published scientific work and <b>compare</b> with own findings in order to reach valid scientific conclusions, avoiding plagiarism</p>	<ul style="list-style-type: none"> <li>● Scheduled Learning &amp; Teaching Methods               <ul style="list-style-type: none"> <li>○ Lectures, Tutorials, Laboratory, Seminars, Fieldwork</li> </ul> </li> <li>● E-learning &amp; Blended Learning Methods               <ul style="list-style-type: none"> <li>○ eLectures, Computer-based work, Fieldwork</li> </ul> </li> <li>● Project and Placement Learning Methods               <ul style="list-style-type: none"> <li>○ Group project, Site visits, Research project/dissertation</li> </ul> </li> </ul> <p><b>Assessment Strategy</b></p> <p>Modules will deploy a combination of the methods below to fully assess student achievement.</p> <p><b>Assessment Methods</b></p> <ul style="list-style-type: none"> <li>● Written Examinations, Coursework, Laboratory write-ups, Essays, Reports, Dissertations, Presentations, Individual research project report, Viva</li> </ul>

**[BSc (Ordinary) in Biological Sciences / 300 credits (120 at Level 4, 120 at Level 5, 60 at Level 6]**

but not including Biology 493/ 494 – Thesis I / II)

OR

**[BSc (Hons) in Biological Sciences / 360 credits (120 at Level 4, 120 at Level 5, 120 at Level 6]**

#### 4. Distinctive features of the programme structure

- **Where applicable, this section provides details on distinctive features such as:**
  - where in the structure above a professional/placement year fits in and how it may affect progression
  - any restrictions regarding the availability of elective modules
  - where in the programme structure students must make a choice of pathway/route
- **Additional considerations for apprenticeships:**
  - how the delivery of the academic award fits in with the wider apprenticeship
  - the integration of the 'on the job' and 'off the job' training
  - how the academic award fits within the assessment of the apprenticeship

The Biological Sciences programme offered by the ACT Division of Science and Technology leads to the awarding of two degrees:

- A US BSc degree, accredited by the US NECHE (New England Commission of Higher Education), and
- A UK BSc (Hons) degree, validated by the UK Open University (OU)

Modules in the Programme are designed to broaden students' perspectives on the role of biomolecules, cells, tissues, organs in the structure and function of the living systems, their interactions with and responses to environmental factors, as well as the way they define homeostasis at different levels of biological organization.

A broad range of relevant courses is offered, the majority having a strong laboratory component emphasizing on both descriptive and analytical methodologies, for studying genes to whole organisms, as well as on the accompanied technologies.

#### **ACT Degree Competitive Advantage Areas**

An ACT graduate with the BSc (Hons) in Biological Sciences will have obtained a theoretical and practical adequacy in the field of life sciences, having constructed a strong background in the study of biological systems from the simplest molecular to the highest systemic level of organization, having applied advanced laboratory techniques and technologies, to address fundamental research questions, and having practiced in the synthesis of knowledge from data collected from a broad range of different fields including:

- Cellular biology and histology
- Biochemistry and Molecular Biology
- Genetics
- Anatomy and Physiology
- Biodiversity, evolution and systematics

- Microbiology
- Immunology
- Epidemiology and Public Health
- Environmental Hygiene and Toxicology

### Special Features

The programme does not concentrate only on theory, which at some point could become outdated, but provides students with excellent critical skills and systematic thinking that will allow them to become lifelong learners and succeed in a wide variety of scientific positions. Students are prepared for a successful career in areas such as:

- Analysis and diagnostics
- Biological and Health education
- Biomedical research, investigation, and reporting
- Cosmetic industry
- Dentistry
- Health and healthcare advising, policy and related professions
- Health bioinformatics/ health informatics
- Health prevention and promotion specialist
- Postgraduate research training
- Public & private research
- Science communication
- Veterinary Medicine

A notable detail is that out of the 19 modules of the proposed program, 14 contain a laboratory component. This ensures that the ACT graduate will master the *Scientific Method* that characterizes natural sciences, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses. These modules are:

- Anatomy and Physiology 115: Integrated Human Anatomy and Physiology I
- BIO 430 - Biotechnology Principles and Applications
- Biology 112: Principles of Biology
- Biology 113: General Biology 2
- Biology 201: Foundations of Microbiology
- Biology 230 - Genetics and Molecular Biology
- Biology 320 - Biochemistry
- Biology 330 - Cell Biology and Histology
- Biology 493 - Thesis I
- Biology 494 - Thesis II
- Chemistry 117: Chemistry for Biological Sciences
- Chemistry 215: Organic Chemistry I
- Chemistry 216: Organic Chemistry II



- Statistics 210: Statistics with R

#### **Laboratory and Teaching Facilities**

The program provides its students with able access to laboratory facilities as described in section 7, of the attached document named “2. ACT-Biological-Sciences\_Programme-BACKGROUND-document-for-validation-submission.docx”

#### **Campus**

It should finally be noted that the ACT graduate will have received their higher education at the ACT campus, a highly international environment with first rate services, facilities and resources afforded to its students.

#### 5. Support for students and their learning.

*(For apprenticeships this should include details of how student learning is supported in the work place)*

Academic Support Services include:

- Financial Aid
- An Academic Advising Programme through which each student is assigned an advisor upon entering his/her freshman year who will offer advice on the students' academic and career plans. Students are expected to meet with their advisors regularly throughout the term, and especially when they face academic problems or want to withdraw from a course. Students are expected to consult with their advisors prior to registration.
- Counselling services [with a professional staff member, for students who feel they need them and ask for them, with full confidentiality.](#)
- A Learning Hub, open to all students, to help with writing projects since many are not familiar with project-oriented education and are used to lecture-based classes. The Learning Hub also provides Math tutors.
- A Business Liaison and Career Services Office through which students are provided assistance towards their efforts in preparing graduate school applications and employment search, as well building bridges with the professional world. The office also develops programmes and workshops to help with the students' future career plans.
- An I.T. centre which provides technical assistance and advice, as well as information technology instructional services.
- In the Niarchos Technology centre, students have access to 4 computer labs and printing services, while in the New Building they have full access to 1 computer lab and printing services.
- Extensive Library facilities and assistance.
- ACT students have the opportunity to study abroad for one summer or term during their time as a student through the International Programmes Office at ACT.
- ACT has a learning disability policy in practice and provides appropriate assistance and compensation to students that have certified needs.

ACT maintains a long-established Committee on Academic Standards and Performance.

## 6. Criteria for admission

*(For apprenticeships this should include details of how the criteria will be used with employers who will be recruiting apprentices.)*

Applicants are required to submit the following when applying for admission to the programme:

1. An Application Form.
2. An official high school transcript of grades. If you have not attended an English- or Greek-speaking high school, an official translation into English is required.
3. An official high school diploma. If you have not attended an English- or Greek-speaking high school, an official translation into English is required.
4. Official evidence of proficiency in English. Students should submit an English certificate at a minimum CEFR level of B2, obtained in the last two years.
5. A recent passport-size color photograph.
6. A photocopy of either your ID card (Greek only: ταυτότητα) or your valid passport (all EU and non-EU students)
7. A non-refundable application fee of 70.00 Euro. The application fee should be deposited at one of ACT's bank accounts.
8. Non-EU students are required to submit a school profile which should include a description of the school, grading system, curricular and extracurricular resources.

All application documentation should be submitted/mailed directly to the Admissions Office.

Applications receive a priority number which determines the order in which successful applicants register for their first semester of course work.

## 7. Language of study

*English*

## 8. Information about non-OU standard assessment regulations (including PSRB requirements)

Marking and assessment procedures are explained in the module descriptors, the programme handbook and are also available on the ACT website (Student Handbook and Regulations). They are therefore easily understood by students. Homework, exams and term papers are 1<sup>st</sup> and 2<sup>nd</sup> marked with constructive and positive feedback and returned to students in due time.

All academic programmes offered at ACT have specifically-stated learning outcomes at both the degree and the course level.

All Majors publicise their degree programme outcomes, while all module descriptors include clearly articulated course outcomes, with respect to both knowledge and skills.

At the module level student assessment measures include:

- examinations (summative assessments)
- quizzes (summative assessments)
- research papers (summative assessments)
- laboratory projects (summative assessments)
- class oral presentations (summative assessments)
- case-study analysis (summative assessments)
- homework assignments (formative assessment)
- class presentations (formative assessments)
- class participations and discussion (formative assessments)
- Fieldwork observations (formative assessments)

Chairs and key faculty have gained new perspectives on course and programme design and measurement of fulfilment of outcomes. Over the past few years a concerted effort has been launched to complement classroom learning with different forms of experiential learning (Learning in ACTION), effects of which can be measured over the course of a student's residence at the institution.

Student Assessment Strategies aim at:

- Creating an organic relationship between Assessment and curriculum design - assessment is a central feature of the process of programme design and curriculum development;
- Developing clear and consistent Assessment criteria;
- Putting in place an assessment feedback mechanism to students that is (a) timely; (b) balanced between formative and summative feedback, which promotes learning and achievement, and encourages improvement;
- Building a system that facilitates students learning and supports student progression;
- Enabling students through academic support to develop the academic skills that will enable them to progress and achieve on the programmes of their choice;

- Creating a management of assessment that is efficient, especially regarding the amount and timings of assessment, staff and student workloads, and in the provision of time for reflection by students.

9. For apprenticeships in England End Point Assessment (EPA).

*(Summary of the approved assessment plan and how the academic award fits within this and the EPA)*

N/A

10. Methods for evaluating and improving the quality and standards of teaching and learning.

Modules combine lecture, discussion (in-class and in office hours), formal presentations, assignments, tutorials, Laboratory work and projects.

Evaluating is done through:

- Student evaluation forms;
- Grade averages;
- Sit in observation(s); and
- Interviews formally or informally.

All relevant information is passed on to individual instructors and teaching team so it can be used to improve teaching and learning strategies. Wherever necessary, the Division Chair conducts individual or group faculty mentoring. The departmental meetings, division meetings and the academic council function as means to address issues for improving the quality and standards of teaching and learning.

Faculty is encouraged to revise lecture content and delivery means on a semester basis following student evaluations, faculty self-evaluations and administrative faculty review (which is performed at a minimal once yearly).

*“Learning-In-Action”* initiatives are encouraged and gradually incorporated in module activities as deemed appropriate by each faculty member. (*Learning-In-Action* initiatives are such initiatives that attempt to bring students of a particular module in the work environment of

module-relevant practitioners and thus expose them to the “real-life” use of the academic topic they are learning as well as future employment opportunities)

Thesis advisement attempts to address specific student interests, while retaining the spirit and essence of a “capstone” project.

The departmental meetings and the academic council function as means that address issues of improvement.

External reviewer’s improvement suggestions are valued and discussed, assessed, and incorporated when made available.

Finally, the FDP (Faculty Development Program), conducts workshops on teaching and learning at ACT with panellists that include faculty (Internal and External) and was well attended by both groups with interesting discussions on how ACT faculty can strengthen its teaching and learning strategies. There are plans for a follow up workshop in the near future.

10. Changes made to the programme since last (re)validation

N/A

Annexe 1: Curriculum map

Annexe 2: Curriculum Flowchart Showing OU and non-OU courses students take to complete the OU and the ACT degrees.

Annexe 3: Notes on completing the OU programme specification template

### Annexe 1 - Curriculum map

This table indicates which study units assume responsibility for delivering (shaded) and assessing (✓) particular programme learning outcomes.

Level	Study module/unit	Programme outcomes														
		A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	D1	D2		
4	SNCB 112 - Biology 112: Principles of Biology	x	x	x			x	x		x	x		x	x		
	SNCB 113 - Biology 113: General Biology 2	x	x	x			x	x	x	x	x		x	x		
	SNCC 117 - Chemistry 117: Chemistry for Biological Sciences		x		x		x	x		x			x			
	STAT 210 - Statistics 210: Introduction to Statistics with R LAB					x	x	x				x		x		
	SNCH 115 - Anatomy and Physiology 115: Integrated Human Anatomy and Physiology I	x	x	x			x	x	x	x	x		x	x		
	SNCN 130 - Nutrition 130: Fundamentals of Human Nutrition	x	x	x				x				x		x		





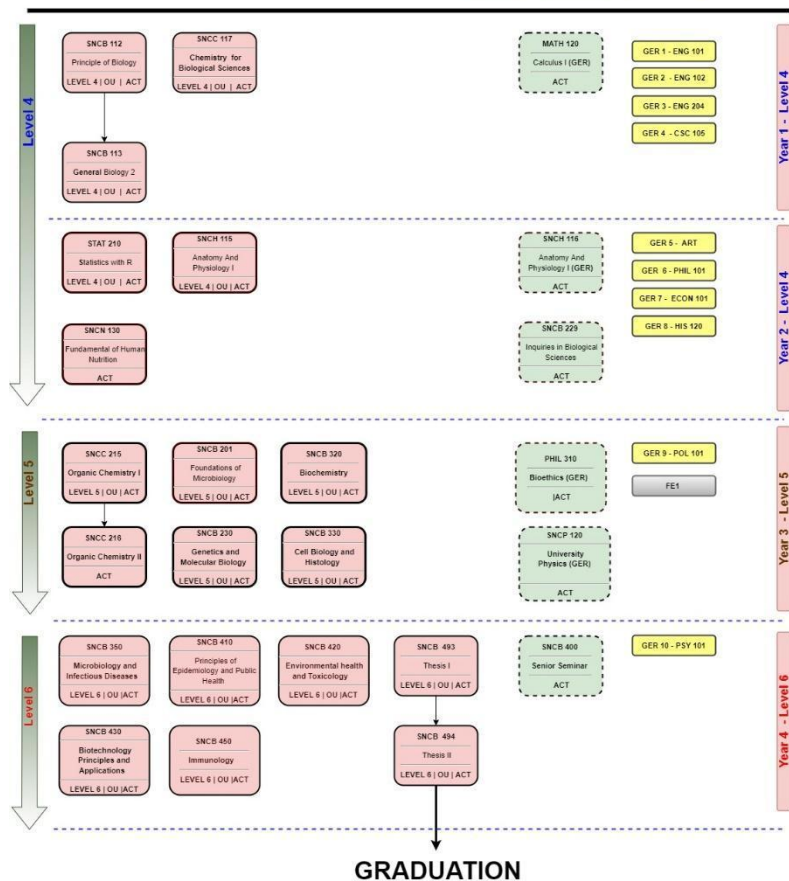
Level	Study module/unit	A			B				Programme outcomes		C			D		
		1	2	3	1	2	3	4	1	2	1	2	3			
6	SNCB 350 - Biology 350 - Microbiology and Infectious Diseases	x	x	x	x	x					x		x			
	SNCB 410 - Biology 410 - Principles of Epidemiology and Public Health	x	x	x	x		x				x	x	x	x	x	
	SNCB 420 - Biology 420 - Environmental Health and Toxicology	x	x	x	x		x				x	x	x	x	x	
	SNCB 430 - Biology 430 - Biotechnology Principles and Applications	x	x	x	x	x			x		x		x			
	SNCB 450 - Biology 450 - Immunology	x	x	x	x			x			x	x	x	x		
	SNCB 493 - Biology 493 - Thesis I	x	x	x	x	x	x	x			x	x	x	x		
	SNCB 494 - Biology 494 - Thesis II	x	x	x	x	x	x	x			x	x	x	x		



Annexe 2: Curriculum Flowchart Showing OU and non-OU courses students take to complete the OU and the ACT degrees.

For Readability purposes this is attached as pdf in the folder "00 Documents", within the submitted .zip file

Curriculum Map - Biological Sciences



- 10 x GER Courses (required)
1. ENG 101 - English I
  2. ENG 102 - English II
  3. ENG 204 - Business English
  4. PHIL 101 - Philosophy
  5. PHIL 310 - Bioethics
  6. POL 101 - Politics
  7. HS 120 - History
  8. SNCCPSYANTH 101 - Social Science
  9. Natural Science
  10. ARTENOMUS 120, Art or Literature
- To be completed before graduation

1x Free Elective (required)  
Students can take any course to fulfill their free electives  
To be completed before graduation

- Senior Seminar Topics
- Social Medicine
  - Topics in Development and Differentiation
  - Topics in community health
  - Topics in Neuropathological Mechanisms
  - Topics in Immunology
  - Pharmaceutical Chemistry
  - Human Genetics
  - Evolutionary Medicine



### Annexe 3: Notes on completing programme specification templates

- 1 - This programme specification should be mapped against the learning outcomes detailed in module specifications.
- 2 – The expectations regarding student achievement and attributes described by the learning outcome in section 3 must be appropriate to the level of the award within the **QAA frameworks for HE qualifications**: <http://www.qaa.ac.uk/AssuringStandardsAndQuality/Pages/default.aspx>
- 3 – Learning outcomes must also reflect the detailed statements of graduate attributes set out in **QAA subject benchmark statements** that are relevant to the programme/award: <http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx>
- 4 – In section 3, the learning and teaching methods deployed should enable the achievement of the full range of intended learning outcomes. Similarly, the choice of assessment methods in section 3 should enable students to demonstrate the achievement of related learning outcomes. Overall, assessment should cover the full range of learning outcomes.
- 5 - Where the programme contains validated **exit awards** (e.g. CertHE, DipHE, PGDip), learning outcomes must be clearly specified for each award.
- 6 - For programmes with distinctive study **routes or pathways** the specific rationale and learning outcomes for each route must be provided.
- 7 – Validated programmes delivered in **languages other than English** must have programme specifications both in English and the language of delivery.