

**Programme Specification for BSc (Hons) Biochemistry –  
BSc, BSc (Hons) and Integrated Masters**

**This document applies to students who commence the programme in or after  
September 2017**

|            |   |   |
|------------|---|---|
| <b>1.</b>  | <b>Awarding institution/body</b>                                      | University of Worcester   |
| <b>2.</b>  | <b>Teaching institution</b>   | University of Worcester   |
| <b>3.</b>  | <b>Programme accredited by</b>  | N/A   |
| <b>4.</b>  | <b>Final award</b>  | B.Sc. Hons and MBIol  |
| <b>5.</b>  | <b>Programme title</b>  | Biochemistry  |
| <b>6.</b>  | <b>Pathways available</b>   | Single  |
| <b>7.</b>  | <b>Mode and/or site of delivery</b>                                   | Face to Face delivery of theoretical and practical work with some blended learning via Blackboard. . There is an element of independent research. All modules delivered on the sites of the University of Worcester or in the field.  |
| <b>8.</b>  | <b>Mode of attendance</b>   | FT & PT.  |
| <b>9.</b>  | <b>UCAS Code</b>  | C 700 (BSc Biochemistry), C7C2 (MBiol Integrated Masters Biochemistry)  |
| <b>10.</b> | <b>Subject Benchmark statement and/or professional body statement</b> | QAA Biosciences Benchmark Statement (2007)<br><a href="http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Biosciences07.pdf">http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Biosciences07.pdf</a>   |
| <b>11.</b> | <b>Date of Programme Specification preparation/ revision</b>          | May 2013, amended August 2014 and October 2014 (regulations). March 2015 making BIOS2105 optional. Sept 15 BIOS3115 change of pre-req. <i>November 2015 correction of typographical error BIOS3113 has always been mandatory this now reflected on Award Map.</i> Nov 15 updated pre-req for BIOS3106 (for 2016/2017) June 16 updated pre-req for BIOS3010<br>Updates from Jan 17 IQC all to be implemented from September 2017:<br>Removal of BIOS2301 and BIOS1211. Addition of SUST1001 and BIOS1203.<br>March 17 amendment making BIOS3115 a co-req to BIOS3116 not a pre-req – correcting an error. General update to template in addition to incorporating Integrated Masters<br>August 2017 - AQU amendments |

## **12. Educational aims of the programme**

The Biochemistry course provides a fascinating insight into the mechanics of life and the molecules that enable cells to grow, divide and become complex living organisms. It is very practical and offers students the opportunity to undertake an independent project in their third year, which is not offered by all Biochemistry courses in the UK. The emphasis on the development of ‘hands on’ practical skills provides students with useful skills for their future careers. The unique Worcester science personal development planning (PDP) scheme is designed to support student personal and career development.

In particular the course aims to:-

- a) provide a broad practical laboratory based Biochemistry curriculum.
- b) give a supportive learning environment which acknowledges and responds to the diversity of student backgrounds and experiences, and which allow students the opportunity to realise their academic potential;
- c) provide students with the opportunity to study Biochemistry at a depth and level appropriate to honours degree standard;
- d) develop to single honours level level the knowledge, skills and aptitudes of Biochemistry, within an, undergraduate degree;
- e) enable students to work independently, analytically and critically;
- f) encourage students to develop a range of subject-specific and transferable skills appropriate to graduate employment and/or postgraduate study in Biochemistry.

### 13. Intended learning outcomes and learning, teaching and assessment methods

On successful completion of the course, students will be able to:

#### Learning Outcomes for Biochemistry MBIO, BSc (hons) and BSc Awards

| On successful completion of the named award students will be able to:-  | Module** Code(s)   | Award                   |
|---|--|-------------------------|
| 1) demonstrate knowledge of material and an understanding of a range of biochemical and biological concepts and principles at a variety of levels (from sub-cellular to whole organisms);                 | BIOS 2110<br>BIOS 2111<br>BIOS 2201<br>BIOS 3113<br>BIOS 3115<br>BIOS 3116 | Honours and Non-Honours |
| 2) access information from a variety of sources and show proficiency in assessing, evaluating, analysing, and synthesising the scientific information and data;   | BIOS 2110<br>BIOS 2111<br>BIOS 2201<br>BIOS 3113<br>BIOS 3115<br>BIOS 3116 | Honours and Non-Honours |
| 3) communicate biochemical and biological information and principles in an appropriate manner, employing skills of written, oral and visual communication, numerical analysis and information technology; | BIOS 2110<br>BIOS 2111<br>BIOS 2201<br>BIOS 3113                           | Honours and Non-Honours |
| 4) design ,execute and critically evaluate the outcomes of investigations carried out individually and in groups.   | BIOS 2201  | Honours and Non-Honours |
| 5) gain and apply practical skills in laboratory and/or field work, and be able to work safely and appropriately in these environments;   | BIOS 2110<br>BIOS 2111<br>BIOS 2201<br>BIOS 3115                           | Honours and Non-Honours |
| 6) record data accurately, analyse and interpret those data and test hypotheses;  | BIOS 2110<br>BIOS 2111<br>BIOS 2201  | Honours and Non-Honours |

|  |   |                                |
|--|---|--------------------------------|
|  | <b>BIOS 3113<br/>BIOS 3115</b>                |                                |
| 7) develop an understanding of ethical issues related to Biochemistry;   | <b>BIOS 2200<br/>BIOS 3113</b>                | <b>Honours and Non-Honours</b> |
| 8) work co-operatively with others, while demonstrating an increasing understanding of how to be an independent learner;   | <b>BIOS 2201<br/>BIOS 3116</b>                | <b>Honours and Non-Honours</b> |
| 9) plan, carry out and present a piece of hypothesis-driven work for an independent study in Biochemistry.   | <b>BIOS 3001/2*</b>                           | <b>Honours</b>                 |
| <b>In addition to the above, students who successfully complete the Masters final year of the course, will be able to:-</b>  |   |                                |
| 10) Creatively seek Biochemical solutions to Biological problems in Research, Business and Industry,   | <b>BIOS 4001<br/>BIOS 4002,<br/>BIOS 4005</b> | <b>Masters</b>                 |
| 11) Work in a team gaining the ability to operate and collaborate with others in order to solve Biochemical problems of a practical nature and to provide appropriate solutions  | <b>BIOS 4002</b>                              | <b>Masters</b>                 |
| 12) Comply with established research accreditation systems   | <b>BIOS 4002</b>                              | <b>Masters</b>                 |
| 13) Acquire and develop knowledge at the cutting edge of Biochemistry  | <b>BIOS 4001<br/>BIOS 4002<br/>BIOS 4005</b>  | <b>Masters</b>                 |
| 14) Extrapolate Biochemical theories from complete and incomplete data sets  | <b>BIOS 4001<br/>BIOS 4005</b>                | <b>Masters</b>                 |
| 15) Use and Critically evaluate a range of Biochemical techniques and data for a range of experiments.   | <b>BIOS 4001<br/>BIOS 4002<br/>BIOS 4005</b>  | <b>Masters</b>                 |
| 16) Exercise initiative, take personal responsibility and practice self-direction  | <b>BIOS 4002<br/>BIOS 4005</b>                | <b>Masters</b>                 |
| 17) Comply with existing, and design new and appropriate, risk assessments and health and safety procedures.   | <b>BIOS 4001<br/>BIOS 4005</b>                | <b>Masters</b>                 |
| 18) Develop innovative and problem-solving capabilities: the ability to apply transferable skills to the execution of an individual research project involving the definition, analysis and resolution of complex research problems. | <b>BIOS 4005</b>                              | <b>Masters</b>                 |

\* BIOS 3001/2 also address Learning Outcomes 1 to 8 from above.

\*\* The table above lists mandatory modules, all of the learning outcomes 1 to 8 are also addressed across the optional modules at level 6.

The Biochemistry student handbook shows how the Science PDP skills, based on the Biology QAA benchmark statement, are linked to the individual modules in the course. Key and Transferable skills mainly expressed through the Science PDP scheme.

Practical skills for employment are also addressed through the Biosciences skills passport where students on all levels of the course will have the practical skills they gain recorded.

### 13.1 Learning and teaching and assessment methods

The Biochemistry course aims to provide supportive, student-centred learning environments that acknowledge and respond to the diversity of student backgrounds and experiences. The structure of the course enables students to move towards increasing independence in their studies from level 4 to level 7 in line with the Framework for Higher Education Qualifications (FHEQ) and

University policies for assessment and curriculum design. Level 4 modules offer students structured tutor support for their learning, whilst at level 5 this support becomes less structured, although the extent to which this occurs varies with the difficulty of the task. All level 6 and 7 modules offer students opportunities for more independent learning, although specific tutor help will always be available. Learning outcomes, and hence assessments will always be more demanding at level 6 and 7.

Students will participate in a wide range of learning experiences. Teaching, assessment and private study are interlinked in that they are all aspects of each student's personal and academic development. A list of the range of learning experiences that may be encountered on the course are given below:-

Lectures, practical sessions, practical demonstrations, seminars, student-led seminars, self-instructional workbooks, workshops, tutorials, industrial visits, directed reading, independent study, group projects, web conferencing, self-directed study, reflective accounts of own work, group work, self-study packages, blended learning with the blackboard VLE, laboratory investigations, class discussions, computer simulations, case studies, independent research, role-play, visiting speakers, reflective learning, interviews. Independent research and group work play a particularly prominent role in the integrated masters award.

The course employs a variety of assessment methods, for more details please see section 14 of this programme specification.

### **13.2 Student skills**

Practical skills for employment are addressed through the Biosciences skills passport.

Students will be able to obtain a wide range of skills on this course, e.g. a range of subject-specific and transferable skills appropriate to graduate employment and/or postgraduate study in Biochemistry. For details please see PDP table below.

The Biological Sciences programme tutors at the University of Worcester have developed a Personal Development Planning scheme based on QAA Biosciences graduate and transferable skills. It contains a number of elements which run from induction through to level 6 and is compulsory for all Biological Sciences students including Biochemists. It was developed with three main aims in mind: to help students to reflect on the skills that they need in order to attain the next step in their studies, to make more effective use of the opportunities provided by academic tutorials to give the necessary individual support and guidance, and to increase the students' employability. The PDP skills are based on the QAA benchmark skills and each is linked to the appropriate assessments. However, practical and fieldwork skills and attributes are also recognised in the PDP scheme in order to increase employability. For more information please see the Biological Sciences programme student handbook.

## PDP Skills and Attributes for Biochemistry (based on QAA benchmark skills)

| Skills and Attributes   | Details  |
|---|--|
| <b>1. Subject knowledge and understanding</b>                   | <p>1.1. Engage with the essential facts, major concepts, principles and theories</p> <p>1.2. Understand the broader context and appropriate multidisciplinary aspects of the subject</p> <p>1.3. Knowledge of the processes and mechanisms that have shaped the natural world</p> <p>1.4. Competence in basic experimental skills</p> <p>1.5. Understanding of information and data, set within the theoretical framework</p> <p>1.6. Critical analysis and assessment of data and information</p> <p>1.7. Familiarity of terminology, nomenclature and classification of systems</p> <p>1.8. Methods of acquiring, interpreting and analysing biological information.</p> <p>1.9. Critical understanding of the appropriate contexts for the use of methods through the study of texts, original papers, reports and data sets</p> <p>1.10. Awareness of the contribution of their subject to the development of knowledge about the diversity of life and its evolution</p> <p>1.11. Knowledge of a range of communication techniques and methodologies relevant to the particular discipline, including data analysis and the use of statistics</p> <p>1.12. Engagement with some of the current developments in the biosciences and their applications, and the philosophical and ethical issues involved</p> <p>1.13. Awareness of the contribution of biosciences to debate and controversies, and how this knowledge and understanding forms the basis for informed concern about the quality and sustainability of life</p> <p>1.14. Understanding the applicability of the biosciences to the careers to which graduates will be progressing.</p> |
| <b>2. Subject-specific skills</b>                               | <p>2.1. Recognition that much of what is taught is contested and provisional, particularly in the light of continuing scientific advances</p> <p>2.2. An appreciation of 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>2.3. The ability to read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application</p> <p>2.4. The capacity to give a clear and accurate account of a subject, marshal arguments in a mature way and engage in debate and dialogue both with specialists and non-specialists, using appropriate scientific language</p> <p>2.5. Critical and analytical skills: a recognition that statements should be tested and that evidence is subject to assessment and critical evaluation</p> <p>2.6. The ability to employ a variety of methods of study in investigating, recording and analysing material</p> <p>2.7. The ability to think independently, set tasks and solve problems.</p>  |
| <b>3. Graduate and transferable skills: Intellectual skills</b> | <p>3.1. Recognise and apply subject-specific theories, paradigms, concepts or principles.</p> <p>3.2. Analyse, synthesise and summarise information critically, including published research or reports</p> <p>3.3. Obtain and integrate several lines of subject-specific evidence to formulate and test hypotheses</p> <p>3.4. Apply subject knowledge and understanding to address familiar and unfamiliar problems</p> <p>3.5. Recognise the moral and ethical issues of investigations and appreciate the need for ethical standards and professional codes of conduct.</p>   |

| Skills and Attributes  | Details  |
|--|--|
| <b>4. Graduate and transferable skills: Practical skills</b> | <p>4.1. Undertake sufficient practical work to ensure competence in the basic experimental skills appropriate to the discipline under study</p> <p>4.2. Design, plan, conduct and report on investigations, which may involve primary or secondary data (e.g. from a survey database). These data may be obtained through individual or group projects</p> <p>4.3. Obtain, record, collate and analyse data using appropriate techniques in the field and/or laboratory, working individually or in a group, as is most appropriate for the discipline under study</p> |

|   |  |
|---|--|
|   | 4.4. Undertake field and/or laboratory investigations of living systems in a responsible, safe and ethical manner  |
| <b>5. Graduate and transferable skills: Numeracy skills</b>   | 5.1. Receive and respond to a variety of sources of information: textual, numerical, verbal, graphical<br>5.2. Carry out sample selection; record and analyse data in the field and/or the laboratory; ensure validity, accuracy, calibration, precision, replicability and highlight uncertainty during collection<br>5.3. Prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually<br>5.4. Solve problems by a variety of methods, including the use of computers |
| <b>6. Graduate and transferable skills: Communication, presentation and information technology skills</b> | 6.1. Communicate about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language<br>6.2. Cite and reference work in an appropriate manner, including the avoidance of plagiarism<br>6.3. Use the internet and other electronic sources critically as a means of communication and a source of information.  |
| <b>7. Graduate and transferable skills: Interpersonal and teamwork skills</b>                             | 7.1. Identify individual and collective goals and responsibilities and perform in a manner appropriate to these roles, in particular those being developed through practical, laboratory and/or field studies.<br>7.2. Recognise and respect the views and opinions of other team members; negotiating skills<br>7.3. Evaluate performance as an individual and a team member; evaluate the performance of others<br>7.4. Develop an appreciation of the interdisciplinary nature of science and of the validity of different points of view   |
| <b>8. Graduate and transferable skills: Self-management and professional development skills</b>           | 8.1. Develop the skills necessary for self-managed and lifelong learning (eg working independently, time management, organisational, enterprise and knowledge transfer skills)<br>8.2. Identify and work towards targets for personal, academic and career development<br>8.3. Develop an adaptable, flexible and effective approach to study and work.  |

## 14. Assessment Strategy

The Biochemistry course aims to develop autonomous and independent learners who possess a broad range of intellectual and transferable skills. In order to achieve these aims, a range of methods is used to assess students. Assessment methods include examinations, practical tests, practical reports, in-class tests, presentations and poster presentations. Students have opportunities to develop the appropriate skills necessary for the particular assessment type used before summative assessment takes place. Extensive feedback is given on assessments and students are supported, through the Academic Tutoring Programme for the course, in reflecting and acting on this feedback in order to support their academic development.

The emphasis on formative assessment gives more opportunities to provide feedback and this takes a variety of forms, for example the level 4 30-credit modules provide regular and rapid feedback by using personal response systems throughout the academic year.

As far as possible, the assessments have been spread throughout the modules. However, the skills and depth of understanding to be assessed take time to develop and consequently assessment deadlines do not generally occur in the first half the module. The range of assessment tasks used and their weightings, together with a calendar of submission dates, is shown in the students' handbook.

In addition to summative assessment formative assessment is delivered in all modules along with extensive feedback on both formative and summative assessment. In some modules students also get instant feedback via the use of clicker tests and/or feedback from online self tests via blackboard.

The [University's Assessment Policy](#) is an important point of reference and provides specific guidance on course assessment strategies.

All module outlines contain detailed assignment briefs and grading criteria which are, in most cases, specific for that particular assignment. Study Skills, which form part of the extended induction for level 4 students, as well as some modules, include sessions on how to make good use of this information.

## 15. Programme structures and requirements

### Award map template for Single Honours

Course Title: BSc/MBiol Biochemistry

| Level 4     |   |                  |   |  |   |
|-------------|---|------------------|---|--|---|
| Module Code | Module Title                                      | Credits (Number) | Status (Mandatory (M), or Optional (O)) | Pre-requisites (Code of Module required) | Co-requisites/ exclusions and other notes   |
|             |   |                  | Single Hons                             |  |   |
| BIOS 1009   | Introduction to Nutrition in Humans               | 15               | O                                       | None                                     | None  |
| BIOS 1010   | Introduction to Human Anatomy & Physiology        | 15               | M                                       | None                                     | None  |
| BIOS 1201   | Cell Biology                                      | 30               | M                                       | None                                     | None  |
| BIOS 1203   | Health and Disease                                | 30               | O                                       | None                                     | BIOS 1211                                   |
| BIOS 1210   | Comparative Animal Physiology                     | 15               | O                                       | None                                     | None  |
| BIOS 1212   | Introduction to Biological Chemistry and Genetics | 30               | M                                       | None                                     | BIOS 1205, BIOS 1200 and BIOS 2202 excluded |
| ENVS 1100   | Introduction to Ecology                           | 15               | O                                       | None                                     | None  |
| SUST 1001   | An Introduction to Sustainability                 | 30               | O                                       | None                                     | None  |
| LANG        | Optional modules offered by the Language Centre   | 15/30            | O                                       |  |   |

#### Single Honours Requirements at Level 4

Single Honours students must take 120 credits in total, to include all mandatory modules, BIOS 1201 (30 credits), BIOS 1212 (30 credits) and BIOS 1010 (15 Credits), and optional modules - which can include up to 15/30 credits drawn from a range of Language Centre modules in: Academic English for native and non-native speakers of English; Modern Foreign Languages; and Teaching English as a Foreign Language (TEFL). Details of the available Language Centre modules can be found on the Language Centre website: <http://www.worcester.ac.uk/your-home/language-centre-module-options.html>.



| Level 5     |   |                  |  |   |  |
|-------------|---|------------------|--|---|--|
| Module Code | Module Title                                    | Credits (Number) | Status (Mandatory (M) or Optional (O)) | Pre-requisites (Code of Module required)        | Co-requisites/ exclusions and other notes* |
|             |   |                  | Single Honours                         |   |  |
| BIOS 2003   | Work Experience                                 | 15               | O                                      | BIOS 1201                                       | BIOS 3003, ENVS 2005<br>GEOG 3112 excluded |
| BIOS 2023   | Microbiology                                    | 15               | O                                      | BIOS 1201                                       | None                                       |
| BIOS 2040   | Plant Biology                                   | 15               | O                                      | BIOS 1201                                       | None                                       |
| BIOS 2104   | Human Genetics                                  | 15               | O                                      | BIOS 1201                                       | None                                       |
| BIOS 2105   | Medical Forensic Science                        | 15               | O                                      | BIOS1010 or BIOS1102 or<br>BIOS1203 or BIOS1211 | None                                       |
| BIOS 2106   | Human Systems Physiology                        | 30               | O                                      | BIOS 1201 & either 1010 or<br>1211              | None                                       |
| BIOS 2110   | Immunology                                      | 15               | M                                      | BIOS 1201, 1205                                 | BIOS 3108 excluded                         |
| BIOS 2111   | Protein Structure & Function                    | 15               | M                                      | BIOS 1201, 1205                                 | None                                       |
| BIOS 2200   | Project & Career Development                    | 30               | M                                      | None  | BIOS 3114 (BIOS 2004)<br>excluded          |
| BIOS 2201   | Molecular & Cellular Biology                    | 30               | M                                      | BIOS 1201                                       | BIOS 2100, 2202 excluded                   |
| LANG        | Optional modules offered by the Language Centre | 15/30            | O                                      |   |  |

#### Single Honours Requirements at Level 5

Single Honours students must take 120 credits in total, to include all mandatory modules, BIOS 2200 (30 credits), BIOS 2201 (30 credits), BIOS 2111 and BIOS 2110, and optional modules - which can include up to 15/30 credits drawn from a range of Language Centre modules in: Academic English for native and non-native speakers of English; Modern Foreign Languages; and Teaching English as a Foreign Language (TEFL). Details of the available Language Centre modules can be found on the Language Centre website: <http://www.worcester.ac.uk/your-home/language-centre-module-options.html>.

| Level 6     |                                       |                  |  |  |   |
|-------------|---------------------------------------|------------------|--|--|---|
| Module Code | Module Title                          | Credits (Number) | Status (Mandatory (M) or Optional (O)) | Pre-requisites (Code of Module required) | Co-requisites/ exclusions and other notes*                          |
|             |                                       |                  | Single Honours                         |  |   |
| BIOS 3001/2 | Independent Study                     | 30               | M                                      | BIOS 2200                                | BIOS 3001 excluded if 3002 taken and vice versa. BIOS 3114 excluded |
| BIOS 3003   | Work Experience                       | 15               | O                                      | BIOS 1201                                | BIOS 2003, ENV5 2005 GEOG 3112 excluded                             |
| BIOS 3010   | Mammalian Reproduction                | 15               | O                                      | BIOS 1200 or BIOS 1010                   | None  |
| BIOS 3041   | Plant Development & Physiology        | 15               | O                                      | BIOS 2040                                | None  |
| BIOS 3106   | Pharmacology                          | 15               | O                                      | BIOS2100 or BIOS2201 or BIOS2202         | None  |
| BIOS 3109   | Genomics and Bioinformatics           | 15               | O                                      | BIOS 2100, BIOS 2201 or BIOS 2202        | None  |
| BIOS 3111   | Extension Module                      | 15               | O                                      | None                                     | None  |
| BIOS 3113   | The Biochemistry of Cancer            | 15               | M                                      | BIOS 2201                                | None  |
| BIOS 3114   | Research Methods and Research Project | 30               | O                                      | None                                     | BIOS 3001 & BIOS 3002 (BIOS 2004, BIOS 3104)                        |
| BIOS 3115   | Metabolic Biochemistry                | 15               | M                                      | BIOS2111                                 | None but only for biochemists                                       |
| BIOS 3116   | Clinical Biochemistry                 | 15               | M                                      | BIOS 2201,                               | BIOS 3115   |

#### Single Honours Requirements at Level 6

Single Honours students must take 120 credits from the table above to include BIOS 3001/2, BIOS 3113, BIOS 3115 and BIOS 3116 and further modules from the table above to the total value of 45 credits.

Direct entry students must normally substitute BIOS 3114 for BIOS 3001/2. Note that BIOS 3114 is only open to students directly entering level 6.

| Level 7     |   |                  |  |  |   |
|-------------|---|------------------|--|--|---|
| Module Code | Module Title                                    | Credits (Number) | Status (Mandatory (M) or Optional (O)) | Pre-requisites (Code of Module required) | Co-requisites/ exclusions and other notes*    |
| BIOS 4001   | Research Methods for Integrated Masters         | 30               | M                                      | BIOS 3001/2                              | Modules excluded AIAA4006, MBIO4001, MBIO4002 |
| BIOS 4002   | Applied and Commercial Research                 | 30               | M                                      | BIOS 3001/2                              |   |
| BIOS 4005   | Integrated Masters Dissertation in Biochemistry | 60               | M                                      | BIOS 3001/2                              | Co –requisite BIOS4001                        |

**Integrated Masters Requirements at Level 7**

Integrated Masters students must take all 120 credits from the table above.

(See Section 14.5 in the [TCRE](#) for details).

## 16. QAA and Professional Academic Standards and Quality

The course has been developed with reference to the QAA Biosciences Benchmark Statement (2007) which have been used to inform course outcomes and skills. We also follow the QAA and UW guidelines on work experience. The course operates at levels four, five, six and seven of the Framework for Higher Education Qualifications.

## 17. Support for students

- Biochemistry students experience a wide variety of learning and teaching methods detailed in 13.1 above and these are frequently reviewed and adapted in order to enhance the students' experience.
- An induction programme extended throughout the year in one of the 30 credit modules. This extended induction allows the necessary study skills to be developed at the most appropriate time for the students.
- All students have a personal academic tutor who they see twice each semester and the requirement to do so is linked to a mandatory module. The tutorial sessions are structured to guide and support each student, on an individual basis, throughout their course and to help them to realise their potential. The tutors guide the students through completion of a Personal Development Plan related to the current QAA Biosciences benchmarks. All tutors have an open door policy.
- Science PDP scheme to develop student skills, to enable students to plan the most appropriate path through their course and to increase employability.
- The Disability & Dyslexia Service provides advice and support for students who have mental health difficulties, dyslexia, sensory or physical impairments and other difficulties. There is a dedicated Assistant Disability Coordinator for students with sensory impairments. Advice is also available on access to technology such as voice recognition and text-to-speech software. Much of the support provided is funded through the Disabled Students' Allowance (DSA).

<http://www.worcester.ac.uk/student-services/index.htm>

<http://www.worcester.ac.uk/student-services/disability-and-dyslexia.htm>

- A Virtual Learning Environment (Blackboard Learning System) to provide module-specific material, documents, activities, videos.
- Detailed module outlines (module handbooks), which include planned teaching activity, attendance requirements, assessment brief, assessment criteria and reading lists.
- Student Handbook (published on an annual basis) to provide students with detailed course information.
- A skills passport is provided for students to record practical skills they gain on the course.

The Biological Sciences students' handbook provides detailed information on all of the above points as well as information on modules and options available.

## 18. Admissions

Full time applicants apply through UCAS course code C 700 for BSc (Hons) Biochemistry or UCAS code C7C2 for Integrated Masters in Biochemistry

Part-time applicants apply directly to the University of Worcester (UW)

### Admissions procedure

Applicants are considered on the basis of their UCAS application forms. It is not currently standard practice to interview candidates but those entering via non-standard entry routes will be interviewed.

Those who accept our offer will be invited to an applicant day to experience studying at Worcester.

### Admissions Policy

We welcome applications from people of all ages and backgrounds with an interest in studying Biology. The University aims to be accessible; it is committed to widening participation and encouraging diversity in the student population. The Institute of Science and the Environment works closely with central student support services, including the Admissions Office, the Disability and Dyslexia Service and the International Office, to support students from a variety of backgrounds. We actively encourage and welcome people from the widest range of economic and cultural backgrounds, and value the contribution of mature learners. Students entering via non-standard entry routes may be interviewed.

### Entry requirements

The normal minimum entry requirement for undergraduate degree courses is the possession of 4 GCSEs (Grade C/4 or above) and a minimum of 2 A Levels (or equivalent Level 3 qualifications).

The current UCAS Tariff requirements for entry to this course are published in the prospectus and on the UW website <https://www.worc.ac.uk/journey/a-z-of-courses.html>

Applicants must normally have studied Biology and Chemistry to at least AS level or equivalent, although applicants who have not studied science for some time will be considered. The study of other sciences such as Maths or Physics would be an advantage. Applicants who have A level Chemistry but do not have Biology to AS level will also be considered.

Students may also enter with EDEXCEL qualifications e.g. EDEXCEL (BTEC) National Certificate or Diploma in a suitable subject.

See [Admissions Policy](#) for other acceptable qualifications.

### Disclosure and Barring Service (DBS) requirements

A satisfactory DBS may be required if a placement/WBL experience is a required element of the course.

### **Recognition of Prior Learning**

Details of acceptable level 3 qualifications, policy in relation to mature students or applicants with few or no formal qualifications can be found in the prospectus or on the University webpages. Information on eligibility for recognition of prior learning for the purposes of entry or advanced standing is also available from the [University webpages](#) or from the Registry Admissions Office (01905 855111).

### **Admissions/selection criteria:**

Offers are made in line with the entry requirements specified above and demonstration via the application form of a strong interest in Biochemistry. The reference you give as part of your application is also taken into account.

## **19. Methods for evaluating and improving the quality and standards of teaching and learning**

Mechanisms for review and evaluation of teaching, learning and assessment, the curriculum and outcome standards include:

- Student Module evaluation and feedback
- An Annual Evaluation Report completed by Programme Leader
- Periodic Review and revalidation including external scrutiny
- External Examiners' Reports
- Academic staff annual appraisal
- Staff Development Away Days and other events
- Staff research and scholarly activity
- Staff appraisal
- Institute of Science and the Environment (ISE) Policy on Approval (Module Outlines and Assignment Briefs) and Moderation of Student Work

Committees with responsibility for monitoring and evaluating quality and standards:

- ISE Quality Committee
- Biological Sciences Course Management Committee
- Academic Standards and Quality Enhancement Committee
- ISE and UW Ethics Committees
- Learning, Teaching and Student Experience Committee

Mechanisms for gaining student feedback on the quality of teaching and their learning experience:

- Module feedback questionnaires
- Student Academic Representatives (StARs)
- Biological Sciences Course Management Committee
- Meetings with module tutors and academic tutor
- National Students Survey

- Induction, exit and other ad hoc surveys

## 20. Regulation of assessment

The course operates under the University's [Taught Courses Regulatory Framework](#)

### Requirements to pass modules

- Modules are assessed using a variety of assessment activities which are detailed in the module specifications.
- The minimum pass mark is D- for each module.
- Students are required to submit all items of assessment in order to pass a module, and in some modules, a pass mark in each item of assessment may be required.
- Full details of the assessment requirements for a module, including the assessment criteria, are published in the module outline.

### Submission of assessment items

- Students who submit course work late but within 5 days of the due date will have work marked, but the grade will be capped at D- unless an application for mitigating circumstances is accepted.
- Students who submit work later than 5 days but within 14 days of the due date will not have work marked unless they have submitted a valid claim of mitigating circumstances.
- For full details of submission regulations see Taught Courses Regulatory Framework.

### Retrieval of failure

- Students are entitled to resit failed assessment items for any module that is awarded a fail grade.
- Reassessment items that are passed are capped at D-.
- If a student is unsuccessful in the reassessment, they have the right to retake the module (or, in some circumstances, take an alternative module); the module grade for a re-taken module is capped at D-.

### Requirements for Progression

- Students at Level 4 may be permitted to progress to Level 5 when they have passed at least 90 credits at Level 4.
- Students at Level 5 may be permitted to progress to Level 6 when they have passed at least 90 credits at Level 5.
- Students at Level 6 will be permitted to progress to Level 7 when they have passed at least 240 credits at Levels 4 and 5 and at least 90 credits at Level 6
- A student who fails 90 credits or more due to non-submission will be required to withdraw from the University.
- Students who pass less than 90 credits but have submitted all items of assessment will be required to retake modules.

### Requirements for Awards

### Classification

| <b>Award</b>         | <b>Requirement</b>   |
|----------------------|--|
| CertHE               | In order to be eligible for the exit award of Certificate in Higher Education in the named subject/area of study, a student must have passed at least 120 credits in total including the mandatory modules for level 4 of the award as specified on the award map.         |
| DipHE                | In order to be eligible for the exit award of Diploma in Higher Education in the named subject/area of study, a student must have passed at least 240 credits in total including the mandatory modules for level 4 and level 5 of the award as specified on the award map. |
| Degree (non-honours) | Passed a minimum of 300 credits with at least 90 credits at Level 5 or higher and a minimum of 60 credits at Level 6, including the mandatory modules for Level 5 and Level 6 of the award (not the Independent Study module) as specified on the award map.               |
| Degree with honours  | Passed a minimum of 360 credits with at least 90 credits at Level 5 or higher and a minimum of 120 credits at Level 6, as specified on the award map.  |
| Integrated Masters   | Passed a minimum of 480 credits with at least 90 credits at Level 5 or higher and a minimum of 120 credits at each of Level 6 and Level 7, including a dissertation or other substantial piece of independent work, as set out in the award map.                           |

### **Classification for BSc (Hons) Biochemistry**

The honours classification will be determined by whichever of the following two methods results in the higher classification:

Classification determined on the profile of the best grades from 60 credits attained at Level 5 and the best grades from 120 credits at Level 6. Level 5 and Level 6 grades count equally in the profile.

Classification determined on the profile of the best grades from 120 credits attained at Level 6 only.

### **Classification for MBiol Integrated masters in Biochemistry**

The honours classification will be determined by whichever of the following two methods results in the higher classification.

Classification determined on the profile of the best grades from 60 credits attained at Level 6 and the best grades from 120 credits at Level 7. Level 6 and Level 7 grades count equally in the profile.



Classification determined on the profile of the best grades from 120 credits attained at Level 7 only.

## **21. Indicators of quality and standards**

External examiners have consistently stated that our standards are the equivalent of standards in other UK higher education institutions. They are particularly impressed with the level of feedback on offer to students.

### **Research Quality in the Institute of Science and the Environment**

Postgraduate research in Biological Sciences is highly important in ISE, there are currently 10 MPhil/PhD students in the Biological Sciences subject area and we have had a further 8 PhD completions and 1 MPhil completion in Biological Sciences over the last 5 years. There are 16 staff with supervisory experience of research degrees in the Institute of Science and the Environment (ISE)/ National Pollen and Aerobiology Research Unit (NPARU).

Publications from members of staff in the University are made available via a research repository called [WRaP \(Worcester Research and Publications\)](#). Both ISE and NPARU has a significant proportion of these publications. Most of these are in the Biological Sciences subject area and are almost all comprised of Peer reviewed publications. Many are in areas and/or use methods common to Biochemistry.

### **National Student Survey**

The pleasing NSS results are reflected in the 2016 Guardian League tables with Biosciences at the University of Worcester in 45<sup>th</sup> position out of the 101 listed universities. High scores (91.5 and 96.8) were awarded for 'satisfaction with course' and 'satisfaction with teaching'.

### **Student Employability**

Employment data indicate that, of the 2015/2016 graduates, 43 students (72%) responded to our employment survey. Of these 58% indicated they were employed and a pleasing 35% were engaged in further study. One student (2%) was unemployed and 5% indicated other, unspecified, activities. Of those employed, 48% had entered graduate employment. It is also notable that a number of students electing to pursue postgraduate study are successful at achieving suitable PhD opportunities.

### **Student progression and Achievement**

Across the courses in the Biological Sciences programme 96% of students progressed from year one to year two in 2015-16 while 94% progressed from year 2 to year 3.

73% of the 2015/16 Biology graduates obtained a 1 or 2:1 honours degree classification

### **Comments from External Examiners**

The following comments were received from two external examiners for the 2015/2016 academic year:

"I continue to be impressed with the programme academic standards"

“The curriculum is current, and staff appear to be very up-to-date in their respective fields. Current publications are used to enhance student learning”.

“Excellent feedback sheets for student assessment must involve a substantial workload for staff but are a gold standard, which is to be admired and encouraged.”

### **Summary of Feedback from Students**

The vast majority modules received at least 80% positive feedback for the module evaluation questions and many positive comments were made. Tutors have included many of their suggestions for this academic year and all module outlines indicate how feedback from the previous year has led to improvements in the module.

## **22. Graduate destinations, employability and links with employers**

### **Graduate destinations**

An increasing number of Biological Sciences programme students go on to study for Masters or PhD awards and advice on following this pathway is included in our careers guidance within the Institute. There has also been an increase in those going on to a PGCE course and so into a teaching career.

Some of our students have entered employment with direct links to their degree subject, for example those in technical or research posts. Others have used their transferrable graduate skills to gain employment in seemingly unrelated areas.

*Careers of recent graduates include:*

- Clinical research assistant
- Research technician
- Field engineer
- Research analyst
- Clinical trials data manager
- Scientific adviser
- Wildlife Trust Reserves officer
- Education (e.g. teaching, lecturing)
- Further Study: M.Sc., M.Phil or Ph.D.

### **Student employability**

Careers advice is embedded in the curriculum at all three levels. In Level 4, students are introduced to the Careers Service in BIOS 1201 Cell Biology as part of the Science PDP scheme. This is followed up in BIOS 2200, with a more substantial careers session which looks at careers options and strategies. In this module one of the assignments takes the form of a job application, submission of a CV and an interview. Careers advice is also given as a part of the university Worcester weeks at all levels of the course. Students are given the opportunity in most modules to develop work-based skills (see PDP table above) however, students also have the opportunity to take a Work Placement module at Level 5 or 6. Students also develop practical skills in their modules e.g. various specific laboratory skills which they can record as a part of their PDP portfolio. Students will also record their

practical skills in the Biological Science Skills Passport as a record to show prospective employers.

### **Links with employers**

We have links with Worcestershire and Herefordshire Wildlife Trusts and Birmingham Sea Life Centre, with whom Biology staff liaise to arrange Independent Studies and employment opportunities. An employee of Worcestershire Wildlife Trust (and ex- student) also sits on the University Strategic Biodiversity Management Group, chaired by a member of the Biology staff. We also have links with West Mercia Police and Hereford and Worcester County Council. These links have provided work experience opportunities, facilities for Independent Study projects, and careers advice from those in the relevant fields.

**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 associated course documentation e.g. course handbooks, module outlines and module specifications.