

## PROGRAMME SPECIFICATION

|  |   |
|--|---|
| <b>Awarding body/institution</b>   | Glyndŵr University  |
| <b>Teaching institution</b> (if different from above)  | Glyndŵr University  |
| <b>Details of accreditation by a professional, statutory or regulatory body</b> (including link to relevant website) | Society of Biology (can only be applied for after the programme has been established and is being run)  |
| <b>What type of accreditation does this programme lead to?</b>   | <i>No student chartered qualification</i>   |
| <b>Is accreditation in some way dependent on choices made by students?</b>   | N/A   |
| <b>Final award/s available</b><br>eg BSc/DipHe/CertHE  | BSc (Honours) Wildlife and Plant Biology<br>BSc (Ordinary) Wildlife and Plant Biology<br>Diploma of Higher Education in Wildlife and Plant Biology<br>Certificate of Higher Education in Wildlife and Plant Biology           |
| <b>Award title</b>   | BSc(Honours) Wildlife and Plant Biology   |
| <b>JACS 2 code</b>   | C100  |
| <b>UCAS code</b> (available from Admissions)   | CD24  |
| <b>Relevant QAA subject benchmark statement/s</b>  | Biosciences 2007 Benchmark Statement  |
| <b>Other external and internal reference points used to inform the programme outcomes</b>                            | The Sector Skills Council for Land-based Industries (LANTRA)<br>Employers<br>Students<br>University Mission and Strategic Aims<br>Framework for Higher Education Qualifications in England, Wales and Northern Ireland (FHEQ) |
| <b>Mode/s of study</b><br>(p/t, f/t, distance learning)  | Full time<br>Part Time  |
| <b>Language of study</b>   | English   |
| <b>Date at which the programme specification was written or revised</b>  | April 2013  |

## Criteria for admission to the programme

All applications are considered on their individual merits. Alternative qualifications and experience, motivation and commitment are considered alongside academic requirements as part of the application process. For entry onto our proposed degree programme, we normally require the following:

At least 4 GCSEs at grade C or above (including English and Mathematics) or equivalent  
At least 240 UCAS points at A2 level or equivalent.  
A science background is essential.

The UCAS points may be counted from a wide variety of qualifications such as:

Welsh Baccalaureate  
Progression and Advanced Diploma  
BTEC/EDEXCEL both National Diplomas and Certificates  
Scottish qualifications at Advanced Higher level  
Irish leaving Certificate Higher examinations  
International and European Baccalaureates

Applications will be considered from those applicants who do not have the points outlined above. We welcome applications from those with:

Relevant work experience giving a sufficient level of knowledge in biological science, numeracy and report writing to undertake the programme along with evident commitment to the subject area.

Access to H.E. Diplomas  
Other higher education qualifications  
College diplomas in biological subjects  
Professional qualifications

Mainland European applications are accepted, often for advanced entry from those who have achieved qualifications such as a Baccalaureate, IUT/DUT, Abitur, or Matura.

All such applicants will be interviewed in order to determine the depth of their knowledge and experience and their commitment to the programme.

International student admission will be considered for those applicants who have the following:

Proof of qualification at an equivalent level 3 standard which must have relevance to the biological subject area and provide a sufficient level of knowledge in biological science and numeracy.

Minimum English Language Ability of IELTS 6.0.

The equivalence and evidence of qualifications is verified by the University's International Office. All international applications are reviewed by the Admissions Tutor to ensure that the applicant has a significant interest in the subject area. Where interviews are held these may be done via video-conferencing or Skype.

### **Accreditation of Prior (Experiential) Learning**

AP(E)L will be considered on an individual case basis in order to admit students who have undertaken comparable study at another institution. The candidate will be requested to attend an informal interview with the programme leader in the first instance and then if deemed appropriate submit a portfolio of evidence that will be considered by the AP(E)L panel. The rules and procedures governing the accreditation of prior certificated /

experiential learning are set out in the Academic Quality Handbook. A student who is admitted to a programme with prior certificated/experiential learning or exempt study from a module which forms part of his/her approved programme of study will not normally be awarded credit for that module(s) but will have been deemed to have satisfied the requirements for completion of that module(s).

International students may be offered interview via Skype or video-conference.

### **Aims of the programme**

The programme aims are:

- a) To produce graduates with the knowledge and practical skills essential for them to operate effectively in the whole organism and ecological sectors of biology.
- b) To provide students with an intellectually challenging, educational experience which develops comprehensive understanding, knowledge and critical awareness of biology. This will integrate theory with practice and be informed by staff scholarship, research and professional practice.
- c) To provide a vocationally relevant programme of study in wild animal and plant biology that engenders a proactive approach to learning supporting personal, intellectual and professional development.

### **Distinctive features of the programme**

Climate change, biodiversity conservation, habitat and reserve management and sustainable business have created a demand for skilled graduates in whole organism, biological science.

This programme will give hands-on, practical skills and experience of both animals and plants. This combination is particularly important for employment as knowledge of the interaction of plants and animals in habitats is invaluable for a career in ecology or conservation and the science of living organisms.

The programme is based at our rural Northop campus, set in the stunning north Wales countryside. It is ideally placed for field studies with a variety of marine, freshwater and terrestrial habitats nearby and with the mountains and moorlands of Snowdonia a short distance away.

Students will carry out projects, of their own design and area of interest, in the natural habitats. Such projects may include topics such as ecology of raptors, natural regeneration in woodlands, surveys of seashore biodiversity, changes in insect populations, conservation of amphibians.

Students will be prepared with a solid grounding in the theory and principles behind wildlife and plant science. The degree will enable them to become skilled in field survey, experimentation and observation. Technology such as computer modelling is used in the course to model ecosystems, animal behaviour, plant growth and many other aspects of this exciting area. Work placements may be taken either in the UK or internationally.

Academic staff are active in farming, veterinary, ecological consultancy, charities and

government committees and have specialist academic and practical skills.

As this programme is vocationally orientated, the skills needed in the career pathways have been considered in the design of the programme.

These skills needs have been stated in national reports:

the Environment Research Funders Forum "Skill needs in the environmental sector" gives these needs as follows-

Computer modelling

Multi-disciplinarity – working across the natural science/social science boundary

Data management and numeracy

Fieldwork – data collection, survey skills

Policy formulation – translating research into policy

Risk assessment and interpretation

Taxonomy – field identification

Soil science

Sustainability science – including habitat assessment and environmental risk assessment

Freshwater biology

All these areas will be covered in this programme

the Lantra "UK Skills Assessment" 2010 skill needs for environmental conservation included

- Improve awareness and understanding of sound environmental land management and its contribution to biodiversity, carbon sequestration, renewable energies, community cohesion, tourism and health/well-being.
- Improve awareness of wider environmental management/environmental assessment
- Field identification skills as a key component
- Improve "fit of provision" to industry requirements

Emphasis has been placed on the following careers: school and college teaching, outdoor education, HE lecturing, academic research, environmental consultancy (ecologist, wildlife specialist, habitat surveyor, and environmental risk assessor), environmental project management, reserve manager. Careers may be followed in government, educational institutions, companies and practices, charities and campaign organisations.

The work of an ecologist can be in one or more of a number of specialist areas. This programme will give an overview of these areas so that the graduate is informed in the selection of career specialisms.

Those wishing to have careers in field biology, however, require a strong grounding in plant biology as well as animal/wildlife topics in order to identify habitats and carry out environmental assessments. This programme has a unique selling point of combining wildlife studies with plant biology.

The proposed degree has been shaped by the QAA Framework for HE qualifications in England, Wales, and Northern Ireland (2008) for Biosciences. The curriculum design is based on contemporary research findings.

Ecologists and wildlife biologists are also using an increased amount of technical equipment. The programme will prepare them to use technology such as GIS and GPS in a professional

setting. It will also develop other professional skills such as report writing, campaigning and presentations. It is important for graduates to be able to demonstrate professional skills to employers.

Biology is now the third most popular A level, after English and mathematics, in the UK. This programme will supply a regional need in North East Wales for progression from A level.

It is recognised that not all graduates from this programme will go into a biological career. Therefore, this programme will include a strong numeracy element so that graduates are equipped for numerate careers. The Society of Biology, in its accreditation, states that successful biology degree programmes enhance leadership and reward innovation and develop the independent research skills of graduates.

The Society of Biology accreditation that will be applied for will be in the “Whole Organism” stream. A programme accredited by the Society of Biology:

- recognises that the degree provides graduates with the skills and experiences necessary to enter employment in either academic or industrial research and innovation
- meets standards of learning and teaching in the biosciences required by the Society.

Cognitive skills will also be developed through the use of problem-based learning using examples developed from the Green Academy.

**Programme structures and requirements, levels, modules, credits and awards**

The proposed structure of the full-time BSc (Hons) is given below. The proposed programme will be delivered over three years if studied on a full time basis and contact teaching will be delivered in trimesters 1 and 2

Level 4 (H.E. 1)

|                    |                                   |   |   |   |                                    |   |
|--------------------|-----------------------------------|---|---|---|------------------------------------|---|
| Module Title       | Plant Form and Function<br>LND407 | Soils and the Rooting Environment<br>LND413 | Field Skills and Identification<br>LND412 | Foundation Zoological Science<br>ANM405 | Ecology<br>SCI419<br>Joss Bartlett | Option <ul style="list-style-type: none"> <li>• Ground Floor Journalism<br/>HUM412</li> <li>• Rural Business Practice<br/>LND414</li> <li>• Introduction to Chemistry<br/>SCI414</li> </ul> |
|                    | David Skydmore                    | Richard Lewis                               | David Skydmore                            | Rosie MacDiarmid                        | Joss Bartlett                      |   |
| Trimester delivery | 1                                 | 2   | 2   | 1&2                                     | 1                                  | 1&2   |
|                    | (Core)                            | (Core)                                      | (Core)                                    | (Core)                                  | (Core)                             | (Option)  |
| Credit Rating      | 20                                | 20  | 20  | 20                                      | 20                                 | 20  |

Level 5 (H.E. 2)

|                    |   |  |  |  |  |
|--------------------|---|--|--|--|--|
| Module Title       | Ecosystems<br>SCI501<br><br>Joss Bartlett | Survey Skills for<br>Conservation<br>ANM506<br><br>Denise<br>Wareham | Population Biology and<br>Genetics<br>LND511<br><br>David Skydmore | Research<br>Methodologies<br>AUR567<br><br>Barry Hills | Applied Project<br>ANM511<br><br>Richard Lewis |
| Trimester delivery | 1   | 2  | 1  | 2  | 1&2  |
|                    | (Core)                                    | (Core)   | (Core)   | (Core)   | (Core)   |
| Credit Rating      | 20  | 20   | 20   | 20   | 40   |

Level 6 (H.E. 3)

|                    |   |   |  |  |  |
|--------------------|---|---|--|--|--|
| Module Title       | Conservation<br>Policy<br>ANM607<br><br>Denise<br>Wareham | Applied Research Skills and<br>Professional Development<br>ANM606<br><br>Tamsin Young | Research project<br>SPT603<br><br>Tamsin Young | Conservation<br>Biology<br>SCI602<br><br>Joss Bartlett | Practical<br>Conservation<br>Management<br>SCI604<br><br>Joss Bartlett |
| Trimester delivery | 1   | 1   | 1&2  | 2  | 2  |
|                    | (Core)  | (Core)  | (Core)   | (Core)   | (Core)   |
| Credit Rating      | 20  | 20  | 40   | 20   | 20   |

Part time students are advised about their registration before the start of each year in order to consider the coherence of their programme of study and the best fit between the module timetable and their own constraints. They are supported alongside the full-time students by the module tutor, and would also have a personal tutor assigned to them in the induction week of their first registration. The personal tutor would be responsible for maintaining an overview of their progress through the programme: ensuring, for example, that they complete enough credits to complete the programme within the registration limits. Tutorial and study support will be given as with full-time students but in line with the part-time timetable. Part time students will follow a route through the programmes that ensures that they will study modules in a sequence that will provide them with the necessary skills, competencies and knowledge to take other modules within that level. The table below illustrates an indicative delivery pattern for part time study over five years. This pattern ensures that part-time students remain engaged with the programme throughout the five years and have the same higher education experience as full-time students. The pattern is designed such that full-time students will attend usually four days per week in the trimester whilst part-time students will attend two days except in the final year when they will spend additional time on their Research Project.

### Structure of the part-time BSc (Hons) Wildlife and Plant Biology

|  |                                      |  |  |  |
|--|--------------------------------------|--|--|--|
| Year<br>One (80<br>level 4<br>credits) | <b>Trimester one</b>                 |  | <b>Trimester two</b>                           |  |
|  | Plant Form and Function (20 credits) |  | Soils and the Rooting Environment (20 credits) |  |
|  | Ecology (20 credits)                 |  | Field Skills and Identification (20 credits)   |  |
|  |                                      |  |  |  |

|   |   |  |  |  |
|---|---|--|--|--|
| Year<br>Two (40<br>level 4<br>& 40<br>level 5<br>credits) | <b>Trimester one</b>                                |  | <b>Trimester two</b>                         |  |
|   | Foundation Zoological Science (Level 4, 20 credits) |  |  |  |
|   | Choice of optional modules (Level 4, 20Credits)     |  |  |  |
|   | Ecosystems (Level 5, 20 credits)                    |  | Research methodologies (Level 5, 20 credits) |  |



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|---|--|--|
| Year<br>Three<br>(80<br>level 5<br>credits) | <b>Trimester one</b>   | <b>Trimester two</b>                           |
|   | Applied Project (40 credits)                                     |  |
|   | Population Biology and Genetics (20 credits)                     | Survey Skills for Conservation (20 credits)    |
| Year<br>Four<br>(60<br>level 6<br>credits)  | <b>Trimester one</b>   | <b>Trimester two</b>                           |
|   | Conservation Policy (20 credits)                                 | Conservation Biology (20 credits)              |
|   |  | Practical Conservation Management (20 credits) |
| Year<br>Five<br>(60<br>level 6<br>credits)  | <b>Trimester one</b>   | <b>Trimester two</b>                           |
|   | Applied Research Skills and Professional Development(20 credits) |  |
|   | Research Project (40 credits)                                    |  |

Students are required to complete 120 credits per level. Students will be able to exit following completion of level four with a Certificate of HE in Wildlife and Plant Biology(120 credits), and following completion of level five with a Diploma in HE Wildlife and Plant Biology (240 credits).

An Ordinary Degree is available if 300 credits have been obtained, of which a minimum of 60 credits and a maximum of 80 credits shall be at level 6. A minimum of 100 credits with a maximum of 120 credits shall normally be at level 5. This is normally awarded when the students are unable to complete the Independent Study.

### **Employability**

Throughout levels four and five of the programme there is a focus on skills for 'employability'. This is especially important in the environmental sector as the majority of whom will work in consultancies, government or charities. At level four options are available to give students an appreciation of career pathways. The proposed options are Introduction to Chemistry, Groundfloor Journalism, Rural Business Practice, At level five, the Applied Project focuses the student on an investigation in the workplace. At level six students undertake Applied Research Skills and Professional Development which prepares them for professional practice in the workplace. The approach to work-orientated learning seeks to ensure that the student is able to apply the knowledge, skills, attitudes and values expected by employers, customers, and external bodies. It also allows students to engage in continuing professional development.

### Tutorial Support

In addition to formal module delivery all students on the proposed programme will be supported by a personal tutor. One academic member of staff will be allocated to each year group, and will be responsible for conducting a weekly group tutorial, or will provide opportunity for individual tutorials. While tutorials have an appropriate pastoral function as part of teaching/learning, they will be used for a number of purposes including: assessment of students' personal development and progress; helping students to develop learning skills; assisting students to make informed and realistic choices within their degree course; and providing support for individual or group project work. The Personal Development Portfolio (PDP) will help to structure tutorials throughout the degree programme, and activities that form part of the PDP e.g. goal setting and Curriculum Vitae development.

### Indicative timetable – BSc (Hons) Wildlife and Plant Biology full-time (Level 4)

|  | 9–10 | 10-11                                  | 11-12 | 12-1 | 1-2 | 2-3                                     | 3-4 | 4-5      |
|--|------|--|-------|------|-----|---|-----|----------|
| <b>Monday</b><br><b>Trimester 1</b>          |      | Plant Form and Function (DS)           |       |      |     | Ecology (JB)                            |     |          |
| <b>Trimester 2</b>                           |      | Option                                 |       |      |     | Foundation Zoological Science (RM)      |     |          |
| <b>Tuesday</b><br><b>Trimester 1</b>         |      | Plant Form and Function (DS)           |       |      |     | Ecology (JB)                            |     | Tutorial |
| <b>Trimester 2</b>                           |      | Soils and the Rooting Environment (RL) |       |      |     | Field Skills and Identification (DS/DW) |     | Tutorial |
| <b>Wednesday</b><br><b>Trimester 1&amp;2</b> |      |  |       |      |     |   |     |          |
| <b>Thursday</b><br><b>Trimester 1</b>        |      | Option                                 |       |      |     | Foundation Zoological Science (RM)      |     |          |
| <b>Trimester 2</b>                           |      | Soils and the Rooting Environment (RL) |       |      |     | Field Skills and Identification (DS/DW) |     |          |
| <b>Friday</b><br><b>Trimester 1/2</b>        |      |  |       |      |     |   |     |          |

**Indicative timetable – BSc (Hons) Wildlife and Plant Biology full-time (Level 5)**

|                            | 9-10 | 10-11                                | 11-12 | 12-1 | 1-2 | 2-3                                  | 3-4      |
|----------------------------|------|--------------------------------------|-------|------|-----|--------------------------------------|----------|
| Monday<br>Trimester 1      |      | Applied Project (RL)                 |       |      |     | Survey Skills for Conservation (DW)  |          |
| Trimester 2                |      | Applied Project (RL)                 |       |      |     | Population Biology and Genetics (DS) |          |
| Tuesday<br>Trimester 1     |      | Population Biology and Genetics (DS) |       |      |     | Applied Project (RL)                 | Tutorial |
| Trimester 2                |      | Research Methodologies (BH)          |       |      |     | Research Methodologies (BH)          |          |
| Wednesday<br>Trimester 1,2 |      |                                      |       |      |     |                                      |          |
| Thursday<br>Trimester 1    |      |                                      |       |      |     |                                      |          |
| Thursday<br>Trimester 2    |      |                                      |       |      |     |                                      |          |
| Friday<br>Trimester 1      |      | Ecosystems (JB)                      |       |      |     | Ecosystems (JB)                      |          |
| Trimester 2                |      | Survey Skills for Conservation (DW)  |       |      |     | Applied Project (RL)                 | Tutorial |

### Indicative timetable – BSc (Hons) Wildlife and Plant Biology full-time (Level 6)

|                          | 9–10  | 10-11                                  | 11-12 | 12-1 | 1-2   | 2-3                                    | 3-4 |
|--------------------------|---|--|-------|------|---|--|-----|
| Monday<br>Trimester 1    | Applied Research Skills and Professional Development (TY) |  |       |      | Applied Research Skills and Professional Development (TY) |  |     |
| Monday<br>Trimester 2    |   | Conservation Biology (JB)              |       |      |   | Conservation Biology (JB)              |     |
| Tuesday<br>Trimester 1,2 |   |  |       |      |   |  |     |
| Wednesday<br>Trimester 1 |   | Conservation Policy (DW)               |       |      |   |  |     |
| Trimester 2              |   | Practical Conservation Management (JB) |       |      |   | Practical Conservation Management (JB) |     |
| Thursday<br>Trimester 1  |   | Conservation Policy (DW)               |       |      |   | Research Project (TY)                  |     |
| Trimester 2              |   |  |       |      |   | Research Project (TY)                  |     |
| Friday<br>Trimester 1,2  |   |  |       |      |   |  |     |

### Intended learning outcomes of the programme

The programme provides opportunities for learners to achieve the following outcomes that have been based on those in *QAA Biosciences (2007)*.

On completion of the Certificate in Higher Education the student will be able to demonstrate the following:

#### Knowledge and understanding

|    |  |
|----|--|
| A1 | knowledge of the processes and mechanisms of life, from molecular to cellular, and from organism to community  |
| A2 | familiarity with the terminology, nomenclature and classification systems  |
| A3 | competence in the basic experimental skills appropriate to the discipline under study  |
| A4 | ability to evaluate information and data, and their setting within a theoretical framework, accompanied by critical analysis and assessment to enable understanding of the subject area as a coherent whole  |
| A5 | ability to interpret and analyse biological information within appropriate contexts for their use through the study of texts, original papers, reports and data sets   |
| A6 | ability to interpret some of the current developments in the biosciences and their applications, and the philosophical and ethical issues involved. 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 |

#### Subject skills

|    |  |
|----|--|
| B1 | appreciate 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 |
| B2 | ability to describe and exemplify nutrient and energy flow through individuals, populations and communities  |
| B3 | ability to describe patterns of distribution of organisms in relation to biotic and abiotic factors including climate, geology, soils, palaeo-historical and evolutionary factors  |
| B4 | recognition that statements should be tested and that evidence is subject to assessment and critical evaluation.   |
| B5 | knowledge of population processes, dynamics and interactions, community structure, development, and biodiversity   |

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| B6 | awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation and the applied significance of species as resources and as damage-causing organisms |
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### Intellectual Skills

|    |  |
|----|--|
| C1 | Recognition of subject-specific theories, paradigms, concepts or principles.   |
| C2 | Ability to synthesise and summarise information, including published research or reports and cite and reference work in an appropriate manner, including the avoidance of plagiarism |
| C3 | obtaining and integrating several lines of subject-specific evidence to formulate and testing hypotheses and thinking independently  |

### Practical, professional and employability skills

|    |   |
|----|---|
| D1 | competence in the basic experimental skills appropriate to the discipline under study   |
| D2 | Ability to communicate about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language   |
| D3 | Ability to undertake field and/or laboratory investigations of living systems in a responsible, safe and ethical manner paying due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent and respecting the rights of access in field work. |
| D4 | Ability to evaluate performance as an individual and a team member; evaluate the performance of others and recognise and respect the views and opinions of other team members and have developed negotiating skills   |
| D5 | Development of the skills necessary for self-managed and lifelong learning i.e. working independently, time management, organisational, enterprise and knowledge transfer skills  |

On completion of the Diploma in Higher Education the student will be able to demonstrate the following:

### Knowledge and understanding

|    |  |
|----|--|
| A1 | Critical understanding of the processes and mechanisms of life, from molecular to cellular, and from organism to community |
| A2 | Ability to apply the terminology, nomenclature and classification systems  |
| A3 | competence in the experimental skills appropriate to the discipline under study  |

|    |   |
|----|---|
| A4 | Critical understanding of information and data, and their setting within a theoretical framework, accompanied by critical analysis and assessment to enable understanding of the subject area as a coherent whole   |
| A5 | acquiring, interpreting and analysing biological information with a critical understanding of the appropriate contexts for their use through the study of texts, original papers, reports and data sets   |
| A6 | engagement with some of the current developments in the biosciences and their applications, and the philosophical and ethical issues involved. 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 |

### Subject skills

|    |   |
|----|---|
| B1 | Critical understanding 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             |
| B2 | Knowledge of nutrient and energy flow through individuals, populations and communities  |
| B3 | ability to exemplify patterns of distribution of organisms in relation to biotic and abiotic factors including climate, geology, soils, palaeo-historical and evolutionary factors  |
| B4 | Competence in critical and analytical skills with a recognition that statements should be tested and that evidence is subject to assessment and critical evaluation. Be able to carry out sample selection; record and analyse data in the field and/or the laboratory. |
| B5 | knowledge of population processes, dynamics and interactions, community structure, development, biodiversity and associated theoretical models  |
| B6 | knowledge of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation and the applied significance of species as resources and as damage-causing organisms                                  |

### Intellectual Skills

|    |   |
|----|---|
| C1 | Ability to apply subject-specific theories, paradigms, concepts or principles.  |
| C2 | Ability to initiate and undertake analysis and synthesis of information critically, including published research or reports and cite and reference work in an appropriate manner, including the avoidance of plagiarism |
| C3 | Ability to obtain and integrate several lines of subject-specific evidence to formulate and test hypotheses and think independently, set tasks and solve problems   |

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| C4 | Ability to prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programmes for presenting data visually, which may involve primary or secondary data |
|----|---|

### **Practical, professional and employability skills**

|    |   |
|----|---|
| D1 | competence in the experimental skills appropriate to the discipline under study   |
| D2 | Effective communication about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language  |
| D3 | Ability to undertake and acquire new competencies in field and/or laboratory investigations of living systems in a responsible, safe and ethical manner paying due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent and respecting the rights of access in field work. |
| D4 | Ability to evaluate performance critically as an individual and a team member; evaluate the performance of others and recognise and respect the views and opinions of other team members and have developed negotiating skills  |
| D5 | Development of the skills necessary for self-managed and lifelong learning and decision-making i.e. working independently, time management, organisational, enterprise and knowledge transfer skills  |

On completion of the BSc Ordinary Degree the student will be able to demonstrate the following:

### **Knowledge and understanding**

|    |  |
|----|--|
| A1 | Critical understanding of the processes and mechanisms of life, from molecular to cellular, and from organism to community   |
| A2 | Ability to apply the terminology, nomenclature and classification systems  |
| A3 | competence in the experimental skills appropriate to the discipline under study and application to new knowledge and projects  |
| A4 | Systematic understanding of information and data, and their setting within a theoretical framework, accompanied by critical analysis and assessment to enable understanding of the subject area as a coherent whole  |
| A5 | acquiring, interpreting and analysing biological information with a systematic understanding of the appropriate contexts for their use through the study of texts, original papers, reports and data sets  |
| A6 | Critical evaluation of some of the current developments in the biosciences and their applications, and the philosophical and ethical issues involved. 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 |



## Subject skills

|    |   |
|----|---|
| B1 | Conceptual understanding 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 |
| B3 | Systematic and detailed knowledge of the distribution of organisms in relation to biotic and abiotic factors including climate, geology, soils, palaeo-historical and evolutionary factors  |
| B4 | Ability to apply methods and techniques in sample selection; recording and analysing data in the field and/or the laboratory; ensure validity, accuracy, calibration, precision, replicability and highlight uncertainty.                                     |
| B5 | detailed knowledge of population processes, dynamics and interactions, community structure, development, biodiversity and associated theoretical models   |
| B6 | coherent and detailed knowledge of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation and the applied significance of species as resources and as damage-causing organisms  |

## Intellectual Skills

|    |  |
|----|--|
| C1 | Devising and sustaining arguments on subject-specific theories, paradigms, concepts or principles.   |
| C2 | Evaluating information critically, including published research or reports and cite and reference work in an appropriate manner, including the avoidance of plagiarism   |
| C3 | obtaining and integrating several lines of subject-specific evidence to formulate and test hypotheses to consolidate, and extend their knowledge and think independently, set tasks and solve problems and accurately employ established methods of study in investigating, recording and analysing material |
| C4 | preparation, processing, interpretation and presentation of data, using a variety of appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programmes for presenting data visually, which may involve primary or secondary data                                      |

## Practical, professional and employability skills

|    |  |
|----|--|
| D1 | competence in the experimental skills appropriate to the discipline under study and ability to manage their own further learning of these skills   |
| D2 | Ability to communicate to specialist and non-specialist audiences about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language   |
| D3 | Ability to undertake field and/or laboratory investigations of living systems in a competent, responsible, safe and ethical manner paying due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent and respecting the rights of access in field work. |

|    |  |
|----|--|
| D4 | evaluating and analysing performance as an individual and a team member; evaluate and analyse the performance of others and recognise and respect the views and opinions of other team members and have developed negotiating skills |
| D5 | skills and decision-making necessary for self-managed and lifelong learning i.e. working independently, time management, organisational, enterprise and knowledge transfer skills  |

On completion of the BSc Honours Degree the student will be able to demonstrate the following:

### **Knowledge and understanding**

|    |  |
|----|--|
| A1 | Critical understanding of the processes and mechanisms of life, from molecular to cellular, and from organism to community   |
| A2 | Ability to apply the terminology, nomenclature and classification systems  |
| A3 | competence in the experimental skills appropriate to the discipline under study and application to new knowledge and projects and the critical evaluation of new techniques  |
| A4 | Systematic understanding of information and data, and their setting within a theoretical framework, accompanied by critical analysis and assessment to enable understanding of the subject area as a coherent whole  |
| A5 | acquiring, interpreting and analysing biological information with a systematic understanding of the appropriate contexts for their use through the study of texts, original papers, reports and data sets  |
| A6 | Critical evaluation of some of the current developments in the biosciences and their applications, and the philosophical and ethical issues involved. 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 |

### **Subject skills**

|    |   |
|----|---|
| B1 | Conceptual understanding 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 |
| B3 | Systematic and detailed knowledge of the distribution of organisms in relation to biotic and abiotic factors including climate, geology, soils, palaeo-historical and evolutionary factors  |
| B4 | Ability to select and apply methods and techniques in sample selection; recording and analysing data in the field and/or the laboratory; ensure validity, accuracy, calibration, precision, replicability and highlight uncertainty.                          |
| B5 | detailed knowledge of population processes, dynamics and interactions, community structure, development, biodiversity and associated theoretical models   |

|    |  |
|----|--|
| B6 | coherent and detailed knowledge of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation and the applied significance of species as resources and as damage-causing organisms |
|----|--|

### Intellectual Skills

|    |   |
|----|---|
| C1 | Devising and sustaining arguments on subject-specific theories, paradigms, concepts or principles.  |
| C2 | Evaluating information critically, including published research or reports and cite and reference work in an appropriate manner, including the avoidance of plagiarism  |
| C3 | obtaining and integrating several lines of subject-specific evidence to formulate and test hypotheses to consolidate, and extend their knowledge and think independently, set tasks and solve problems and accurately employ established methods of study in investigating, recording and analysing material            |
| C4 | preparation, processing, interpretation and presentation of data, using a variety of appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programmes for presenting data visually, which may involve the acquisition of primary or the selection of appropriate secondary data |

### Practical, professional and employability skills

|    |   |
|----|---|
| D1 | competence in the experimental skills appropriate to the discipline under study and ability to manage their own further learning of these skills  |
| D2 | Ability to communicate to specialist and non-specialist audiences about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language  |
| D3 | Ability to devise and undertake field and/or laboratory investigations of living systems in a competent, responsible, safe and ethical manner paying due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent and respecting the rights of access in field work. |
| D4 | evaluating and analysing performance as an individual and a team member; evaluate and analyse the performance of others and recognise and respect the views and opinions of other team members and have developed negotiating skills  |
| D5 | skills and decision-making necessary for self-managed and lifelong learning i.e. working independently, time management, organisational, enterprise and knowledge transfer skills   |

The modules have been devised to ensure attainment of the programme aims, with the learning outcomes of each module mapped against the intended programme learning outcome. This is illustrated in the Curriculum Matrix below.

They have also been designed to deliver the key skills necessary for the development of the Glyndŵr Graduate Attributes. These key skills are:

1. Written, oral and media communication skills
2. Leadership, team working and networking skills
3. Opportunity, creativity and problem solving skills
4. Information technology skills and digital literacy
5. Information management skills
6. Research skills (in the broad sense of creating new knowledge and understandings)
7. Intercultural and sustainability skills
8. Career management skills
9. Learning to learn (managing personal and professional development, self management)
10. Numeracy

**CURRICULUM MATRIX** demonstrating how the overall programme outcomes are achieved and where skills are developed and assessed within individual modules.

|                  |  | <i>Knowledge and understanding, intellectual skills, subject skills, and practical, professional and employability skills</i> |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|------------------|--|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  | <i>Module Title</i>                      | <i>Core/<br/>Opt</i>  | <b>A1</b> | <b>A2</b> | <b>A3</b> | <b>A4</b> | <b>A5</b> | <b>A6</b> | <b>B1</b> | <b>B2</b> | <b>B3</b> | <b>B4</b> | <b>B5</b> | <b>B6</b> | <b>C1</b> | <b>C2</b> | <b>C3</b> | <b>C4</b> | <b>D1</b> | <b>D2</b> | <b>D3</b> | <b>D4</b> | <b>D5</b> |
| L<br>E<br>V<br>4 | <i>Plant form &amp; Function</i>         | C   | *         | *         | *         | *         | *         | *         | *         | *         | *         | *         | *         |           | *         | *         | *         |           | *         | *         | *         |           |           |
|                  | <i>Soils Rooting Environment</i>         | C   |           | *         | *         | *         | *         | *         | *         | *         | *         | *         | *         |           | *         | *         | *         |           | *         | *         | *         |           |           |
|                  | <i>Field Skills &amp; Identification</i> | C   |           | *         | *         |           |           |           | *         |           |           | *         |           |           | *         | *         | *         |           | *         | *         | *         |           |           |
|                  | <i>Foundation Zoological Science</i>     | C   | *         | *         | *         | *         | *         | *         | *         | *         | *         | *         | *         |           | *         | *         | *         |           | *         | *         | *         | *         |           |
|                  | <i>Ecology</i>                           | C   |           | *         | *         | *         | *         | *         | *         |           | *         |           |           |           | *         | *         | *         |           |           | *         |           |           |           |
|                  | <i>Ground Floor Journalism</i>           | O   |           |           | *         | *         |           | *         |           |           |           |           |           |           | *         | *         | *         |           |           | *         |           | *         | *         |
|                  | <i>Rural Business Practice</i>           | O   |           |           | *         | *         |           | *         |           |           |           |           |           |           | *         | *         | *         |           |           | *         |           | *         | *         |
|                  | <i>Introduction to Chemistry</i>         | O   |           |           | *         | *         |           | *         |           |           |           |           |           |           | *         | *         | *         |           |           | *         |           | *         | *         |
|                  |  |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| L<br>E<br>V<br>5 | <i>Module Title</i>                      | <i>Core/<br/>Opt</i>  | <b>A1</b> | <b>A2</b> | <b>A3</b> | <b>A4</b> | <b>A5</b> | <b>A6</b> | <b>B1</b> | <b>B2</b> | <b>B3</b> | <b>B4</b> | <b>B5</b> | <b>B6</b> | <b>C1</b> | <b>C2</b> | <b>C3</b> | <b>C4</b> | <b>D1</b> | <b>D2</b> | <b>D3</b> | <b>D4</b> | <b>D5</b> |
|                  | <i>Ecosystems</i>                        | C   | *         | *         |           | *         | *         |           | *         | *         | *         |           | *         | *         | *         | *         | *         |           |           | *         | *         |           |           |
|                  | <i>Survey Skills for Conservation</i>    | C   |           |           | *         | *         | *         | *         |           |           | *         | *         |           | *         | *         | *         | *         | *         | *         | *         | *         |           |           |

|                  |   |                  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|------------------|---|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  | <i>Population Biology Genetics</i>                          | C                | *         |           |           | *         | *         | *         |           |           |           | *         | *         | *         | *         | *         | *         | *         |           | *         |           |           |           |
|                  | <i>Research methodologies</i>                               | C                |           |           | **        | *         | *         |           |           |           |           | *         |           |           | *         | *         | *         | *         | *         | *         |           | *         | *         |
|                  | <i>Applied project</i>                                      | C                |           |           | *         | *         | *         |           |           |           |           | *         |           |           | *         | *         | *         | *         | *         | *         | *         | *         | *         |
|                  |   |                  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| L<br>E<br>V<br>6 | <i>Module Title</i>   | <i>Core/ Opt</i> | <b>A1</b> | <b>A2</b> | <b>A3</b> | <b>A4</b> | <b>A5</b> | <b>A6</b> | <b>B1</b> | <b>B2</b> | <b>B3</b> | <b>B4</b> | <b>B5</b> | <b>B6</b> | <b>C1</b> | <b>C2</b> | <b>C3</b> | <b>C4</b> | <b>D1</b> | <b>D2</b> | <b>D3</b> | <b>D4</b> | <b>D5</b> |
|                  | <i>Conservation Policy</i>                                  | C                |           | *         |           | *         | *         | *         |           |           | *         | *         | *         | *         | *         | *         | *         |           | *         |           |           |           | *         |
|                  | <i>Applied Research Skills and Professional development</i> | C                |           | *         | *         | *         | *         |           |           |           |           | *         |           |           | *         | *         | *         | *         | *         | *         | *         | *         | *         |
|                  | <i>Research Project</i>                                     | C                |           |           | *         | *         | *         |           |           |           |           | *         |           |           | *         | *         | *         | *         | *         | *         | *         | *         | *         |
|                  | <i>Conservation Biology</i>                                 | C                | *         | *         | *         | *         | *         | *         | *         |           | *         | *         | *         | *         | *         | *         | *         |           | *         |           |           |           | *         |
|                  | <i>Practical Conservation Management</i>                    | C                |           | *         | *         |           | *         |           |           |           |           | *         |           | *         | *         | *         | *         |           | *         | *         | *         | *         | *         |

## Learning and teaching strategy used to enable outcomes to be achieved and demonstrated

The learning and teaching strategy deployed will attain the programme aims. The strategy will:

- (a) have an emphasis on student-centred learning;
- (b) employ teaching methods that promote effective student learning, self-development and reflection;
- (c) deploy a variety of learning and teaching methods including
  - Lectures
  - Demonstration
  - Seminars and workshops
  - Tutorials
  - Group and project work
  - Guest speakers
  - Educational visits and study days
  - Problem-based learning

The Northop campus has exceptional on-campus opportunities for field work with ancient woodland, farmed fields, organic plots, meadows managed for biodiversity, natural pond, and stream.

Examples of study visits, guest speakers, workshop sessions and demonstrations that may offered during the programme include:

**Field visits** – Snowdonia – mountains and moorlands, Welsh coast – dunes and littoral habitats. There will also be the opportunity for students to undertake projects abroad through the auspices of expedition companies

**Guest speakers** – Wildlife Trusts, Society of Biology, environmental consultants

**Demonstrations** – bird recording, bat surveys, dormouse surveys

This approach is intended to:

- (d) strike a balance between 'class and field' activity and directed study 'out of class';
- (e) provide sound feedback to students and attempt to involve them in identifying their own learning needs;
- (f) use directed and supported group work for sharing experience and knowledge and developing interpersonal skills;
- (g) provide realistic and relevant learning activities;
- (h) make use of a variety of assessment methods to allow students the opportunity to demonstrate their own particular capabilities.

Full use of Moodle will be made as a way of helping to manage teaching and learning, and to keep in contact with students. Each programme and module within a programme has its own space on Moodle. A wide range of information is placed within each of these areas for students to access. General information such as the module handbook will be placed into the programme area, and lecture notes together with activities for completion such as directed reading and worksheets will be placed into module spaces. Lecture notes will be either posted 24 hours prior to the lecture or immediately after, dependent on the preference of the member of staff. Moodle will also be an effective way of keeping in contact with

students by posting messages, for example informing students on arrangements for study days or guest speaker visits.

### **Work-based learning.**

In line with the Glyndŵr University Curriculum Framework, work experience is provided through modules that include work-based learning. This work-based learning will be in a placement, volunteering, summer work or overseas travel.

Travel, accommodation and subsistence on project and work placements will be at the student's expense. This expense will need to be taken into consideration when a student chooses a project or placement.

At Level 5, in the module Applied Project students will normally complete a minimum of 200 hours work-based learning. The placement may be in the form of paid employment or voluntary work.

Level 6 of the programme contains Practical Conservation Management. In this module, students undertake a minimum of 60 hours of, typically, voluntary conservation work with a wildlife or other conservation organisation.

The management of workplace learning is undertaken in accordance with the QAA Code of Practice for the assurance of academic quality and standards in higher education Section 9: Work-based and placement learning (QAA, 2007). Glyndŵr University 'Managing Health and Safety of Students on Placements in the United Kingdom' policy states that:

*'Placement organisations are employers in their own right and therefore must ensure as far as is reasonably practicable the health, safety and welfare of their employees. Students on placement are treated as employees and are owed a duty of care. Therefore the primary responsibility for meeting statutory health and safety requirements within a placement remains with the placement organisation'.*

*The main legislation which is relevant to this subject is the Health and Safety at Work, etc Act 1974, the Management of Health and Safety at Work Regulations 1999 and the Workplace (Health, Safety and Welfare) Regulations 1992.*

The programme leader will ensure that all placements are monitored directly by the module leader for the 2 work experience modules. It will be the responsibility of the module leader to ensure that the student and their workplace mentor are fully aware of their responsibilities, as outlined below, in meeting the requirements of the placement. Specifically:

Student:

- Agree with the Module Leader the suitability of the placed workplace provider and nature of the activities to be undertaken
- Negotiate the learning contract for the placement with the workplace employer and module leader
- Identify and manage learning opportunities within the placement with support from the module leader.
- Ensure workplace policies and procedures are adhered to at all times and ensure familiarity with relevant policies and procedures, e.g. lone working, handling of specialist equipment and working with specific populations.
- Act responsibly and professionally within the workplace provider.
- Maintain a safe environment and ensure health and safety measures.
- Maintain appropriate relationships with other organisational staff, participants



and volunteers.

- Maintain confidentiality at all times.
- Alert the workplace manager/mentor and the module leader to problems that may interfere with attainment of aims specified in the learning contract and/ or safety.

Employer manager / mentor:

- Attend induction and update events as required on an annual basis
- Completion of relevant health and safety documentation prior to commencement of the student placement
- Make arrangements for the required learning opportunities required by the student, prior to the commencement of the placement, as detailed in the agreed learning agreement devised with the student and module leader.
- Maintain regular contact with the module leader, attending mentor support study days as determined by the individual learning agreement.
- Enable students to have every opportunity to meet the agreed learning contract.
- Ensure student is fully inducted in all relevant policies and procedures to maintain a safe environment including; lone working, handling of specialist equipment and working with specific populations. Maintenance of a safe environment throughout the duration of the placement
- Liaise with the module leader to discuss the student's performance at designated reference points throughout the placement
- Complete a witness statement on completion of the placement.

Module leader:

- Ensure that health and safety checklists and workplace profiles have taken place prior to commencement of the work placement
- Confirm the qualifications and experience of the nominated Employer manager / mentor are appropriate to support the students' needs
- Maintain regular contact with the student and the workplace mentor/manager to discuss issues as they arise.
- Ensure that student has adequate access to learning tools and opportunities.
- Negotiate and agree the learning opportunities to be provided to the student, with the student and their employer manager/mentor.
- Ensure all learning outcomes can be addressed
- Provide training and on-going support to the employer manager/mentor.
- Provide modular support sessions to individual or groups of students on location.
- Maintain own development in monitoring of health and safety of placements and developing the role of the link tutor.
- Establish and encourage placement feedback from students and mentors and contribute to the development of quality assurance of placements.

These responsibilities will form the basis of an individually agreed student placement handbook developed within the 'Applied Project' module at level 5. Once an appropriate placement has been confirmed the module leader will contact the placement provider initially to confirm the nature of the activities to be undertaken during the proposed placement. Thereafter communication arrangements will be agreed as part of the learning agreement and as a minimum contact will be made monthly by the module leader to monitor progress. In the event of any concern expressed by either the student or their workplace mentor, the module leader will report immediately to the programme leader who will advise on the various courses of actions open to resolve any issues. The mentor will be required to complete a witness statement at the end of the placement to aid the student in the completion of their learner

journal.

If a student is unable to find a placement, or wishes to transfer from their placement, the module tutor will assist in finding a suitable placement. In cases where no suitable placement can be found, a work programme or simulated work programme will be developed to take place on the Northop campus.

Information on the conduct of the placements are provided to students. Details of this can be found in Appendix A – Departmental Student’s Guide. A similar Guide is supplied to placement providers.

The proposed venues for the delivery of the modules are given in the following table.

| <b>Module</b>  | <b>Originating Department</b> | <b>Delivery venue</b>             |
|--|-------------------------------|-----------------------------------|
| Level 4  |                               |                                   |
| Foundation zoological science                        | Biology                       | Northop                           |
| Plant form and function                              | Biology                       | Northop                           |
| Soils and the rooting environment                    | Biology                       | Northop                           |
| Field skills and identification                      | Biology                       | Northop                           |
| Ecology  | Chemistry                     | Plas Coch with Northop practicals |
| Groundfloor journalism (o)                           |                               | Plas Coch                         |
| Introduction to chemistry (o)                        | Chemistry                     | Plas Coch                         |
| Rural business practice (o)                          | Biology                       | Northop                           |
| Level 5  |                               |                                   |
| Applied Project (40 credits)                         | Biology                       | Northop                           |
| Research methodologies                               | Biology                       | Northop                           |
| Ecosystems   | Chemistry                     | Plas Coch with Northop practicals |
| Survey skills for conservation                       | Biology                       | Northop                           |
| Population biology and genetics                      | Biology                       | Northop                           |
| Level 6  |                               |                                   |
| Conservation policy                                  | Biology                       | Northop                           |
| Applied research skills and professional development | Biology                       | Northop                           |
| Research project 40 credits                          | Biology                       | Northop                           |
| Conservation biology                                 | Chemistry                     | Plas Coch with Northop practicals |
| Practical conservation management                    | Chemistry                     | Plas Coch with Northop practicals |

A minibus service runs regularly between Northop and Plas Coch and the timings will accommodate the programme timetable.

### **Welsh Medium Provision**

The BSc (Hons) Wildlife and Plant Biology will be delivered through the medium of English. Submission of coursework may take place using the Welsh language should Welsh be a student's first language. This is in line with Glyndŵr University's Welsh language policy.

11% of the curriculum could be delivered through the medium of Welsh if required using current staff.

In order to enhance students' employment prospects in Wales, language skills in Welsh may be desirable. The University offers Welsh language modules to both staff and students and these would be promoted to the students for them to access if required.

### **Education for Sustainable Development and Global Citizenship**

The requirement for ESDGC to be embedded in all modules and throughout the curriculum is included in the University Sustainable Development Strategy. The principles of ESDGC will underpin all modules. Environmental sustainability will be included in all modules. Social and economic sustainability will be taught particularly in Plant Form and Function, Soils and the Rooting Environment, Applied Project, Research Project and Research Methodologies. Global Citizenship will be given particular attention in Research Methodologies and Applied Research Skills and Professional Development.

The Programme Team has a strong background in ESDGC. The Programme Leader is a member of the University's Sustainability Action Forum, the ESDGC Committee of the Higher Education Academy (Wales), the Steering Group of UN Regional Centre of Expertise on ESDGC (Wales) and this organisation's Food Sub-Committee.

### **Assessment strategy used to enable outcomes to be achieved and demonstrated**

The approach to assessment has been guided by the QAA Code of Practice for the assurance of academic quality and standards in Higher Education (2006) (Section 6: Assessment of students).

The degree has been designed using explicit statements of intended learning outcomes. These have been linked to assessment criteria by which the completeness and quality of student achievement is judged. Assessment is seen by the programme team to be an integral part of effective teaching, providing valuable feedback to students on their progress and achievement.

The assessment strategy makes use of methods that most effectively assess the learning outcomes of each module. Reference has been made to Glyndŵr University's assessment guidance to facilitate deployment of a range of assessment methods. Assessment methods will align with the overall aims of the programme and include the development of disciplinary skills (such as critical evaluation at level six) and support the development of vocational competencies (such as communication or ICT skills.). The assessment practice has been

designed to ensure that, in order to pass the module and / or programme, students have to demonstrate they have achieved the intended learning outcomes. The precise format of assessed work, such as reports, essays or presentations, is presented to every student in a 'module guide,' and available for every module. The guides, issued at the start of each academic year, provide students with a range of information related to that module and include all coursework, with detailed assessment criteria provided for all assignments.

Assessments methods are varied (see Table "Assessment Methods"), designed to stretch-and-challenge all students, and to address complex and controversial issues. They are also designed so that the programme team is confident in the authenticity of student work. Assessments will offer equality of access and take account of all current regulations and legislations in relation to diversity and inclusion, including the Equality Act 2010. The assessment briefs issued for students will use plain language that is free from bias, and there will be no covert or overt discrimination in wording or content. Likewise there will be no barriers to achievement in the assessment requirements in terms of gender, age, race, sexual orientation and religion / belief.

All students are issued with an assessment schedule at the start of each academic year (see Table "Assessment Schedule"). The assessment schedule has been devised to minimise bunching of coursework, and is intended to help students plan ahead and organise their own study schedule to meet their individual needs. The Programme Team is committed to providing equality of opportunity for all students. Students registered with a disability or learning difference with Glyndŵr University Student Services may be eligible for additional support to take account of their individually assessed needs. This can be accessed via the Disability Team.

### Assessment Methods BSc (Hons) Wildlife and Plant Biology

|                             | Level 4                       |                         |                                   |                                 |         |                               | Level 5    |                                |                                 |                        |                 | Level 6  |                  |                     |                      |                                   |
|-----------------------------|-------------------------------|-------------------------|-----------------------------------|---------------------------------|---------|-------------------------------|------------|--------------------------------|---------------------------------|------------------------|-----------------|--|------------------|---------------------|----------------------|-----------------------------------|
|                             | Foundation Zoological Science | Plant Form and Function | Soils and the Rooting Environment | Field Skills and Identification | Ecology | Introduction to Chemistry (O) | Ecosystems | Survey Skills for Conservation | Population Biology and Genetics | Research methodologies | Applied Project | Applied Research Skills Professional Development | Research Project | Conservation Policy | Conservation Biology | Practical Conservation Management |
| Case study                  |                               | ✓                       |                                   |                                 |         |                               |            | ✓                              |                                 |                        |                 |  |                  |                     |                      | ✓                                 |
| Dissertation                |                               |                         |                                   |                                 |         |                               |            |                                |                                 |                        |                 | ✓  |                  |                     |                      |                                   |
| Essay                       | ✓                             |                         | ✓                                 |                                 |         | ✓                             | ✓          |                                | ✓                               |                        |                 |  | ✓                |                     |                      |                                   |
| Time constrained assessment |                               | ✓                       |                                   |                                 |         |                               |            |                                | ✓                               |                        |                 |  |                  |                     |                      |                                   |
| In-class test               |                               |                         |                                   |                                 |         | ✓                             |            |                                |                                 |                        |                 |  |                  |                     |                      |                                   |
| Examination                 |                               |                         |                                   |                                 |         |                               |            |                                |                                 |                        |                 |  |                  |                     |                      |                                   |
| Literature Review           |                               |                         |                                   |                                 |         |                               |            |                                |                                 |                        |                 | ✓  |                  |                     |                      |                                   |
| Oral Assessment             |                               |                         |                                   |                                 |         |                               |            |                                |                                 |                        | ✓               |  |                  |                     |                      |                                   |
| Portfolio                   | ✓                             |                         |                                   | ✓                               |         |                               |            |                                |                                 |                        | ✓               |  |                  |                     |                      |                                   |
| Practical                   |                               |                         | ✓                                 |                                 |         |                               |            | ✓                              |                                 |                        |                 |  |                  |                     |                      |                                   |
| Presentations               |                               |                         |                                   | ✓                               |         |                               |            |                                | ✓                               | ✓                      |                 |  | ✓                |                     |                      |                                   |
| Reflective Practice         |                               |                         |                                   |                                 |         |                               |            |                                |                                 | ✓                      |                 |  |                  |                     |                      | ✓                                 |
| Reports                     |                               |                         |                                   |                                 |         |                               | ✓          |                                |                                 | ✓                      |                 |  |                  |                     |                      |                                   |
| Research Proposal           |                               |                         |                                   |                                 |         |                               |            |                                | ✓                               |                        | ✓               |  |                  |                     |                      |                                   |
| Coursework                  |                               |                         |                                   |                                 | ✓       |                               |            |                                |                                 |                        |                 |  |                  | ✓                   |                      |                                   |

### Assessment Schedule for BSc (Hons) Wildlife and Plant Biology

|       |                                    | Level 4                       |                         |   |                                   |                                 |         | Level 5 (2014-15) |            |                                |                                 |                        | Level 6 (2015-16) |   |                  |                     |                      |                                   |
|-------|------------------------------------|-------------------------------|-------------------------|---|-----------------------------------|---------------------------------|---------|-------------------|------------|--------------------------------|---------------------------------|------------------------|-------------------|---|------------------|---------------------|----------------------|-----------------------------------|
|       |                                    | Foundation Zoological Science | Plant Form and Function |   | Soils and the Rooting Environment | Field Skills and Identification | Ecology | Option module     | Ecosystems | Survey Skills for Conservation | Population Biology and Genetics | Research methodologies | Applied Project   | Applied Research Skills and Personal and Professional | Research Project | Conservation Policy | Conservation Biology | Practical Conservation Management |
| 9     | 23 Sept 13                         |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 10    | 30 Sept 13                         |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 11    | 07 Oct 13                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 12    | 14 Oct 13                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 13    | 21 Oct 13                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 14    | 28 Oct 13                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   | ✓   |                  |                     |                      |                                   |
| 15    | 04 Nov 13                          |                               |                         |   |                                   |                                 |         |                   | ✓          |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 16    | 11 Nov 13                          |                               |                         | ✓ |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 17    | 18 Nov 13                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 18    | 25 Nov 13                          | ✓                             |                         |   |                                   |                                 |         | ✓                 |            |                                | ✓                               |                        |                   |   |                  | ✓                   |                      |                                   |
| 19    | 02 Dec 13                          |                               |                         |   |                                   |                                 | ✓       |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 20    | 09 Dec 13                          |                               |                         | ✓ |                                   |                                 |         |                   |            |                                | ✓                               |                        |                   | ✓   | ✓                |                     |                      |                                   |
| 21-23 | 16, 23, 30 Dec 13                  |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 24-26 | 06, 13, 20 Jan 14 (Directed Study) | ✓                             |                         |   |                                   |                                 |         |                   | ✓          |                                |                                 |                        |                   | ✓   |                  | ✓                   |                      |                                   |
| 27    | 27 Jan 14                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 28    | 03 Feb 14                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 29    | 10 Feb 14                          |                               |                         |   |                                   |                                 |         | ✓                 |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 30    | 09 Feb 14                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 31    | 24 Feb 14                          |                               |                         |   |                                   |                                 |         |                   |            |                                |                                 |                        |                   |   |                  |                     |                      |                                   |
| 32    | 03 Mar 14                          |                               |                         |   | ✓                                 |                                 |         |                   |            |                                |                                 | ✓                      |                   |   |                  |                     |                      |                                   |

|       |                        |  |  |  |   |   |  |   |  |   |  |   |   |  |   |  |   |   |
|-------|------------------------|--|--|--|---|---|--|---|--|---|--|---|---|--|---|--|---|---|
| 33    | 10 Mar 14              |  |  |  |   | ✓ |  |   |  |   |  |   |   |  |   |  |   |   |
| 34    | 17 Mar 14              |  |  |  |   |   |  |   |  | ✓ |  |   |   |  |   |  |   |   |
| 35    | 24 Mar 14              |  |  |  |   |   |  |   |  |   |  | ✓ |   |  |   |  | ✓ |   |
| 36    | 31 Mar 14              |  |  |  |   | ✓ |  | ✓ |  |   |  | ✓ |   |  |   |  |   |   |
| 37    | 07 Mar 14              |  |  |  | ✓ |   |  |   |  | ✓ |  |   | ✓ |  |   |  |   |   |
| 38-39 | 14 Apr 14<br>21 Apr 14 |  |  |  |   |   |  |   |  |   |  |   |   |  |   |  |   |   |
| 40    | 28 Apr 14              |  |  |  |   |   |  | ✓ |  |   |  |   | ✓ |  | ✓ |  |   | ✓ |

### **Assessment regulations that apply to the programme**

Academic Regulations for Bachelor Degrees, Diplomas, Certificates, and Foundation degrees apply to this programme.

For borderline classifications at least 50% of the credits at level six will fall within the higher classification, and the grade for the Research Project will be taken into account.

### **Programme Management**

The Programme Leader responsible for the BSc (Hons) Wildlife and Plant Biology will be Dr David Skydmore. Members of the programme team will include:

Dr Joss Bartlett  
Barry Hills  
Richard Lewis  
Rosie MacDiarmid  
Denise Wareham  
Dr Tamsin Young

The Programme Leader will have overall responsibility for the operation and development of the course. They will work closely with the various Module Leaders, Module Tutors, Personal Tutors and Administrative Support personnel to provide the day to day general academic support to students. The Programme Leader will also meet regularly with the Academic Head of Department if not as named above.

Though the majority of modules originate from the Department of Biology and Environment, several come from Department of Chemistry and an option from Humanities. Biology and Chemistry hold a joint Academic Subject Board monitoring quality and agreeing delivery arrangements. Teaching across departments is common practice in the Institute of Arts, Science and Technology that includes these three departments.

The Academic Subject Board will allow co-ordination of this programme with the courses with which some modules are shared i.e. Animal Studies, Equine Science, Rural Business, Geography, Ecology and Environment

Programme board meetings are held three times a year. The board consists of the programme team noted above, and the members of related programmes which are also considered at the meetings..

As well as matters raised by the programme team, the meetings consider the minutes from Staff-Student consultative committee meetings which are also held three times a year, and are attended by student representatives from each level of the programme.

Control of quality on the Wildlife and Plant Biology degree will conform to the procedures set out by Glyndŵr University's requirements for academic quality assurance, monitoring and review.

The monitoring and evaluation of academic standards will be achieved through a range of



methods that will ensure the appropriateness of the learning, teaching and assessment mechanisms. These will include the External Examiner system, moderation of assessed coursework, and peer observation of teaching.

The External Examiner will be key in quality regulation. Their input is sought prior to each module board (January and May), and during a visit to the university (usually May). They provide a written report during the Summer on their findings from the previous academic year. Feedback from the Programme Team will be sent to the External Examiner following receipt of the written report, and comments from the External Examiner's report will feed directly into the Annual Monitoring Report (AMR).

Feedback from students will also be an important mechanism for quality regulation on the degree programme. This will be achieved through the National Student Survey, Staff Student Consultative committees (SSCC), module feedback forms, and through informal tutorial discussion. Feedback from students will be acted on by incorporating their comments into Module Reports and then into the AMR and trying to follow up requests or comments where possible.

At a modular level quality management of delivery and assessment will be guaranteed through the moderation system. Assessed coursework will be moderated prior to feedback to students, and at level six all research projects will also be moderated by the external examiner. The ethics process will also help guarantee quality, in that all level six project proposals will be considered by the University Research Degrees Ethics Committee prior to any data collection. The Committee issues a calendar of meetings. Ethics proposals are prepared and submitted to the November meeting so that there is sufficient time for any corrections or modifications and data collection can start in the following trimester. Any ethics proposals requiring corrections will be completed by the student and overseen by their supervisor. Corrected ethics proposals will be resubmitted to the board for approval before the student starts their research.

Where students interact with employers' quality systems will be implemented. They will ensure health and safety, and will help inform the employer of the requirements of the placement and Glyndŵr University's requirements in supporting the student. Feedback from the employer will be gathered through liaison with the module tutor.

The quality of teaching, learning and assessment will also be guaranteed through peer observation, and identification of staff development needs. All staff will be subject to Glyndŵr University's Peer Observation scheme, being peer-observed annually. Staff development needs will be identified during an annual review of the programme and through the appraisal process.

Ongoing staff development and research will guarantee the proposed curriculum remains underpinned by scholarly activity and research. It will also ensure teaching is underpinned through combinations of theoretical knowledge; application and practice. Staff members are members of professional bodies, e.g. Society of Biology, Linnean Society of London, Royal College of Veterinary Surgeons, British Veterinary Association, Institute of Horticulture.

The Department of Biology and Environment is currently engaged in a number of research and consultancy projects which will benefit the programme through knowledge transfer and contact with industry and government. For example, the Rural Development Programme project "Horticulture Wales" works with over 800 rural and tourism businesses across Wales. Strategic Insight Partnership projects undertaken by programme staff this year include land planning and environmental interpretation with National Trust, communication planning with DRIP, Uganda and behavioural enrichment with Battersea Dogs' Home and North Clwyd Animal Rescue.

## Particular support for learning

Students will be encouraged to disclose any special learning needs from the outset of their entry onto the degree programme. This will be carried out on the UCAS or direct university application form or to a tutor once they have joined the degree. The induction week that will be held at the start of the degree at level four will also provide an opportunity to 'get to know' new students and for them to reveal any learning needs they may have. The week will be a mixture of imparting information, and social events, such as a visit to Ty Mawr Country Park. Should a special learning need be disclosed students will be directed to the Disability Team. Students on similar natural environment programmes have previously received help in the form of note takers in lectures, one to one help to compile coursework, or help from the team with specific needs such as Irlen syndrome or dyslexia.

All students will have access to tutorial support throughout their degree. This will take the form of group and individual tutorials. The PDP process will also formalise the tutorial system and ensure that specific checkpoints exist where students can obtain help should it be needed. The process will also enable tutors to support students should they feel help is necessary.

Study skills are integrated into all the modules and are monitored through tutorials and assessments. In the first trimester, assessments are scheduled so that the skills of writing, research and numeracy are monitored early in the programme through the modules of Foundation Zoological Science, Plant Form and Function, and Ecology. Additional study skills support can be requested by individual students from study support tutors in the Plas Coch Library. At level 5, study skills are further addressed particularly in the modules Applied Project and Research Methodologies, and at level 6 in the Research project and Applied Research Skills and Professional Development.

At level six the Applied Research Skills and Professional Development module will serve to help students monitor their progress on the final year of the degree programme, and help prepare them for future employment. Class based activities; guest speaker input, class discussion, and input from the careers department will facilitate module delivery and engage students with the module learning aims.

Students on the proposed programme will have use of both facilities at the Northop and Wrexham campuses. The Northop campus offers students IT facilities within a specially designed computer room and through open access in the common room. There is a library on site provided by Deeside College where Glyndŵr University students are able to use books for reference purposes. Students are provided; however, with a free shuttle bus between the Northop and Wrexham campuses (travelling between sites twice daily) so that full use can be made of the Wrexham library. Books can be returned to the Wrexham university library on the shuttle bus without the student accompanying them. All Northop based students are also provided with access to electronic resources through the university library site, and via an Athens password. At level six students will make use of SPSS for research purposes and this IT package is available in the Northop computer room.

Students on the proposed programme will make use of the excellent field study facilities provided at Glyndŵr University's Northop campus for learning, teaching, assessment, and research.

Glyndŵr University has appropriate health and safety procedures and insurance in place for working with animals, and procedures for gaining ethical approval for research using animals.

## **Equality and Diversity**

The programme team, within Dept. Biology and Environment, have a variety of established procedures and policies with respect to the learning support mechanism available to students, which are co-ordinated with strategies in place at the Institutional level. The team will be able to draw on their considerable experience of teaching students with differing needs, particularly dyslexia, and have a proven track record of working with students from a varied educational background, including mature students. If any student wishes to disclose a disability, learning difference, or particular medical need, they can get in touch with the University's Disability and Learning Support team. Services offered by this support team include educational support, welfare services, healthcare provision and disability services as well as practical services including photocopying and e-learning. The support team may choose to offer the students diagnostic testing to assess their learning needs before offering help.

In addition, the Admissions Team, and Admissions Tutors follow the University policies on Equality and Diversity.