1. **Title of the module**

WCON5030 (DI503) Evolutionary Genetics and Conservation

1. **Division or partner institution which will be responsible for management of the module**

Division of Human and Social Sciences

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 6

1. **The number of credits and the ECTS value which the module represents**

15 (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn or Spring

1. **Prerequisite and co-requisite modules**

None

1. **The course(s) of study to which the module contributes**

Optional for:

BSc in Wildlife Conservation (and cognate programs)

BSc Anthropology

BSc Biological Anthropology

BSc Human Biology and Behaviour

Not available as an elective module.

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1 Understand the different issues involved in evolutionary genetics from a theoretical standpoint

8.2 Gain knowledge of the practical tools available to measure genetic diversity and evolutionary distinctiveness for making conservation management decisions.

8.3 Understand and discuss in detail key topics regarding population genetics and conservation genetics.

8.4 Understand the fundamental ecological and biodiversity-related concepts and how they apply to wildlife conservation, especially in the context of evolutionary genetics within the broader remit of conservation biology and ecology.

8.5 Understanding the role of ecology in genetic problems associated with small population biology alongside evolutionary processes.

8.6 Interpret genetic data, relating to genetics in wildlife conservation issues, acquired for endangered species and relate this to behavioral data in the context of conservation biology.

1. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

9.1 Develop the ability of students to be aware of issues and practices involved with species conservation.

9.2 Develop student awareness of how evolutionary genetic processes can help to inform biodiversity conservation.

9.3 Enhance the ability of students to analyse and appraise conservation case studies.

9.4 Enhance the ability of students to interpret scholarly publications.

9.5 Assist development of student’s independent research skills

9.6 Gain knowledge through discussion seminars.

1. **A synopsis of the curriculum**

Genetics forms the basis of the diversity of life on earth, and is fundamental to biodiversity, speciation, evolutionary ecology, and has become recognized to be vital to the successful restoration of endangered species. An understanding of the evolutionary processes that foster biodiversity and genetic diversity is essential for modern conservation biologists, across timescales ranging from a few generations to millions of years. Students will gain an understanding of the importance of genetic processes and evolutionary mechanisms within the context of conservation.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

Frankham, R., Ballou, J. D. & Briscoe, D. A. (2002). Introduction to Conservation Genetics. Cambridge University Press.

Stearns, S. C. & Hoekstra, R. F. (2000). Evolution – An Introduction. Oxford University Press.

Landweber, L. F. & Dobson, A. P. (1999). Genetics and the extinction of species – DNA and the conservation of biodiversity. Princeton University Press, New Jersey.

Schluter, D. (2001) The Ecology of Adaptive Radiation. Oxford Series in Ecology & Evolution. Oxford University Press.

Grant, P. (2002). Ecology and Evolution of Darwin’s Finches. Princeton University Press.

Soule, M. E. (1987). Viable Populations for Conservation. Cambridge University Press.

1. **Learning and teaching methods**

Total contact hours: 24

Private study hours: 126

Total study hours: 150

1. **Assessment methods**
   1. Main assessment methods

Examination, 2 hour (100%)

13.2 Reassessment methods

Like for Like

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)***

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* | *8.6* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Lecture** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Seminar** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Private Study** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |
| Examination | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  |

1. **Inclusive module design**

The Division recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

Students will learn the different issues involved in evolutionary genetics and the practical tools for measuring genetic diversity for making conversation managements decisions. This knowledge can be applied on an international scale, as they come to understand the issues and practices involved with managing protected areas and challenges faced in priority-setting for conservation.

**DIVISIONAL USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

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| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 06.08.21 | Minor | Sept 21 | 6,7,9,12 | No |
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