1. **Title of the module**

BICC5290 (BI529) Genetics and Animal Breeding

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

School of Biosciences/East Kent College Group

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

Level 5

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

15 credits (7.5 ECTS)

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

Autumn & Spring & Summer

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

BICC3110 (BI311) Animal Husbandry

1. **The programmes of study to which the module contributes**

HND/C Applied Animal Science

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
2. Explain the principles of Mendelian genetics and calculate predicted results
3. Critically discuss the importance of an understanding of genetic effects in populations
4. Evaluate the methods and tools available for use in the selection of breeding stock
5. Evaluate modern practice in the management of breeding animals
6. Investigate the organisation of breeding operations
7. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
8. Demonstrate critical thinking skills
9. Work with complex material
10. Analyse problems and identify appropriate solutions
11. Demonstrate communication and report writing skills
12. Scan and organise data, abstract meaning from information and share knowledge with others
13. Demonstrate effective self-management skills
14. Use ICT to calculate predicted results and present them appropriately
15. **A synopsis of the curriculum**

An understanding of genetics has profound advantages for an animal breeder, but it is also extremely important in other areas of animal science and management, such as conservation, veterinary science and welfare. This module introduces the principles of genetics and explores genetic effects in individuals and populations. A number of authentic genetic examples are considered in theory and in their application.

The use of genetic and other information in selecting animals suitable for breeding from is then investigated before moving on to survey applied aspects of the management of breeding males and females and their offspring.

Students will be expected to apply their knowledge ‘hands on’ in order to understand fully the practical alternatives for appraisal of the systems and procedures in use. This will focus on the differences between managing breeding and youngstock and managing non-breeding animals, and this module will therefore relate closely to other modules, in particular Animal Husbandry.

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

Bowling A.T (1996) *Horse Genetics,* CABI

Bourdon R.M (1997) *Understanding Animal Breeding,* Prentice-Hall

Evans J.M and White K (1997) *The Book of the Bitch,* Ringpress Books

Gower J (1999) *Horse Colour Explained: A Breeder’s Perspective,* Crowood Press

Jones S (2000) *The Language of the Genes,* Flamingo

Nicholas F.W (1995) *Veterinary Genetics,* OUP

Rossdale P (2003) *Horse Breeding,* David and Charles

Thear K (1997) *Incubation: a guide to hatching and rearing,* Broad Leys Publishing

Vella C.M, Shelton L.M, McGonagle J.J and Stanglein T.W (1999) *Robinson’s Genetics for Cat Breeders and Veterinarians,* 4th ed, Butterworth Heinemann

Willis M.B (1998) *Dalton’s Introduction to Practical Animal Breeding,* 4th ed, Blackwell Science

1. **Learning and Teaching Methods, including nature and number of contact hours and total study hours which will be expected of students, and how**

**Learning and teaching methods**

Total contact hours: 45

Private study hours: 105

Total study hours: 150

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

Examination - 50%

Written assignment (3,000 words) - 50%

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* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* | *9.7* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** |  |
| *Lectures* | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  |  |  |  |  |
| *Seminars* |  | **x** |  |  |  | **x** | **x** |  | **x** | **x** |  |  |
| *Workshops* | **x** |  |  |  | **x** | **x** | **x** | **x** |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |
| *Essay* | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| *Examination* | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** |

1. **Inclusive module design**

The Partner Institution 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 College

1. **Internationalisation**
2. Conservation and preservation of species genetics is a global issue. Students are encouraged to consider these issues in a range of international perspectives. Breeding of animals is a global effort, students are encouraged to research different approached to breeding globally.
3. **Partner College/Validated Institution**

East Kent College Group

1. **University School responsible for the programme**

School of Biosciences

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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Revised FSO Feb 2018