University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Animal Genetics					
Module Code	UINXNV-15-1		Level	1	Version	1.2
UWE Credit Rating	15	ECTS Credit Rating	7.5	WBL module?	No	
Owning Faculty	Hartpury		Field	Animal and Land Science		
Department	Animal and Land		Module Type	Standard		
Contributes towards	BSc (Hons) Animal Behaviour and Welfare BSc (Hons) Animal Science BSc (Hons) Animal Science (SW) BSc (Hons) Applied Animal Science BSc (Hons) Applied Animal Science (SW) BSc (Hons) Applied Animal Science with Therapy BSc (Hons) Applied Animal Science with Therapy (SW) BSc (Hons) Bioveterinary Science BSc (Hons) Equine Science BSc (Hons) Equine Science (SW) BSc (Hons) Equine Science with Therapy BSc (Hons) Equine Science with Therapy (SW) MSci Animal Behaviour and Welfare MSci Equine Science MSci Equine Science (SW)					
Pre-requisites	None		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements	None		
Valid From	01 September 2015		Valid to	01 September 2021		

CAP Approval Date	03 February 2015

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1. Discuss factors that will affect rates of genetic progress within breeding populations. (A) 2. Show knowledge of inherited conditions of companion animals, production animals and equine species. (A) 3. Understand responses to selection. (A)

	4. Explain the processes by which genetic material is transmitted. (A) 5. Explain and apply the principles of qualitative trait genetics compared to quantitative traits. (A) 6. Demonstrate understanding of theoretical and practical aspects of Mendelian genetics and apply them to the inheritance of traits. (A)
Syllabus Outline	• Colour inheritance, inherited defects, desirable traits. • Mendelian inheritance. • Principles of Mendelian inheritance and variation. • Chromosomes, genes, random inheritance, dominance and epistasis, linkage. • The genetic model for quantitative traits. • Application of statistics to quantitative trait. • Variation and prediction. • Heritability and repeatability. • Factors affecting the rate of genetic change. • Genetic prediction. • Methods. • Best Linear Unbiased Prediction (BLUP). • Restricted Maximum Likelihood (REML). • Correlated response to selection. • Multiple trait selection.
Contact Hours	Indicative delivery modes: • Lectures, guided learning, seminars etc. 33 • Self directed study 3 • Independent learning 114 TOTAL 150
Teaching and Learning Methods	A variety of learning strategies will be used including lectures and seminars, and self-directed learning. Students will also be expected to engage in independent learning throughout the module. **Scheduled learning** Includes lectures, seminars, tutorials and workshops. **Independent learning** Includes hours engaged with essential reading, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below. **Virtual learning environment (VLE)** or equivalent This specification is supported by a VLE where students will be able to find all necessary module information. Direct links to information sources will also be provided from within the VLE.
Key Information Sets Information	Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.

Key Information Set - Module data

Number of credits for this module 15

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
150	36	114	0	150

	The table below indicates as a percentage the total assessment of the module which constitutes a - **Written Exam**: Unseen written exam, open book written exam, In-class test **Coursework**: Written assignment or essay, report, dissertation, portfolio, project **Practical Exam**: Oral Assessment and/or presentation, practical skills assessment, practical exam Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description: Total assessment of the module: Written exam assessment percentage 0% Coursework assessment percentage 0% Practical exam assessment percentage 100% 100%
Reading Strategy	**Essential readings** Any essential reading will be indicated clearly, along with the method for accessing it, e.g. students may be required to purchase a set text, be given a print study pack or be referred to texts that are available electronically or in the Library. Module guides will also reflect the range of reading to be carried out. **Further readings** Further reading will be required to supplement the set text and other printed readings. Students are expected to identify all other reading relevant to their chosen topic for themselves. They will be required to read widely using the library search, a variety of bibliographic and full text databases, and internet resources. Many resources can be accessed remotely. The purpose of this further reading is to ensure students are familiar with current research, classic works and material specific to their interests from their academic literature. **Access and skills** Formal opportunities for students to develop their library and information skills are provided within the induction period and student skills sessions. Additional support is available through online resources. This includes interactive tutorials on finding books and journals, evaluation information and referencing. Sign up workshops are also offered.
Indicative Reading List	The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms, including the module guide. Books Bourdon, R.M. (Current Edition) *Understanding animal breeding*. London: Prentice-Hall International. Bowling, A.T. and Ruvinsky, A. (Current Edition) *The genetics of the horse*. Wallingford: CAB International. Fries, R. and Ruvinsky, A. (Current Edition) *The genetics of cattle*. Wallingford: CAB International. Guttman, B., Griffiths, A., Suzuki, D. and Cullis, T. (Current Edition) *Genetics: a beginner's guide*. Oxford: Oneworld Publications.

	Nicholas, F.W. (Current Edition) *Introduction to veterinary genetics*. Oxford: Oxford University Press. Simm, G. (Current Edition) *Genetic improvement of cattle and sheep*. Ipswich: Farming Press. Sponenberg, P. (Current Edition). *Equine color genetics*. Iowa, U.S.A: Iowa State Press. Willis, M.B. (Current Edition) *Dalton's introduction to practical animal breeding*. Oxford: Blackwell Science. Winter, P.C., Hickey, G.I. and Fletcher, H.L. (Current Edition) *Instant notes in genetics*. Oxford: BIOS Scientific Publishers Ltd.

Part 3: Assessment	
Assessment Strategy	Formative inclass tests will be used to provide feedback on strengths and weaknesses, as well as to underpin the application of principles and theories in the later assessment. The group oral assessment has been chosen so as to allow the knowledge and intellectual skills gained throughout the module to be assessed in a controlled setting allowing the students to express their oral communication skills. Furthermore, assessing as a group encourages development of interpersonal and organisational skills, as well as teamwork. Individual marks will be awarded. Formative feedback can be gained from this module in the module delivery, on the VLE, in tutorials and in revision sessions. Summative feedback can be gained upon assignment and following the oral assessment. In line with the College's commitment to facilitating equal opportunities, a student may apply for alternative means of assessment if appropriate. Each application will be considered on an individual basis taking into account learning and assessment needs. For further information regarding this please refer to the VLE.

Identify final assessment component and element	**Oral presentation**	
% weighting between components A and B (Standard modules only)	**A:** **100%**	**B**: **0%**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral presentation (20 minutes)	100%

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral presentation (20 minutes)	100%
If a student is permitted a retake of the module under the University Regulations and Procedures, the assessment will be that indicated by the Module Description at the time that retake commences.	