uwe hartpury

MODULE CODE:	UIN XGV-10-1	**MODULE VERSION:** 2.1
MODULE TITLE:	ANIMAL GENETICS	
LEVEL:	1	
UWE CREDIT RATING:	10	
ECTS CREDIT RATING:	5	
MODULE TYPE:	STANDARD	
OWNING FACULTY:	HARTPURY	
FIELD:	Animal and Land Sciences	
VALID FROM:	22 June 2011	
DISCONTINUED FROM:		
PRE-REQUISITES:	None	
CO-REQUISITES:	None	
EXCLUDED COMBINATIONS:	UIN VGV-10-1: Animal Genetics; UIE VAL-10-1: Equine Genetics; UIE XAL-10-1: Equine Genetics	

LEARNING OUTCOMES:

At the end of this module the student should be able to:

A.   *Knowledge and understanding*
1.   Discuss factors that will affect rates of genetic progress within breeding populations(A);
2.   Show knowledge of inherited and congenital conditions of companion animals, production animals and equine species (A);
3.   Understand responses to selection (A).

B.   *Intellectual skills*
1.   Explain the processes by which genetic material is transmitted (A, B).
2.   Explain and apply the principles of qualitative trait genetics compared to quantitative traits (A).

C.   *Subject/professional and practical skills*
1.   Demonstrate understanding of theoretical and practical aspects of Mendelian genetics and apply them to the inheritance of traits (A, B).

D.   *Transferable skills and other attributes*
1.   Communicate clearly in a written format within time constraints and in a high pressure environment (A);
2.   Make decisions and form judgments within time constraints and in a high pressure environment (B);
3.   Communicate technical information clearly in a written format using an appropriate computer word processing package (B).

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 traits

Variation and prediction

Heritability and repeatability

Factors affecting the rate of genetic change

Genetic prediction:

Methods

BLUP

REML

Correlated response to selection

Multiple trait selection.

The above topics will be considered using examples from a range of animals, including agricultural, companion, equids, reptiles, rodents.

TEACHING & LEARNING METHODS:

A variety of learning strategies will be used which may include lectures, tutorials, and e-learning.

READING STRATEGY:

Essential Reading

Any essential reading will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given a 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 Reading

Further reading is advisable for this module, and students will be encouraged to explore at least one of the titles held in the library on this topic. A current list of such titles will be given in the module handbook and revised annually.

Access and Skills

Formal opportunities for students to develop their library and information skills are provided within the induction period and the GDP. Additional support is available through iSkillZone. This includes interactive tutorials on finding books and journals, evaluating information and referencing. Sign up workshops are also offered by the Library.

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. CURRENT advice on additional reading will be available via the module handbook or Blackboard pages.

Bourdon, R.M. (Current Edition) *Understanding animal breeding*. London: Prentice-Hall International.

Bowling, A.T. & Ruvinsky, A. (Current Edition) *The genetics of the horse*. Wallingford: CAB International.

Fries, R. & Ruvinsky, A. (Current Edition) *The genetics of cattle*. Wallingford: CAB International.

Guttman, B., Griffiths, A., Suzuki, D. & 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. & Fletcher, H.L. (Current Edition) *Instant notes in genetics*. Oxford: BIOS Scientific Publishers Ltd.

Websites and databases:

The above sources give an indication of the area of study involved. Although students may be directed to some specific titles, they will also be encouraged to identify other relevant material for themselves.

Module Name **Animal Genetics**
Module Code **UIN XGV-10-1**

ASSESSMENT

In line with the College's commitment to facilitating equal opportunities, a student may apply to the Learning Teaching and Assessment Committee (LTAC) 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 Virtual Learning Environment (VLE).

Weighting between components A and B (standard modules only)	**A:**	**50%**
	B:	**50%**

FIRST ATTEMPT
First Assessment Opportunity
Description of assessment elements

Component A	**Type**	**Length**	**Element Weighting**
1	Examination	1 hour	100%

Component B			
1	Leaflet	1000 words	100%

FIRST ATTEMPT
Second Assessment Opportunity
Further attendance at taught classes is not required
Description of assessment elements

Component A	**Type**	**Length**	**Element Weighting**
1	Examination	1 hour	100%

Component B			
1	Leaflet	1000 words	100%

SECOND (or subsequent) ATTEMPT
Attendance at taught classes is not required for a second or subsequent attempt

Specification confirmed by:

Role: Chair of FVP

Date: 22/06/11