

## MAGB104 Principles of Animal Production

ECTS Value: 5 ECTS  
Self-Study Hours: 90

Contact Hours: 25  
Assessment Hours: 10

### Overall Objectives and Outcomes

An understanding of animal production systems underpins many careers within the food industry. Globally, livestock production is the largest user of agricultural land and demand for animal products is also expected to continue to increase. Within this context, this unit aims to provide students with an understanding of the key basic principles of animal and aquatic production systems to allow them to run such activities in a school and/or farm environment. Topics discussed include animal genetics and physiology, livestock breeding, nutritional requirements, housing and feeding systems, and diseases and disorders.

By the end of this module, the learner will be able to:

#### Competences:

- a. identify potential problems during reproduction of a given species;
- b. implement farm operations for one farm animal;
- c. recognise the symptoms of the most important diseases for one farm animal;
- d. recognise the symptoms of the most important fish diseases and disorders;

#### Knowledge:

- a. identify different types of genetic materials in living organisms;
- b. describe the mechanisms of inheritance and sex determination;
- c. describe farm operations for one farm animal;
- d. describe the housing requirements for meeting the animal needs and welfare standards;
- e. outline morphological differences of ornamental and edible fish species;
- f. describe the nutritional requirements of different ornamental and edible fish species;
- g. describe the nutritional requirements of different fish species at different life stages;
- h. describe the correct treatment to control the most common ornamental and edible fish diseases and disorders.

#### Skills:

- a. discuss the theory of evolution by natural selection;

- b. analyse the factors that influence mate selection in a given species;
- c. recognise the symptoms of key diseases and disorders for a given livestock species;
- d. recognise the symptoms of key diseases and disorders for a given ornamental and edible fish species;
- e. perform routine tasks in the maintenance and upkeep of a fish tank

## Assessment Methods

This module will be assessed through: Project-Based Assignments.

## Suggested Readings

### Core Reading List:

1. Klug, W.S., Cummings, M.R. and SPENCER, C.A. (2007) Essentials of Genetics. 6th edn. San Francisco: Benjamin Cummings.
2. Williams, J. (2009) The Complete Textbook of Animal Health and Welfare. Saunders, Elsevier.
3. Aland A, Banhazi T (2013) Livestock Housing. Wageningen Academic Pub.
4. Kellems R.O., Church, D.C. (2010) Livestock Feeds and Feeding, Englewood Cliffs, New Jersey: Prentice-Hall Inc.
5. Benson GJ, Rollin BE. (2008) The Well-Being of Farm Animals: Challenges and Solutions. John Wiley & Sons.
6. Bourdon, R.M. (1999) Understanding Animal Breeding. New Jersey: Prentice Hall.
7. Holt, W.V., Pickard, A.R., Rodger, J.C. and Wildt, D.E. (2002) Reproductive Science and Integrated Conservation. Cambridge: Cambridge University Press.
8. Reece, W.O. and Rowe, E.W. (2017) Functional Anatomy and Physiology of Domestic Animals. 5th edn. Chichester: Wiley.
9. Tortora, G.J. and Derrickson, B.H. (2014) Principles of Anatomy and Physiology. 14th edn. Chichester: Wiley.
10. Hart, P.J.B. and Reynolds, J.D. (Ed) (2002) Handbook of Fish Biology and Fisheries: Fish Biology. Oxford: Blackwell Publishing.
11. Lucas, J.S. and Southgate, P.C. (Ed) (2003) Aquaculture: Farming aquatic animals and plants. Oxford: Wiley-Blackwell.
12. Aiello, S.E. and Moses, M.A. (2016) The Merck Veterinary Manual, 11th Edition. Merck Manuals.
13. Smith, T.H. (2018) Storey's Guide to Raising Beef Cattle, 4th Edition. Storey Publishing

### Supplementary Reading List:

1. Hafez, E.S.E. and Hafez, B. (2000) *Reproduction in Farm Animals*. Lippincott, Philadelphia: Williams & Wilkins.
2. Akers, R.M. and Denbow, D.B. (2013) *Anatomy & Physiology of Domestic Animals*. 2nd edn. Chichester: Wiley.
3. Dalton, C. and Willis, M.B. (1998) *Introduction to Practical Animal Breeding*. Oxford: Blackwell.