The Further Education and Training Awards Council (FETAC) was set up as a statutory body on 11 June 2001 by the Minister for Education and Science.
Under the Qualifications (Education & Training) Act, 1999, FETAC now has responsibility for making awards previously made by NCVA.

Module Descriptor

Animal Anatomy and Physiology

Level 5    C20153

www.fetac.ie
# Level 5 Module Descriptor

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<td>Describes how the module functions as part of the national vocational certificate framework.</td>
</tr>
<tr>
<td><strong>Module Title</strong></td>
<td>Indicates the module content. This title appears on the learner’s certificate. It can be used to download the module from the website <a href="http://www.fetac.ie">www.fetac.ie</a>.</td>
</tr>
<tr>
<td><strong>Module Code</strong></td>
<td>An individual code is assigned to each module; a letter at the beginning denotes a vocational or general studies area under which the module is grouped and the first digit denotes its level within the national vocational certificate framework.</td>
</tr>
<tr>
<td><strong>Level</strong></td>
<td>Indicates where the module is placed in the national vocational certificate framework, from Level 3 to Level 6.</td>
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<td>Denotes the amount of credit that a learner accumulates on achievement of the module.</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Describes in summary what the learner will achieve on successfully completing the module and in what learning and vocational contexts the module has been developed. Where relevant, it lists what certification will be awarded by other certification agencies.</td>
</tr>
<tr>
<td><strong>Preferred Entry Level</strong></td>
<td>Recommends the level of previous achievement or experience of the learner.</td>
</tr>
<tr>
<td><strong>Special Requirements</strong></td>
<td>Usually ‘none’ but in some cases detail is provided here of specific learner or course provider requirements. There may also be reference to the minimum safety or skill requirements that learners must achieve prior to assessment.</td>
</tr>
<tr>
<td><strong>General Aims</strong></td>
<td>Describe in 3-5 statements the broad skills and knowledge learners will have achieved on successful completion of the module.</td>
</tr>
<tr>
<td><strong>Units</strong></td>
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</tr>
<tr>
<td><strong>Specific Learning Outcomes</strong></td>
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</tr>
<tr>
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<td>Provides details on how the learning outcomes are to be assessed.</td>
</tr>
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<td>Provides details of the grading system used.</td>
</tr>
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<td>List the assessment criteria for each assessment technique and the marking system.</td>
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<td><strong>Module Results Summary Sheet</strong></td>
<td>Records the marks for each candidate in each assessment technique and in total. It is an important record for centres of their candidate’s achievements.</td>
</tr>
<tr>
<td><strong>Appendices</strong></td>
<td>Can include approval forms for national governing bodies.</td>
</tr>
<tr>
<td><strong>Glossary of Assessment Techniques</strong></td>
<td>Explains the types of assessment techniques used to assess standards.</td>
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<td><strong>Assessment Principles</strong></td>
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Introduction

A module is a statement of the standards to be achieved to gain a FETAC award. Candidates are assessed to establish whether they have achieved the required standards. Credit is awarded for each module successfully completed.

The standards in a module are expressed principally in terms of specific learning outcomes, i.e. what the learner will be able to do on successful completion of the module. The other elements of the module - the purpose, general aims, assessment details and assessment criteria - combine with the learning outcomes to state the standards in a holistic way.

While FETAC is responsible for setting the standards for certification in partnership with course providers and industry, it is the course providers who are responsible for the design of the learning programmes. The duration, content and delivery of learning programmes should be appropriate to the learners’ needs and interests, and should enable the learners to reach the standard as described in the modules. Modules may be delivered alone or integrated with other modules.

The development of learners’ core skills is a key objective of vocational education and training. The opportunity to develop these skills may arise through a single module or a range of modules. The core skills include:

- taking initiative
- taking responsibility for one’s own learning and progress
- problem solving
- applying theoretical knowledge in practical contexts
- being numerate and literate
- having information and communication technology skills
- sourcing and organising information effectively
- listening effectively
- communicating orally and in writing
- working effectively in group situations
- understanding health and safety issues
- reflecting on and evaluating quality of own learning and achievement.

Course providers are encouraged to design programmes which enable learners to develop core skills.
Module Title: Animal Anatomy and Physiology

Module Code: C20153

Level: 5

Credit Value: 1 credit

Purpose: This module is designed to provide the learner with the relevant knowledge of the structure and the function of the animal body to enable the learner to provide better animal care.

Preferred Entry Level: Level 4 Certificate, Leaving Certificate or equivalent qualifications and/or relevant life and work experiences.

Special Requirements: None.

General Aims: Learners who successfully complete this module will:

8.1 know the structure and function of the animal body
8.2 develop an understanding of how the animal body functions as an entity
8.3 be aware of common disorders of the animal systems
8.4 understand the main differences in the anatomy and physiology of different species.

Units: The specific learning outcomes are grouped into 9 units.

Unit 1: Introduction to Anatomy and Physiology
Unit 2: Skeletal and Muscular Systems
Unit 3: Circulatory System
Unit 4: Animal Respiratory System
Unit 5: Digestive System
Unit 6: Urinary System
Unit 7: Reproductive Systems
Unit 8: Skin System
Unit 9: Animal Nervous and Endocrine Systems
10 Specific Learning Outcomes

Unit 1 Introduction to Anatomy and Physiology

Learners should be able to:
10.1.1 differentiate between anatomy and physiology
10.1.2 define the following terms; cell, tissue, organ, system
10.1.3 outline the role of cells, tissues and organs in the formation of an organism
10.1.4 examine typical animal cells and tissues under the microscope and describe their structure and the function.

Unit 2 Skeletal and Muscular Systems

Learners should be able to:
10.2.1 list the functions of the skeleton
10.2.2 outline the composition of bone and cartilage
10.2.3 distinguish between bone and cartilage
10.2.4 identify the major categories of joints and give examples of each type
10.2.5 identify the main bones in the axial skeleton of at least one species
10.2.6 identify the main bones in the appendicular skeleton of at least one species
10.2.7 differentiate between different types of muscle and give examples of each
10.2.8 outline the function of ligaments and tendons
10.2.9 outline the interaction between the skeletal and muscular systems of the animal in body movement
10.2.10 describe the main differences between animal and avian skeletal and muscular systems.

Unit 3 Circulatory System

Learners should be able to:
10.3.1 outline the main functions of the circulatory system
10.3.2 dissect out the heart, main veins and arteries of an animal
10.3.3 identify the main components of the circulatory system of at least one animal species
10.3.4 list the main functions of the organs of the circulatory system
10.3.5 list the main constituents of animal blood
10.3.6 list the main functions of animal blood
10.3.7 discuss the role of a blood analysis in monitoring animal health
10.3.8 describe the role of arteries, veins and capillaries in animal blood circulation
10.3.9 list the functions of the lymphatic system in an animal
10.3.10 explain the relationship between the blood system and the lymphatic system
10.3.11 list common ailments of the circulatory system and describe their associated symptoms and prevention.

Unit 4  Animal Respiratory System

Learners should be able to:

10.4.1 outline the main functions of the respiratory system
10.4.2 dissect out the respiratory system of at least one animal
10.4.3 identify the main components of the respiratory system of at least one animal species
10.4.4 explain the role of muscles in inspiration and in expiration
10.4.5 measure the respiratory rate of at least one animal species
10.4.6 describe the factors that can affect the respiratory rate of animals
10.4.7 list common ailments of the respiratory system and describe their associated symptoms and prevention.

Unit 5  Digestive System

Learners should be able to:

10.5.1 dissect out the main components of the digestive system and the alimentary tract at least one animal species
10.5.2 identify the main components of the digestive system and the alimentary tract a number of species (ruminant, monogastric, avian)
10.5.3 list the function of each organ of the digestive system
10.5.4 explain the role of enzymes, micro organisms and mechanical action in the digestion of proteins, carbohydrates and fats
10.5.5 define the following terms:
   - ingestion
   - digestion
   - absorption
   - assimilation
   - egestion
10.5.6 explain the functions of the different types of teeth
10.5.7 list the common ailments of the digestive system and describe their associated symptoms and prevention.

10.5.8 describe the main differences between the digestive systems of different types of animals.

Unit 6 Urinary System

*Learners should be able to:*

10.6.1 identify the main components of the urinary system of at least one animal species.

10.6.2 dissect out the main components of the urinary system of at least one animal species.

10.6.3 outline the main functions of each organ of the urinary system.

10.6.4 describe how the kidney manufactures urine.

10.6.5 describe the role of the urinary system in maintaining body homeostasis.

10.6.6 list the common ailments of the urinary system and describe their associated symptoms and prevention.

Unit 7 Reproductive System

*Learners should be able to:*

10.7.1 identify the main components of the male and female reproductive system of at least one animal species.

10.7.2 dissect out the main components of the reproductive system (male and female) one animal species.

10.7.3 outline the main functions of each organ of the male and female reproductive system.

10.7.4 explain the following terms:

- castration
- insemination
- fertilisation
- crossbreeding
- hybrids

10.7.5 identify the signs of females in season.

10.7.6 state the age and the time of year at which different animal species will come into season.

10.7.7 describe the oestrous cycle of at least one animal.
10.7.8 outline the role played by the following in the control of the oestrous cycle:
   - hormones
   - photoperiod

10.7.9 describe the main differences in the reproductive system of an animal and avian

10.7.10 list the common ailments of the reproductive system and describe their associated symptoms and prevention.

Unit 8 Skin System

Learners should be able to:

10.8.1 identify the main components of the skin system of at least one animal species

10.8.2 outline the main functions of the skin

10.8.3 outline the genetic factors involved in the inheritance of coat colour and type

10.8.4 list the common ailments of the skin system and describe their associated symptoms and prevention.

Unit 9 Animal Nervous and Endocrine Systems

Learners should be able to:

10.9.1 identify the main components of the nervous system of at least one animal species

10.9.2 describe the role of the brain and the spinal cord in the nervous system

10.9.3 define the following terms:
   - nerve
   - reflex action
   - Autonomic
   - Nervous System
   - Central Nervous System
   - Peripheral Nervous System

10.9.4 explain the importance of the following senses to an animal:
   - smell
   - touch
   - taste
   - sight
   - sound
10.9.5 list sources of stress for an animal
10.9.6 outline how the animal may react both physiologically and psychologically to stress
10.9.7 locate the position of the main endocrine glands of at least one animal species
10.9.8 describe the difference between endocrine and exocrine glands
10.9.9 list the main hormones produced by each gland
10.9.10 list the functions of each hormone identified in 10.9.9
10.9.11 differentiate between a nervous response and a hormonal response
10.9.12 list the common ailments of the nervous system and describe their associated symptoms and prevention
10.9.13 list the common ailments of the endocrine system and describe their associated symptoms and prevention.

11 Portfolio of Assessment

Please refer to the glossary of assessment techniques and the note on assessment principles at the end of this module descriptor.
All assessment is carried out in accordance with FETAC regulations.
Assessment is devised by the internal assessor, with external moderation by FETAC.

Summary

<table>
<thead>
<tr>
<th>Examination (Theory-Based)</th>
<th>50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills Demonstration</td>
<td>30%</td>
</tr>
<tr>
<td>Learner Record</td>
<td>20%</td>
</tr>
</tbody>
</table>

11.1 Examination

The internal assessor will devise a theory-based examination that assesses the candidate’s ability to recall and apply theory and understanding, requiring responses to a range of question types, short answer and structured. These questions may be answered in different media such as in writing or orally.

The examination will be based on a range of specific learning outcomes and will be 2 hours in duration.
The format of the examination will be as follows:

Section A
12 short answer questions.
Candidates are required to answer 10 (2 marks each).

Section B
4 structured questions.
Candidates are required to answer 3 (10 marks each).

11.2 Skills Demonstration
In one or more skills demonstrations, candidates will be assessed in a broad range of practical skills and knowledge while carrying out at least 4 practical investigations. The practical investigations will be based on a range of specific learning outcomes.

Candidates will demonstrate adherence to safe working practices throughout the skills demonstration(s) and will maintain a primary record of results and/or observations and any other influencing factors as part of the skills demonstration.

The skills can be assessed at any time throughout the learning process.

11.3 Learner Record
A personal laboratory notebook will be compiled by candidates.

It will include the laboratory reports of at least 5 practical investigations completed by the candidate. The laboratory report will describe all stages of the procedure from set up to collection of data and conclusions. The aims of each investigation will also be included, as well as a description of the materials and methodology used, a record of all results and observations, and an analysis of the findings.

The primary record of results and/or observations and any additional information completed during each of the practical investigations reported will be included.

12 Grading

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Pass</td>
<td>50 - 64%</td>
</tr>
<tr>
<td>Merit</td>
<td>65 - 79%</td>
</tr>
<tr>
<td>Distinction</td>
<td>80 - 100%</td>
</tr>
</tbody>
</table>
Candidate Name: _______________________________  PPSN: ________________________  
Centre: __________________________________________________  Centre No.: _________

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Maximum Mark</th>
<th>Candidate Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section A: short answer questions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 short answer questions, answer 10 (2 marks each)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Indicate questions answered)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question No.:*</td>
<td>2</td>
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</tbody>
</table>

**Subtotal**  20

| **Section B: structured questions**                      |              |                |
| 4 structured questions, answer 3 (10 marks each)        |              |                |
| (Indicate questions answered)                            |              |                |
| Question No.:*                                           | 10           |                |
| ______                                                   | 10           |                |
| ______                                                   | 10           |                |

**Subtotal**  30

**TOTAL MARKS**  50

*This mark should be transferred to the Module Results Summary Sheet*

Internal Assessor’s Signature: _______________________________ Date: ____________

External Authenticator’s Signature: _______________________________ Date: ____________
Candidate Name: _____________________________  PPSN: ___________________________
Centre: _________________________________________________  Centre No.: ____________

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Maximum Mark</th>
<th>Candidate Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skills Demonstration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• effective execution of practical investigations including adherence to health and safety procedures</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>• accurate recording of measurements and/or observations</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td><strong>Learner Record</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• accurate description of aims, materials and methodology</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>• concise record of results and/or observations, including a primary record</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>• comprehensive analysis of results and/or interpretation of observations</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>• logical conclusions based on results and/or observations</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL MARKS**

50

*This mark should be transferred to the Module Results Summary Sheet*

Internal Assessor’s Signature: _____________________________  Date: ____________

External Authenticator’s Signature: ____________________________  Date: ____________
FETAC Module Results Summary Sheet

Module Title: Animal Anatomy and Physiology

<table>
<thead>
<tr>
<th>Candidate Surname</th>
<th>Candidate Forename</th>
<th>Mark Sheet 1</th>
<th>Mark Sheet 2</th>
<th>Total 100%</th>
<th>Grade*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signed:

Internal Assessor: ___________________________ Date: ___________________________

This sheet is for internal assessors to record the overall marks of individual candidates. It should be retained in the centre. The marks awarded should be transferred to the official FETAC Module Results Sheet issued to centres before the visit of the external Authenticator.

Grade:
- D: 80 - 100%
- M: 65 - 79%
- P: 50 - 64%
- U: 0 - 49%
- W: candidates entered who did not present for assessment
Glossary of Assessment Techniques

**Assignment**
An exercise carried out in response to a brief with specific guidelines and usually of short duration.

Each assignment is based on a brief provided by the internal assessor. The brief includes specific guidelines for candidates. The assignment is carried out over a period of time specified by the internal assessor.

Assignments may be specified as an oral presentation, case study, observations, or have a detailed title such as audition piece, health fitness plan or vocational area profile.

**Collection of Work**
A collection and/or selection of pieces of work produced by candidates over a period of time that demonstrates the mastery of skills.

Using guidelines provided by the internal assessor, candidates compile a collection of their own work. The collection of work demonstrates evidence of a range of specific learning outcomes or skills. The evidence may be produced in a range of conditions, such as in the learning environment, in a role play exercise, or in real-life/work situations.

This body of work may be self-generated rather than carried out in response to a specific assignment e.g. art work, engineering work etc.

**Examination**
A means of assessing a candidate’s ability to recall and apply skills, knowledge and understanding within a set period of time (time constrained) and under clearly specified conditions.

Examinations may be:
- practical, assessing the mastery of specified practical skills demonstrated in a set period of time under restricted conditions
- oral, testing ability to speak effectively in the vernacular or other languages
- interview-style, assessing learning through verbal questioning, on one-to-one/group basis
- aural, testing listening and interpretation skills
- theory-based, assessing the candidate’s ability to recall and apply theory, requiring responses to a range of question types, such as objective, short answer, structured, essay. These questions may be answered in different media such as in writing, orally etc.

**Learner Record**
A self-reported record by an individual, in which he/she describes specific learning experiences, activities, responses, skills acquired.

Candidates compile a personal logbook/journal/diary/daily diary/record/laboratory notebook/sketch book.

The logbook/journal/diary/daily diary/record/laboratory notebook/sketch book should cover specified aspects of the learner’s experience.
**Project**

*A substantial individual or group response to a brief with guidelines, usually carried out over a period of time.*

Projects may involve:

- research – requiring individual/group investigation of a topic
- process – eg design, performance, production of an artefact/event

Projects will be based on a brief provided by the internal assessor or negotiated by the candidate with the internal assessor. The brief will include broad guidelines for the candidate. The work will be carried out over a specified period of time.

Projects may be undertaken as a group or collaborative project, however the individual contribution of each candidate must be clearly identified.

The project will enable the candidate to demonstrate: (*some of these – about 2-4*)

- understanding and application of concepts in (specify area)
- use/selection of relevant research/survey techniques, sources of information, referencing, bibliography
- ability to analyse, evaluate, draw conclusions, make recommendations
- understanding of process/planning implementation and review skills/planning and time management skills
- ability to implement/produce/make/construct/perform
- mastery of tools and techniques
- design/creativity/problem-solving/evaluation skills
- presentation/display skills
- team working/co-operation/participation skills.

**Skills**

**Demonstration**

*Assessment of mastery of specified practical, organisational and/or interpersonal skills.*

These skills are assessed at any time throughout the learning process by the internal assessor/another qualified person in the centre for whom the candidate undertakes relevant tasks.

The skills may be demonstrated in a range of conditions, such as in the learning environment, in a role-play exercise, or in a real-life/work situations.

The candidate may submit a written report/supporting documentation as part of the assessment.

Examples of skills: laboratory skills, computer skills, coaching skills, interpersonal skills.
FETAC Assessment Principles

1. Assessment is regarded as an integral part of the learning process.

2. All FETAC assessment is criterion referenced. Each assessment technique has assessment criteria which detail the range of marks to be awarded for specific standards of knowledge, skills and competence demonstrated by candidates.

3. The mode of assessment is generally local i.e. the assessment techniques are devised and implemented by internal assessors in centres.

4. Assessment techniques in FETAC modules are valid in that they test a range of appropriate learning outcomes.

5. The reliability of assessment techniques is facilitated by providing support for assessors.

6. Arising from an extensive consultation process, each FETAC module describes what is considered to be an optimum approach to assessment. When the necessary procedures are in place, it will be possible for assessors to use other forms of assessment, provided they are demonstrated to be valid and reliable.

7. To enable all learners to demonstrate that they have reached the required standard, candidate evidence may be submitted in written, oral, visual, multimedia or other format as appropriate to the learning outcomes.

8. Assessment of a number of modules may be integrated, provided the separate criteria for each module are met.

9. Group or team work may form part of the assessment of a module, provided each candidate’s achievement is separately assessed.