

Title	Demonstrate knowledge of animal biochemistry		
Level	6	Credits	6

Purpose	People credited with this unit standard are able to: describe the ultrastructure, function, and biochemistry of muscle fibres; discuss the central role of the liver in regulating body metabolism; and discuss mammalian digestion and absorption.
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Classification	Science > Biochemistry
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Available grade	Achieved
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Guidance Information

Recommended for entry: Unit 26487, *Explain the characteristics of enzymes*; and Unit 26491, *Discuss the cellular metabolism of glucose, amino acids, and fatty acids*.

Outcomes and performance criteria

Outcome 1

Describe the ultrastructure, function, and biochemistry of muscle fibres.

Performance criteria

- 1.1 The morphology of striated muscle fibres are outlined in terms of the components of thick and thin filaments.
- Range myosin, actin, troponin, tropomyosin.
- 1.2 The description identifies the source of adenosine triphosphate (ATP) for muscle contraction during metabolic states in terms of creatine phosphate levels.
- Range aerobic, anaerobic, fasting, long-term exertion.
- 1.3 The description explains the role of calcium and ATP in relation to the contraction process and rigor mortis.

Outcome 2

Discuss the central role of the liver in regulating body metabolism.

Performance criteria

- 2.1 The discussion outlines how the liver regulates fuel molecules during fasting and non-fasting metabolic states.
- Range amino acids, carbohydrates, lipids.
- 2.2 The discussion outlines the role of the liver in terms of the excretion of metabolic wastes.
- 2.3 The discussion explains the role of the liver in terms of detoxification processes.
- Range alcohol, alkaloid, drugs.

Outcome 3

Discuss mammalian digestion and absorption.

Performance criteria

- 3.1 The discussion outlines the processes of digestion, absorption, and transport of a dietary component in terms of monogastric and ruminant animals.
- 3.2 The discussion outlines the role of digestive enzymes in terms of their production, activation, and function.
- Range trypsin, amylase, lipase.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 December 1996	31 December 2014
Review	2	23 November 1999	31 December 2014
Review	3	17 September 2010	N/A
Rollover	4	27 January 2015	N/A
Review	5	27 September 2018	N/A

Consent and Moderation Requirements (CMR) reference	0113
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact NZQA National Qualifications Services nqs@nzqa.govt.nz if you wish to suggest changes to the content of this unit standard.