

Title	Demonstrate knowledge of bacterial structure		
Level	5	Credits	3

Purpose	People credited with this unit standard are able to describe: the morphology and external structures of bacteria; the ultrastructure of bacteria; and the formation and function of bacterial endospores.
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Classification	Science > Microbiology
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Available grade	Achieved
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Guidance Information

Glossary

Ultrastructure refers to the detailed structure of bacteria that can be observed by electron microscopy. It refers to the cellular structures that are too small to be seen with an optical microscope.

Morphology refers to cell shape and cell arrangements.

Outcomes and performance criteria

Outcome 1

Describe the morphology and external structures of bacteria.

Performance criteria

1.1 Bacteria groups are described in terms of morphology.

Range cocci, bacilli, spirillum.

1.2 External structures are described in terms of their function.

Range cell wall, fimbriae, flagella, glycocalyx, pili.

1.3 Gram positive and Gram negative bacteria walls are compared in terms of their chemical composition.

Range lipopolysaccharide, peptidoglycan, mycolic acid, teichoic acid.

1.4 Gram positive and Gram negative bacteria walls are compared in terms of their physical composition.

Outcome 2

Describe the ultrastructure of bacteria.

Performance criteria

2.1 The ultrastructure of bacteria is described in terms of the ultrastructure function.

Range ultrastructure includes – bacterial chromosome, cytoplasmic membrane, inclusion granules, plasmids, periplasm, ribosomes.

Outcome 3

Describe the formation and function of bacterial endospores.

Performance criteria

3.1 Factors are identified, and the process described for the formation of bacterial endospores.

3.2 Endospore function is described in terms of its chemical and structural properties.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions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
Revision	2	19 February 1998	31 December 2014
Review	3	23 November 1999	31 December 2014
Review	4	21 May 2010	31 December 2025
Rollover	5	27 January 2015	31 December 2025
Review	6	27 September 2018	31 December 2025
Review	7	30 November 2023	31 December 2025

Consent and Moderation Requirements (CMR) reference

0113

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.