Changing lives through learning

Access to Higher Education Unit

This unit forms part of an Access to HE Diploma. If delivering the graded version of this unit, please refer to the Provider Handbook for details on grading descriptors and the application of these across units within your programme.

Unit Title: Microorganisms and Infection

Graded Unit Reference Number: GA36BIO36

Ungraded Unit Reference Number: UA36BIO36

Module: Biology; Health Studies; Human Biology; Microbiology

Level: Three [3]

Credit Value: Six [6]

Minimum Guided Learning Hours: 60

Units barred for selection against this unit:

- **Microorganisms (GA33BIO20 / UA33BIO20)**
- **Control of Infection (GA33BIO25 / UA33BIO25)**

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the main features of the different classes of microorganisms	1.1 Compare and contrast the features of eukaryotes, prokaryotes and akaryotes, and use these to classify microorganisms
	1.2 Identify bacteria, fungi, protists and viruses from descriptions, diagrams and/or photographs
2. Understand the different models of nutrition among microorganisms and how this affects their incidence and impact on other species	2.1 Compare the modes of nutrition among microorganisms in terms of sources of energy and materials (heterotrophs, autotrophs, phototrophs, chemotrophs)
	2.2 Explain the distribution of different microorganisms in terms of their nutrition and tolerance to environmental conditions (e.g., temperature, oxygen etc.)
3. Understand the relationships between microorganisms and the human body	3.1 Describe the features of the human microbiome and how balance of the microbiome can impact health

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Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
	3.2 Identify and describe at least one way in which the human microbiome can become unbalanced and how balance can be restored
	3.3 Identify at least two examples of how microorganisms can be used to make products that benefit humans
	3.4 Evaluate the importance of both sterilisation and pasteurisation in the prevention of infection
4. Understand factors that affect the rate of infection within the human population	4.1 Explain the role of microbes as causal agents in infectious disease, citing two detailed examples
	4.2 Compare and contrast the following terms and cite an example of each; endemic, epidemic, and pandemic
	4.3 Identify and evaluate the factors affecting the rate of transmission of an infectious disease in a population
	4.4 Explain how our changing understanding of the causes of disease affect the development of public health strategy
5. Understand the public health measures that can be undertaken to prevent infection	5.1 Identify and analyse why some public spaces are associated with a higher risk of infection than others
	5.2 Discuss best practices associated with infection control
	5.3 Compare and contrast methods of infection control in a healthcare environment compared with the home environment
6. Understand the use of antibiotics	6.1 Describe the nature, origins, and modes of action of a range of antibiotic compounds
	6.2 Explain how the overuse of antibiotics can affect their long-term effectiveness, citing an example

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