Course Outline (Higher Education)

School:	School of Health and Life Sciences
Course Title:	INTRODUCTION TO MICROBIOLOGY AND MICROBIAL BIOTECHNOLOGY
Course ID:	MICGC2011
Credit Points:	15.00
Prerequisite(s):	(BIOGC1722)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	010911

Description of the Course :

The unit deals with the study of micro-organisms: their morphological and physiological characteristics, diversity and relationships and their importance to humans and the environment. Practical applications include, the study of selected micro-organisms in the environment and human body, concepts in microbial biotechnology including fermentation processes, control and use of micro-organisms in the food industry, water quality and bioremediation. The practical program includes microscopy, staining techniques, culturing, appropriate handling procedures and methods of enumeration and identification of micro-organisms. This unit provides a basis for the more advanced microbiology study.

Grade Scheme: Graded (HD, D, C, etc.)

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks..

Learning Outcomes:

On completion of this unit students will be able to:

1. Describe different micro-organisms and the relationships that exist between them;
2. Describe microbial cell structure, function, nutrition, physiology and growth and how micro-organisms are controlled
3. Explain the role that micro-organisms play in the preservation, fermentation, preparation and spoilage of food;
4. Outline environmental micro-organisms and their importance in the biogeochemical cycles, environmental pollution, water quality and treatment, bioremediation, bioleaching and waste treatment;
5. Demonstrate basic microbiological laboratory skills such as the use of the microscope, microscopic staining and visualisation techniques, 'microbial culture', and be able to identify common species of bacteria and fungi;
6. Demonstrate effective communication of microbial experiments by oral and written means.

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Course Content:

Values and Graduate Attributes:

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
Mid-semester test (50 min)	Mid-semester test (50 min)	Mid-semester test (50 min)	15%
Examinations (2 x 2 hours)	Examinations (2 x 2 hours)	Examinations (2 x 2 hours)	40%
Practical reports and quizzes	Practical reports and quizzes	Practical reports and quizzes	15%
Laboratory practical skills	Laboratory practical skills	Laboratory practical skills	5%

Adopted Reference Style: