

Module Title:	Quantitative Methods 2
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	6 programme(s)
Teaching & Learning Strategies:	This module will be taught in three theory classes and one computer lab practical each of one hour duration per week. Students will be expected to complete problem-sets to re-enforce learning. Delivery of the computing module will involve practical assignments.
Module Aim:	The aim of this module is to provide students with the fundamental mathematical and computing skills necessary for comprehension and progression through the field of science.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Explain the concept of a function and solve problems involving various types of functions.
LO2	Solve single variable calculus problems.
LO3	Use computer software applications for mathematical analysis.
Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Functions and Graphs

Concept of a function. Domain and range. Linear, polynomial, exponential and logarithmic functions.

Trigonometry

Angle measurement, trigonometric ratios, identities and equations. Trigonometric waveforms, their characteristics and applications.

Differential Calculus

Limit of a function. Definition of the derivative. Rates of change. Rules of differentiation, scientific and business applications using maxima and minima.

Integral Calculus

Definition of an integral. Table of integrals. Basic integration, substitution and integration by parts. Areas and volumes of integration.

Practical

Software applications for graphing and solving mathematical problems.

Assessment Breakdown	%
Continuous Assessment	30.00%
Practical	30.00%
End of Module Formal Examination	40.00%

Special Regulation

Students must achieve a minimum grade of 35% in the practical/CA and the final exam.

Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	In-class assessments	1,2	30.00	n/a

No Project

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Computer based assignments and assessments.	3	30.00	n/a

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	2 hour examination	1,2	40.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	12 Weeks per Stage	3.00
Practicals	12 Weeks per Stage	1.00
Estimated Learner Hours	15 Weeks per Stage	5.13
Total Hours		125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_SABTP_B	Bachelor of Science (Honours) in Biosciences with Biopharmaceuticals	2	Mandatory
CW_SABRE_B	Bachelor of Science (Honours) in Brewing and Distilling	2	Mandatory
CW_SAPHA_B	Bachelor of Science (Honours) in Pharmaceutics and Drug Formulation	2	Mandatory
CW_SAASC_D	Bachelor of Science in Analytical Science	2	Mandatory
CW_SABFQ_D	Bachelor of Science in Biosciences	2	Mandatory
CW_SASCI_C	Higher Certificate in Science in Applied Biology or Applied Chemistry	2	Mandatory