

Module Title:	Quantitative Methods 1
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 the student 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	Solve a variety of mathematical problems.
LO2	Identify, analyse and present statistical information.
LO3	Use information communications technologies to support work in this and other subjects.
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

Language of Maths

Greek alphabet, scientific notation, significant figures, SI units, exponents, logarithms, natural log and the exponential constant. Measurement. Ratio, direct and inverse proportion, accuracy & error analysis.

Equations & Graphs

Manipulation of formula. Linear, non-linear, exponential and logarithmic equations. Matrix algebra, inverses, determinants, solving systems of equations using matrices. Determination of laws from experimental data.

Statistics

Sampling, data collection, analysis and presentation. Frequency distributions, histogram, ogive, boxplots, scatter plots, measures of central tendency and dispersion.

Probability

Fundamentals of probability. Laws of probability. The Binomial Distribution.

Practicals

Computer based mathematics support. Information & Communications Technology: ICT Theory. Referencing and software applications. Team presentations on a science related mathematical/ICT topic.

Assessment Breakdown	%
Continuous Assessment	70.00%
Practical	30.00%

Special Regulation

Students must achieve a minimum grade (35%) in both the CA and practical components of the course.

Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	In-class assessments	1,2	70.00	n/a

No Project

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Computer based assignments, in-class assessments, teamwork project and presentations.	1,2,3	30.00	n/a

No End of Module Formal Examination

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	<u>Bachelor of Science (Honours) in Biosciences with Biopharmaceuticals</u>	1	Mandatory
CW_SABRE_B	<u>Bachelor of Science (Honours) in Brewing and Distilling</u>	1	Mandatory
CW_SAPHA_B	<u>Bachelor of Science (Honours) in Pharmaceutics and Drug Formulation</u>	1	Mandatory
CW_SAASC_D	<u>Bachelor of Science in Analytical Science</u>	1	Mandatory
CW_SABFQ_D	<u>Bachelor of Science in Biosciences</u>	1	Mandatory
CW_SASCI_C	<u>Higher Certificate in Science in Applied Biology or Applied Chemistry</u>	1	Mandatory