ZMTS C1101: Quantitative Methods 1

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	
On successful completion of this module the learner should be able to:	
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 *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
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	1	Mandatory
CW_SABRE_B	Bachelor of Science (Honours) in Brewing and Distilling	1	Mandatory
CW_SAPHA_B	Bachelor of Science (Honours) in Pharmaceutics and Drug Formulation	1	Mandatory
CW_SAASC_D	Bachelor of Science in Analytical Science	1	Mandatory
CW_SABFQ_D	Bachelor of Science in Biosciences	1	Mandatory
CW_SASCI_C	Higher Certificate in Science in Applied Biology or Applied Chemistry	1	Mandatory