

Module Title:	Mathematics 1
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	8 programme(s)
Teaching & Learning Strategies:	<p>The students will be organized into lectures and be given two lectures a week in order to cover module content items 1 to 3 inclusive. During these lectures the students will be encouraged to be active. They will be given activities to attempt, during the lecture, in order to re-enforce the learning and understanding achieved through the lecturer's introduction. The students will be then given take home activity sheets in order to be able to continue practicing the techniques. The students will be allocated a one hour tutor supervised computer laboratory session every week. In this session the students will be guided and supported through a Computer Assisted Learning (CAL) package which will cover module content items 4. The learning here will be self-paced and guided and supported by the tutor. The package will be available for student use outside their scheduled laboratory time.</p>
Module Aim:	<p>This module aims to provide students with a broad and solid foundation in mathematical concepts and techniques that they may encounter in subsequent programme modules.</p>
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Describe and apply the operations relations of elementary set theory. and interconvert between number systems.
LO2	Describe and apply the operations and relations of elementary logic theory
LO3	Laboratory work using online software
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

Number Systems

Considering the decimal, binary, octal and hexadecimal number systems. Converting from decimal to another number system. Converting from another number system to decimal. Converting between these number systems. Addition in Binary.

Set Theory and Logic

Notations and basic operations in set theory. Creating and using Venn Diagrams and associated operators. Creating and using Truth Tables. Considering Equality of Sets and Logical equivalence. Determining validity of arguments.

Assessment Breakdown	%
Continuous Assessment	20.00%
Practical	30.00%
End of Module Formal Examination	50.00%

Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Multiple Choice Questions	n/a	1,2	20.00	n/a

No Project

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	n/a	3	30.00	n/a

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	Final Exam	1,2	50.00	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	2.00
Laboratory	12 Weeks per Stage	1.00
Estimated Learner Hours	15 Weeks per Stage	5.93
Total Hours		125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KWCCD_B	Bachelor of Science (Honours) in Creative Computing and Digital Innovation	1	Mandatory
CW_KCCYB_B	Bachelor of Science (Honours) in Cyber Crime and IT Security	1	Mandatory
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	1	Mandatory
CW_KCSOF_B	Bachelor of Science (Honours) in Software Development	1	Mandatory
CW_KCCYB_D	Bachelor of Science in Cybercrime and IT Security	1	Mandatory
CW_KCCSY_D	Bachelor of Science in Information Technology Management	1	Mandatory
CW_KCSOF_D	Bachelor of Science in Software Development	1	Mandatory
CW_KCCOM_C	Higher Certificate in Science in Computing Programming	1	Mandatory