

Unit Specification

Mathematics

Unit Summary

This unit introduces students to the role and fundamental concepts of algebra, sequences, graphs, and basic statistics in the software application development process. The unit's objective is to improve students' comprehension and calculation capacity for basic algebraic and statistical computations. Its objective is to demonstrate how simple numbers are operated and constructed in order to solve real-world problems. Students will be able to generate and recognize sequences, functions, and graphs, as well as their relationship to algebra. This unit introduces students to geometric reasoning techniques, as well as important shape and distance formulas and fundamental theorems. Students can carry out, with an emphasis on statistics and its applications to real-world problems. Students will be able to identify and improve their mathematical and problem-solving abilities. They will reinforce their understanding of mathematical frameworks and key concepts acquired in this module.

Students who successfully complete this course will be able to:

Learning Outcomes

LO 1 - Understand and apply algebraic expressions in functions, graphs, identities and formulas.	
1.1 Use and apply basic algebraic calculations	Operational rules for solving numbers, in certain situations. <ul style="list-style-type: none"> • Algebra role in the field of math • What are Algebraic expressions and their use in algebra. • What are Algebraic identities and their use in algebra. • What are Algebraic formulas and their use in algebra. • Difference between algebraic identities and formulas • Use of Algebra in real life related problem
1.2 Use and apply basic functions and graph calculations, and sequence	What are functions. <ul style="list-style-type: none"> • Identification of functions calculation, role of algebra in functions. • Simple graph construction and its link with functions. • What are sequences • Use of sequence and its real life related exercises.
LO 2 Identify the basic concepts in measurements for shapes, basic theory and explanation for geometrical reasoning.	
2.1 Use and apply basic shapes and calculations.	Basic shape names, formulas. <ul style="list-style-type: none"> • Basic concepts in the field of geometry. • Understanding the basic conversions transformation between similar units. • Applying measure and constructions certain diagrams and shapes.
2.2 Understand the concepts of shapes in geometry. Basic concepts in geometry and transformation.	What is Geometrical reasoning and its purpose in real life. <ul style="list-style-type: none"> • Defining what is transformation explaining its types. • Identification of certain transformation types and explaining the process of transformation
LO 3 Use of raw data in statistics, and how to represent it graphically	
3.1 Use of raw data in statistics, and how to represent it	Applying data in the field of statistics. <ul style="list-style-type: none"> • Data-types and its uses. • Collection and organizing of data. • Representation of simple data.

Teaching & Delivery

Tuition and guidance should feature flexible approaches to delivering the unit. Formal tuition sessions, whether face to face or online, will identify some of the required, theoretical subject matter. This will help students to work individually, or as part of a group, researching and gathering information about the subject. Personal and group research, case studies, simulations, exercises and discussion are typical and engaging ways of learning about the subject. Students will likely use tutor- and self-directed study and reflect on their experience and expertise. Up-to-date information and materials are available from many sources such as businesses, the World Wide Web, television and radio broadcasts, broadsheet newspapers and advisory services.

Assessment

The following assessment strategies may be adopted to achieve the learning outcomes

Exam 100%

Final Exam Unseen

Brief: Students will be given a test that consists of MCQ's as well as numerical that must be solved, evaluating all the learning outcomes given in learning outcome one. The paper will be of total 100 marks.

Learning Resources

Learners should be made aware of these sources before delivery of this unit, and be fully conversant with these sources upon completion of this unit.

No specific learning resources are available for this module.
