

Faculty of Mathematics

COURSE TITLE	Mathematics
LEVEL	National 4
ENTRY REQUIREMENTS	Pass at National 3 Life skills
COURSE DESCRIPTION	<p>The National 4 course follows the criteria set down by the SQA. National 4 courses are available to S4, S5 and S6 pupils to provide lateral and vertical progression.</p> <p>The National 4 course aims to</p> <ul style="list-style-type: none"> • motivate and challenge learners by enabling them to select and apply straightforward mathematical skills in a variety of mathematical and real-life situations. • develop confidence in the subject and a positive attitude towards further study in mathematics. • enable the use of numerical data and abstract terms and develop the idea of generalisation. • allow learners to interpret, communicate and manage information in mathematical form; skills which are vital to scientific and technological research and development. • develop the learner's skills in using mathematical language and explore straightforward mathematical ideas.
COURSE ASSESSMENT	<p>During the New Qualification course in Mathematics, pupils will be sitting four key assessments during this year of the course. They will be assessed on the following units: Expressions and Formulae, Relationships and Numeracy.</p> <p>At the end of the course pupils will have to pass an internal SQA test as well as the internal Units to receive a course award.</p> <p>For the internal SQA test, the learner will draw on and apply the skills they have learned across the other three Units. This will offer opportunities to demonstrate the breadth of knowledge and skills acquired from across the Units of the Course, sometimes in integrated ways. As an aid to meeting these aims, skills in using a calculator will be developed and a calculator will be permitted in part of the test.</p>
SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK INCLUDED	<p>Numeracy</p> <ul style="list-style-type: none"> • Number Processes • Money, time and measurement • Information handling <p>Thinking Skills</p> <ul style="list-style-type: none"> • Applying • Analysis and evaluating

COURSE TITLE	Mathematics
LEVEL	National 5
ENTRY REQUIREMENTS	A pass at National 4
COURSE DESCRIPTION	<p>The National 5 course follows the criteria set down by the SQA. National 5 courses are available to S4, S5 and S6 pupils to provide lateral and vertical progression.</p> <p>The National 5 course aims to</p> <ul style="list-style-type: none"> • motivate and challenge learners by enabling them to select and apply straightforward mathematical skills in a variety of mathematical and real-life situations. • develop confidence in the subject and a positive attitude towards further study in mathematics. • enable the use of numerical data and abstract terms and develop the idea of generalisation. • allow learners to interpret, communicate and manage information in mathematical form; skills which are vital to scientific and technological research and development. • develop the learner's skills in using mathematical language and explore straightforward mathematical ideas.
COURSE ASSESSMENT	<p>During the New Qualification course in Mathematics, pupils will explore the following units: Expressions and Formulae, Relationships and Applications.</p> <p>At the end of the course pupils will have to pass an external SQA exam to receive a course award.</p> <p>In the National 5 Mathematics Course, added value will focus on:</p> <ul style="list-style-type: none"> • breadth • challenge • application <p>This will be assessed within a question paper, requiring demonstration of the breadth of knowledge and skills acquired from across the Units of the Course, sometimes in integrated ways. As an aid to meeting these aims, skills in using a calculator will be developed and a calculator will be permitted in part of the question paper.</p>
SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK INCLUDED	<p>Numeracy</p> <ul style="list-style-type: none"> • Number Processes • Money, time and measurement • Information handling <p>Thinking Skills</p> <ul style="list-style-type: none"> • Applying • Analysis and evaluating

COURSE TITLE	Mathematics
LEVEL	Higher
ENTRY REQUIREMENTS	National 5 Pass (Grade A to C)
COURSE DESCRIPTION	<p>In this course there is an emphasis on skills development and the application of those skills.</p> <p>This course aims to:</p> <ul style="list-style-type: none"> • motivate and challenge learners by enabling them to select and apply mathematical techniques in a variety of mathematical situations. • develop confidence in the subject and a positive attitude towards further study in mathematics and the use of mathematics in employment. • deliver in-depth study of mathematical concepts and the ways in which mathematics describes our world. • allow learners to interpret, communicate and manage information in mathematical form; skills which are vital to scientific technological research and development. • deepen the learner's skills in using mathematical language and exploring advanced mathematical ideas. <p>Some students may not be able to reach the required standard within a single diet and would normally complete their units in the first year and use the second year to reinforce their skills before sitting the external assessment.</p>
COURSE ASSESSMENT	<p>During the Higher course in Mathematics, pupils will explore the following units: Expressions and Functions, Relationships and Applications.</p> <p>At the end of the course pupils will have to pass an external SQA exam to receive a course award.</p> <p>In the Higher Mathematics Course, added value will focus on:</p> <ul style="list-style-type: none"> • breadth • challenge • application. <p>Learners will draw on, extend and apply the skills they have learned during the Course.</p> <p>This will be assessed within a question paper, requiring demonstration of the breadth of knowledge and skills acquired from across the Units of the Course, sometimes in integrated ways. As an aid to meeting these aims, skills in using a calculator will be developed and a calculator will be permitted in part of the question paper.</p>
SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK INCLUDED	<p>Numeracy</p> <ul style="list-style-type: none"> • Number Processes • Money, time and measurement • Information handling <p>Thinking Skills</p> <ul style="list-style-type: none"> • Applying • Analysis and evaluating

COURSE TITLE	Mathematics
LEVEL	Advanced Higher
ENTRY REQUIREMENTS	Higher Pass (Grade A to C)
COURSE DESCRIPTION	<p>The Advanced Higher Mathematics course is designed to articulate with and provide a progression from the Higher Mathematics course. The Course will also provide those who wish to proceed beyond Advanced Higher with a suitable base for further study.</p> <p>The Course is designed to enthuse, motivate and challenge learners by enabling them to:</p> <ul style="list-style-type: none"> • select and apply complex mathematical techniques in a variety of mathematical situations, both practical and abstract. • extend and apply skills in problem solving and logical thinking. • extending skills in interpreting, analysing, communicating and managing information in mathematical form, while exploring more advanced techniques. • clarify their thinking through the process of rigorous proof. <p>The Course develops and expands a range of mathematical skills. It allows the learner to develop further skills in calculus and algebra. Areas such as number theory (which helps keep the internet secure), complex numbers (the uses which are ubiquitous, ranging from the solution of equations to the description of electronic circuits) and matrices (used in game theory and economics) are introduced. The learner's mathematical thinking will also benefit from examples of rigorous proof.</p>
COURSE ASSESSMENT	<p>During the Advanced Higher course in Mathematics, pupils will explore the following units: Methods in Algebra and Calculus, Applications of Algebra and Calculus and Geometry, Proof and Systems of Equations. At the end of the course pupils will have to pass an Added Value external SQA exam to receive a course award.</p> <p>In Advanced Higher Mathematics Course, added value will focus on:</p> <ul style="list-style-type: none"> • breadth • challenge • application. <p>Learners will draw on, extend and apply the skills they have learned during the Course.</p> <p>This will be assessed within two question papers, requiring demonstration of the knowledge, skills and understanding acquired from across the Units and how they can be applied in unfamiliar contexts and/or integrated ways.</p>
SKILLS FOR LEARNING, SKILLS FOR LIFE and SKILLS FOR WORK INCLUDED	<p>Numeracy</p> <ul style="list-style-type: none"> • Number Processes • Money, time and measurement • Information handling <p>Thinking Skills</p> <ul style="list-style-type: none"> • Applying • Analysis and evaluating