

SQA Higher Applications of Mathematics AT A GLANCE

Brief summary of information published by SQA at in June 2020 on one sheet for convenience. Prepared in good faith by Dynamic Maths, but SQA documents ([here](#)) should be used to check and for more detail.



www.dynamicmaths.co.uk

WHEN?

Course first taught in **2021**; first exam in spring/summer **2022**.

ASSESSMENT - [see SQA course specification for full details](#)

	EXAM	COURSEWORK (STATISTICAL PROJECT)
Length	2 hours 30 minutes	Approx. 8 hours / maximum 2000 words
Marks	80 marks	30 marks
Assessed	Externally marked by SQA	Externally marked by SQA
Coverage	All topics in course specification	Statistical topics
Equipment Needed	Access to computer/software (without internet) required Requires a data booklet which will be published in advance (presumably changing each year?)	Access to computer/software required Process: candidate agrees topic with teacher, then candidate chooses an aim (teacher cannot help with aim), then researches, analyses, writes report. Ideally each candidate using different topic and data.
Conditions	Exam conditions	Individual work. Under "some supervision and control" but directly supervise at all times not required. "Reasonable assistance" allowed but only as defined in SQA Guidance on conditions of assessment . Templates or model answers prohibited.
Timing	SQA exam diet	At a time "appropriate to candidates needs"
Answer format	Structured answer booklet; questions requiring software to be printed	Written report submitted to SQA
Documents published	Specimen Question Paper published, a second one due to be released later in 2020	Coursework Assessment document SQA Guidance on conditions of assessment and SQA Coursework for external assessment

SOFTWARE REQUIRED

Course covers use of spreadsheets and statistical software. No specific programme specified. (RStudio and Minitab mentioned in documentation as possible, but nothing stated as compulsory).

BRIEF SUMMARY OF TOPICS - [see course specification](#)

MATHEMATICAL MODELLING SKILLS	FINANCIAL SKILLS
<ul style="list-style-type: none"> Modelling with formulae, graphs, charts Tolerance: Absolute and relative errors Units: Identifying and checking validity Linear, quadratic, exponential models (no calculus) Formulae: calculating variables Software: spreadsheets, formulae, editing data, graphs Spreadsheets: recurrence relation models Analysis/communication/reasoning 	<ul style="list-style-type: none"> Capital and interest Present value/accumulated value Credit cards and loans: repayment, risk, interest Types of financial product Insurance Inflation, purchasing power Risk Analysis/communication/reasoning
STATISTICAL AND PROBABILITY SKILLS	PLANNING AND DECISION MAKING SKILLS
<ul style="list-style-type: none"> Tree diagrams and Venn diagrams Probabilities of combinations; Conditional probabilities Types of data; Sampling, bias; Interpret diagrams including histograms Concepts of symmetry, normality, skewness Simple linear regression (with software) Pearson's correlation coefficient Hypothesis testing; Confidence intervals t-test, paired t-tests, z-tests 	<ul style="list-style-type: none"> Activity networks e.g. PERT charts Critical path, slack time Gantt charts Expected costs/value Analysis/communication/reasoning