THE WORTHGATE SCHOOL
CANTERBURY

COURSE DESCRIPTOR

IGCSE FURTHER MATHEMATICS

SUBJECT OVERVIEW

Mathematics is a vital subject that influences nearly every aspect of life. It provides valuable insights into problem-solving strategies, logic, and critical thinking. The study of mathematics also forms the foundation for many other subjects, including Physics, Chemistry, Biology, IT, Business Studies, Economics, Psychology, Art, and Geography. In addition, studying mathematics helps develop important skills such as communication and teamwork, which are essential in most professions.

PRIOR LEARNING REQUIRED

- **Completion of IGCSE Mathematics:** Students should have completed the IGCSE Mathematics course, preferably at the Higher Tier level. This ensures they have the necessary skills and knowledge to tackle the more advanced topics in Further Mathematics.
- **Strong Algebra Skills:** A solid understanding of algebraic concepts, including solving equations, manipulating algebraic expressions, and working with functions, is essential.
- **Basic Knowledge of Geometry and Trigonometry:** Familiarity with geometric properties, theorems, and basic trigonometric functions and identities is important.
- **Proficiency in Problem-Solving:** Students should be comfortable with mathematical problem-solving and logical reasoning.
- **Good level of English proiciency :**
    - **Understanding Instructions:** Clear comprehension of exam questions and instructions is crucial.
    - **Mathematical Terminology**: Familiarity with mathematical terminology and the ability to follow complex explanations in English.
    - **Communication Skills:** Ability to articulate mathematical reasoning and solutions effectively.

EXAM BOARD

EDEXCEL

COURSE CONTENT

Key Topics Covered	
1. Surds and Logarithmic Functions 2. Quadratic Functions 3. Inequalities and Identities 4. Sketching Polynomials 5. Sequence and Series 6. The Binomial Series	7. Scalar and vector quantities 8. Rectangular Cartesian Coordinates 9. Differentiation 10. Integration

ASSESSMENT

Formal internal assessments take place regularly once every half term and homework is set on a regular basis.

For G10: Grades are determined by final internal assessments, which take place in May at the end of year one.
For G11: Grades are determined by final externally set examinations, which take place in May & June at the end of the 2-year course.

Paper	Length of paper	Weighting
IGCSE Mathematics Higher Level (01)	100 marks 2-hour paper	50% of IGCSE Level
IGCSE Mathematics Higher Level (02)	100 marks 2-hour paper	50% of IGCSE Level

TEXTBOOKS/REVISION GUIDES

Title	ISBN	Author
Mathematics for GCSE & IGCSE	978 1 78294 437 9	CGP Books

Summaries of each topic, student notes and past examination papers will be a major source of revision. A revision guide is available for purchase.

HIGHER EDUCATION PATHWAYS

Mathematics opens the door to a large range of courses and career options in many arenas, globally.

COMPLEMENTARY SUBJECTS OF STUDY

Physics, IT, Business Studies, etc.

CURRICULUM DIRECTOR

Mr Scott Graham