Subject Outline:
In Mathematics B, advanced mathematical skills are developed which form the basis for further study in Mathematics. These skills are needed not only in the traditional careers of engineering or the physical sciences, but also as tools in fields as diverse as agriculture, food technology, geography, biology, economics and management. The modes of thinking developed in Mathematics B provide ways of modelling situations in order to explore, describe and understand the world’s social, biological and physical environment. The topics to be studied include Introduction to functions, Rates of change, Periodic functions and applications, Exponential and logarithmic functions and applications, Optimisation using derivatives, Introduction to integration and Applied statistical analysis. The course includes a substantial emphasis on the area of mathematical study traditionally known as calculus.

Contributes to OP: Yes

Assessment Outline:
Students will complete in class written assessments covering Knowledge and Understanding, and Modelling and Problem Solving as well as several assignments during the course of study.

Career Pathways:
The range of career opportunities requiring an appropriate level of mathematical competence is rapidly expanding into areas such as health, environmental science, economics and business management, while remaining crucial in fields such as physical sciences, engineering, accounting, computer science and information technology. Mathematics has provided a basis for the development of technology and in recent times the uses of Mathematics have increased substantially in response to these developments.

Potential Activities:
Mathematics B is designed to raise the students’ competence in and confidence with the Mathematics needed to make informed decisions about society, to ensure scientific literacy and to function effectively in a technologically skilled workforce.

Costs:
Students are expected to have a fully operable scientific calculator (Casio brand FX82AU - $20 - $30 available from the school office). Students will be issued with a graphics calculator for the duration of their participation in Maths B through the school Text and Resources scheme.

Student Requirements:
Students must achieve a minimum pass in Enrichment Maths in Year 10. A substantial component of this practice will occur outside the classroom environment. It is expected that students will average 2-3 hours per week of their own time in homework, practice and revision, and preferably more in the lead up to exams. The chances of successful performance in Maths B without this level of commitment are generally substantially reduced.

Vocational Relevance:
A solid understanding and enjoyment of Mathematics will be beneficial in most workplaces.