

Year 12

Term 2

Mathematics

Course Content.

Second term will start finishing the course on pure mathematics. Students will look at more advanced concepts in calculus such as the uses of second derivatives and an introduction to the methodology behind integration and applications such as finding the volume of revolution. The course ends with a short chapter covering radians and linking it to previous material on trigonometry.

The students will then begin the second course on mechanics. They will learn about the application of mathematics to physical concepts. They will be introduced to the equations of motion and Newton's laws and how these ideas apply to displacement, velocity, acceleration, forces, gravity, work, energy and power.

At the end students will revise and use past papers to improve their knowledge and prepare for their exam.

Resources.

- Text, Cambridge University Press : Pure Mathematics 1;
- Section 15, Second Derivatives – all
- Section 16, Integration – all
- Section 17, Volume of Revolution – all
- Section 18, Radians – all

- Text, Cambridge University Press : Mechanics 1;
- Section 1, Velocity and Acceleration – all
- Section 2, Force and Motion – all
- Section 3, Vertical Motion – all
- Section 4, Resolving Forces – all
- Section 5, Friction – all
- Section 6, Motion Due to Gravity – all
- Section 7, Newton's Third Law – all
- Section 8, Work, Energy and Power – all
- Section 9, Potential Energy – all
- Section 10, Force as a Vector Quantity – all
- Section 11, General Motion in a Straight Line – all

- www.myimaths.com for online h/w's.
- Further resources and links will be posted on www.edmodo.com.

Assessment.

- Chapter / Unit Test (CT/UT) – 25%
- Home works (at edmodo + www.myimaths.com) [HW's] – 15%
- Mid term exam (MTE) – 20%
- Final term exam (FTE) – 40%