



INTEGRITY



MANAAKITANGA



EXCELLENCE

COURSE OUTLINE - 2025

Course: <Year 11 Space and Rocket Science>	Code: 11SRS	LPF: Stage 3	Contact: Mr. Phil Kendon
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Course information

<11SRS> offers

→ Goals

- ◆ To design, build & launch rockets and use physics principles & calculations to explain their trajectories
- ◆ To develop an understanding of organic chemistry, fuels and combustion reactions.
- ◆ To learn about the solar system and beyond, and how we observe the universe
- ◆ To investigate the phenomena around Electricity and Magnetism

→ To be successful in this course, you should:

- ◆ be prepared to be organized, complete classwork and assignments on time, and actively participate in class discussions and experiments. Homework will be set via Education Perfect and other platforms, it is expected that this will also be attempted to the best of your ability and in a timely manner. You should develop strong note-taking skills, regularly review class materials, and ask questions when you don't understand something. It's also important to practice applying scientific concepts to real-life situations and to study consistently rather than cramming before tests. Curiosity, critical thinking, and a willingness to learn from mistakes will help you build a solid understanding of science.

→ Recommended prior learning

Year 10 Science, reaching at least 'Developing - At' on average, throughout Stage 2 of the Learning Progressions Framework.

→ Assessment in Years 9 - 11

All courses in Years 9 -11 are assessed using the Wellington College Learning Progressions Framework (LPF). There will be ongoing formative assessment, called 'checkpoints'. You will also be evaluated after each phase of learning, and your Learning Progression will be posted on the portal.

See [our school website](#) for more information about assessment and reporting in Years 9 - 11.

→ Resources and equipment required

You will need: 1B5 exercise book. 2 x Scipad workbooks, Carbon Chemistry; Electricity & Magnetism (these will be purchased directly from the school accounts office)

Assessment

You will be assessed on tasks based on the 4 topics of Rocketry, Carbon Chemistry, Astronomy and Electricity & Magnetism

This course is an excellent foundation for Year 12 Chemistry, Year 12 Physics

Topic	Content	Assessment Type	Dates
Rocketry	History of Space exploration, Building a small kitset rocket; Designing and Building a larger rocket to launch and recover a raw egg; Physics -	Oral presentation, Design + Build project,	Term 1

	Rocket mechanics calculations	short checkpoint - calculations	
Carbon Chemistry	Alkanes, Alkenes, Alcohols, Physical properties, Distillation, Cracking, Fuels, Combustion, Effects of combustion	Brief presentation on a socio-scientific issue, Practical investigation, Content - based test	Term 1 - 2
Astronomy	Solar System, Craters Investigation, Life cycle of Stars, Space travel, Telescopes	Practical Investigation report, Presentation on an Astronomical event	Term 2 - 3
Electricity and Magnetism	Principles of Static Electricity, Current Electricity, Magnetism and Electro-Magnetism	Practical investigation, content-based test	Term 3 - 4

Course Planner 2025

(note this is subject to change)

Term 1

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
	Rocketry									Carbon -> Chemistry

Term 2

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Carbon Chemistry							Astronomy ->	

Term 3

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Astronomy						Electricity + Magnetism			->

Term 4

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Electro-magnetism			Revision for Science exam					