

Required & Recommended Subjects – Tertiary & Trades



Choosing NCEA subjects

This is a general guide for study areas where a background in certain school subjects is **required** for entry into tertiary programmes and some apprenticeships. Some subjects are **useful** for knowledge and skills, but others are **strongly recommended** to see success in certain areas.

If a student has not got a clear idea of a future career, then keeping their subjects broad at school is a good idea.

- Studying Science at NCEA Level 1 keeps options open for some trades and roles in the NZ Defence Force.
- Basic Maths and English are needed at Level 1 for most jobs.
- Only a very small number of university courses have compulsory requirements. These tend to be Science and Maths subjects.
- **E.L.R.** are English-rich subjects (such as English, History, Classics, Geography etc) and these can be required for some degrees.

NCEA LEVEL 3 SUBJECT GUIDE - TERTIARY STUDY		
STUDY AREAS	Compulsory subjects	Recommended subjects
Architecture	None (<i>but Portfolio of work required</i>)	Art Design and/or Painting, Design & Visual Communication. One E.L.R. subject. Physics, Maths & Digital Technology are useful.
Aviation (<i>Massey University</i>)	One E.L.R. subject + ADAPT test	Physics & Calculus. Statistics useful.
Business	None	Maths and/or Economics, Accounting & other business subjects.
Computing & IT	None	Calculus & Digital Technology.
Biological Sciences	None	Biology, Chemistry & Statistics. One E.L.R. subject.
Biomedical Science (<i>entry to Medicine Auckland University</i>)	None	Chemistry (<i>strongly recommended</i>), Biology and Statistics. One E.L.R. subject.
Engineering	Calculus & Physics. Chemistry (<i>compulsory for some degrees</i>)	Chemistry.
Environmental Science	None	Geography & Statistics. Biology useful.
Health Sciences First Year (<i>entry to Medicine, Dentistry, Medical Laboratory Science, Physiotherapy & Pharmacy at Otago University</i>)	None	Biology, Chemistry & Physics (or Jump Start Physics if no Level 2) and Mathematics (Statistics preferably or Calculus). One E.L.R. subject.
Health Sciences at AUT (<i>Nursing, Paramedicine, Physiotherapy, Midwifery, Podiatry, Occupational Therapy, Oral Health at AUT</i>)	None	Biology, Statistics and one E.L.R. subject.
Food Technology	Calculus, Physics & Chemistry (<i>Massey University</i>)	Biology, Chemistry, Maths.
Global Studies & Languages	None	Study of a language encouraged.
Human Nutrition	Biology & Chemistry (<i>Massey University</i>)	Biology, Chemistry, Maths & an E.L.R. subject.
Medical Laboratory Science (AUT)	Biology, Chemistry & Statistics.	An E.L.R. subject.
Medical Imaging	English, Maths & Science (Physics preferred) - AUT	Chemistry, Biology & one E.L.R. subject. Physics & Calculus are useful.

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STUDY AREAS	Compulsory subjects	Recommended subjects
Law	None	A minimum of one E.L.R. subject. Two recommended.
Land surveying	None	Calculus, Physics & Geography.
Nursing	One science - Biology, Chemistry or Physics (<i>except AUT</i>)	Maths & an E.L.R. subject.
Optometry	None	Biology, Chemistry & one E.L.R. subject. Physics & Maths useful.
Osteopathy	Biology, P.E. or Health Education and one E.L.R. subject (<i>Ara Institute</i>)	
Pharmacy	None	Biology, Chemistry & one E.L.R. subject. Physics & Maths useful.
Physical Sciences	None	Physics, Calculus & Chemistry.
Quantity Surveying	At least Level 2 Maths.	Strong in Maths (Economics/Accounting useful)
Radiation Therapy	Maths and Physics or Biology and Te Reo Māori or E.L.R. subject.	
Veterinary Science	None	Biology, Chemistry, Physics & Maths to be competitive. One E.L.R. subject.

GENERAL SUBJECT GUIDE – Pre-trades, apprenticeships and other	
Agriculture/horticulture	Level 1 science is useful.
Construction apprenticeships <i>e.g. cabinetmaking, carpentry, plumbing.</i>	Level 1 Maths & English. A Technology subject at Level 1 is recommended.
Electrical apprenticeships	ETCO requires 8 credits in each of English, Maths & a Science at Level 2 (preferably Physics). Unitec's pre-trade course: Level 1 maths, English, Physics (or General Science).
Automotive apprenticeships	Level 1 Maths & English. For MITO, need to pass Literacy & Numeracy tests.
Barbering/hairdressing	Basic literacy & numeracy. No specific subjects. Visual Art & Science at Level 1 useful.
Chefing/Hospitality	Basic literacy & numeracy. Experience in industry useful <i>e.g.</i> part-time work.
Police	Level 2 English & Maths recommended to pass entry aptitude tests.
Defence Force	Many apprenticeships require a minimum of NCEA Level 1 with Science.

Note – This is a general guide and does not cover all possible pathways. Students should also refer to university and other institutes for course entry requirements. Refer to useful school subject information resources which can be accessed via the Liston Careers website under [Subject Selection](#).