Year 12 Subject Guide

Compulsory Subjects

Year 12 students must study English / ESOL.

Optional Subjects

Students can choose five more subjects from these areas. We highly recommend choosing a science subject and a maths subject.

- English Media Studies, IELTS preparation
- Mathematica Maths with Calculus
- Social Sciences Geography, History, Classical Studies, Sociology, Art History, Tourism
- Science Biology, Chemistry, Physics
- Languages French, Japanese, Maori, Spanish
- Arts Drama, Dance, Music or Contemporary Music, Painting, Design, Photography
- Technology Materials Technology (wood, metal and plastic), Design and Visual Technology (Graphic Design), Fashion and Design, Food and Nutrition or Electronics, Construction, Engineering, Hospitality, Furniture
- Commerce Economics, Accounting, Business Studies, Digital Technology, Computer Applications, Computer Programming, Legal Studies
- Physical Education Practical Physical Education, Physical Education, Sports Science, Health
English

**What is it and what will I learn?**

Students study a variety of English texts, including novels, short stories and poems. They will learn to think critically about texts and develop their own writing skills. There is a focus on the accuracy of their reading and writing.

**What could this lead to?**

By studying English, students will be able to achieve literacy which is needed to gain entry into a variety of tertiary courses. English also helps students develop an understanding and appreciation of language and literature.

OR:

**English for Speakers of Other Languages (ESOL)**

**What is it and what will I learn?**

The ESOL program is for students who are learning English as a second language. At all levels, studying ESOL covers the four skills of reading, writing, listening and speaking. Areas of study include research projects, analysis of visual and written texts and giving presentations.

**What could this lead to?**

Learning English as an additional language opens doors for students in the international market. Within New Zealand, studying ESOL facilitates entry to tertiary study at university level or higher.

*NB* - Does not fulfil requirements for University entrance

Media Studies

**What is it and what will I learn?**

Students learn about the Media industry – what they use to appeal to target audiences and the impact media has on society. Media Studies also involves students creating a media product themselves.

**What could this lead to?**

This course is designed to appeal to those students who are considering a career in the media industry or who wish to enjoy both the analytical and creative aspects of the media world.

Geography

**What is it and what will I learn?**

Geography studies people in their environment and uses a wide variety of settings and techniques. Over the 3 years topics such as Resources, Population, Hazards, Rivers, Development, Land Use, Beaches, Migration and Tourism are covered. Several field trips are held each year.

**What could this lead to?**

Studying Geography would be useful for careers as varied as: resource planning, conservation, wild life management, resource management, surveying, export and trade, mining and exploration, overseas aid agencies, disaster planning and relief management.
History

What is it and what will I learn?
History at Rangitoto College incorporates New Zealand, English, Asian, European and World studies. It aims to give students a well-rounded education with an emphasis on issues and ideas, and includes field trips to sites such as the Bay of Islands.

What could this lead to?
Studying History would be useful for careers in: police, journalism, public service, business, education, and all aspects of the legal profession.

Art History

What is it and what will I learn?
The study of Art History covers a variety of disciplines and examines artistic periods such as French art in the 19th century, where students explore the dramatic change in styles and its historical context. In Year 13 students study the Renaissance, when significant values of that era are mirrored in the art works created. Key artists of the period include Leonardo, Raphael and Michelangelo.

What could this lead to?
The study of the Art History allows you to enlarge your world view by gaining an understanding of why different cultures at different times created works of art that fascinate, perplex, challenge and delight. In order to place a work of art into its historical context, you will also learn about history, literature, philosophy and religion.

Sociology

What is it and what will I learn?
Sociology is the study of human behaviour, cultures, conflicts and rights. Students will study and carry out social actions, as well as research current cultural conflicts.

What could this lead to?
Becoming aware of the social processes that influence the way humans think, feel, and behave, plus having the will to act can help individuals to shape the social forces they face. The study of sociology is useful in many careers, including law, psychology, journalism and social work.

Classical Studies

What is it and what will I learn?
Classical Studies explores the fascinating societies of Ancient Greece and Rome. A wide range of disciplines are covered including history, literature, art history and philosophy. The programme focuses on the personalities and issues of that era.

What could this lead to?
Classical Studies students enter a range of fields: journalism, broadcasting, business management, publishing, diplomatic service, tourism, curation of art galleries and museums, anthropology, archaeology, teaching, the theatre, banking, commerce. The analytical skills gained through the study of Classics are valued by a wide range of employers.

Tourism

What is it and what will I learn?
Tourism is an industry based course intended to provide basic knowledge about one of our country’s largest foreign exchange earners. Students learn about travel destinations both inside and outside New Zealand and gain the many skills required to succeed in this professional arena.
What could this lead to?

Studying Tourism in both Year 12 and 13 leads to the qualification, National Certificate in Tourism and Travel (Introductory Skills) Level 2. This is a nationally recognised qualification that provides the introductory skills and knowledge which underpin other qualifications in the travel and tourism industries.

NB- Does not fulfil requirements for University entrance

Maths with Calculus

What is it and what will I learn?

Maths with Calculus continues to develop the topics of Level 1 Mathematics. There is a focus on algebra skills and graphs, and the introduction of the new topic of Calculus.

What could this lead to?

The course is appropriate for students with an interest in the continued study of Mathematics, Physical Sciences, Engineering and in general any field where analysis is an important tool. The study of Calculus is a pre-requisite for entry into some tertiary courses, such as Engineering, Advanced Economics and Physics, as well as further studies in Mathematics.

Maths with Statistics

What is it and what will I learn?

Maths with Statistics continues to develop the topics of Level 1 Mathematics. There is a focus on probability and statistics.

What could this lead to?

The aim of this course is to prepare you for further study in Biological Sciences, Social Sciences, Medicine, Commerce and Administration, and in general for any field in which the collection, analysis and interpretation of data is important.

Chemistry

What is it and what will I learn?

Chemistry provides students with an understanding of the material universe, how substances interact with each other and how people can use them.

What could this lead to?

Many students choose to study Chemistry in conjunction with other science subjects if they intend to go on to tertiary level science or professions where it is applied. Chemistry leads on to many diverse occupations such as scientist, doctor, engineer, volcanologist, psychiatrist, pharmacist, forensic scientist, hairdresser, chef, photographer, nurse or winemaker.
Biology

What is it and what will I learn?

Year 12 Biology aims to give students a sense of the diversity of the living world and the environment in which they live, with an emphasis on New Zealand examples.

Year 13 Biology extends the students’ understanding of genetics and evolution, investigates the various ways living organisms respond to their environment, begins to get an understanding of the biological and cultural evolution that the human species has undergone and explores new developments in biotechnology arena.

What could this lead to?

Biology is a dynamic subject which encompasses not only the living world around us but has links to almost every other discipline. With the many advancements in biotechnology and medicine as well as environmental and conservation concerns, Biology can highlight the important role humans play in our changing world.

Physics

What is it and what will I learn?

At all year levels, Physics is the study of energy in its many different forms. It provides students with knowledge of the fundamental concepts of light, waves, motion, electricity, magnetism and nuclear physics, as well as an understanding of how these physical concepts apply to our everyday lives.

What could this lead to?

Physics is often chosen as a subject to support various study pathways at tertiary level, and the skills used in Physics to solve problems and communicate ideas effectively are sought after by any employer. Physics is directly applicable to a wide range in careers: from atmospherics and astrophysics to the engineering and geology fields; from analytical uses in aviation, electronics and medicine to creative applications such as photography, sound engineering, lighting and architecture.
Languages – French, Japanese, Maori, Spanish or Mandarin

**What is it and what will I learn?**

Our language courses enable students to communicate both orally and in writing about important aspects of modern life - family, friends, health, homeland, future plans, fashion, holiday, environmental issues etc.

**What could this lead to?**

The cross-cultural skills and communicative ability coming from language learning are an advantage for students who go on to study or work overseas. Language learning allows them to learn how to be outside their cultural "comfort zone" and to develop positive attitudes to difference.

Music

**What is it and what will I learn?**

Rangitoto College offers a comprehensive range of Music courses aimed at students who:

- are preparing to gain entry to tertiary study in Performing Arts, Musicology or Music Education
- have interest and/or experience in some aspects of Music and looking for self-improvement and the artistic involvement in Performing Arts across different curricula.

All courses involve students in the active, creative and academic processes of Practical Music, Music Studies and Listening.

**What could this lead to?**

Along with improving a student’s own personal mastery of an instrument, there are numerous career choices for students who have taken Music. Occupations range from being a composer/arranger, conductor, music therapist, lecturer, piano tuner, instrument maker, professional performer, entertainer, music teacher etc. Some students may choose to be involved in local theatre and music groups, which opens up a whole world of performing and social experiences too.

Contemporary Music

**What is it and what will I learn?**

This course is an alternative music course that is suited to students with a more contemporary musical focus.

**What could this lead to?**

Along with improving a student’s own personal mastery of an instrument, there are numerous career choices for students who have taken Music. Occupations range from being a composer/arranger, conductor, music therapist, lecturer, piano tuner, instrument maker, professional performer, entertainer, music teacher etc. Some students may choose to be involved in local theatre and music groups, which opens up a whole world of performing and social experiences too.
**Drama**

*What is it and what will I learn?*

As students progress through the years, the courses will develop to include working with scripts, study and performance of a specific dramatic form/genre and solo work and group work in live performances.

*What could this lead to?*

Drama would be useful to anyone considering a career in the performing arts. It would also be useful in a broader sense as the self-confidence and communication skills developed in this course will carry over into other subjects, allowing students to perform more strongly in oral and presentation style tasks such as: seminars; reports; presentations; speeches; debates.

---

**Dance**

*What is it and what will I learn?*

At Senior level, Students choreograph both solo and group work, perform in various dance works, analyse and evaluate dance performances and theoretically demonstrate knowledge of a particular dance genre.

*What could this lead to?*

NCEA Dance is a University approved subject that will allow senior students entry into university courses. Students can study towards gaining a career as a Dance Teacher (school/studio), Performer (Stage/Screen), Choreographer, Arts administrator, Dance Therapist, Movement specialist (human resources), Production Manager, etc.
Visual Art (Painting/Design/Photography)

What is it and what will I learn?
In Year 11 students continue to do a general visual arts programme to give them a foundation in different artistic mediums. In Years 12 & 13, students can choose one specialisation – Painting, Design or Photography.

What could this lead to?
It can take you into tertiary visual art/design courses, industry training, teacher training or straight in to visual arts/design job with on-site training.

Materials Technology

What is it and what will I learn?
Materials Technology is where students combine knowledge, skills and resources to create practical outcomes using a range of materials that include wood, metal and plastic.

What could this lead to?
Materials Technology continues to Year 13 as an Achievement Standard course and/or industry based Unit Standards courses in Construction and Engineering. It will help students into University and associated careers, as well as industry based courses.
Design & Visual Communication (DVC)

**What is it and what will I learn?**

In Design & Visual Communication, students solve problems related to the main areas of study: architectural, environmental, engineering, technical and media design. Drawing is a key element of the course, and through this, students can respond imaginatively and appropriately to a range of set briefs.

**What could this lead to?**

Those wishing to apply for further study at tertiary level will be able to prepare a portfolio supporting their application for courses such as advertising, architecture, graphics, interior design, digital design (computer based graphics) and many other relevant design fields.

Fashion & Design (Textiles Technology)

**What is it and what will I learn?**

At Junior level, students are encouraged to use imagination and creativity in producing and developing original designs. Practical skills covered include pattern adaptation, fashion drawing, creative design, sewing techniques, tie dye, screen printing and other forms of decoration. At Senior level, the course involves the development of higher skills and knowledge bases. Students will produce in-depth portfolios demonstrating concept generation, modelling and developing a prototype.

**What could this lead to?**

In Year 13 students will produce in-depth portfolios which they can use to support their application to a tertiary course. Students interested in careers in fashion or costume design would benefit from this course.

Food & Nutrition

**What is it and what will I learn?**

Students will develop a food product by following the technological process. Students will produce an in-depth portfolio to demonstrate planning, brief development, knowledge and skills gained. At a senior level, students will choose an individual client to work with. They will develop a brief and outcome for their chosen client.

**What could this lead to?**

This course, alongside Level 3 Science, will prepare students for Food Technology degree courses. It would also be useful for students planning careers in the hospitality and catering industries.
Hospitality

What is it and what will I learn?

This course gives students an insight into the Hospitality industry. The course covers food service and safety, basic food and knife skills, basic restaurant service and meal presentation. Food & Nutrition students will be given preference for entry into this course.

What could this lead to?

This course is ideal for students who are planning on careers in the hospitality, tourism and catering industries.

NB- Does not fulfil requirements for University entrance

Electronics

What is it and what will I learn?

At Junior level, the program introduces students to the terms, components and symbols of electronics and students will be given a basic understanding of circuits, circuit drawing, circuit testing, circuit simulation and circuit construction. At Senior level, students build upon previous knowledge, with students generating a portfolio of design work and producing at least two electronic circuits.

What could this lead to?

The intention is to provide students with an industry recognised qualification, namely, the Certificate of Electro Technology, Level 2. This qualification is recognised by the industry and will act as a reference for students seeking employment in the electronics field. The course touches on topics covered in an electronics degree.

Construction/Furniture/Timber Based Construction

What is it and what will I learn?

These courses are primarily practical with theory being built in. Students will learn workshop procedures and processes, health and safety in the industry, how to operate and use tools, and will construct and build their own products.

What could this lead to?

Construction, Furniture (Level 2) and Engineering have clear pathways to apprenticeships and trade training.

NB- Does not fulfil requirements for University entrance
Engineering

What is it and what will I learn?
The course consists of a variety of projects that help develop basic fitting, turning, welding, sheet metal, forging and metal casting skills. Projects including gravity punch, toolbox, wrought iron work, punch set and holder lanterns and steam engine are covered over the three year programme.

What could this lead to?
This is an industry based course that will give students a sound base in the wide field of engineering studies.

NB- Does not fulfil requirements for University entrance

Economics

What is it and what will I learn?
Economics is all about scarce resources and how society chooses to use them in the production of goods and services. In Year 9 and 10, students are introduced to basic economic concepts of scarcity, demand enterprise and basic accounting. In higher levels, Year 11 onwards, students learn about prices, markets, inflation, international trade, economic growth, business organisations, and Governments influence on our economy.

What could this lead to?
Economics enables students to become economically literate and understand the world better, and will make students more attractive to any commercial organisation or well-placed for further academic study in business, management or commerce.

Accounting

What is it and what will I learn?
The Accounting course aims to promote knowledge and understanding of accounting as a financial language for individuals and businesses. It provides students with knowledge and skills they can apply to practical situations.

What could this lead to?
Accounting is an essential component of any understanding of business activity – accountants work in diverse areas from sporting organisations, small and large businesses and Government departments. Skill levels vary depending on individual interest and range from recording transactions to providing complex financial advice.

Business Studies

What is it and what will I learn?
Students learn the theory behind marketing, planning, Human Resources, organisational structure and finance in relation to New Zealand businesses. Course participants will then put this theory into practice through the Young Enterprise Scheme by forming a company to raise capital, produce and market a product or service with the aim of making a profit for all shareholders.

What could this lead to?
Business Studies aims to build a base of knowledge to prepare students for the commercial world. This course would be useful for a very broad range of careers and interests.

Digital Technology (ICT)

What is it and what will I learn?
The subject enables you to use spreadsheets, word processing, desk top publishing, database, web design and programming languages. Study in Information Management for Year 10 & 11 students gives a sound knowledge of Microsoft packages and their application to documents. The subject leads students for Year 12-13 into either a computer science/information systems degree or into technology using ICT.

What could this lead to?
Credits at Year 13 are ‘university approved’. Without IT skills the future in any employment will be more difficult. This skill base and knowledge can be used to do further study in Information Technology, however, it is also a skill that can be carried across all subjects studied and is very useful at tertiary. It can also be used as entry level into employment.

Computer Studies - Programming

What is it and what will I learn?
This course is for technically-minded students who have an interest in learning to programme computers. In Year 11 the course covers basic programming, structures and project development. In Years 12 & 13, more advanced programming skills and techniques are covered, including problem solving, effective algorithms and software engineering.

What could this lead to?
Our courses are designed to teach the programming disciplines that would be required by industry and our teachers have previous experience as computing specialists, including employment in the industry. The course meets the university entrance requirements for further study in the subject.

Computer Studies - Applications

What is it and what will I learn?
This course provides a solid foundation of vocational computer skills, helping students to competently and confidently use a variety of computer applications. In Year 13, students use a range of software packages including spreadsheets, word processing, database, web design and interactive media.

What could this lead to?
Our courses are designed to teach the programming disciplines that would be required by industry and our
teachers have previous experience as computing specialists, including employment in the industry. The course meets the university entrance requirements for further study in the subject.

Legal Studies

**What is it and what will I learn?**

Legal Studies is a programme for Year 12 students. It provides an introductory understanding to New Zealand law and the role it plays in our society. The course also enables students to acquire an informed appreciation of the New Zealand legal system.

**What could this lead to?**

This topic will be of interest to students considering a future career in law or those students who want to appreciate the social and commercial aspects of New Zealand law.

*NB- Does not fulfil requirements for University entrance*

Sports Science

**What is it and what will I learn?**

This course deals primarily with the scientific aspects of sport. It is an advanced academic course. Students are guided in the development of skills in the principles of training and advanced health sciences as they relate to sports performance. There is very little practical in this course.

**What could this lead to?**

It is for students who wish to extend their learning with the view to go onto Scholarship Physical Education in Year 13.

Health

**What is it and what will I learn?**

Students will be encouraged to understand and acknowledge the attitudes and values of themselves, others and society. We aim to develop and nurture the mental health of our students, so that they can make positive life choices. We aim to empower students to explore their personal identity and enhance their self-esteem.

**What could this lead to?**

Participation in Health Education can lead towards a varied range of career options. Health is a social science, and as such people who work in health provide medical services and health care for people and animals that may be injured, disabled or suffering from disease. They also educate people about how to prevent sickness and look after their own physical and emotional wellbeing. Health educated people find jobs in health facilities such as hospitals, nursing homes, clinics, schools, sporting organisations.
Physical Education

What is it and what will I learn?

At Junior level, students experience a variety of physical activities and a variety of facilities. At Senior level, Physical Education provides an insight into the disciplines of: Sport Psychology, the Acquisition of Skill, Sports Sociology, Biomechanics, Training Programme Planning, Anatomy and Physiology, Sports Performance, Coaching, Leadership and Outdoor Education – including a four day camp.

What could this lead to?

Studying Physical Education would be useful for careers such as: Physiotherapist; Teacher; Coach; Fitness Instructor; Sports Official; Therapist; Sports Analyst; Sports Management; Health Sciences; Professional Sportsman/Woman.

Practical Physical Education

What is it and what will I learn?

This course is a practically based Physical Education option that is an alternative to the more academic Level 3 Physical Education and Sports Science courses. Students will develop advanced physical skills in a number of different contexts, including team, individual and outdoor pursuit activities.

What could this lead to?

Studying Physical Education would be useful for careers such as: Physiotherapist; Teacher; Coach; Fitness Instructor; Sports Official; Therapist; Sports Analyst; Sports Management; Health Sciences; Professional Sportsman/Woman.