



Cambridge Assessment  
International Education

Cambridge International School



WENTWORTH  
COLLEGE

# 2024 Curriculum Booklet

# WENTWORTH COLLEGE

## COURSE OPTIONS

### FOR

## YEARS 12 & 13

## 2024

# Selecting your Years 12 / 13 Course

## **Cambridge Assessment International Education (CIE)**

The aim of this booklet is to inform students and parents/caregivers of the Cambridge A.S. (Advanced Subsidiary) and A2 Level courses which are offered for study at Wentworth College.

The information given outlines course syllabus, course content and assessment modes.

The A.S. Cambridge and A2 Cambridge curricula encourage students not only to acquire knowledge but also to:

- a) Use an exploratory approach to problem solving
- b) Have confidence in their ability to solve problems
- c) Apply skills, knowledge and understanding
- d) Undertake individual projects and work as a team
- e) Develop oral and practical skills

The inclusion of New Zealand content in the Cambridge programme reinforces the quality of the qualification.

### **Introduction:**

This course selection guide is designed to assist you in selecting your subjects for Year 12 and Year 13. It is important that you research your possible career and subject options thoroughly and seek advice.

In Years 12 and 13 you should aim to study subjects which help you prepare for your future university aspirations and/or career goals. Most students at Wentworth plan to study for degrees at university, however it should be noted that while this is the best goal for many, it is not necessarily the best or most appropriate choice for all students.

Preparation for worthwhile, interesting and rewarding careers is available through Polytechnic Degree, Diploma and Certificate courses, as well as private tertiary providers, apprenticeships and other training programmes. You should select subjects that reflect your career interest, that you enjoy, and that reflect your skills, personal qualities, learning style and values.

Cambridge Assessment International Education examinations are set and co-ordinated by the University of Cambridge in England. This is an international qualification. There are over 10,000 schools worldwide teaching the CIE programme.

### **Useful Information Websites:**

- [www.wentworth.school.nz](http://www.wentworth.school.nz) – Wentworth College
- [www.acsnz.org.nz](http://www.acsnz.org.nz) – Association of Cambridge Schools in NZ (Inc).  
(an excellent site, explaining how CIE operates in New Zealand.  
Very good FAQ section.)
- [www.cambridgeinternational.org](http://www.cambridgeinternational.org) – the international ‘Cambridge’ website.

CIE offers an international syllabus that is fair and equitable for students around the world. There can be a combination of internal coursework, internal assessments and external examinations that are offered.

### **CIE Background:**

A.S. Level = Advanced Subsidiary ( <i>A.S. is half an ‘A’ Level</i> ) A2 Level = Advanced ( <i>the other half of the ‘A’ Level</i> ) A Level = A.S. Level plus A2 Level
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Students in Year 12 study A.S. subjects which count towards University Entrance. Students may wish to study A.S. subjects in both Years 12 and 13, or a combination of A.S. and A2 Level subjects in Year 13. For most university courses, a student does not need A Level passes. A number of A.S. passes is sufficient.

A2 Level subjects are of an advanced level and are demanding. Students will need a high level of achievement in a Year 12 subject at A.S. (preferably Grade A, B or C) to proceed to A Level in that subject.

#### **A.S. Level grade results:**

A* – 90% and above A – 80-89% B – 70-79% C – 60-69% D – 50-59% E – 40-49% U – ungraded
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For most of our students, examinations are sat in October/November each year. CIE examinations are also offered in May/June.

# YEAR 12

## Cambridge A.S. at Wentworth

Each A.S. syllabus follows a CIE prescription for each subject. Most students will sit **1 compulsory** and **3 optional** subjects.

### Year 12 Subjects

Compulsory subjects	Options (choose 3 AS subjects)
A.S. English Literature	A.S. Art & Design - Fine Art
<b>or</b>	A.S. Art & Design – Fine Art Photography
A.S. English Language and Literature	A.S. Art & Design – Graphic Communication
	A.S. Biology
	A.S. Business
English is <b>compulsory</b> for all students at Year 12. (This is a Ministry of Education requirement for New Zealand.)	A.S. Chemistry
	A.S. Computer Science
	A.S. Design & Technology
	A.S. Economics
	A.S. Geography
	A.S. History
	A.S. Marine Studies
	A.S. Mathematics
	A.S. Music
	A.S. Physics
	A.S. Sport & Physical Education

**Note:**

- **The availability of all courses is subject to student numbers and staffing.**
- As is the custom at Wentworth College, individual needs or requests are carefully considered and, where possible, every attempt is made to provide a course programme suited to individual requirements.
- To study an A2 subject in Year 13, students must first study the A.S. subject in Year 12. Think about how your selection will impact on your Year 13 and university aspirations.
- You need to be aware that not all A.S. subjects are offered at A2 Level.

*Below is an example of one key part of Auckland University’s requirements for some of their courses:*

*CIE: Students will be selected on the basis of their rank score and three subjects from Table A and/or Table B.*

Table B	Table A
Accounting, Biology, Business Studies**, Chemistry, Economics, Mathematics**, Mathematics with Calculus*, Physics, Statistics and Modelling*.	Classical Studies, English, Geography, History, History of Art, Te Reo Maori* <b>or</b> Te Reo Rangatira
	<i>*NCEA subject; **CIE subject.</i>

*Please note: these tables are not used by universities other than Auckland University.*

## YEAR 13

### Cambridge A.S. and A2 at Wentworth

Year 13 students will select a combination of A.S. and A2 subjects.

To study at the A2 Level, students need to have a high level of achievement and interest in the subject at the previous year levels. The student will be expected to have gained an A, B or C in A.S. examinations to meet the prerequisite to study at the A2 Level. Heads of Faculty/Department will have discretion in this area.

There could be numerous combinations of A.S. and A2 selected subjects, however, students are advised not to study more than three A2 subjects. It may be that a student will study 3 x A.S. subjects and 1 x A2, or 2 x A.S. subjects and 2 x A2.

#### Year 13 Subjects

**Select a combination of up to 4 AS and/or A2 subjects.**

A.S. Art & Design - Fine Art	A2 Art & Design - Fine Art
A.S. Art & Design – Fine Art Photography	A2 Art & Design – Fine Art Photography
A.S. Art & Design – Graphic Communication	A2 Art & Design – Graphic Communication
A.S. Biology	A2 Biology
A.S. Business	A2 Chemistry
A.S. Chemistry	A2 Computer Science
A.S. Computer Science	A2 Design & Technology
A.S. Design & Technology	A2 Economics
A.S. Economics	A2 English Literature
A.S. English Literature	A2 Geography
A.S. English Language and Literature	A2 History
A.S. Geography	A2 Marine Studies
A.S. History	A2 Mathematics
A.S. Marine Studies	A2 Music
A.S. Mathematics	A2 Physics
A.S. Music	
A.S. Physics	
A.S. Sport & Physical Education	

#### **Note:**

- Depending on student numbers, some A2 subjects may run concurrently with A.S. classes.
- Individual students may be able to study at an A2 Level in a subject not covered in the above list. This would need to be discussed with Mr Lee.
- If a student chooses to study A.S. English Literature after having sat the examination in A.S. English Language and Literature (or vice versa) in the previous year, only one of these marks will count for University Entrance points.

## **Choosing Your Subjects**

To choose your subject options you need to think about these things:

### **Interests:**

What do you enjoy? Do you like the course or just the teacher?

You are more likely to work hard and do well in a course that interests you.

### **Skills and Abilities:**

Which subjects are you good at?

Assessment results will help you to determine your ability.

Discuss this with your parents and subject teachers.

### **Learning Style:**

Do you prefer reading and writing, listening and discussing, practical work, creative work?

### **Which subjects will you need?**

Consider university, polytechnic and other courses, apprenticeships, cadetships and work.

Carefully check websites and prospectuses for required subjects which you must take.

Consider recommended subjects that it is desirable to study.

Remember your school studies provide a platform of skills and knowledge for your future learning. What you learn is important, not just the NZ Cambridge UE Tariff.

### **Career choices:**

What do you plan to do when you leave school?

What are your short term plans?

What are your long term goals?

### **Range of subjects:**

Keep your options open, especially if you are undecided about future course or career plans. Some subjects complement each other and go well together to form useful “clusters”.

### **Pre-requisites for further study:**

Look at the subjects you wish to study in future years.

### **Some subjects can be started at any year level.**

### **What is involved in studying the subjects that interest you?**

Will you have to read a lot of books?

Will you have to write many essays?

Will you need to do practical experiments?

Will you need to make things?

Will the subject involve discussion with other people in the class?

What topics does the subject cover?

Will the subject involve field trips, projects, performances?

How is the subject assessed: end of year examinations, assignments, internal assessments?

# CAMBRIDGE Subject Details

## Table of Contents

Subject	Page
A.S. Art & Design - Fine Art	8
A.S. Art & Design – Fine Art Photography	8
A.S. Art & Design – Graphic Communication	9
A2 Art & Design - Fine Art	9
A2 Art & Design - Fine Art Photography	9
A2 Art & Design - Graphic Communication	9
A.S. Biology	10
A2 Biology	11
A.S. Business	12
A.S. Chemistry	13
A2 Chemistry	14
A.S. Computer Science	15
A2 Computer Science)	16
A.S. Design & Technology (Graphics)	17
A2 Design & Technology	18
A.S. Economics	19
A2 Economics	20
A.S. English Language and Literature	21
A.S. English Literature	21
A2 English Literature	22
A.S. Geography	23
A2 Geography	23
A.S. History	24
A2 History	25
A.S. Marine Studies	26
A2 Marine Studies	27
A.S. Mathematics	28
A2 Mathematics	28
A.S. Music	29
A2 Music	30
A.S. Physics	31
A2 Physics	32
A.S. Sport & Physical Education	33

If you have any questions about these subjects, please see the teacher of the course or email them.

[firstinitiallastname@wentworth.school.nz](mailto:firstinitiallastname@wentworth.school.nz) i.e. [ncarrigan@wentworth.school.nz](mailto:ncarrigan@wentworth.school.nz)

## A.S. Art & Design (Fine Art)

### Recommended Background:

A.S. Level Art & Design (Fine Art) requires skills and knowledge from studying Year 11 Fine Art. Students who have gained lower than a Grade 'C' in IGCSE Art & Design should consult with the Mrs Carrigan before entry to the course. Students who have not undertaken any previous Art studies must be competent in drawing and painting. Students are required to have a core set of quality acrylic paints, art pencils and a variety of drawing media as the course progresses and students pursue their individual core strengths.

### Course Description:

A.S. Level Art and Design (Fine Art) is a course upon which further study in Fine Art at A Level and Tertiary levels is based. In Term 1, students are taught to analyse artists' ways of working and to develop an understanding of processes and procedures used by their chosen artist model. Students apply this knowledge to their chosen theme and learn to develop their ideas alongside their technical skills. This work continues into Term 2 as students fulfil the requirements for Component 1, the Coursework. This develops their abilities to research in depth and demonstrate an understanding of contemporary fine art practice. It also allows students to create original work that shows personal expression and imagination, and develops an understanding of their own interests within the subject area. Students are encouraged to incorporate their own photography into the research component of the course. Term 3 is spent preparing for the external examination.

### Assessment: Art & Design (Fine Art) 9479

Component 1 Coursework	40%	(External assessment - completed in class during Terms 1 and 2)
Component 2 Externally Set Assignment	60%	(external assessment)

## A.S. Art & Design (Fine Art Photography)

### Recommended Background:

A.S. Level Art & Design (Fine Art Photography) requires skills and knowledge from studying Year 11 Fine Art or Design. Students who have gained lower than a Grade 'C' in IGCSE Art & Design should consult with Mrs Carrigan before entry to the course. Students who have not undertaken any previous Art studies may be granted entry to the course after consultation. All students need to be competent in using a digital camera and have access to a laptop capable of running Photoshop. A portable hard drive to store work and back up files is recommended. Work will be developed using Photoshop, as well as non-digital methods. Subscription to iCloud is preferred at this level. The current cost of the iCloud subscription is approximately \$20.00 per month and this gives students access to the *Photoshop* software programme.

### Course Description:

A.S. Level Art and Design (Fine Art Photography) is a course upon which further study in Design at A Level and Tertiary levels is based. In Term 1, students are taught to use their camera in manual mode using both natural and studio lighting. Core classwork is centred on the student's individually chosen theme. Students learn to interpret the work of established artist models and how to use this research to develop their own ideas. This work continues into Term 2 as students fulfil the requirements for Component 1, the Coursework. This develops their abilities to analyse and research in depth and demonstrate an understanding of contemporary photographic practice. It also allows students to create original work that shows personal expression and imagination, and develops an understanding of practical design problems. Term 3 is spent preparing for the external examination.

### Assessment: Art & Design (Fine Art Photography) 9479

Component 1 Coursework	40%	(External assessment - completed in class during Terms 1 and 2)
Component 2 Externally Set Assignment	60%	(external assessment)



## A.S. Art & Design (Graphic Communication)

### Recommended Background:

A.S. Level Art & Design (Graphic Communication) requires skills and knowledge from studying Year 11 Design. Students who have gained lower than a Grade 'C' in IGCSE Art & Design should consult with the Mrs Carrigan ment before entry to the course. Students who have not undertaken any previous Art studies may be granted entry to the course after consultation. All students need to be competent in using a laptop which is capable of running Photoshop. A portable hard drive to store work and back up files is recommended. Subscription to iCloud is preferred at this level. The current cost of the iCloud subscription is \$20.00 per month and this gives students access to the Photoshop software.

### Course Description:

A.S. Level Art and Design (Graphic Communication) is a course upon which further study in Design at A Level and Tertiary levels is based. In Term 1, students are taught Design History alongside core classwork centred on the student's individually chosen theme. They are also taught about the main graphic designers who have played a major part in Design's development over the last century. This work continues into Term 2 as students fulfil the requirements for Component 1, the Coursework. This develops their abilities to analyse and research in depth and demonstrate an understanding of contemporary design practice. It also allows students to create original work that shows personal expression and imagination, and develops an understanding of practical design problems. Students are encouraged to incorporate their own illustrations and photography into the research component of the course. Term 3 is spent preparing for the external examination.

### Assessment: Art & Design (Graphic Communication) 9479

Component 1	Coursework	40%	(External assessment - completed in class during Terms 1 and 2)
Component 2	Externally Set Assignment	60%	(external assessment)

## A2 Art & Design (Fine Art OR Fine Art Photography OR Graphic Communication)

### Recommended Background:

Students taking this course **must** have achieved a good level of competence in A.S. Level Art & Design, achieving Grade C or better to proceed to this course of study.

### Course Description:

A2 Level Art & Design is a course upon which further study in either Graphic Communication or Fine Art (including Photography) at Tertiary level is based. The aim of the Personal Investigation is for students to investigate in depth a theme, idea, concept or process that is personal to them. There are two parts to the investigation - practical work and written analysis (1000 - 1500). The practical work and written analysis must form an integrated submission.

All Visual Art & Design coursework and examinations will be posted to the U.K. for marking and the cost of this will be passed on to students.

### Assessment: Art & Design (Graphic Communication or Fine Art) 9479

Component 1	A.S. Coursework mark carried forward	25%
Component 2	A.S. Externally set Assignment mark carried forward	25%
Component 3	Personal Investigation	50%

## A.S. Biology

Biology is the study of life. Coupled with technology, it provides fascinating avenues for research into the treatment of human diseases, growth of robust crops and the development of vaccines and therapies. An understanding of our environment and the ways in which humans interact with it is essential for informed decision-making about the future of our planet.

Biology is used in such areas as biotechnology, food science, brewing, dairy and pharmaceutical industries, conservation, plant protection, ecology, aquaculture and fisheries, education, environmental resource management and planning.

### **Recommended Background:**

It is recommended a good pass (Grade 'B' or above) in IGCSE Biology. Students with grades below this level will need to make special application to the Head of Department.

### **Course Description:**

The intention of the syllabus is to provide students with either a stand-alone, in-depth view of some fundamental biological concepts, and/or a good foundation for progress to A Level.

- Cell structure
- Biological molecules
- Enzymes
- Cell membranes and transport
- The mitotic cell cycle
- Nucleic acids and protein synthesis
- Transport in plants
- Transport in mammals
- Gas exchange and smoking
- Infectious disease
- Immunity

### **Assessment: Biology 9700**

The final A.S. grade is based upon 77% external examination and 23% external practical (completed in school):

Paper 1:	Multi-Choice	31%	(external examination)
Paper 2:	Structured Questions	46%	(external examination)
Paper 3:	Practical Paper	23%	(external examination)

## A2 Biology

### Course Description:

The course consists of a combination of theoretical and practical studies leading to an understanding of more advanced knowledge and principles of Biology. Through well-designed studies of experimental and practical biological science, the course will provide a worthwhile educational experience for all students, whether or not they go on to study science beyond this level.

### Recommended Background:

A good pass (Grade 'C' or better) at A.S Level Biology. Students with lower grades will need to make a special application and they will be expected to resit the A.S. examinations, either in the June or November sessions.

- Energy and respiration
- Photosynthesis
- Homeostasis
- Control and co-ordination
- Inherited change
- Selection and evolution
- Biodiversity, classification and conservation
- Genetic technology

### Paper 4

This paper will consist of two sections.

- **Section A** will consist of a variable number of structured questions of variable mark value, based on the A2 core and applications syllabus.
- **Section B** will consist of a free-response question, presented in an either/or format, that will carry 15 marks based on the A2 core syllabus. Candidates will answer all questions on the question paper.

### Paper 5

This paper will consist of two or more questions based on the practical skills of planning, analysis and evaluation. The examiners will not be restricted by the subject content. Candidates will answer all the questions on the question paper. Questions will require an understanding of the use of statistical tests. The formulae for these tests will be provided.

### Assessment: Biology 9700

Papers 1,2,3: Carry forward A.S. mark	50%	
Paper 4: A2 structured questions	38%	(external examination)
Paper 5: Planning, analysis and evaluation	12%	(external examination)

### **Recommended Background:**

Grade 'C' or better at IGCSE English and Mathematics or with permission of the Head of Faculty.

### **Course Description:**

A.S. Business is a great subject to grow an understanding of what it takes to be successful in the working world. We look at what is needed to be an entrepreneur, to be an inspirational leader, motivate and get the best out of the workforce. Alongside this, we look at how you would market your business to the consumer with the aim of achieving the objectives of the business.

The course looks to develop a student's understanding in the following areas:

- Business and the environment within which it operates
- Marketing decisions
- People in organisations
- Operational management decisions
- Business finance and accounting

A.S. Business will encourage students to develop:

- an understanding of, and appreciation for, the nature and scope of business and its role in society
- critical understanding of organisations, the markets they serve and the process of adding value
- awareness that business behaviour can be studied from a range of stakeholders' perspectives, including customer, manager, owner and employee
- awareness of the economic, environmental, legal, ethical, social and technological issues associated with business
- decision making and problem solving skills in a business context
- effective communication skills

A large part of the course involves looking at case studies of business and applying relevant business theory to them.

### **Assessment: Business 9609**

Paper 1: Short Answer and Essay	40%	(external examination)
Paper 2: Data Response	60%	(external examination)

## A.S. Chemistry

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigative skills. It is called the central science, as chemical principles underpin both the physical environment in which we live and all biological systems. Apart from being a subject worthy of study in its own right, Chemistry is a prerequisite for many other courses in higher education, such as medicine, pharmacy, nursing, veterinary science, chemical engineering and environmental services.

### Course Description:

The course provides students with an opportunity to study both the theoretical and practical aspects of Chemistry, leading to an understanding of the more advanced principles. The course aims to stimulate students to create and sustain their interest in Chemistry, and to understand its relevance to society. Students will be assessed on their ability to demonstrate knowledge and understanding of key concepts, on their ability to handle information and solve problems, and on their experimental and investigative skills.

### Recommended Background:

It is recommended a good pass (Grade 'B' or above) in IGCSE Chemistry. Students with grades below this level will need to make special application to the Head of Department.

### Preparation for the A.S. Course

Students will be required to complete some pre-course material to prepare them for the A.S. course. This will allow the transition to A.S. Chemistry from IGCSE Chemistry to happen smoothly, and enable the students to access the more challenging material from the outset of the course.

### The course is divided into three topics and each topic is divided into sub-topics:

Physical Chemistry	Inorganic Chemistry	Organic Chemistry
1. Atomic structure	9. The Periodic Table: chemical periodicity	13. An introduction to A.S. Level organic chemistry
2. Atoms, molecules and stoichiometry	10. Group 2	14. Hydrocarbons
3. Chemical bonding	11. Group 17	15. Halogen compounds
4. States of matter	12. Nitrogen and sulfur	16. Hydroxy compounds
5. Chemical energetics		17. Carbonyl compounds
6. Electrochemistry		18. Carboxylic acids and derivatives
7. Equilibria		19. Nitrogen compounds
8. Reaction kinetics		20. Polymerisation
		21. Organic synthesis
		22. Analytical Chemistry

### Assessment: Chemistry 9701

The final A.S. grade is based upon 77% external examination and 23% an external practical (completed in school):

Paper 1:	Multi-Choice Questions	31%	(external examination)
Paper 2:	Structured Questions	46%	(external examination)
Paper 3:	Advanced Practical Skills	23%	(external examination)

## A2 Chemistry

### Course Description:

The course provides students with an opportunity to study both the theoretical and practical aspects of Chemistry, leading to an understanding of the more advanced principles.

The course builds upon their learning at A.S. Level Chemistry, developing their depth of understanding and exploring areas in a more contextual manner.

Students will be assessed on their ability to demonstrate knowledge and understanding of key concepts, on their ability to handle information and solve problems, and on their experimental and investigative skills.

### Recommended Background:

A good pass (Grade 'C' or better) at A.S. Level Chemistry is required. Students with lower grades will need to make a special application and will be expected to resit the A.S. examinations.

### The course is divided into three topics and each topic is divided into sub-topics:

Physical Chemistry	Inorganic Chemistry	Organic Chemistry
1. Chemical energetics 2. Electrochemistry 3. Equilibria 4. Reaction kinetics	5. Group 2 6. Chemistry of transition elements	7. An introduction to A Level organic chemistry 8. Hydrocarbons 9. Halogen compounds 10. Hydroxy compounds 11. Carboxylic acids and derivatives 12. Nitrogen compounds 13. Polymerisation 14. Organic synthesis 15. Analytical techniques

### Assessment: Chemistry 9701

Papers 1,2,3:	Carry forward from A.S. Mark	50%	
Paper 4:	Structured Questions	38.5%	(external examination)
Paper 5:	Planning, Analysis, Evaluation	11.5%	(external examination)

# A.S. Computer Science

Computer Science is a subject distinct from ICT (Information and Computer Technology). The latter has been taught for many years, improving the skills needed to use applications commonly found in the workplace, such as word processors and spreadsheets. Computer Science courses deal with the workings of computers, their programming and their application in the work place.

## Recommended Background:

Students are not required to have studied Computer Science or ICT previously; however some experience of computing would be an advantage.

## Course Description:

Students will develop an understanding of the fundamental principles of computer science and how computer programmes work in a range of contexts. They will study topics including:

- **Information representation:** Data representation, multimedia, and compression
- **Communication:** Networks including the internet
- **Hardware:** Computers and their components, logic gates and logic circuits
- **Processor Fundamentals:** CPU architecture, assembly language, and bit manipulation
- **System Software:** Operating system and language translators
- **Security, privacy and data integrity:** Data security and data integrity
- **Ethics and Ownership**
- **Databases:** Database concepts, database management system, data definition language, and data manipulation language
- **Algorithm Design and Problem-Solving:** Computational thinking skills and algorithms
- **Data Types and structures:** Data types and records, arrays, files, and introduction to abstract data types
- **Programming:** Programming Basics, constructs, and structured programming
- **Software Development:** Programme development lifecycle, programme design, programme testing and maintenance

## Equipment Requirements:

Students are not required to supply their own laptop. However, should they prefer to do so, the laptop will need to use Windows OSX or Linux as an operating system. (Small tablet-style computers such as iPads and smart phones are not sufficient.) Software required for this course is freely available from the Internet and can be installed at the beginning of the course.

Students will be expected to purchase the following approved textbook:

*Cambridge International A.S. and A Level Computer Science*  
by David Watson and Helen Williams, ISBN 978-1-5104-5759-1

## Assessment: Computer Science 9618

Paper 1:	Theory Fundamentals	50% (external examination)
Paper 2:	Fundamental problem solving and programming skills	50% (external examination)

## A2 Computer Science

Computer Science is the study of the internal workings of the computer, operating systems and programming. It is a rigorous academic subject requiring a conscientious effort. Students who do best are willing to work at home, extending their knowledge of the topics studied in class.

### Recommended Background:

Computer Science at A2-Level is an extension of the A.S. course. Students must have successfully completed the A.S. course before they embark on A2.

### Course Description:

Topics covered will include:

- **Data Representation:** User-defined data types, file organisation and access, floating-point numbers, representation and manipulation
- **Communication and internet technologies:** Protocols, circuit switching and packet switching
- **Hardware and Virtual Machines:** Processors, parallel processing and virtual machines, boolean algebra and logic circuits
- **System Software:** Purposes of an Operating System (OS) and translation software
- **Security:** Encryption, encryption protocols and digital certificates
- **Artificial Intelligence (AI):** Artificial Intelligence
- **Computational thinking and problem solving:** Algorithms and recursion
- **Further Programming:** Programming paradigms, file processing and exception handling

### Equipment Requirements:

No equipment is required by the students as we have a suite of laptops for lessons. Students are permitted to bring their own devices if they wish. Any software required will be freely available.

### Assessment: Computer Science 9618

Papers 1&2:	Carry forward from A.S. Mark	50%	
Paper 1:	Advanced Theory - 1 ½ hours	25%	(external written examination)
Paper 2:	Practical – 2 ½ hours	25%	(external examination on a computer)



## A.S. Design & Technology (Graphics)

The Cambridge A.S. Design & Technology syllabus enables candidates to identify, consider and solve problems through creative thinking, planning and design, and by working with different media, materials and tools. As a result, students gain technical proficiency and design awareness, and develop skills such as initiative, resourcefulness, enquiry and ingenuity. Students also develop the communication skills central to design making and evaluation.

### Recommended Background:

To have completed the IGCSE Design & Technology (Graphics) with a Grade 'C' or better, **or** to have permission from Ms Groves.

### Course Description:

The A.S. Level Design & Technology (Graphics) course is an advanced course of study for students who have successfully completed the IGCSE course.

The aims of the A.S. Level Design & Technology (Graphics) syllabus are to enable candidates to develop:

- the ability to be innovative and creative in design and technology and to recognise constraints and produce high quality products
- an awareness of the significance of design and technology to society
- the ability to apply essential knowledge, understanding and skills of design production processes to a range of technological activities and develop an understanding of industrial practices
- the ability to use information and communications technology (ICT), as appropriate, to enhance design and technology capability
- critical evaluation skills in technical, aesthetic, economic, environmental, social and cultural contexts
- the ability to make informed choices as a discerning consumer
- the ability to work collaboratively

### Assessment: Design & Technology (Graphics) 9705

Component 1	External examination	Component 2	40 – 50 hours coursework
	This is an external written paper which tests knowledge, understanding, product analysis and design. There are 3 sections; in each section candidates answer one question from a choice of three.		This is an internal coursework project which involves an individual design problem and production of a design model.
	60%		40%

## A2 Design & Technology

This syllabus encourages candidates to be innovative and creative and to develop their ability to design high quality products.

Through their studies, candidates will:

- develop an awareness of the significance of design and technology to society
- learn more about production processes and industrial practices
- develop critical evaluation skills which they can employ in a variety of technical, aesthetic, economic, environmental, social and cultural contexts.

### Recommended Background:

To have completed the A.S. Design & Technology (Graphics) with a Grade 'C' or better.

### Course Description:

This course follows on from the A.S. course. Students have the choice of following on from their design from A.S. or starting a completely new project. However, this time they must arrive at a final solution.

### Assessment: Design & Technology 9705

<b>Components 1 &amp; 2:</b> carried forward from A.S. Design & Technology – 50%	
<b>Component 3 External examination</b> This is an external written paper which tests design, knowledge and understanding in three focus areas; candidates specialise in one of these areas. There are two sections in this paper. - In Section A candidates answer two structured knowledge application questions from a choice of three on their chosen focus area. - In Section B candidates answer the one design question on their chosen focus area.	<b>Component 4 40 – 50 hours coursework</b> This is an internal coursework project which can either be developed from the Component 2 project or be a completely new project covering Components 2 and 4 in an holistic way.
30%	20%

# A.S. Economics

## Recommended Background:

Grade 'C' or better at IGCSE Economics or with permission of the Head of Faculty.

## Course Description:

The A.S. Economics course is suitable for both Years 12 and 13 students. Economics affects everyone in their daily lives, whether it is deciding to buy a car or to go on an overseas trip. We investigate the actions of consumers and producers and why they behave the way they do. We look at the different systems of allocating resources in an economy and the different tools that governments use to influence the economic activity of people and businesses.

The course is very useful for those intending to study Commerce, Law, Math and Engineering type degrees. It has proven, over time, to offer excellent preparation for university.

Throughout the course, economic models will be analysed and applied to everyday situations. By the end of the course, students will be able to answer questions such as:

- What is the economic cost of Covid to New Zealand and other countries?
- Is inflation or deflation damaging to a country?
- What is the Reserve Bank of New Zealand trying to achieve by changing interest rates?
- Do the prices of cigarettes and alcohol reflect the true cost to society?
- How do changing exchange rates affect me and other groups in the economy?
- Is it a good idea for New Zealand to sign free trade agreements?

### *Topics studied include:*

- Basic Economic Concepts
- Market Failure and Government Intervention
- Macro-Economic Analysis
- The Market and Elasticity
- Trade, inflation and unemployment

## Assessment: Economics 9708

Paper 1: Multiple-Choice	40%	(external examination)
Paper 2: Data Response and Essay	60%	(external examination)

## A2 Economics

### Recommended Background:

Grade 'C' or better at AS Economics or with permission of the Head of Faculty.

### Course Description:

The A2 Economics course is suitable for Year 13 students. Economics affects everyone in their daily lives, whether it is deciding to buy a car or to go on an overseas trip or which political party your values and principles line up with. We investigate the actions of consumers, producers and governments to look at why they behave the way they do. We look at the different systems of allocating resources in an economy and the different tools that governments use to influence the economic activity of people and businesses.

The course is very useful for those intending to study Commerce, Law, Mathematics and Engineering type degrees. It has proven to offer excellent preparation for university.

Throughout the course, economic models will be analysed and applied to everyday situations. By the end of the course, students will be able to answer questions such as:

- What is the economic cost/benefit of government actions to New Zealand and other countries?
- Is inflation or deflation damaging to a country?
- What is the Reserve Bank of New Zealand trying to achieve by changing interest rates?
- How does the size of a business and how it grows impact on New Zealand, both domestically and internationally?
- Should governments look to fund their spending through privatisation?
- Is it a good idea for New Zealand to sign free trade agreements?

Topics studied include:

- The price System
- Market Failure
- Money & Banking
- Trade, inflation and unemployment
- Economic Development

Assessment: Economics 9708

Paper 1: Carry forward from A.S. Mark	50%
Paper 2: Data Response and Essay	33% (external examination)
Paper 3: Multiple-Choice	17% (external examination)

Year 12 students must choose between two English courses – A.S. Language and Literature **OR** A.S. Literature.

**Those students wishing to take A2 English must choose A.S. Literature.**

### **EITHER** **A.S. Language and Literature**

The syllabus aims are to enable students to:

- enjoy the experience of studying English language and reading literature
- communicate effectively, accurately and appropriately in writing
- develop the interdependent skills of reading, analysis and communication
- develop an appreciation of texts in a range of forms and styles produced for a variety of audiences and from different periods and cultures
- build a firm foundation for further study of language and literature

Cambridge A.S. Language and Literature in English requires candidates to answer two compulsory papers.

#### **Paper 1: Writing**

Candidates answer two questions: one compulsory question from Section A, and one question from a choice of three in Section B.

##### **Section A:** Example of the compulsory question:

Your head teacher has asked you to produce a leaflet called Leaving Home. The leaflet will be aimed at older teenagers who are going to live in another town or city to go to university.

(a) Write the text for the leaflet, using no more than 400 words. In your writing, give advice and guidance on how to manage living away from your family for the first time.

(b) Write a reflective commentary on your text, explaining how your linguistic choices contribute to fulfilling the task set by your head teacher.

**Section B:** Candidates choose one out of three questions. In each question, a specified form of writing will be given. These could include: descriptive writing, narrative writing, magazine article, review, speech, debates, letters, a voice-over for a documentary.

#### **Paper 2: Drama, Poetry and Prose**

Candidates answer two questions, each from a different section.

#### **Assessment: Language and Literature 8695**

Paper 1: Writing	50%	(external examination)
Paper 2: Drama, Poetry and Prose	50%	(external examination)

**OR**

## **A.S. English Literature**

### **Recommended Background:**

Entry to this course is at the discretion of the Head of Department and Head of College. In general, this will require students to gain a 'D' grade or above in IGCSE Literature.

The aim of this course is for students to develop:

- an appreciation of, and an informed personal response to literature written in English in a range of texts from different periods and cultures
- the skills of reading and analysis of literature
- effective and appropriate written communication

The students study and write essays on three texts (from three genre): Prose, Poetry and Drama. In their essays candidates must show:

- an understanding of the ways in which the writer's choice of form, structure, and language shape meanings
- the ability to write informed, independent opinions and judgements on literary texts
- the ability to communicate clearly knowledge, understanding and insight appropriate to literary study

### **Assessment: Literature in English 9695**

#### **Paper 1 – Poetry and Drama:**

A collection of Poems	25%
A drama	25%

#### **Paper 2 – Prose and Unseen passage:**

A novel	25%
Unseen passage	25%

Students sit two external examinations of two hours each. Each text and unseen passage is assessed through an essay. On the texts, the students will have the choice of responding to an open essay question or responding to a passage-based question. These are closed book examinations.

## **A2 English Literature**

This course aims to:

- enjoy the experience of reading literature
- develop an appreciation of and an informed personal response to literature in English in a range of texts in different forms, and from different periods and cultures
- communicate effectively, accurately and appropriately in written form
- develop the interdependent skills of reading, analysis and communication
- analyse and evaluate the methods writers use in creating meaning and effects
- encourage wider reading and an understanding of how it may contribute to personal development
- build a firm foundation for further study of literature

### **Recommended Background:**

Students must have completed A.S. English Literature with Grade 'C' or above. An 'A' or 'B' is strongly recommended.

### **Assessment: Literature in English 9695**

In 2023, Advanced Level Candidates carry forward their A.S. English Literature marks as follows:

**Paper 1:** Poetry and Prose 25% (Carried forward from A.S. Literature)

**Paper 2:** Drama and Unseen 25% (Carried forward from A.S. Literature)

and in their A2 English class study -

**Paper 3:** Shakespeare and Drama 25% (external examination)

*Students study two texts, one Shakespearean and one non-Shakespearean drama.*

**Paper 4:** Pre- and Post-1900 Poetry and Prose 25% (external examination)

*Students study two texts, one Pre-1900 and one Post-1900 text, including Poetry and Prose.*

## A.S. Geography

### Recommended Background:

A Grade 'D' or above at IGCSE Level is required for entry into A.S. Geography.

### Course Description:

Geography is concerned with the nature and causes of natural and human phenomena in the environment and the implications of these for resource and environmental management. Geography provides a foundation for understanding and becoming involved vocationally in many of the issues facing New Zealand and the world today, including environmental and resource conservation, urban problems and development, and the implications of atmospheric change. Field trips will complement the programme and consolidate theories learned in the classroom. The wide range of research and presentation skills involved in Geography provides students with a solid foundation for further study and employment in a broad range of vocations.

The A.S. curriculum is divided into six themes which are collectively designed to develop a complex understanding of both the natural and the human environment:

#### Paper 1: Physical Core

- Hydrology and Fluvial Geomorphology
- Atmosphere and Weather
- Rocks and Weathering

#### Paper 2: Human Core

- Population
- Migration
- Settlement Dynamics

### Assessment: Geography 9696

Paper 1: Core Physical Geography	50% (external examination)
Paper 2: Core Human Geography	50% (external examination)

## A2 Geography

### Recommended Background:

This course is open to students who have completed A.S. Geography with Grade 'C' or higher.

### Course Description:

A2 consists of two papers containing Physical Geography topics and Human Geography topics. These topics are more focussed than the broader overviews given in IGCSE and A.S., concentrating on specific physical environments or cultural processes. Field trips will complement the programme and consolidate theories learned in the classroom. The wide range of research and presentation skills involved in Geography provides students with a solid foundation for further study and employment in a broad range of vocations.

#### **Paper 3: Advanced Physical Options** (choose 2 of the following topics)

- Coastal environments
- Tropical environments
- Hazardous environments
- Hot and semi-arid environments

#### **Paper 4: Advanced Human Geography Options** (choose 2 of the following topics)

- Environmental management
- Production, location and change
- Global Interdependence
- Economic transition

### Assessment: Geography 9696

Papers 1 & 2: Core Physical & Human	50%	(carried forward from A.S. Geography)
Paper 3: Advanced Physical Geography	25%	(external examination)
Paper 4: Advanced Human Geography	25%	(external examination)

## Recommended Background:

Students are advised that a Grade 'D' or above at IGCSE Level English or History is required for entry into A.S. History.

## Course Description:

History is for students who have an interest in the past and an appreciation of human endeavour by providing a greater knowledge and understanding of historical periods or themes. History builds a greater awareness of historical concepts such as cause and effect, similarity and difference, and change and continuity. As our world becomes more complex and in many ways divided, the study of history can assist with the ability to think independently and make informed judgements on issues, along with allowing an empathy with people living in different places and at different times. The wide range of research and writing skills involved in History provides students with a solid foundation for further study and employment, especially in the Humanities.

The A.S. curriculum has three option line choices. We will be offering the **European Option**.

## Component 1

- The Industrial Revolution in Britain, 1750-1850
  - Causes of industrialisation
  - Causes and consequences of urbanisation as a result of rapid industrialisation
  - Popular protest and political change

## Component 2 – Modern Europe, 1789 – 1917

- Liberalism and Nationalism in Germany, 1815 – 1871
  - Causes and consequences of Germany's 1848-49 Revolutions
  - Foreign policy of Prussia and Germany from 1862-1866
  - How was the unification of Germany achieved by 1871?
- The Russian Revolution, 1894 – 1921
  - Three Revolutions: 1905, February 1917, October 1917
  - The Bolsheviks and Vladimir Lenin
  - The fall of Tsarist Russia in 1917
- France, 1774-1814
  - Causes and outcomes of the 1789 Revolution
  - Instability of French governments, 1790-1795
  - Napoleon Bonaparte and a new France

## Assessment: History 9489

### Component 1: Document questions (source based) 40% (external examination)

There will be two parts to each question.

Part (a) – Candidates will be expected to consider two sources on one aspect of the material.

Part (b) – Candidates will be expected to use all the sources and their knowledge of the period to address how far the sources support a given statement.

### Component 2: Outline study 60% (external examination)

There will be two parts to each question.

Part (a) requires a causal explanation.

Part (b) requires consideration of significance and weighing the relative importance of factors.



## A2 History

### Recommended Background:

Grade 'C' or better at AS History or with permission of the Head of Faculty.

### Course Description:

The A2 History course is an extension of the AS History curriculum. Its assessment objectives are:

- Recall, select and deploy historical knowledge appropriately and effectively.
- Demonstrate an understanding of the past through explanation, analysis and a substantiated judgement of key concepts: causation, consequence, continuity, change and significance within an historical context, the relationships between key features and characteristics of the periods studied.
- Analyse and evaluate how aspects of the past have been interpreted and represented.

The A2 curriculum includes two papers:

### Component 3: The origins of the First World War

- Tensions between the Great Powers including the Moroccan Crises
- The alliance system
- The growth of militarism
- The arms race
- Instability in the Balkans
- War plans
- The assassination at Sarajevo and the July crisis
- Mobilisation and declarations of war

### Component 4: International History 1945-1992

#### 1. Decolonisation, the Cold War and the UN in Sub-Saharan Africa, 1950–92

- How did African nations gain their independence from the colonial powers?
- What problems faced the newly independent nations?
- In what ways were African countries affected by Cold War tensions?
- How effective was UN peacekeeping in Africa?

#### 2. Conflict in the Middle East, 1948–91

- How and why was the state of Israel created?
- How did the Arab–Israeli conflict develop between 1948 - 1979?
- What impact did the Cold War have on the conflict in the Middle East?
- What additional factors led to the de-stabilisation of the Middle East between 1975 - 1991?

### Assessment: History 9489

<b>Components 1 and 2:</b>	<b>Carried forward from A.S. Level</b>	<b>50%</b>
<b>Component 3:</b>	<b>Interpretations question</b>	<b>20% (External examination)</b>
	<ul style="list-style-type: none"><li>• Interpretations of the origins of the First World War.</li><li>• Analysing and evaluating an historian's interpretation of events.</li></ul>	
<b>Component 4:</b>	<b>Depth study</b>	<b>30% (External examination)</b>
	<ul style="list-style-type: none"><li>• Chosen depth study (Africa &amp; the Middle East)</li></ul>	

## A.S. Marine Studies

### Recommended Background:

Students are advised that a Grade 'C' or above in an IGCSE Science Subject is required for entry. It would be advantageous, but not compulsory, to have studied IGCSE Geography.

### Course Description:

Marine Studies provides a coherent and stimulating introduction to the study of science of the marine environment. The content of the A.S. part of the course concentrates on the scientific study of the sea and its ecosystems. The emphasis throughout is on the understanding of concepts and the application of ideas to new contexts, as well as on the acquisition of knowledge.

The course will foster creative thinking and problem-solving skills which are transferable to any future career path. It provides a suitable foundation for the study of Marine Biology or Environmental Science or related courses in higher education. Equally, it is suitable for candidates intending to pursue careers or further study in shipping, fisheries, tourism, the super-yacht industry, aquaculture, environmental studies, or as part of a course of general education.

*Practical activities* will underpin the teaching of the whole course, taking advantage of the local environment around the Whangaparaoa Peninsula. Students may be asked about practical activities in examination questions, but there is no practical paper or associated coursework.

The A.S. curriculum is divided into the following sections:

- Water
- Earth Processes
- Interactions in Marine Ecosystems
- Classification and Biodiversity
- Examples of Marine Ecosystems
- Practical Skills and Scientific Method

### Assessment: A.S. Marine Sciences 9693

Paper 1:	Structured and free-response questions Section A: Structured questions Section B: Free-response questions	50 % (external examination)
Paper 2:	Data-handling and investigative skills	50% (external examination)

### Cost

There will be costs associated with this course based on the practical activities involved.

### Fieldwork

Off-site activities are a significant component of this course and students will require a reasonable level of fitness. The majority of these will be held during designated class-time with some being day or overnight trips. In the latter case students will need to take responsibility for catching up with other class material.

## A2 Marine Studies

### Recommended Background:

A Grade 'C' or above in A.S. Marine Science.

### Course Description:

The content of the A.S. part of the course concentrates on the scientific study of the sea and its ecosystems, while the A2 part of the course concentrates on human activities that depend on the sea and have an impact on it. The emphasis throughout is on the understanding of concepts and the application of ideas to new contexts, as well as on the acquisition of knowledge. The course will foster creative thinking and problem-solving skills, which are transferable to any future career path.

*Practical activities* will underpin the teaching of the whole course, taking advantage of the local environment around the Whangaparaoa Peninsula. Students may be asked about practical activities in examination questions, but there is no practical paper and no coursework. The course will involve fieldwork taking advantage of the local environment.

There may be additional costs to the course if excursions are planned to enhance the course content.

The A2 curriculum is divided into the following sections:

- Physiology of Marine Organisms
- Energy
- Fisheries for the Future
- Human impact on the Marine Environment

### Assessment: A2 Marine Sciences 9693

Papers 1 and 2 carried forward from A.S. Marine Science	50%
Paper 3: Theory	25 % (external examination)
Section A: Structured questions	
Section B: Free-response questions	
Questions are based on the A Level syllabus content but knowledge of the A.S. Level syllabus content may be required.	
Paper 4: Data-handling and investigative skills	25% (external examination)
Structured and extended response questions	

### Cost

There will be costs associated with this course based on the practical activities involved.

### Fieldwork

Off-site activities are a component of this course and students will require a reasonable level of fitness. The majority of these will be held during designated class-time.

## A.S. Mathematics

### Recommended Background:

Grade 'B' or better in IGCSE Mathematics Extended or with permission from the Head of Department.

### Course Description:

Pure 1 Maths Topics	Statistics 1 Topics
1. Quadratics	1. Representation of Data
2. Functions	2. Permutations and Combinations
3. Co-ordinated Geometry	3. Probabilities
4. Circular Measures	4. Discrete Random Variables
5. Trigonometry	5. The Normal Distribution
6. Series	
7. Differentiation	
8. Integration	

### Assessment: Mathematics 9709

Paper 1: P1 Pure 1 Mathematics 60% (external examination)

Paper 5: S1 Probability and Statistics 1 40% (external examination)

Students intending to progress to Mathematics at A Level **must** take this course.

## A2 Mathematics

### Recommended Background:

Grade 'C' or better in A.S. Mathematics or permission from the Head of Department. Students will need to have completed the A.S. paper and will do one further paper in Pure Maths (P3) and one in Statistics (S2).

### Course Description:

Pure 3 Topics	Stats 2 Topics
1. Algebra	1. Poisson distribution
2. Logarithmic and exponential functions	2. Linear combinations
3. Trigonometry	3. Continuous random variables
4. Differentiation	4. Sampling and estimation
5. Integration	5. Hypothesis testing
6. Numerical solution of equations	
7. Vectors	
8. Differential equations	
9. Complex numbers	

### Assessment: Mathematics 9709

Paper 1 & 5: Carried forward from A.S. Mathematics 50%

Paper 3: Pure 2/3 30% (external examination)

Paper 6: Statistics 2 20% (external examination)

### **Recommended Background:**

Students should have completed IGCSE Music to a satisfactory standard and have a high level of performance ability on their musical instrument, and still be having music tuition from an experienced music teacher.

### **Course Description:**

The aim of this course is to provide opportunities for candidates to develop a range of skills, knowledge and understanding in music, embracing creative, interpretative, historical and analytical aspects of the subject. Students should be able to demonstrate:

- an ability to listen attentively and responsively
- understanding of the process at work in music
- an ability to communicate knowledge, understanding and musical insight clearly
- technical and interpretive competence in performing
- musical invention in composing
- an ability to work independently

### **Assessment: A.S. Music 9483**

**Component 1:** Listening 60% (external examination)

There are three sections in the Listening paper:

A: Compositional Techniques and Performance Practice

B: Understanding Music

C: Connecting Music

**Component 2:** Practical Music Coursework 40% (Internally assessed and externally moderated)

There are two compulsory elements: performing and composing.

Candidates must complete:

- a 6-10 minute performance, and
- two contrasting compositions, 1-2 minutes each

## A2 Music

### Recommended Background:

Students must have completed the A.S. Music course with a good pass (Grade 'C' or higher) in order to sit A2 Music.

### Course Description:

This is a continuation of the A.S. Music course. The aim of this course is to provide opportunities for candidates to develop a further range of skills, knowledge and understanding in music, embracing creative, interpretative, historical and analytical aspects of the subject. Students should be able to demonstrate:

- an ability to listen attentively and responsively
- understand the processes at work in music
- an ability to communicate knowledge, understanding and musical insight clearly
- technical and interpretive competence in performing (depending on options)
- musical invention in composing (depending on options)
- an ability to work independently

### Assessment: A2 Music 9483

Component 1: 30% (carried forward from A.S. Music)

Component 2: 20% (carried forward from A.S. Music)

Choose two from components 3, 4 and 5:

### Component 3: Extended Performance 25% (externally assessed)

There are two parts to Extended Performance:

- 15–20 minute performance
- 1000–1500 word research report

### Component 4: Extended Composition 25% (externally assessed)

There are two parts to Extended Composition:

- 6–8 minute composition
- 1000–1500 word research report

### Component 5: Investigating Music 25% (externally assessed)

There are two parts to Investigating Music:

- 2500–3000 word essay
- up to 500 word reflective statement

## A.S. Physics

A.S. Physics builds on the skills acquired at Cambridge IGCSE (or equivalent) level. The syllabus has been designed to help learners develop not only subject knowledge, but also a strong understanding of some of the key concepts that are critical to mastering the subject.

Universities value learners who have a thorough understanding of key concepts in Physics, an in-depth knowledge of the most important themes in Physics, and strong practical skills. Our learners develop lifelong skills of scientific enquiry, confidence in using technology, and communication and teamwork skills.

### Key concepts

- Models of physical systems
- Testing predictions against evidence
- Mathematics as a language and problem solving tool
- Matter, Energy and Waves
- Forces and Fields

### Recommended Background:

It is recommended a good pass (Grade 'B' or above) in IGCSE Physics. Students with grades below this level will need to make special application to the Head of Department.

### Course Description:

The syllabus offers a combination of theoretical and practical studies leading to an understanding of the more advanced principles of Physics. Candidates will be assessed on their ability to demonstrate knowledge and understanding of physical concepts, on their ability to handle information and solve problems, and on their experimental and investigative skills.

*The topics covered are:*

Physical quantities and units  
Measurement techniques  
Kinematics  
Dynamics  
Forces, density and pressure  
Work, energy and power

Waves  
Superposition  
Deformation of solids  
Current of electricity  
DC circuits  
Particle and nuclear Physics

### Assessment: Physics 9702

Paper 1:	Multiple Choice	31%	(external examination)
Paper 2:	Structured Questions	46%	(external examination)
Paper 3:	Practical Skills	23%	(external examination)

## A2 Physics

A2 Physics builds on the skills acquired at Cambridge IGCSE (or equivalent) level and A.S. Level Physics. The syllabus includes the main theoretical concepts which are fundamental to the subject and sections on current applications of Physics. The emphasis throughout is on the understanding of concepts and the application of Physics ideas in novel contexts, as well as on the acquisition of knowledge. The course encourages creative thinking and problem-solving skills. A Level Physics is ideal for learners who want to study Physics or a wide variety of related subjects at university, or to follow a career in science or Engineering.

### Key concepts

- Models of physical systems
- Testing predictions against evidence
- Mathematics as a language and problem solving tool
- Matter, Energy and Waves
- Forces and Fields

### Recommended Background:

Students must have completed A.S. Physics with Grade 'C' or above. A student not meeting this standard will need to have permission from the Head of Department and be expected to resit A.S. Physics.

### Course Description:

*The topics covered are:*

Motion in a circle

Gravitational fields

Ideal gases

Temperature

Thermal properties of materials

Oscillations

Electric fields

General Relativity & Cosmology

Capacitance

Electromagnetic induction

Magnetic fields

Alternating Currents

Quantum Physics

### Assessment: Physics 9702

Papers 1, 2 & 3: Carried forward from A.S. Physics	50%
Paper 4: Structured Questions	38.5% (external examination)
Paper 5: Practical Skills	11.5% (external examination)



### Recommended Background

This course is for students who enjoy sport and are interested in human biology and how the body responds during exercise. This course will also provide students with an opportunity to understand how skill learning and theory can inform their practice and sports performance.

*\*Please note that there is no A2 PE Course as this has been discontinued by Cambridge\**

### Course Description

This course provides students with an opportunity to study both the practical and theoretical aspects of Physical Education through two specific teaching and learning components:

#### Component 1

This consists of one written examination that examines knowledge from three sections:

- *Applied Anatomy, Exercise Physiology and Biomechanics:*

Students will develop an understanding of the structure, functions and interrelationships between the skeletal, muscular, circulatory, and respiratory systems and analyse how the human body adapts to exercise and moves in sporting situations. An introduction to biomechanics also enables learners to understand the effects of forces and motion during practical performance.

- *Skill Acquisition:*

Students will learn how skill acquisition and movement skills are developed. Models, theories, and concepts are used to explain motor skill development and elite sporting performance. Students will also learn how to critically evaluate and apply these models, theories, and concepts of skill acquisition to specific sporting situations.

- *Sociocultural Influences:*

Students will develop an understanding of the sociocultural influences of sport and physical education, and how they contribute towards the role of physical activity in society. These sociocultural concepts include regular participation and excellence in sport; the use of performance-enhancing drugs; violence in sport; commercialisation of sport; and the use of technology in sport world.

#### Component 2

This is the coursework component where students will complete two activities from the activity profiles offered. The assessment will take place in conditioned competitive situations.

#### Assessment:

Component 1: Theory 50% (External examination).

Component 2: Practical coursework 50% (Internally assessed; Externally moderated).

**Cost:** There may be a cost for this course depending upon the practical activities chosen.

## University Entrance: Entry to New Zealand Universities 'Common Entrance Standard'

The Common Entrance Standard is the minimum standard which must be met to gain entry to a university in New Zealand. It is laid down by the 'University Vice Chancellors Committee'. It is the standard required for entry to most under-graduate degree programmes in New Zealand.

To meet the common Entrance Standard students must meet three requirements:

- A General subject standard
- A Literacy standard
- A Numeracy standard

### **CIE – UE Entry : minimum entry requirements**

*(NB: Some universities have higher entry requirements than others. Students are advised to check carefully with the university of their choice.)*

General Subject standards currently require students studying A.S. or A levels to gain a minimum of 130 points on the NZ Cambridge UE Tariff and a minimum grade of **D** in each of at least 3 subjects equivalent to the approved list below.

The Literacy standards requirement – a CIE student is required to gain a **D** grade or better in an **A.S.** English course to have satisfied literacy requirements.

The Numeracy standards requirement – a CIE student is required to gain a **D** grade or better in **IGCSE** Mathematics (Core or Extended) to satisfy numeracy requirements.

### **NZ Cambridge UE Tariff Charts**

The NZ Cambridge UE Tariff scores can be accumulated over one or two years.

		<b>NZ Cambridge UE TARIFF</b>	
<b>Grade</b>	<b>% marks</b>	<b>A.S. Level</b>	<b>A Level</b>
A / A*	80 – 100	60	120
B	70 – 79	50	100
C	60 – 69	40	80
D	50 – 59	30	60
E	40 – 49	20	40
U	Below 40	-	-

The NZ Cambridge UE Tariff score will be accumulated over a maximum of the 6 best subject units.