CAMBRIDGE
International Education

Cambridge International School

WENTWORTH
COLLEGE

2026 Curriculum Booklet

WENTWORTH COLLEGE

COURSE OPTIONS

FOR

2026

Selecting your Course

The aim of this booklet is to inform students and parents of the subjects which are offered for study at Wentworth College and any essential details of each course.

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

The Cambridge curriculum is designed for international use and encourages 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.

IGCSE provides a broad knowledge base and learning skills that are excellent preparation for further study and groundwork for employment.

Cambridge International Education (CIE) examinations are sat by almost a million students each year in over 160 countries. The inclusion of New Zealand content reinforces the quality of the qualification.

Cambridge Qualifications

There are three levels of Cambridge qualification:

IGCSE (International General Certificate of Secondary Education)
At Wentworth, IGCSE is taught as a one-year course commencing in either Year 10 or 11 with students sitting their IGCSE examinations at the end of the academic year that the subject was studied in.

As a skills-based curriculum, IGCSE uses a wide range of assessment processes and techniques to complement formal written examinations; oral, practical, and project work are all used in various contexts.

A Level (Advanced Level)
At Wentworth, A Level is taught in Years 12 and 13. This is the stage when most students begin to specialise providing, they have the necessary IGCSE qualifications. Some AS subjects can be taken without an IGCSE as a prerequisite in that subject. Check this Handbook for details.

The A Level qualification is split into two one-year courses:

AS Level (Advanced Subsidiary) – Normally sat in Years 12 & 13. This is the first half of the A Level qualification. New Zealand universities count the AS Level as a qualification on its own.

A2 Level – Normally sat in Year 13. This is the second half of the A Level qualification and is required to upgrade an AS into a full A Level.

Useful Information Websites

- **www.wentworth.school.nz –** Wentworth College
- **www.acsnz.org.nz –** Association of Cambridge Schools in NZ
- **www.cambridgeinternational.org –** the international 'Cambridge' website.

Cambridge Assessment Scale

Cambridge Assessment International Education (CIE) use an eight-point grade scale. New Zealand students will receive a percentage mark and a grade.

In some IGCSE subjects there are two course levels – Core Curriculum and Extended Curriculum. The Extended Curriculum offers a more challenging course for students who achieve highly in the subject.

GRADE BOUNDARIES

GRADE	%
A* ***(IGCSE & A2only)***	**90 – 100%**
A	**80 – 89%**
B	**70 – 79%**
C	**60 – 69%**
D	**50 – 59%**
E	**40 – 49%**
F (IGCSE core only)	***30 – 39%***
G (IGCSE core only)	***20 – 29%***

If you sit Extended Curriculum examinations, you can gain A*, A, B, C, D and E grades. If you sit Core Curriculum examinations you can gain C, D, E, F and G grades. Most students will attempt the Extended course.

Cambridge Examination Fees

The Cambridge Examination Fees are not included within the Wentworth College Fees.

Examination fees are charged to accounts in two stages:

Term 2	$400
Term 3	the remaining balance

All fees must be paid prior to the commencement of the Cambridge examinations in October.

For guidance the 2024 Cambridge Examination Fees were:

IGCSE	$190 per subject / syllabus
AS or A2 Level	$200 per subject / syllabus

The costs are subject to change by Cambridge and the exchange rate at the time of invoicing.

	Expected number of Cambridge subjects examined	Subjects
Year 10	3	IGCSE Combined Science + 2 options
Year 11	6	IGCSE Mathematics, IGCSE English Literature, IGCSE English Language + 3 IGCSE options
Year 12	4	AS English + 3 AS Level options
Year 13	3 or 4	3 or 4 AS or A2 Level options

Please note that the number of examinable subjects listed is a guideline and this may be adjusted to fit an individual student's needs.

University Entrance (UE)

UE standards for CIE students are based on a Tariff system, determined by the following table:

Grade	*Tariff Points Awarded*		
	A Level	**AS Level**	
A*	**140**	**---**	*Passing grades available for AS and A level are A* - E. Papers not meeting these levels are deemed to be Ungraded (U).*
A	**120**	**60**	
B	**100**	**50**	
C	**80**	**40**	
D	**60**	**30**	
E	**40**	**20**	.

NB: Some universities and some courses have higher entry requirements than others. Students are advised to check carefully with the university of their choice.

The NZ Cambridge UE Tariff score will be accumulated from the best six subject units (credits) taken over a two-year period. These credits can come from the six best AS Levels or three best full A Levels or a combination of the two eg two AS Level and two full A Levels.

UE Minimum Requirements

For UE all students are required to meet three standards:

	CIE	***NCEA***
General Subject Standard	Minimum of **120 points** from A or AS Levels and **a minimum grade of 'D' in each of at least three different subjects** equivalent to those on the **approved list.** (International students may be required to achieve more than 120 points.)	
Numeracy Standard	Minimum grade of 'D' in IGCSE Mathematics	
Literacy Standard	Minimum grade of 'E' in any one of AS English Language, AS Literature in English, AS English Language & Literature	Minimum of 10 credits at level 2 or higher in English – 5 credits must be in Reading and 5 credits must be in Writing. The literacy credits will be selected from a schedule of approved achievement standards and unit standards.

*Students gain an A Level grade in a subject either by sitting all A Level papers in one session or by sitting AS papers and A2 papers at separate sessions (this is called staged assessment and is the main pathway for Wentworth students) over a **13-month** period. In the latter case, the AS grade is carried forward and absorbed into the A Level grade and it cannot be used separately. AS marks may only be carried forward once. If students repeat papers sat for AS the better of these results will count for A Level.*

Overseas Universities:

Although University Entrance may be gained by students with AS courses most Universities overseas will require full A Levels for entry.

Cambridge Course Prerequisites

The following guidelines are designed to give students guidance on the level of achievement they need in order to be successful at the next level of study.

Year 11:

IGCSE Subject	Grade Achieved in Year 10 End of Year Examination
Mathematics (Extended)	Greater than 50% *students with less than this will take the IGCSE Core option*

Year 12: IGCSE to AS

Subjects with Pre-requisites:

AS Subject	Grade Achieved in IGCSE
Mathematics	A
Biology	B
Chemistry	B
Physics	B

General Prerequisite

For AS level subjects without a listed prerequisite, students need to achieve the general prerequisite from their IGCSE examinations. This is at least **three 'D' grades or higher.** For the Social Sciences subjects, one of the 'D' grades must be in English.

Many subjects will have recommendations for previous study. These recommendations are a guideline to ensure students selecting the subject are successful in their studies.

English

English is compulsory in Year 12. To ensure that all students are able to meet the minimum requirements for UE we offer 2 pathways. Most students will study AS Literature. We have an additional pathway of NCEA Level 2 English for selected students. The English course a student will study will be decided by the school in collaboration with the student and family.

Year 13: AS to A2
Students must achieve a 'D' in the AS course.

Subject List Years 10 to 13

NOTE: subjects will run conditional on student numbers

IGCSE	AS	A2
Arts		
Music	Music	Music
Art and Design	Fine Art	Fine Art
	Fine Art & Photography	Fine Art & Photography
	Graphic Communication	Graphic Communication
Design and Technology	Design and Technology	Design and Technology
Social Science		
Business Studies	Business Studies	Business Studies
Economics	Economics	Economics
Geography	Geography	Geography
History	History	History
Environmental Management		
English		
English Literature	English Literature	English Literature
English Language	NCEA Level 2 English	
Mathematics		
Mathematics (Core)	Mathematics	Mathematics
Mathematics (Extended)		
Physical Education		
Physical Education	Sport & Physical Education	
Science & Technology		
Combined Science	Marine Science	Marine Science
Biology	Biology	Biology
Chemistry	Chemistry	Chemistry
Physics	Physics	Physics
Computer Science		
Computer Science	Computer Science	Computer Science
(ICT) Information Communication Technology		

Subject Option Selection

General guidelines:

At Years 10 & 11, students still maintain a broad range of subjects and avoid specialising too soon. When making their subject choices, students are encouraged to think about what they enjoy and are successful at doing. Students should think ahead to what they would like to study in Years 12 and 13 as some of these subjects have pre-requisites for study. If you have a future career in mind, make the time to research which subjects will be most suitable.

At Years 10 and 11, compulsory subjects include:

- English Literature and English Language
- Mathematics
- Combined Science (in Year 10 only)
- PE & Health

(**Physical Education and Health is taught to all students at least twice a week. It is different to the IGCSE Physical Education course and ensures students who do not choose this option still participate in sport and health education.*

At Year 12 English is compulsory.

Students are encouraged to discuss any concerns or queries with their subject teachers or Mrs Chamberlain.

The Option Selection Form should be completed online. The form will be available from Monday 1 September @ 4pm and should be completed by Monday 8 September @ 9am.

Please note the following:

1. Option selections are on a first come first serve basis. Once a course reaches 25 places, that subject option may close. Students should submit their options in a timely manner.
2. Availability of all courses is subject to student numbers, staffing and timetable restrictions.

Choosing the right course

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

Interests:

What do you enjoy? Do not pick a course just because your friend has, or you like 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 or creative work?

Career choices:

What do you plan to do when you leave school?
What are your short-term plans?
What are your long-term goals?

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.
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.

Pre-requisites for further study:

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

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".

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

Need help?

Mrs Chamberlain, Mrs Banyard, Deans, Tutors and teaching staff can all assist.

YEAR 10 and 11
Cambridge IGCSE at Wentworth

For most students, the IGCSE course for each subject is a one-year programme which commences in either Year 10 or 11, with final examinations at the end of the academic year.

Year 9 students must choose two subjects for Year 10 (2026) and three different subjects for Year 11 (2027). Year 11 selections are for planning purposes only and can be changed next year.
Year 10 students are asked to reconfirm their 2026 subject choices and may make changes from their previous selections.

IGCSE courses may contain a mix of Year 10 and Year 11 students.

Year 10		Year 11
Year 10 Compulsory subjects		**Year 11 Compulsory subjects**
Y10 English		IGCSE English Literature and IGCSE English Language
Y10 Mathematics		IGCSE Mathematics
IGCSE Combined Science		
Y10 Physical Education and Health		Y11 Physical Education and Health
Year 10 Option Subjects **(choose 2 subjects)**		**Year 11 Option Subjects** **(choose 3 subjects)**
IGCSE Art & Design		IGCSE Art and Design
IGCSE Business Studies		IGCSE Business Studies
IGCSE Computer Science		IGCSE Computer Science
IGCSE Design and Technology		IGCSE Design and Technology
IGCSE Economics		IGCSE Economics
IGCSE Environmental Management		IGCSE Environmental Management
IGCSE Geography		IGCSE Geography
IGCSE History		IGCSE History
IGCSE Information Communication Technology		IGCSE Information Communication Technology
IGCSE Music		IGCSE Music
IGCSE Physical Education		IGCSE Physical Education
		IGCSE Biology
		IGCSE Chemistry
		IGCSE Physics

If students intend taking:
*- **Business Studies** and **Economics**, we recommend Business Studies for Year 10.*
*- **Environmental Management** and **Geography**, we Environmental Management for Year 10.*
*- **ICT** and **Computer Science**, we recommend taking ICT for Year 10*

Availability of all courses is subject to student numbers, staffing and timetable restrictions.

Please note that to ensure students have studied a range of subjects at IGCSE they will not move on to the AS Level courses until Year 12, irrespective of whether the IGCSE examination for the 'option subject' was completed in Year 10 or 11.

CAMBRIDGE Subject Details – Years 10-11
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If you have any questions about these subjects, please see the teacher of the course or email them.

firstinitiallastname@wentworth.school.nz i.e. **ncarrigan@wentworth.school.nz**

COMPULSORY SUBJECTS

SYNOPSIS OF COURSE CONTENT

IGCSE English Literature (0475)

English is a compulsory subject for all Year 10 and 11 students and is a 2 year course.

Through the study of literature, students are encouraged to read, interpret and evaluate literary texts. They will learn to recognise and appreciate the ways in which writers use language to achieve their effects, and to communicate an informed personal response. Students will be encouraged to develop an enjoyment of reading literature and to appreciate its contribution to aesthetic and imaginative growth.

The study of literature enables students to explore areas of universal human concern, thus leading to a greater understanding of themselves and others.

Assessment:
Students sit three examinations in Year 11:
Unseen Text (25%)
1x Drama (25%) and 1x Prose/Poetry (50%)

IGCSE First Language English (0500)

This course will be taken alongside the IGCSE Literature (0475) course during Year 10 and Year 11, in preparation for the examinations.

The aims are to enable students to:

- Read a wide range of texts, fluently and with good understanding
- Read critically, and use knowledge gained from wide reading to inform and improve their own writing
- Write accurately and effectively
- Work with information and with ideas in language by developing skills of evaluation, analysis, use and inference
- Acquire and apply a wide vocabulary, alongside a knowledge and understanding of accuracy in writing conventions

Assessment:
Students sit two examinations in Year 11:
Reading 50%
Directed Writing and Composition 50%

IGCSE Mathematics (0580)

Mathematics is a compulsory subject for all Years 10 and 11 students and is a 2-year course.

Students will be encouraged to develop their mathematical knowledge and skills in a way which builds confidence and provides satisfaction and enjoyment. They will develop a feel for numbers and for patterns and relationships in mathematics. There will be a strong emphasis on applying mathematics to everyday situations, as well as solving problems and presenting and interpreting results. Students will be encouraged to communicate clearly and reason logically, using mathematical concepts. The mathematics syllabus aims to encourage students to make use of mathematics in their other subjects and to provide a firm foundation for the future study of mathematics and other disciplines.

Assessment:
At the end of Year 11, the students will sit either IGCSE Core or Extended Mathematics. There are 2 papers for each, one non-calculator paper (50%) and one calculator paper (50%). Due to the paper containing reduced content the maximum grade achievable with IGCSE Core Mathematics is a 'C' grade.

All students intending to enter New Zealand universities will be required to obtain a Grade D or higher at IGCSE Mathematics (from either Core or Extended Mathematics.)

IGCSE Combined Science (0653)

IGCSE Combined Science is taught in Year 10 only and is a course which delivers a well-rounded exploration of aspects relating to Biology, Chemistry and Physics. The course will provide a general understanding of scientific principles. Further, it will prepare the groundwork for future studies in the individual IGCSE sciences (Physics, Chemistry or Biology) that will be taught in Year 11.

The Cambridge IGCSE Science syllabus encourages learners to develop:

- A better understanding of the technological world, with an informed interest in scientific matters
- A recognition of the usefulness (and limitations) of scientific method, and how to apply this to other disciplines and in everyday life
- Relevant attitudes, such as a concern for accuracy and precision, objectivity, integrity, enquiry, initiative and inventiveness
- An interest in, and care for, the environment
- A better understanding of the influence and limitations placed on scientific study by society, economy, technology, ethics, the community and the environment
- An understanding of the scientific skills essential for both further study and everyday life.

Students will be able to sit the IGCSE Science examination at the end of Year 10. This is assessed via a 40-minute Multiple Choice examination, a 75-minute Structure Questions examination and a 1-hour Alternative to Practical examination.

Physical Education and Health

Physical Education and Health is mandatory and taught to all students at least twice a week. It is different to the IGCSE Physical Education course and ensures students who do not chose this option still participate in sport and health education.

The Year 10 Physical Education curriculum explores different units of work that offer students a variety of physical, social and academic experiences. At this level, specific target games, striking games, net games, and invasion games are used to teach students new skills, while also giving them opportunities to connect with their peers.

The Year 11 Physical Education curriculum is designed to allow all students to participate in a broad range of social, competitive and high-quality physical activities. At this level, students will have opportunities to select the activities that they wish to participate in and will learn practical skills and game knowledge associated with these specific activities.

SUBJECT OPTIONS

SYNOPSIS OF COURSE CONTENT

IGCSE Art and Design 0400 (Fine Art or Graphic Communication or Photography)

Art and Design is especially concerned with the development of ideas, visual interpretation and communication. Students communicate their intentions and resolve issues via research and experimentation. The core thinking skills that develop in conjunction with the technical abilities are skills that are transferable to a wide range of disciplines where problem solving, and higher order thinking is complemented by creative approaches.

Equipment:
There is a cost of approximately **$80** for an art kit consisting of an A3 workbook, quality acrylic paints and brushes and presentation equipment. **Students who choose to study Graphic Communication or Photography will need a laptop capable of running Photoshop and a subscription to Photoshop.**

Course content:

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) 0400

Component 1	Coursework	50%	(External assessment - completed in class during Terms 1 and 2)
Component 2	Externally Set Assignment	50%	(external assessment – started in Term 3, followed by an examination in the Term 3 - 4 holidays)

IGCSE Biology (0610)

IGCSE Biology delivers an all-encompassing exploration of aspects relating to the biological world. This includes discussing characteristics of living organisms, diseases and immunity, genetics and ecology – among others.

The course is designed to be accessible to all students and will provide a general understanding of biological principles. Further, it will prepare the groundwork for future study of Biology at AS and A-Level.

Cambridge IGCSE Biology enables learners to:

- Increase their understanding of the technological world
- Take an informed interest in scientific matters
- Recognise the usefulness (and limitations) of scientific method, and how to apply this to other disciplines and in everyday life
- Develop relevant attitudes, such as a concern for accuracy and precision, objectivity, integrity, enquiry, initiative and inventiveness
- Develop an interest in, and care for, the environment
- Better understand the influence and limitations placed on scientific study by society, economy, technology, ethics, the community and the environment
- Develop an understanding of the scientific skills essential for both further study and everyday life.

Assessment:

The course is externally assessed through 3 separate examinations:

- 40-mark multiple choice paper,
- 75-minute structured questions paper, and
- 1-hour “Alternative to Practical” paper which covers aspects related to carrying out biological experiments.

IGCSE Business Studies (0450)

Cambridge IGCSE Business Studies is accepted by universities and employers as proof of an understanding of business concepts and techniques across a range of different types of businesses.

Students will be able to:

- Understand different forms of business organisations, the environments in which businesses operate and business functions such as marketing and strategy, operations and finance.
- Appreciate the role of people in business success.

They will also gain lifelong skills, including:

- The ability to calculate and interpret business data.
- Communication skills needed to support arguments with reasons.
- The ability to analyse business situations and reach decisions or judgements.

The course strikes a balance between thorough knowledge and understanding of a business and helps to develop the skills students need for their next steps in full A Levels.

Assessment: 2 external written examinations

IGCSE Chemistry (0620)

IGCSE Chemistry delivers an all-encompassing exploration of aspects relating to the chemical world. This includes discussing the nature of matter, organic chemistry, acids and bases, and chemical reactions – among others. The course is designed to be accessible to all students and will provide a general understanding of chemical principles. Further, it will prepare the groundwork for future study of Chemistry at AS and A-Level.

Cambridge IGCSE Chemistry enables learners to:

- Increase their understanding of the technological world
- Take an informed interest in scientific matters
- Recognise the usefulness (and limitations) of scientific method, and how to apply this to other disciplines and in everyday life
- Develop relevant attitudes, such as a concern for accuracy and precision, objectivity, integrity, enquiry, initiative and inventiveness
- Develop an interest in, and care for, the environment
- Better understand the influence and limitations placed on scientific study by society, economy, technology, ethics, the community and the environment
- Develop an understanding of the scientific skills essential for both further study and everyday life.

Assessment:

The course is externally assessed through 3 separate examinations:

- 40-mark multiple choice paper,
- 75-minute structured questions paper, and
- 1-hour “Alternative to Practical” paper which covers aspects related to carrying out chemical experiments.

IGCSE Computer Science (0478)

Computer Science is the study of the foundational principles and practices of computation and computational thinking, and their application in the design and development of computer systems. This course offers students with an interest in computing to develop a range of technical skills, including programming, pseudocode and the ability to test effectively and to evaluate computing solutions.

The purpose of the course is to:

- Develop computational thinking
- Develop an understanding of the main principles of solving problems by using computers
- Develop understanding that every computer system is made up of sub-systems, which in turn can consist of further sub-systems
- Develop an understanding of the component parts of computer systems and how they interrelate, including: software, data, hardware, communications and people
- Acquire the skills necessary to apply this understanding to develop computer-based solutions to problems using algorithms and a high-level programming language.

Equipment Requirements:

Pupils are required bring a laptop computer. Any laptop purchased in the last few years should be suitable for the course, however tablets are not recommended as students will require adequate RAM and fully functioning keyboards.

Additional programming software will be required, but this is freely available from the Internet and can be installed when necessary.

The official Cambridge textbook is required: Cambridge IGCSE Computer Science Coursebook by Sarah Lawrey & Donald Scott. (Some second handbooks may be available.)

Assessment: 2 external written examinations

IGCSE Design and Technology (0445)

The aims of the Cambridge Design and Technology syllabus are to enable candidates to develop:

- Awareness, understanding and expertise in those areas of creative thinking which can be expressed and developed through investigation and research, planning, designing, making and evaluating, working with media, materials and tools
- The ability to solve practical and technological problems using processes of analysis, synthesis and realisation
- A range of communication skills which are central to design, making and evaluation
- A range of making skills using workshop tools and various materials
- The desire to relate their work to their personal interests and abilities by learning and experimenting with materials in practical areas
- Improved technological awareness, attitudes of co-operation and social responsibility and abilities to enhance the quality of the environment
- The ability to make value judgements of an aesthetic, technical and economic nature

Students will develop knowledge in Graphic Products and Product Design. This will be done through theory and practical work based around Design Units. The topic content is wide and interesting and focusses on the students' interests, whilst also allowing for the Cambridge Design & Technology syllabus to be taught. There will be a small cost for materials used in this course.

Assessment:
Project – internally completed (50%)
External written examination (50%)

IGCSE Economics (0455)

Economics is not just something that affects everyone in their daily lives but can provide us with valuable insight to the future. For example, this may be saving for our first car or house, borrowing money or investing in the right Kiwisaver. We investigate consumers, producers and government decisions and why they make the choices they do, and the influence these decisions have in all parts of society. This involves developing basic economic models and applying them to real life situations to help us answer questions such as:

- Is the government or the market better at allocating resources to their best use?
- Why is the price of petrol so high?
- Why do women earn less (on average) than men?
- What are interest rates and how will this affect my savings or ability to buy a house?
- Why is the market value for concert tickets much higher than the face value printed on the ticket?
- Why are cigarettes and alcohol regarded as being under-priced in most societies?
- How will the economic tariffs placed upon Russia affect people in other parts of the world?

Economics is a versatile subject that can form part of an Arts, Business or Commerce degree. It can also be taken as part of a conjoint degree e.g. many academic students study Engineering/Commerce or Law/Commerce.

This subject provides a fine grounding and understanding for AS Economics and/or AS Business Studies in Year 12.

Assessment: Students will sit two external written examinations at the end of the year.

Paper 1 – multi-choice (30%)
Paper 2 – written questions (70%)

IGCSE Environmental Management (0680)

Environmental Management is concerned not only with the impact of humans on the planet but also with the patterns of human behaviour necessary to preserve and manage the environment in a self-sustaining way. Study is linked to the areas of new thinking in environmental management, environmental economics and the quest for alternative technologies. Case studies allow students to obtain a local as well as a global perspective.

Environmental Management recognises that human behaviour towards the environment is guided by the survival needs, perceptions and values of people. Underlying the course there is a recognition that cultural, social and political attitudes directly influence the economy of nature. A core principle of the syllabus is that sustainability will only be achieved by changes in the ways in which people think and make decisions.

Cambridge IGCSE Environmental Management encourages learners to:

- Draw upon disciplines such as Biology, Earth Science, Geography, Economics and demographics
- Consider the interdependence of the Earth's natural systems and how people use natural resources
- Examine the impact of development on the environment considering issues such as environmental pollution and resource depletion
- Explore ways in which we may change the nature of future development to make it more sustainable.

A course in Environmental Management therefore calls upon learners to be participants in defining the future of their world.

Assessment: Students will sit 2 written external papers

IGCSE Geography (0460)

Students will be encouraged to develop a sense of place and an understanding of relative location on a local, regional and global scale. Through a study of the characteristics and distribution of a selection of contrasting physical and human environments, students will come to understand some of the processes which affect the development of these environments. They will gain an insight into the spatial effects of the ways in which people interact with each other and with their environments. Together with a wider understanding of different communities and culture throughout the world, students will come to appreciate the contrasting opportunities and constraints presented by different environments.

Learning in the classroom will be enhanced with fieldwork around the school and an overnight trip each year.

Course Content:

Human Geography	The Natural Environment
• Population dynamics • Migration • Settlement development	• Rivers and Coasts • Plate tectonics (earthquakes & volcanoes) • Weather and Climate • Interaction between Physical and Human Geography

Assessment: Students will sit 3 written external papers:
Paper 1 – Core Geography (45%)
Paper 2 – Skills (27.5%)
Paper 4 – Alternative to Coursework (27.5%)

IGCSE History (0470)

The easiest way to become a time traveller is to study History! Through this course, students have the opportunity to go back in time to discover the stories of individuals, people and societies in the past. As they learn about the major events and figures that shaped the twentieth century, students will gain an understanding of key historical concepts: cause and consequence, change and continuity, and similarity and difference. It is ensured that learners' knowledge is always rooted in an understanding of the nature and use of historical evidence as they analyse both textual and visual sources regularly throughout the course. By developing skills such as investigation, analysis, evaluation and communication, the students who study History prepare themselves for future studies in the field of the Humanities, including subjects like Law, Politics and Sociology. Through learning about the past, students will find that they are better able to understand the world they live in today.

Course Content:

<u>The 20th century: International Relations since 1919</u>
The content focusses on the following Key Questions:
• Were the peace treaties of 1919–23 fair?
• To what extent was the League of Nations a success?
• Why had international peace collapsed by 1939?
• Who was to blame for the Cold War?
• How effectively did the USA contain the spread of Communism?
• How secure was the USSR's control over Eastern Europe, 1948–c.1989?

In addition, we will study the following topic in depth:
Germany, 1918–45.

Assessment: Students will sit 3 written external papers:
Paper 1 – Core content and depth study (40%)
Paper 2 – Source material (33%)
Paper 4 – Essay on depth study (27%)

IGCSE Information and Communication Technology (0417)

Information and Communication Technology (ICT) at IGCSE level encourages students to become effective and discerning users of IT. In this subject, students will develop a broad range of IT skills and knowledge, and they will become skilled in a range of common software applications. The technology and information literacy skills taught in this subject will be useful throughout both their working and personal lives.

Course Content:

- Elements of computer systems – hardware, software, computer systems, types of computers, input and output devices and so on
- Networks – understanding wi-fi, bluetooth, intranet and the internet etc
- Effects of IT on employment, devices in the home and health
- ICT applications – communication, measurement, modelling, data handling, manufacturing, booking and banking systems, medicine, libraries, retail etc
- Analysis, design, testing and evaluation of a computer system
- Safety and security – physical safety and eSafety of personal data on the internet, social media and over email, as well as security of data from online attacks
- Using software to edit images, create and manipulate document layouts, understand and use styles
- Proofing – using software effectively and proofing techniques
- Producing graphs and charts
- Producing documents, including tables and mail merging
- Databases – creating and manipulating data
- Presentations – creating appropriate presentations
- Data analysis
- Learning to write HTML and CSS to create a web page

Equipment requirement:

Pupils are required bring a laptop computer. It must have Microsoft Windows as an operating system with a minimum requirement of Windows 10 along with Microsoft 365 (Office) suite of software.

An Apple Mac, or small, tablet-style computers, such as iPads or smart phones, are not sufficient. Any laptop purchased in the last few years should be suitable for the course. Some software, additional to the required Microsoft Office suite of software, will need to be installed on the laptop, but this is freely available from the Internet and can be installed when necessary.

Assessment:

Paper 1 – Theory, 40% of total marks
Paper 2 – Practical: document production, databases and presentations, 30% of total marks
Paper 3 – Practical: Spreadsheets and website authoring, 30% of total marks

IGCSE Music (0410)

The Music syllabus enables students to develop their musical skills, knowledge and understanding through listening, composing and performance – all of which are supported by a general study of music theory and history. They will learn to listen analytically to music of different cultures, periods of musical history and more contemporary/popular genres. This course will provide the basis for an informed and lasting love and appreciation of music.

Course Content:

Music Literacy – All students need to begin Year 10 Music on completion and understanding of the equivalent of Grade 2 Theory (minimum) including key signatures, reading notes in clefs and Italian terminology.

- Reading and writing staff notation
- Score reading with reference to elements such as pitch, rhythm, dynamics, tempo and performance directions
- Understanding harmony, chord progressions, structure and form

Listening –

- Survey and identification of Western European music of the Baroque, Classical, Romantic and 20th century style periods, including relevant instrumentation
- Survey and identification of a range of traditional music from cultures in countries on all the continents, including relevant instrumentation
- Knowledge and understanding of one prescribed work from the Western music repertoire

Composition - **It is required that all students have a laptop with Muse Score installed** for composition tasks

- Use of musical elements, structures and other compositional devices to create compositions
- Create compositions for specified instruments and combine words and music into songs
- Becoming familiar with music publishing software, such as MuseScore

Performance - **All students need to be taking regular music lessons with a tutor in their chosen instrumen**t and need to be working at the equivalent of at least a high Grade 3 or beginning Grade 4 level in Trinity, ABRSM or RockSchool syllabi. Students will need:

- technical proficiency on at least one (main) instrument; and involvement in a school ensemble (Blues band, Orchestra or Chamber Orchestra) is expected
- to develop 2 solo performances on their main instrument at Grade 3 or 4 level (minimum) in contrasting styles
- Perform as a member of an ensemble

Assessment: At IGCSE level, the external examination is 40% of the year's mark, with 30% being Performance, and 30% being Composition.

IGCSE Physical Education (0413)

This course provides students with an excellent opportunity to study both the practical and theoretical aspects of Physical Education. Half of the course is internally assessed and based on a student's own performance in a variety of sports. A student can be assessed in any of the following sports (Four to be selected across at least 2 categories)

Categories	Potential Sports/Activities that can be used for assessment
Games	Football, Badminton, Baseball **or** Rounders **or** Softball, Basketball, Cricket, Golf, Handball, Hockey, Lacrosse, Netball, Rugby League **or** Rugby union, Squash, Table Tennis, Tennis, Volleyball
Gymnastic Activities	Artistic Gymnastics (floor and vault) **or** Rhythmic Gymnastics, Individual figure skating, Trampolining
Dance	Various styles - Education, Folk, Historical, Social, Theatrical
Athletic Activities	Cross-Country running, Cycling, Rowing and Sculling, Track & Field Athletics, Weight Training for fitness
Outdoor & Adventurous Activities	Canoeing, Hill walking **or** Orienteering, Horse Riding, Mountain Biking, Rock Climbing, Sailing, Skiing **or** Snowboarding, Windsurfing
Swimming	Competitive swimming, Lifesaving **or** Personal Survival, Water Polo
Combat Activities	Judo **or** Taekwondo

The other half of the course will give students insight into different factors affecting sports performance and develop knowledge of the following topics, Anatomy and Physiology; Health, Fitness and Training; Skill Acquisition and Psychology; and Social, Cultural and Ethical Influences

Overall, this course aims to develop a student's appreciation of physical activity and encourage a life-long enjoyment of sport.

There may be a small cost for this course depending on the practical activities chosen. Students are encouraged to purchase a numbered, personalised Polo Shirt as part of their practical assessment, which is likely to cost $60. There is also a recommended textbook to aid students with their learning, at a cost of $50 - available for purchase from Collins Publishers (a small number may be ordered in for direct purchase from the College).

Assessment:
Internal coursework 50% External written examination 50%

IGCSE Physics (0625)

IGCSE Physics delivers an all-encompassing exploration of aspects relating to the physical world. This includes discussing aspects of mechanics, waves, electricity and nuclear physics. The course is designed to be accessible to all students and will provide a general understanding of physical principles. Further, it will prepare the groundwork for future study of Physics at AS and A-Level.

Cambridge IGCSE Physics enables learners to:

- Increase their understanding of the technological world
- Take an informed interest in scientific matters
- Recognise the usefulness (and limitations) of scientific method, and how to apply this to other disciplines and in everyday life
- Develop relevant attitudes, such as a concern for accuracy and precision, objectivity, integrity, enquiry, initiative and inventiveness
- Develop an interest in, and care for, the environment
- Better understand the influence and limitations placed on scientific study by society, economy, technology, ethics, the community and the environment
- Develop an understanding of the scientific skills essential for both further study and everyday life.

Assessment:

The course is externally assessed through 3 separate examinations:

- 40-mark multiple choice paper,
- 75-minute structured questions paper, and
- 1-hour “Alternative to Practical” paper which covers aspects related to carrying out Physics experiments.

YEAR 12
Cambridge AS at Wentworth

In Year 12 students most students will study **1 compulsory** and **3 optional** AS Level subjects. The AS Level course is normally completed in one year with examinations sat at the end of the academic year.

Year 12 Subjects	
Compulsory subjects	**Options (choose 3 AS subjects)**
AS English Literature	AS Art & Design - Fine Art
or	AS Art & Design – Fine Art Photography
NCEA Level 2	AS Art & Design – Graphic Communication
English is **compulsory** for all students at Year 12. (This is a Ministry of Education requirement for New Zealand.)	AS Biology
	AS Business
	AS Chemistry
	AS Computer Science
	AS Design & Technology
	AS Economics
	AS Geography
	AS History
	AS Marine Science
	AS Mathematics
	AS Music
	AS Physics
	AS Sport & Physical Education

Note:

The availability of all courses is subject to student numbers and staffing.

- Not all AS subjects are offered at A2 Level.
- 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.
- Please check the course requirements carefully for all the universities you intend to apply for to ensure that you have met all the requirements for that particular course and university.
- Availability of all courses is subject to student numbers, staffing and timetable restrictions.

YEAR 13
Cambridge AS and A2 at Wentworth

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

There could be numerous combinations of AS and A2 selected subjects, however, students are advised not to study more than three A2 subjects. It may be that a Year 13 student will study 3 x AS subjects and 1 x A2, or 2 x AS subjects and 2 x A2, or 3 x A2 Subjects.

To study an A2 subject in Year 13, students must first study the AS subject in Year 12. The student will be expected to have gained at least a 'D' grade in the AS examinations to meet the prerequisite to study at the A2 Level.

Year 13 Subjects	
Select a combination of up to 4 AS and/or A2 subjects.	
AS Art & Design - Fine Art	A2 Art & Design - Fine Art
AS Art & Design – Fine Art Photography	A2 Art & Design – Fine Art Photography
AS Art & Design – Graphic Communication	A2 Art & Design – Graphic Communication
AS Biology	A2 Biology
AS Business	A2 Business
AS Chemistry	A2 Chemistry
AS Computer Science	A2 Computer Science
AS Design & Technology	A2 Design & Technology
AS Economics	A2 Economics
AS English Literature	A2 English Literature
NCEA Level 2 English	
AS Geography	A2 Geography
AS History	A2 History
AS Marine Science	A2 Marine Science
AS Mathematics	A2 Mathematics
AS Music	A2 Music
AS Physics	A2 Physics
AS Sport & Physical Education	

Note:

- Depending on student numbers, some A2 subjects may run concurrently with AS classes.
- If a student does not achieve UE literacy in Year 12 they need to continue with English in Year 13
- Availability of all courses is subject to student numbers, staffing and timetable restrictions.

CAMBRIDGE Subject Details – Years 12-13
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If you have any questions about these subjects, please see the teacher of the course or email them.

firstinitiallastname@wentworth.school.nz i.e. **ncarrigan@wentworth.school.nz**

AS Art & Design - Fine Art (9479)

Recommended Background:

AS Level Art & Design (Fine Art) requires skills and knowledge from studying Year 11 Fine Art. Students who have gained lower than a Grade 'D' 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:

AS 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 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 which will be in the Term 3/4 holidays.

Assessment: AS Level 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 -started in Term 3 followed by an exam)

AS Art & Design - Fine Art Photography (9479)

Recommended Background:

AS 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 'D' 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 with Mrs Carrigan. **All students need to be competent in using a digital camera and require 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 *Photoshop* software is required.

Course Description:

AS 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 which will be in the Term 3/4 holidays.

Assessment: AS Level 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)

AS Art & Design - Graphic Communication (9479)

Recommended Background:

AS Level Art & Design (Graphic Communication) requires skills and knowledge from studying Year 11 Design. Students who have gained lower than a Grade 'D' in IGCSE Art & Design should consult with the 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 laptop and require 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 Photoshop software is required.

Course Description:

AS 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 which will be in the Term 3/4 holidays.

Assessment: AS Level 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 (9479)
(Fine Art OR Fine Art Photography OR Graphic Communication)

Recommended Background:
Students taking this course **must** have achieved a good level of competence in AS Level Art & Design, achieving Grade 'D' 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 graded in the United Kingdom and the cost of this will be passed on to students.

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

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

AS Biology (9700)

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:
Students require a 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: AS Level Biology 9700
The final AS 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 (9700)

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 Grade 'D' or better at AS Level Biology. Students with lower grades will need to make a special application and they will be expected to resit the AS 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: A Level Biology 9700

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

AS Business (9609)

Recommended Background:
Grade 'C' or better at IGCSE English & Mathematics OR IGCSE Business Studies, or with permission of Mr Gale.

Course Description:
AS 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

AS 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: AS Level Business 9609

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

A2 Business (9609)

Cambridge International AS & A Level Business allows students to experience the diverse and dynamic world within which businesses exist. With a focus on how decisions are made, students will gain the knowledge to understand how businesses operate within real contexts, analyse alternative courses of action and develop the ability to make justified recommendations. These transferable skills are essential for anybody working in a business environment and can facilitate further study within business related areas.

Course Description:
This course builds on the learning acquired in AS Level, enabling candidates to further understand the environment in which a business operates. All businesses operate in a constantly changing environment and students will develop an understanding that although some aspects of the environment are fixed, businesses operate in a context in which things change. Emphasising the changing needs of the environment in which a business operates. The study of business strategy will enable students to develop their skills to produce a basic business strategy. Students will also develop an understanding of the tools a business uses to analyse the internal and external environment to ensure the success of the business.

Recommended Background:
A Grade 'D' or better at AS Level Business. Students with lower grades will need to make a special application to the Head of Department

Topics Covered

- External influences on business activity
- Business strategy
- Organisational structure
- Business communication
- Leadership
- Human resource management (HRM) strategy
- Marketing analysis
- Marketing strategy
- Location and scale
- Quality management
- Operations strategy
- Financial statements
- Analysis of published accounts
- Investment appraisal
- Finance and accounting strategy

Assessment: A Level Business 9609

Papers 1 & 2 : Carry forward from AS mark	50%
Paper 3: Business Decision Making	30% (external examination)
Paper 4: Business Strategy	20% (external examination)

AS Chemistry (9701)

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:
Students require a 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 AS Course
Students will be required to complete some pre-course material to prepare them for the AS course. This will allow the transition to AS 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 2. Atoms, molecules and stoichiometry 3. Chemical bonding 4. States of matter 5. Chemical energetics 6. Electrochemistry 7. Equilibria 8. Reaction kinetics	9. The Periodic Table: chemical periodicity 10. Group 2 11. Group 17 12. Nitrogen and sulfur	13. An introduction to AS Level organic chemistry 14. Hydrocarbons 15. Halogen compounds 16. Hydroxy compounds 17. Carbonyl compounds 18. Carboxylic acids and derivatives 19. Nitrogen compounds 20. Polymerisation 21. Organic synthesis 22. Analytical Chemistry

Assessment: AS Level Chemistry 9701

The final AS 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 (9701)

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 AS 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 Grade 'D' or better at AS Level Chemistry is required. Students with lower grades will need to make a special application and will be expected to resit the AS 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: A Level Chemistry 9701

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

AS Computer Science (9618)

The Cambridge International AS & A Level Computer Science course offers students a thorough understanding of the core concepts that drive the field of computer science, including skills like abstraction and algorithmic thinking. Students will delve into various programming paradigms and uncover the critical role of communication in computer systems, from data transfer within a single device to large-scale communication across the internet.

This course builds a strong foundation for those looking to pursue higher education in computer science, equipping students with the essential knowledge and skills needed to thrive in the digital age.

Recommended Background:
Students require a Grade 'D' or above in IGCSE Computer Science. Students with grades below this level will need to make special application to the Head of Department.

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: P**rogramming Basics, constructs, and structured programming
- **Software Development:** Programme development lifecycle, programme design, programme testing and maintenance

Equipment Requirements: Pupils are required bring a laptop computer. Any laptop purchased in the last few years should be suitable for the course, however tablets are not recommended as students will require adequate RAM and fully functioning keyboards.
Additional programming software will be required, but this is freely available from the Internet and can be installed when necessary.

Students will be expected to purchase the following approved textbook:

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

Assessment: AS Level Computer Science 9618

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

A2 Computer Science (9618)

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 AS course. Students must have successfully completed the AS 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:** Processers, 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:

Pupils are required bring a laptop computer. Any laptop purchased in the last few years should be suitable for the course, however tablets are not recommended as students will require adequate RAM and fully functioning keyboards.
Additional programming software will be required, but this is freely available from the Internet and can be installed when necessary.

Assessment: A Level Computer Science 9618

Papers 1&2:	Carry forward from AS 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)

AS Design & Technology (Graphics) (9705)

Students will 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 AS Level Design & Technology (Graphics) course is an advanced course of study for students who have successfully completed the IGCSE course.

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

- select and apply appropriate design strategies based on an appreciation of good design principles
- develop knowledge and understanding of materials, tools, equipment, components and processes used in the designing and making of marketable products
- design and make quality products, taking into consideration industrial, business and commercial practices
- develop the verbal, written, digital and visual communication skills required for designing and making
- develop skills in identifying, analysing and drawing conclusions from information relevant to a design need
- understand the aesthetic, economic, ethical, environmental, social and cultural impact of existing and proposed designs on society
- develop innovative thinking when identifying and solving design needs.

Assessment: AS Level Design & Technology (Graphics) 9705
AS Level candidates take Paper 1 and Component 2

Paper 1 External examination	**Component 2 40 – 50 hours coursework**
AS Level Written paper 100 marks Questions are based on the AS Level subject content. Externally assessed	Product analysis and improvement project 50 marks Candidates complete a Product analysis and improvement coursework project. Knowledge of the AS Level subject content is required. Internally assessed and externally moderated
50% of the AS Level (25 % of the A Level)	50% of the AS Level (25% of the A Level)

A2 Design & Technology (9705)

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 AS Design & Technology (Graphics) with a Grade 'D' or better.

Course Description:
This course follows on from the AS course.

Assessment: A Level Design & Technology 9705
A Level candidates take Papers 1 and 3 and Components 2 and 4.

<table>
<tr><td colspan="2">Paper 1 & Component 2: carried forward from AS Design & Technology – 50%</td></tr>
<tr><td>Paper 3 External examination

A Level Written Paper

100 marks

Questions are based on the A Level subject content but knowledge of the AS Level subject content is required.

Externally assessed</td><td>Component 4 40 – 50 hours coursework

Design, realisation and manufacturing project

50 marks

Candidates complete a Design, realisation and planning for manufacturing in quantity project. Knowledge of the AS Level and A Level subject content is required.

Internally assessed and externally moderated</td></tr>
<tr><td>25%</td><td>25%</td></tr>
</table>

AS Economics (9708)

Recommended Background:
Grade 'C' or better at IGCSE English & Mathematics OR in IGCSE Economics, or with permission of Mr Gale.

Course Description:
The AS 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: AS Level Economics 9708

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

A2 Economics (9708)

Recommended Background:
Grade 'D' or better at AS Economics or with permission of Mr Gale.

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: A Level Economics 9708

Papers 1&2:	Carry forward from AS mark	50%
Paper 3:	Multiple-Choice	33% (external examination)
Paper 4:	Data Response and Essay	17% (external examination)

Year 12 English

English is compulsory in Year 12. To ensure that all students are able to meet the minimum requirements for UE we offer 2 pathways. Most students will study AS Literature. We have an additional pathway of NCEA Level 2 English for selected students. The English course a student will study will be decided by the school in collaboration with the student and family.

Those students wishing to take A2 English must have completed AS Literature.

Either
AS English Literature (9695)

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: AS Level Literature in English 9695

Paper 1 – Poetry and Drama:		**Paper 2 – Prose and Unseen passage:**	
Poetry	25%	Novel	25%
Drama	25%	Unseen passages	25%

Students sit two external examinations of two hours each. Each text and unseen passage is assessed through an essay. For 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.

OR
NCEA English Level 2

Aims: This pathway has been developed primarily for students for whom English is a second language or who are first language English speakers, but do not demonstrate the English skills required to progress to AS English Language and Literature or AS Literature.

The school will decide which English course a student has the best chance of success in based on their marks and progress in Year 10 or Year 11.

This course is a blend of Internal and External English Achievement Standards. This course is designed to provide students with a variety of learning experiences that enhance their literacy skills and challenge them to read and write texts in preparation for further study.

In order for students to obtain University Entrance Literacy, students need to achieve 10 Literacy credits. 5 of these credits need to be in Writing, and 5 credits need to be in Reading. At Wentworth

students will need to achieve the 14 credits listed below to meet this requirement, these credits are all internally assessed.

To gain entrance into the University of Auckland, the university requires students to not only meet the national literacy requirement, but to achieve 17 credits in English. It is for this reason that we offer additional credits. Students are given a number of opportunities to achieve the University Entrance Literacy requirements; however, this must be achieved in line with the NZQA Conditions of Assessment.

Below is an outline of the standards that are offered.

Standards	**Credits**	**Reading or Writing Requirements**
Achievement Standard 91101 Produce a selection of crafted and controlled writing	6 Credits	Writing
Achievement Standard 91106 Form developed personal responses to independently read texts, supported by evidence	4 Credits	Reading
Achievement Standard 91105 Use information literacy skills to form developed conclusion(s).	4 Credits	Reading
The following additional NCEA Achievement Standards may also be offered	AS 91098 AS 91472	4 credits: External 4 credits: External

A2 English Literature (9695)

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 AS English Literature with Grade 'D' or above.

Assessment: A Level Literature in English 9695
Advanced Level Candidates carry forward their AS English Literature marks as follows:

Paper 1: Poetry and Prose 25% (Carried forward from AS Literature)
Paper 2: Drama and Unseen 25% (Carried forward from AS 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.

AS Geography (9696)

Recommended Background:
A Grade 'D' or above at IGCSE Geography OR a Grade 'C' or above in IGCSE English & Environmental Management is required for entry into AS Geography, or by consultation with Mrs Addis.

Course Description:
Geography, put simply, is about the world in which we live. It 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 sustainable decision-making, urban development and the implications of climate change. The diversity and interdependence of physical and human environments are explored through case studies, application of geographical skills such as critical thinking, field trips and listening to guest speakers. Students gain a solid foundation for further study and employment in a broad range of vocations.

There are six themes that develop a complex understanding of physical and human environments:

Paper 1: Physical Core	Paper 2: Human Core
- Hydrology and Fluvial Geomorphology	- Population
- Atmosphere and Weather	- Migration
- Rocks and Weathering	- Settlement Dynamics

Assessment: AS Level Geography 9696

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

A2 Geography (9696)

Recommended Background:
This course is open to students who have completed AS Geography with Grade 'D' 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 AS, 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: A Level Geography 9696

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

AS History (9489)

Recommended Background:
Students are advised that a Grade 'D' or above at IGCSE Level English or History is recommended for entry into AS 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 AS curriculum has three option line choices. We will be offering the **European Option.**

Component 1

- 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?

Component 2 – Modern Europe, 1789 – 1917

- 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

- 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: AS Level 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 (9489)

Recommended Background:
Grade 'D' 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: A Level History 9489
Components 1 and 2: Carried forward from AS Level 50%

Component 3: **Interpretations question** 20% (External examination)

- Interpretations of the origins of the First World War.
- Analysing and evaluating an historian's interpretation of events.

Component 4: **Depth study** 30% (External examination)

- Chosen depth study (Africa & the Middle East)

AS Marine Science (9693)

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 AS 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 AS curriculum is divided into the following sections:

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

Assessment: AS Level 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 Science (9693)

Recommended Background:
A Grade 'D' or above in AS Marine Science.

Course Description:
The content of the AS 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: A Level Marine Sciences 9693

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

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.

AS Mathematics (9709)

Recommended Background:
Grade 'A' 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 2. Functions 3. Co-ordinated Geometry 4. Circular Measures 5. Trigonometry 6. Series 7. Differentiation 8. Integration	1. Representation of Data 2. Permutations and Combinations 3. Probabilities 4. Discrete Random Variables 5. The Normal Distribution

Assessment: AS Level 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 (9709)

Recommended Background:
Grade 'D' or better in AS Mathematics or permission from the Head of Department. Students will need to have completed the AS 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 2. Logarithmic and exponential functions 3. Trigonometry 4. Differentiation 5. Integration 6. Numerical solution of equations 7. Vectors 8. Differential equations 9. Complex numbers	1. Poisson distribution 2. Linear combinations 3. Continuous random variables 4. Sampling and estimation 5. Hypothesis testing

Assessment: A Level Mathematics 9709

Paper 1 & 5: Carried forward from AS Mathematics		50%	
Paper 3:	Pure 2/3	30%	(external examination)
Paper 6:	Statistics 2	20%	(external examination)

AS Music (9483)

Recommended Background:

Students should have completed IGCSE Music to a satisfactory standard and have a high level of performance ability (Grade 6 and higher) on their musical instrument, and still be having regular music tuition from an experienced music tutor in their instrument. Grade 3 Music Theory (minimum) is required, and must be completed and understood before the start of the year. Also, students need a laptop with MuseScore notation on it that they can bring to class for composing.

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: AS Level 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 (9483)

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. They need to be studying on their instrument at grades 6 to 8 levels, as well as regular itinerant lessons on their instrument. Also, students need a laptop with MuseScore notation on it that they can bring to class for composing.

Course Description:
This is a continuation of the AS 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: A Level Music 9483

Component 1:	30% (carried forward from AS Music)
Component 2:	20% (carried forward from AS Music)

Choose <u>two</u> from components 3, 4 and 5:

Component 3: Extended Performance 25% (externally assessed)
There are two parts to Extended Performance:

A. 15–20 minute performance
B. 1000–1500 word research report

Component 4: Extended Composition 25% (externally assessed)
There are two parts to Extended Composition:

A. 6–8 minute composition
B. 1000–1500 word research report

Component 5: Investigating Music 25% (externally assessed)
There are two parts to Investigating Music:

A. 2500–3000 word essay
B. up to 500 word reflective statement

AS Physics (9702)

AS 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	Waves
Measurement techniques	Superposition
Kinematics	Deformation of solids
Dynamics	Current of electricity
Forces, density and pressure	DC circuits
Work, energy and power	Particle and nuclear Physics

Assessment: AS Level 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 (9702)

A2 Physics builds on the skills acquired at Cambridge IGCSE (or equivalent) level and AS 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 AS Physics with Grade 'D' or above. A student not meeting this standard will need to have permission from the Head of Department and be expected to resit AS Physics.

Course Description:

The topics covered are:

Motion in a circle	Astronomy & Cosmology
Gravitational fields	Capacitance
Ideal gases	Electromagnetic induction
Temperature	Magnetic fields
Thermal properties of materials	Alternating Currents
Oscillations	Quantum Physics
Electric fields	Nuclear Physics

Assessment: A Level Physics 9702

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

AS Sport & Physical Education (8386)

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: AS Level Sport & Physical Education
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.

Course Option Booklet 2026

Options should be completed online from Monday 1 September at 4pm using the following link:

Online Option Form

Due by Monday 8 September at 9am.

If you have any questions about these subjects, please contact the teacher of the course.

WENTWORTH COLLEGE

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