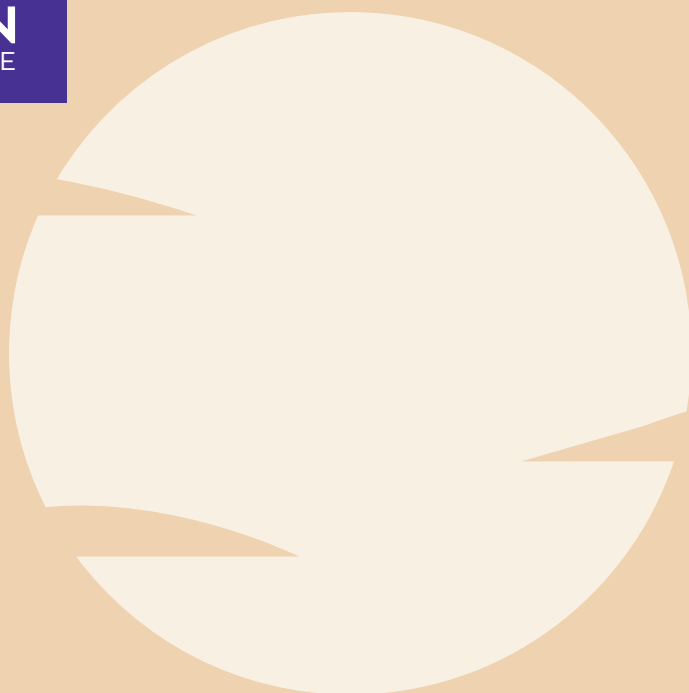




BRIGHTON
SECONDARY COLLEGE



YEAR 10 HANDBOOK



ARTWORK BY TOBY HELYER

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YEAR 10 PROGRAM

Students in Year 10 are entering the Senior School and are beginning the journey towards their future pathways. There is an increased workload and greater expectations of independent study. Students will undertake examinations in all their studies for the first time at the end of Semester 1 and Semester 2.

Throughout Year 10, there is a strong emphasis on career exploration and future pathways. Students undertake course counselling interviews, model employment interviews, and listen to guest speakers. All Year 10 students participate in the work and career experience programs.

This handbook outlines possible Year 10 electives and acceleration opportunities for students. Its purpose is to provide parents and students with an overview of the course structure and a description of the various electives and VCE subjects.

All Year 10 students will study two semesters of English, Mathematics, Science, and Humanities. In addition, they will choose 4 electives (two per semester).

If a student is selecting a VCE subject or a language this subject must be undertaken as a two-semester elective.

VCE ACCELERATION FOR YEAR 10 STUDENTS (NOT INCLUDING SEAL STUDENTS)

Students will have the opportunity to apply to undertake **one** VCE Unit 1 and 2 as part of their year 10 program eligibility criteria includes:

1. Achieving an average of 3 or above across all attributes on a current year process report
2. Students must receive an endorsement from their current teacher in the subject/faculty they aspire to accelerate in (i.e. A student aspiring to accelerate in Health and Human Development would require endorsement from their HPE teacher). This [endorsement form](#) is required to be completed by the student while having a conversation with their teacher.
3. Paragraph explaining why they have chosen to apply for the subject of interest (including in endorsement application)

Please note there may be circumstance where both criteria is met and a student is unable to accelerate. Reasons may include class size and timetable blocking constraints.

In accepting the offer the student and parent(s) understands that there is an expectation that 5 subjects will be required to be completed during their final year of VCE. Students who include any Outdoor Education electives, will be required to meet the conditions for selection outlined in the College's [Outdoor Education Policy](#)

VCE Units 1 & 2 subject students have the opportunity to apply for are:

- Accounting
- Biology
- General Mathematics
- Health and Human Development
- Legal Studies
- Product Design and Technologies (Wood)
- Psychology

VCE ACCELERATION SUBJECTS

ACCOUNTING

UNITS 1 & 2

UNIT 1: ROLE OF ACCOUNTING IN BUSINESS

This unit explores the establishment of a business and the role of accounting in the determination of business success or failure. Students analyse, interpret and evaluate the performance of the business using financial and non-financial information. They use these evaluations to make recommendations regarding the suitability of a business as an investment.

Students record financial data and prepare reports for service businesses owned by sole proprietors. Students also apply relevant accounting principles and financial indicators to measure business performance and take into account the range of ethical considerations faced by business owners when making decisions, including financial, social and environmental.

UNIT 2: ACCOUNTING AND DECISION-MAKING FOR A TRADING BUSINESS

In this unit, students develop their knowledge of the accounting process for sole proprietors operating a trading business, with a focus on inventory, accounts receivable, accounts payable and non-current assets. Students use manual processes and ICT, including spreadsheets, to prepare historical and budgeted accounting reports.

Students analyse and evaluate the performance of the business relating to inventory, accounts receivable, accounts payable and non-current assets. They use relevant financial and other information to predict, budget and compare the potential effects of alternative strategies on the performance of the business. Using these evaluations, students develop and suggest to the owner strategies to improve business performance. This unit also highlights the need for ethical considerations for business owners when making business decisions, including financial, social and environmental.

ASSESSMENT FOR UNITS 1 & 2

Folio of tasks, Case study, Assignment, SACs and Exam

RELATIONSHIP TO FURTHER OPTIONS

It is strongly recommended that students complete Units 1 & 2 before undertaking Units 3 & 4.

WHY STUDY THIS UNIT?

There are multiple career opportunities available to students who have a background in accounting. These include: Accounting, marketing, small business ownership, law, journalism, real estate, insurance, banking and financial, computing, engineering, stock broking, teaching, community service and welfare work

Further information including the Unit 3/4 sequence is found [here](#).

BIOLOGY

UNITS 1 & 2

The study of Biology explores the diversity of life as it has evolved and changed over time, and considers how living organisms function and interact. As well as increasing their understanding of scientific processes, students develop insights into how knowledge in biology has changed, and continues to change, in response to new evidence, discoveries and thinking. The course is vocabulary heavy but less mathematically based than physics or chemistry.

UNIT 1: HOW DO ORGANISMS REGULATE THEIR FUNCTIONS?

In this unit students examine the cell as the structural and functional unit of life, from the single celled to the multicellular organism, including the requirements for sustaining cellular processes. Students focus on cell growth, replacement and death and the role of stem cells in differentiation, specialisation and renewal of cells. They explore how systems function through cell specialisation in vascular plants and animals, and consider the role homeostatic mechanisms play in maintaining an animal's internal environment.

A student-adapted or student-designed scientific investigation is undertaken in Area of Study 3. The investigation involves the generation of primary data and is related to the function and/or the regulation of cells or systems. The investigation draws on the key science skills and key knowledge from Area of Study 1 and/or Area of Study 2.

UNIT 2: HOW DOES INHERITANCE IMPACT ON DIVERSITY?

In this unit students explore reproduction and the transmission of biological information from generation to generation and the impact this has on species diversity. They apply their understanding of chromosomes to explain the process of meiosis. Students consider how the relationship between genes, and the environment and epigenetic factors influence phenotypic expression. They explain the inheritance of characteristics, analyse patterns of inheritance, interpret pedigree charts and predict outcomes of genetic crosses.

Students analyse the advantages and disadvantages of asexual and sexual reproductive strategies, including the use of reproductive cloning technologies. They study structural, physiological and behavioural adaptations that enhance an organism's survival. Students explore interdependences between species, focusing on how keystone species and top predators structure and maintain the distribution, density and size of a population. They also consider the contributions of Aboriginal and Torres Strait Islander knowledge and perspectives in understanding the survival of organisms in Australian ecosystems.

A student-directed research investigation into a contemporary ethical issue is to be undertaken in Area of Study 3. The investigation relates to the application of genetic knowledge, reproductive science, inheritance or adaptations and interdependencies beneficial for survival. The investigation draws on key knowledge and key science skills from Area of Study 1 and/or Area of Study 2.

ASSESSMENT OF UNIT

Practical reports, second hand data analysis, fieldwork reports, research, posters, media analyses tests and exams.

RELATIONSHIP TO FURTHER OPTIONS

It is recommended that students complete Units 1 & 2 before undertaking Units 3 & 4.

WHY STUDY THIS UNIT?

Biology helps us to understand healthy lifestyles, explanations given by medical professionals, the nutritional quality of food, and how to keep our gardens and pets healthy. Biology is important to those who might be considering a career in a medical or veterinary field, agriculture, forest management, environmental science, animal management, management of a forest or marine park, and many other careers. A range of research opportunities are also available to those who choose to go on to do advanced studies in biology, zoology and botany, including honours, masters or doctoral degrees. Careers that use biological knowledge include: Medical Scientist, Laboratory Supervisor, Laboratory Manager, Medical Technician, Research Assistant, Laboratory Assistant, Clinical technician Neurophysiologist, Ambulance Officer, Medical Representative, Myofascial Therapist, Drug Rehabilitation, Hospital Pharmacy Management, Retail Pharmacy, Naturopathy, homeopathy, traditional medicine, Biology Teacher, Scientific Representative, Wine Maker, Marine Ecology, Marine Biologist, Waste Management Officer, Recycling Biomedical Waste, Fitness Consultant, and Surf-Life Saving.

Further information including the Unit 3/4 sequence is found [here](#).

For more information about careers in biotechnology, go to <http://www.biotechnologyonline.gov.au/career/careers.html>

GENERAL MATHEMATICS

UNIT 1 & 2

This study is designed to provide access to worthwhile and challenging mathematical learning in a way which takes into account the needs and aspirations of a wide range of students. It is also designed to promote students' awareness of the importance of mathematics in everyday life in a technological society, and confidence in making effecting use of mathematical ideas, techniques and processes.

The areas of study will be selected from:

UNIT 1 & 2:

- Algebra and structure
- Arithmetic and number
- Discrete mathematics
- Geometry, measurement and trigonometry
- Graphs of linear and non-linear relations
- Probability and Statistics

ASSESSMENT OF UNIT

Students will be assessed across three outcomes with class tests, application and analysis tasks. The use of technology will generally be embedded in these tasks.

OUTCOME 1

On completion of this unit the student should be able to define and explain key concepts as specified in the content from the areas of study and apply a range of related mathematical routines and procedures.

OUTCOME 2

On completion of this unit the student should be able to apply mathematical processes in non-routine contexts, including situations with some open-ended aspects requiring investigative, modelling or problem-solving techniques or approaches, and analyse and discuss these applications of mathematics.

OUTCOME 3

On completion of this unit the student should be able to apply computational thinking and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring investigative, modelling or problem-solving techniques or approaches.

RELATIONSHIP TO FURTHER OPTIONS:

General Mathematics is excellent preparation for students considering studying Further Mathematics 3 and 4. This subject also fulfils many University and TAFE Mathematics prerequisites. A satisfactory result in General Mathematics at Year 11 standard is looked at favourably by employers overall, and employers looking for new apprentices in particular.

WHY STUDY THIS UNIT?

Do you like Maths but don't necessarily want a career in Maths? Do you want to learn the real mathematics you'll use in your everyday life? Are you able to work with data and manipulate lists of numbers on a CAS Calculator? Do you like shapes, especially triangles? Do you know how to budget and the difference between borrowing and lending, a mortgage and an annuity? Do you want the option of choosing Further Mathematics 3 & 4 in Year 12? If you answered yes to any of the above then this course would work well for you!

Further information including the Unit ¾ sequence is found [here](#).

HEALTH AND HUMAN DEVELOPMENT

UNITS 1 & 2

UNIT 1 – THE HEALTH AND DEVELOPMENT OF AUSTRALIA'S YOUTH

- **Outcome 1.** Concepts of health
- **Outcome 2.** Youth health and development
- **Outcome 3.** Health and nutrition

UNIT 2 – CHILD AND ADULTHOOD HEALTH AND DEVELOPMENT

- **Outcome 1.** Developmental transitions
- **Outcome 2.** Youth health literacy

ASSESSMENT OF UNIT

- Case study analysis
- Data analysis
- Visual presentation
- Multimedia presentation, using more than two data types
- Oral presentation, such as debate or podcasts
- Blog
- Test
- Written response, such as a research assignment

RELATIONSHIP TO FURTHER OPTIONS

Units 1 & 2 are not prerequisites for Units 3 & 4.

WHY STUDY THIS UNIT?

Health and human development enables students to investigate the dynamic influences on health and development across the lifespan. Students will develop the knowledge, attitudes, values and skills to become actively involved in shaping the influences that determine their own health and development, and the health of their local and national communities.

CAREER OPPORTUNITIES

Nursing, dietician, teacher, health promotion officer, social worker, welfare officer, psychologist.

Further information including the Unit ¾ sequence is found [here](#).

LEGAL STUDIES

UNITS 1 & 2

UNIT 1 – THE PRESUMPTION OF INNOCENCE

In this unit, students develop an understanding of legal foundations, such as the different types and sources of law, the characteristics of an effective law, and an overview of parliament and the courts. Students are introduced to and apply the principles of justice. They investigate key concepts of criminal law and apply these to actual and/or hypothetical scenarios to determine whether an accused may be found guilty of a crime. In doing this, students develop an appreciation of the manner in which legal principles and information are used in making reasoned judgments and conclusions about the culpability of an accused. Students also develop an appreciation of how a criminal case is determined, and the types and purposes of sanctions. Students apply their understanding of how criminal cases are resolved and the effectiveness of sanctions through consideration of recent criminal cases from the past four years.

UNIT 2 – WRONGS AND RIGHTS

Students explore different areas of civil law, and the methods and institutions that may be used to resolve a civil dispute and provide remedies. They apply knowledge through an investigation of civil cases from the past four years. Students also develop an understanding of how human rights are protected in Australia and possible reforms to the protection of rights, and investigate a contemporary human rights issue in Australia, with a specific focus on one case study.

ASSESSMENT OF UNIT

Will include a mix of the following: Case studies, mock script or role plays, essays and tests, audio or visual presentation, folio and research reports and action plans and reports.

RELATIONSHIP TO FURTHER OPTIONS

Provides an excellent foundation to units 3 & 4, but is not a prerequisite.

WHY STUDY THIS UNIT?

The study of VCE Legal Studies enables students to become active and informed citizens by providing valuable insight into their relationship with the law and the legal system. Students develop knowledge and skills to enhance their confidence and ability to access and participate in the legal system.

CAREER OPPORTUNITIES

Lawyer, Court officer, law clerk, legal secretary, police officer, prison officer, teaching, marketer and accounting.

Further information including the Unit ¾ sequence is found [here](#).

PRODUCT DESIGN AND TECHNOLOGY (WOOD)

UNITS 1 & 2

UNIT 1: MATERIALS, PROCESSES AND DESIGN

The 3 main areas of study are:

- Properties and uses of materials
- Methods of communicating ideas
- Production processes.

UNIT 2: PARAMETERS OF DESIGN

The 3 main areas of study are:

- Design considerations and constraints
- Materials in design, development
- Design and realisation

ASSESSMENT OF UNIT

Assessment is in the form of folio work, short tests, assignments and the completion of a practical product.

RELATIONSHIP TO FURTHER OPTIONS

There are no pre-requisites for Units 3 and 4 Design Technology. However, it would be preferable for students to have chosen Units 1 and 2 before attempting Units 3 and 4.

Students who chose Design Technology may also wish to choose Visual Communication and Design to compliment the design aspects of the course and further strengthen those skills.

WHY STUDY THIS UNIT?

Students who enjoy drawing, designing and making would benefit from this course. Post VCE options include Industrial design, interior design, visual communication, cabinet making, builder etc.

Further information including the Unit ¾ sequence is found [here](#).

PSYCHOLOGY

UNITS 1 & 2

Psychology is a multifaceted discipline that seeks to describe, explain, understand and predict human behaviour and mental processes. It includes many sub-fields of study that explore and seek to better understand how individuals, groups, communities and societies think, feel and act. VCE Psychology is designed to enable students to explore the complex interactions between thoughts, emotions and behaviour; develop an insight into biological, psychological and social factors and the key science skills that underpin much of psychology; and apply psychological models, theories and concepts to everyday situations to enhance understanding of mental wellbeing.

UNIT 1: HOW ARE BEHAVIOR AND MENTAL PROCESSES SHAPED?

Human development involves changes in thoughts, feelings and behaviours. In this unit students examine the complex nature of psychological development, including situations where psychological development may not occur as expected. Students examine the contribution that classical and contemporary knowledge from Western and non-Western societies has made to an understanding of psychological development and to the development of psychological models and theories used to predict and explain the development of thoughts, emotions and behaviours. They investigate the structure and functioning of the human brain and the role it plays in mental processes and behaviour and explore brain plasticity and the influence that brain damage may have on a person's psychological functioning.

UNIT 2: HOW DO INTERNAL AND EXTERNAL FACTORS INFLUENCE BEHAVIOR AND MENTAL PROCESSES?

A person's thoughts, feeling and behaviours are influenced by a variety of biological, psychological and social factors. In this unit students evaluate the role social cognition plays in a person's attitudes, perception of themselves and relationships with others. Students explore a variety of factors and contexts that can influence the behaviour of individuals and groups, recognising that different cultural groups have different experiences and values. Students examine the contribution that classical and contemporary research has made to the understandings of human perception and why individuals and groups behave in specific ways. Students investigate how perception of stimuli enables a person to interact with the world around them and how their perception of stimuli can be distorted.

ASSESSMENT OF UNIT

Assessment may include a report of a practical activity involving the collection of primary data, a research investigation involving the collection of secondary data, media analysis/response, problem solving involving psychological concepts, skills and/or issues, a test comprising multiple choice and/or short answer and/or extended response, a report of an investigation into internal and/or external influences on behaviour.

RELATIONSHIP TO FURTHER OPTIONS

Units 3 and 4 Psychology

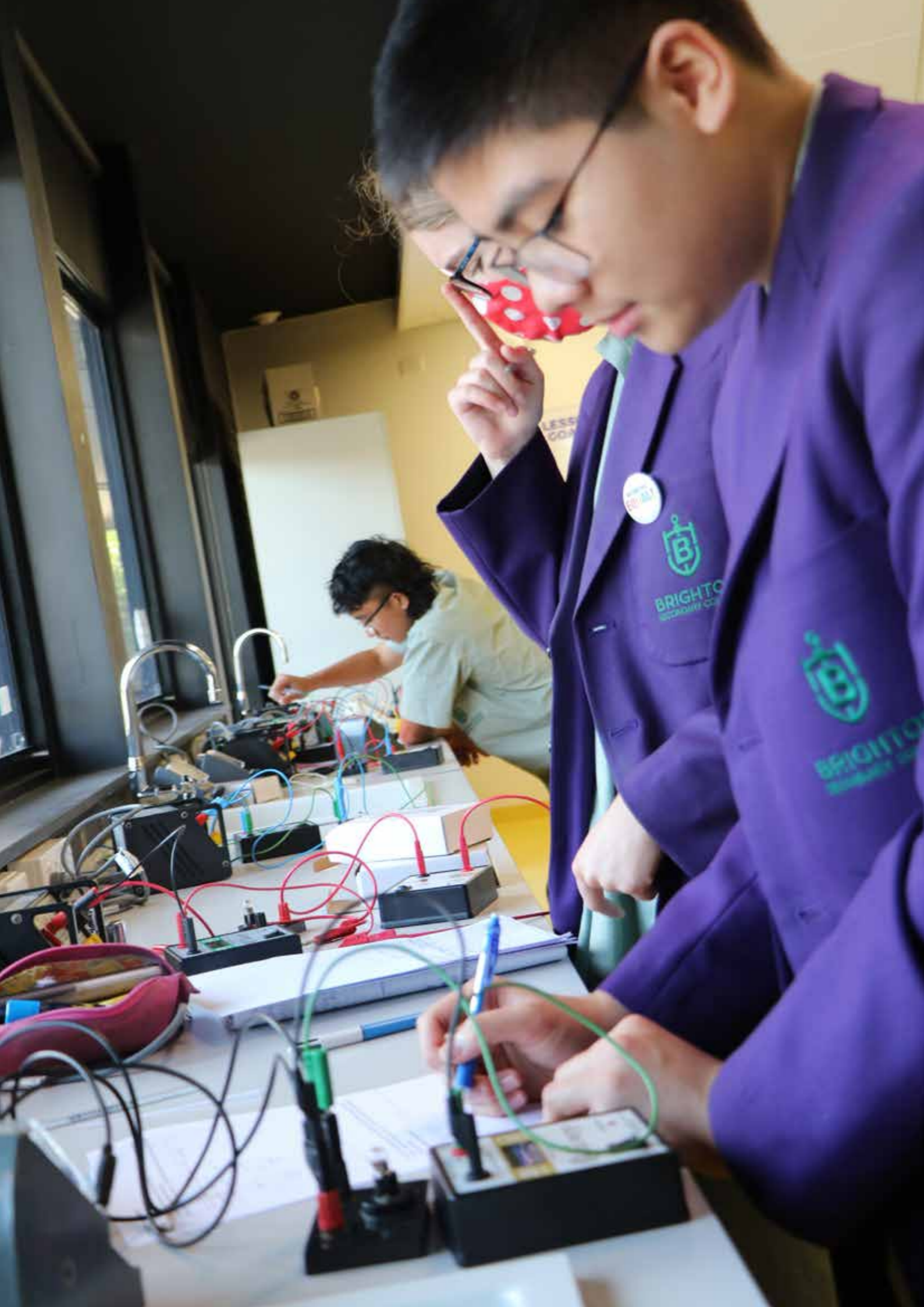
WHY STUDY THIS UNIT?

Psychology is a good companion to Biology and Health and Human Development. It provides a helpful introduction to Psychology for those who go on to study the subject at tertiary level.

Psychology is relevant to careers such as Counselling Psychology, Clinical Psychology, Clinical Neuropsychology, Community Psychology, Educational and Developmental Psychology, Forensic Psychology, Health Psychology, Organisational Psychologists, Academic Psychologists, and Sport Psychologists.

Psychology also provides useful general knowledge about stress management, child development, human relationships, people management and learning. This knowledge is relevant to any career and can help us to maintain healthy lifestyles.

Further information including the Unit ¾ sequence is found [here](#).



YEAR 10 SEAL CURRICULUM

YEAR 10 SEAL ELHES

The Year 10 SEAL English, Literature, Humanities and Enhanced Studies (ELHES) curriculum is a continuation of the Year 9 SEAL ELHES curriculum. Students will continue with an accelerated curriculum in English and Humanities, undertaking Units 1 and 2 of Literature, Unit 1 of History and Unit 1 of Global Politics. Students will also study Mathematics and Science as core subjects with electives selected from the Year 10 elective choices. The specific information relating to the ELHES VCE subjects are provided in Year 11 main curriculum information.

YEAR 10 SEAL I&E

The Year 10 SEAL Innovation and Enterprise (I&E) curriculum is a continuation of the Year 9 SEAL I&E curriculum. Students will continue with an accelerated curriculum in VCE Humanities, and VCE Mathematics, undertaking Unit 1 of Business Management, and Unit 1 of Economics and Unit 1 and Unit 2 of General Maths. Students will also study Science as a core subject with electives selected from the Year 10 elective choices. The specific information relating to the I&E VCE subjects are provided in Year 11 main curriculum information.

YEAR 10 SEAL STEM

The Year 10 SEAL Science, Technology, engineering and Mathematics (STEM) curriculum is a continuation of the Year 9 SEAL STEM curriculum. Students will continue with an accelerated curriculum in Mathematics and Science, undertaking Units 1 and 2 of Mathematical Methods, Unit 1 of Biology and Unit 1 of Physics. Students will also study English and Humanities as core subjects with electives selected from the Year 10 elective choices. The specific information relating to the STEM VCE subjects are provided in Year 11 main curriculum information.

CORE SUBJECTS

ENGLISH

THIS IS COMPULSORY FOR ALL STUDENTS FOR BOTH SEMESTERS

This unit is focussed on the study of language by exploring a variety of texts and forms of written and spoken expression. Students learn to appreciate, enjoy and use language. They will develop their ability to explore complex themes, ideas and issues, and develop their ability to refine and express their ideas, both verbally and in the written form.

AREA OF STUDY

- Reading and the study of texts
- The craft of writing
- Speaking and listening

STUDENTS WILL FOCUS ON THE FOLLOWING FORMS OF WRITING:

- Creative
- Persuasive
- Expository
- Analytical responses to texts/media
- Argumentative and issues based writing

LEARNING OUTCOMES

- Read, view, analyse and discuss contemporary and classical texts
- Analyse and discuss informative and argumentative texts
- Compare and contrast the typical features of particular texts
- Plan, write and present several pieces of writing using various styles
- Proofread and edit work for accuracy, consistency and clarity
- Engage in discussion and provide and justify opinions
- Prepare and deliver presentations that explore complex issues or information to engage an audience

ENGLISH AS AN ADDITIONAL LANGUAGE

This study is for Non-English-speaking students who have been residents in Australia for less than seven years. Tuition in the student's homeland must be in a language other than English to qualify for this subject.

DESCRIPTION

- Reading a variety of texts
- Text response: including novels and films
- Writing folio: expository, creative, argumentative, analytical
- Listening tasks
- Oral presentations
- Language skills: sentence structure, vocabulary, punctuation and paragraphing

LEARNING OUTCOMES

- Speaking and listening
- Reading, writing and viewing

TOPICS

- Issues in the media
- Film study
- Text Analysis
- Comparative film and text study
- Grammar, spelling, vocabulary – Education Perfect
- Persuasive Language

GENERAL HUMANITIES

This compulsory unit aims to develop the students' skills and knowledge in the following areas:

- History
- Civics and Citizenship
- Economics
- Geography

TOPICS

- WWII
- Civil rights and responsibilities
- Justice and the Legal system
- Global wellbeing
- Environmental management
- The global economy
- Consumer choice

LEARNING OUTCOMES

- Analyse events which contributed to the outbreak of WWII
- Analyse the impact of some key wars and conflicts in the twentieth century.
- Explain key principles of the justice system such as fairness, equality, and access.
- Evaluate how just Australia's legal system is for young people.
- Analyse the impact of human activities on natural systems.
- Describe the impact of resource development and use on a natural environment.
- Identify strategies to address the use and management of our natural environment.
- Describe the relationship between current use of the environment and future availability of resources.

SCIENCE

DESCRIPTION

Year 10 science is an opportunity to develop your understanding of Biological, Chemical, Earth and Physical Sciences and how they relate to everyday life. The year 10 science program will help you to deepen your scientific knowledge; and to decide which fields of science you find the most interesting. It will also help you to understand where science fits within career pathways and specific career choices.

TOPICS

BIOLOGICAL SCIENCES

- The transmission of heritable characteristics from one generation to the next involves DNA and genes.
- The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence.

CHEMICAL SCIENCES

- The patterns of Chemistry can be found in the Periodic Table of the Elements, and the way chemical names and formulas are written.
- Different types of chemical reactions are used to produce a range of products and can occur at different rates.

EARTH AND SPACE SCIENCES

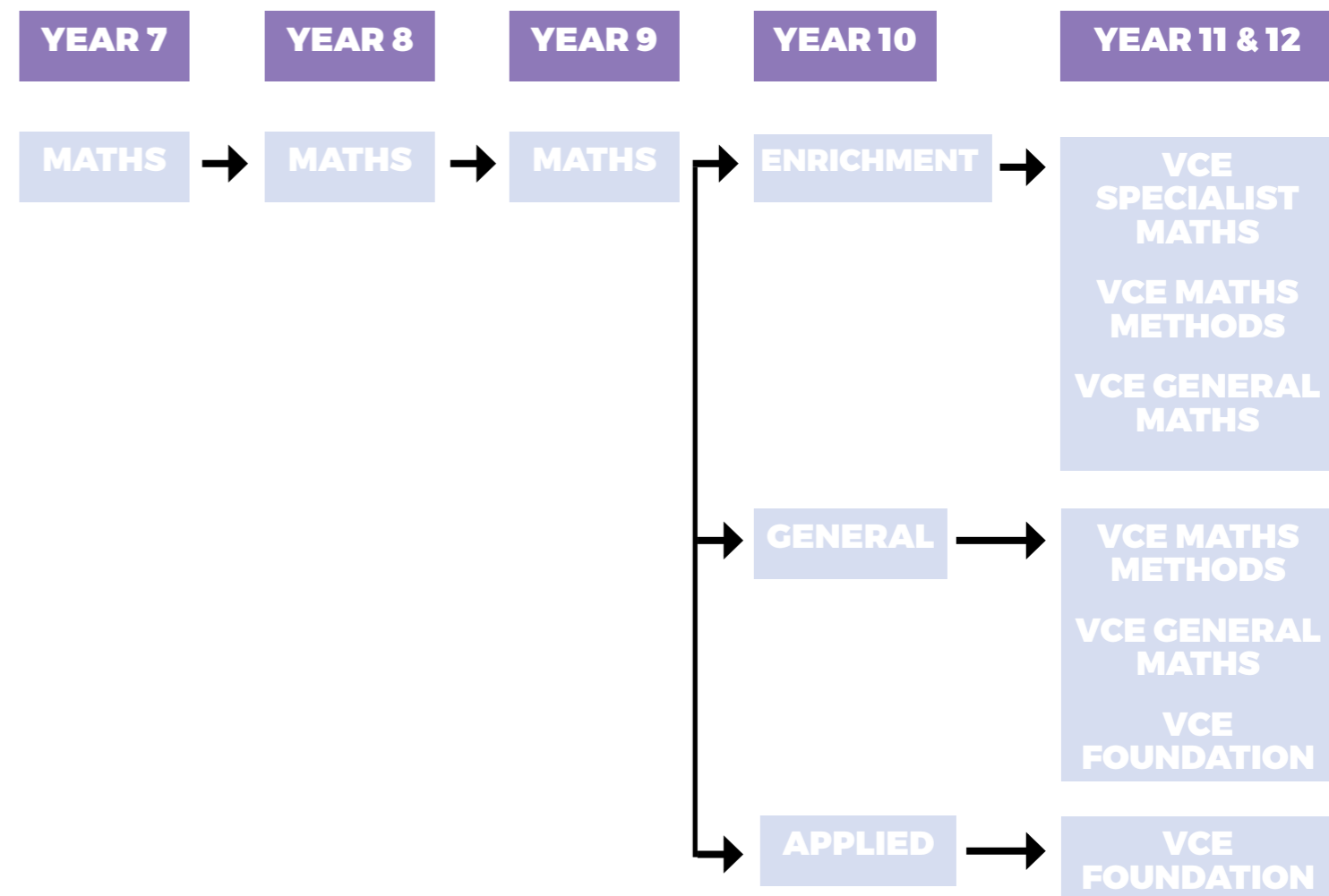
- The universe contains features such as galaxies, stars and solar systems and the Big Bang theory can be used to explain the origin of the universe.

PHYSICAL SCIENCES

- The motion of objects can be explained in terms of forces and energy



MATHEMATICS PATHWAYS



MATHEMATICS

Year 10 Mathematics is compulsory in both semesters. Based on their performance in Year 9, students may be offered one of three alternative Mathematics subjects:

- Applied Numeracy
- General Mathematics, or
- Enrichment Mathematics

These programs aim to give each student the opportunity to achieve their maximum individual improvement and to better engage with Mathematics. Extension and remedial options will still be available within all Year 10 General Mathematics classes, and the College will continue to aim to prepare all Year 10 students for future studies. Year 11 Mathematical Methods will be open to both Enrichment and General students who demonstrate the necessary attitude and skills during Year 10.

APPLIED NUMERACY

This subject focuses on applying mathematical skills on a personal level. There is a heavy focus on the mathematical processes' students would use in their daily lives, as well as skills they might need for a future workplace. The subject will avoid heavily abstract algebraic topics. Students will often be working on application projects which could include:

- Financial projects such as evaluating interest rates, tax statements, mortgage payments, and superannuation choices
- Consumer projects such as determining the best value and discount comparisons
- Business projects such as organizational skills using spreadsheets
- Measurement projects such as creating blueprints for architecture
- Probability projects such as investigating issues about gambling

This subject will help students prepare for their lives beyond school as well as prepare students for VCE Foundation Mathematics should they choose to continue their mathematics classes at a VCE level.

GENERAL MATHEMATICS

This subject aims to give students the opportunity to:

- Demonstrate useful mathematical and numeracy skills for successful general employment and functioning in society
- Develop specialist knowledge in mathematics that provides for further study in the discipline
- See mathematical connections and be able to apply mathematical concepts, skills and processes in posing and solving mathematical problems
- Build confidence in their own knowledge of mathematics, and to feel able to acquire and apply new knowledge and skills when needed
- Become empowered through knowledge of mathematics as a numerate citizen, able to apply this knowledge critically in societal and political contexts
- Develop understanding of the role of mathematics in life, society and work, the role of mathematics in history and mathematics as a discipline – its big ideas, history, aesthetics and philosophy.

TOPICS (SELECTED FROM):

- Indices & Scientific Notation
- Linear Relationships and Graphing
- Expansion and Factorisation
- Measurement
- Geometry
- Trigonometry
- Quadratic functions
- Probability
- Statistics
- Financial Mathematics

ENRICHMENT MATHEMATICS

Enrichment Mathematics is specifically designed to meet the needs of students who are passionate and highly engaged with their mathematical studies. While selecting from the same topics as Year 10 General Mathematics and additional topics students will have the opportunity to undertake acceleration activities and enriched tasks designed to expand their mathematical knowledge and skills.

Selection will be based on demonstrated strong ability in Year 9 Mathematics, especially in algebra, as well as a strong, positive attitude to learning. Students who are one semester or more ahead for Number and Algebra on their Semester 1 report, and who have been awarded a 'Very Good' or higher rating on all their work habits will be offered a place. A second round of offers may be made based on Semester 2 results and availability of places.

THE CREATIVE ARTS

DRAMA

DESCRIPTION

This study introduces students to:

- Solo Performance incorporating a variety of theatrical styles and conventions
- Group performance including interpreting established texts, writing imaginative scripts using established dramatic forms and styles.
- Developing and understanding of analytical skills.
- In Term 2 students will be offered the opportunity to work with the Malthouse Theatre Suitcase Series creating a play that will be performed with a variety of schools at the Malthouse

TOPICS

- Character building/acting skills
- Improvisation
- Use of dramatic elements, forms, styles and conventions to convey meaning
- Interpretations of texts, characters and scripts from a range of cultural sources.
- Practical demonstration of one stagecraft element

LEARNING OUTCOMES

- Make and present drama that explores a range of themes, issues and ideas.
- Structure and present dramatic works to chosen theatrical styles and forms.
- Analyse and interpret the structure, content and aesthetic qualities of drama and the role of drama within different cultural contexts.

MUSIC

DESCRIPTION

This study introduces students to:

- Solo/group performance incorporating a wide variety of musical styles.
- Musical analysis and development of aural skills, theory and Music notation.
- The use of music technology including software to compose and arrange music.
- Effective approaches to Personal Practise, Performance and Composition.
- Investigate and study the development of contemporary music.

TOPICS

- Group Performance
- Popular Contemporary Music
- Approaches to stylistic versatility
- Composition and arrangement
- Musicianship
- Develop a practise routine

LEARNING OUTCOMES

- Learn, rehearse and develop an approved repertoire of music for live performance
- Develop musicianship skills including aural and theory skills, rhythm, analytical and stylistic depth of knowledge
- Develop accomplished instrumental skills on a chosen instrument/vocals

MEDIA

DESCRIPTION

Studying Media will provide students with the opportunity to develop vital skills and knowledge relating to mass communication in the modern age. Media texts (films, photographs, newspapers, etc.), technologies (cameras, editing software) and processes (planning, creation and publishing) will be analysed from different angles including their structure and features, methods of production and distribution, audience reactions and their impact on society. The study of Media is relevant to students with a wide range of interests and skills, including those who wish to pursue further study in Media at VCE, the tertiary level or in vocational education and training settings, as well as providing valuable knowledge and skills for active participation in contemporary society.

AREAS OF STUDY

- Media forms including:
- Audio visual media (film, television, radio, video, photography).
- Print-based media (newspapers, magazines and related publications).
- Digital media technologies (the Internet, computer games and interactive multimedia).
- The media and its relationship with society and culture.

TOPICS

- Investigation of several aspects of the media industry and identifying what makes successful products.
- Using movie making software, digital photography and audio software to create specific designs and resources, ie. advertisements, film, photo storyboards, magazine layouts.
- Create and publish a short video film.
- Develop teamwork and communication skills between the group members.
- Encourage leadership and/or supervisory roles within teams.

LEARNING OUTCOMES

- Analyse and develop solutions to information problems, for example, creation of a short film, both individually and as a team member, using a range of skills, processes and equipment.

ART MAKING AND EXHIBITING

DESCRIPTION

This study introduces student to:

- Drawing/painting
- Printmaking
- Pottery/sculpture
- Art history

and is strongly recommended for students wanting to study Year 11 and Year 12 Studio Art.

TOPICS

Overall Focus: Modernist Art of the 20th Century.

- Drawing: Still life, landscape, portraiture, figure studies
- Painting: extension from one of the above, beginning with experimenting with acrylics, watercolours and oils completing one major artwork
- Printmaking: research ideas and techniques and produce an edition of prints
- Pottery/sculpture: analysing and examining past and contemporary works, making a figurative ceramic art work.

LEARNING OUTCOMES

- To enable students to compile a folio of art work which addresses all the above disciplines and illustrates evidence of a development of student's individual style and an appreciation of art aesthetics.
- The acquisition of skills enabling an individual or group presentation of an written, oral or power point assignment; which addresses the historical content of the course.
- To enable students to complete a major art piece in one or more of the listed disciplines and topics as listed.

VISUAL COMMUNICATION AND DESIGN

DESCRIPTION

This study introduces students to

- Architectural Drawing Plans
- Poster, Packaging & Designs
- A range of both computer and technical drawing
- Rendering techniques using different media

TOPICS

- Conceptualizing ideas through brainstorming
- Analysis of graphic materials
- Developing designing and finishing new products and building plans
- Final presentation of folio work

LEARNING OUTCOMES

- To enable students to develop skills in presentation of design work.
- To develop skills in graphic design and folio presentation.
- To enable students to complete a major graphics piece from initial idea to folio presentation.

TECHNOLOGY

ICT AND BUSINESS

This subject aims to introduce students to ICT, financial literacy, laws and current issues that are relevant to business environments. A range of topics and software are covered and students complete a research presentation on a topic of their choice.

TOPICS

Students will be involved in the following areas of study and skill development:

- Learning basic skills in Adobe Photoshop to create advertising products for their fictional business, and images for a website
- Using a content management system, such as Wordpress, to create a website for a fictional business
- Learning a range of skills in Excel
- A range of theory topics related to ICT issues, technology and ethics in Business
- Financial literacy covering a range of topics including interest, investments, credit cards, costs of purchasing a car and budgets

LEARNING OUTCOMES

- Analyse and develop solutions to information problems, both individually and as a team member. To get exposure to software, theory knowledge and ICT skills that will help students in their business lives.

DIGITAL IMAGING 2

DESCRIPTION

In this subject students develop knowledge and skills in the creation and use of web publications and digital imagery. This subject can prepare students for Year 11 ICT, Media, Visual Communication and Design and further tertiary study.

TOPICS

Students complete a range of tutorials and creative projects that focus on developing practical skills that can be applied to ICT and further digital practices

Students will complete a digital portfolio of work

Students gain an understanding of a range of roles that digital designers work within, including web publishing and online media

LEARNING OUTCOMES

- Students will analyse and develop solutions to information problems, both individually and as a team member, using a range of skill, processes and equipment.
- Students will also demonstrate skills and an understanding of:
- Image creation and digital manipulation using
- Adobe Photoshop and Adobe Illustrator
- Web page construction using WordPress and Dreamweaver
- Design and presentation principles for all media forms, how to make an impact to targeted audience
- Application of future career interests to specific skills and understandings of ICT, digital imagery and media jobs

DESIGN TECHNOLOGY: TEXTILES

DESCRIPTION

Students are introduced to garment construction, pattern layout and cutting, folio development, applying the design elements and principle, fashion illustration and relevant technology such as the CRICUT machine. Students will produce a design folio and make a garment. There is an end of semester examination.

TOPICS

- Understand and learn the product design process.
- Design and construct a garment using a commercial sewing pattern.
- Evaluate production process and finished product.
- Develop a client specific design folio, including a design brief, evaluation criteria, research and sketches.

LEARNING OUTCOMES

- Understand and learn the product design process.
- Design and construct a garment using a commercial sewing pattern.
- Evaluate production process and finished product.
- Develop a client specific design folio, including a design brief, evaluation criteria, research and sketches.

DESIGN TECHNOLOGY: WOOD

DESCRIPTION

Students construct a coffee table and/or other wooden projects using hand tools and some machine tools to develop skills in measuring, marking out, sawing, planing, chiselling and sanding.

TOPICS

- Health and safety
- Working from and developing innovative plans
- Production processes and techniques

LEARNING OUTCOMES

- Analyse the appropriateness of using particular materials.
- Prepare detailed design proposals, using traditional equipment and new technologies.
- Opportunities to integrate laser cutting and CAD/CAM technology into finished products
- Make products using some complex equipment.
- Develop innovative solutions to problems using qualitative and quantitative methods.

FOOD STUDIES: FOOD & NUTRITION

DESCRIPTION

This course allows students to look at hygiene and safety in food handling. Students will follow a course of study based Year 10 Food Studies examines hygiene and safety in food handling. Students will follow a course of study based on the nutrients, factors influencing food choice and associated dietary-related diseases.

Students develop their skills in descriptive writing in food preparation processes and describing sensory properties of food and presenting work using different forms of ICT. Production classes focus on exploring a wide range of different cooking methods, and students prepare dishes which are specifically linked to the learning outcomes.

TOPICS

- nutrition,
- diet-related diseases
- analysing food intakes to influence their self-designed dishes for their assessment.

LEARNING OUTCOMES

- Show a clear understanding of major vitamins and minerals, and relevant dietary-related diseases.
- Demonstrate an understanding of vegetarianism and create a menu based upon optimising their nutrient intake.
- Prepare nutritious dishes that reflect healthy eating habits.

HEALTH & PHYSICAL EDUCATION

SPORTS COACHING AND PERSONAL TRAINING

DESCRIPTION

PRACTICAL CONTENT

Students will complete a 6 week training program as well as the opportunity to participate in a range of physical activities including: football, soccer, basketball, netball, tennis, hockey, softball/baseball, gymnastics, aerobics and golf.

THEORETICAL CONTENT

TERM ONE: EFFECTIVE TRAINING PROGRAMS

Students will complete an activity analysis and fitness testing. They will study fitness programs and have an understanding of ways to improve relative fitness. They will develop a 6 week training program and perform the program during the semester.

TERM TWO: COACHING AND PRACTICE

Students will study different coaching styles, stages of learning and various forms and methods of practice. They will delve into examples of an exemplary coach and injury prevention, culminating in the students coaching a junior team.

ASSESSMENT

There are practical and theoretical components for this subject. Assessments include:

- Practical participation, teamwork and game play, class-work, tests, laboratory reports, written and oral reports and an end of unit exam.
- Tests, laboratory reports, written and oral reports and an end of year exam

SPORTS PHYSIOLOGY & PERFORMANCE

DESCRIPTION

PRACTICAL CONTENT

Students will have the opportunity to participate in a range of physical activities that may include football, soccer, basketball, netball, hockey, softball/baseball, aerobics and circuits and weight training.

THEORETICAL CONTENT

TERM ONE: HOW DOES THE BODY PRODUCE ENERGY?

- Students will study food fuels, energy systems, the body's use of oxygen and acute responses to exercise to understand how the body creates energy.

TERM TWO: BIOMECHANICAL PRINCIPLES

Students will be introduced to Biomechanics; including motion, human movement, newton's three laws, forces, levers, centre of gravity and momentum.

ASSESSMENT

Both the practical and theoretical components of this subject must be passed. Assessment includes:

- Practical participation, teamwork and game play, class-work, tests, laboratory.
- Reports, written and oral reports and an end of unit exam.

OUTDOOR EDUCATION

STUDENTS WHO INCLUDE ANY OUTDOOR EDUCATION ELECTIVES IN THEIR CHOICES WILL BE REQUIRED TO MEET THE CONDITIONS FOR SELECTION OUTLINED IN THE COLLEGE'S [OUTDOOR EDUCATION POLICY](#).

OUTDOOR EDUCATION

(ONE SEMESTER SUBJECT)

DESCRIPTION

Outdoor education aims to introduce students to sustainable relationships between people and natural environment. Students would be involved in a range of outdoor activities and will be introduced to skills and techniques required for safe participation in the outdoors and general community, while developing an appreciation and understanding of the natural environment.

PRACTICAL CONTENT

Students will have the opportunity to participate in a wide range of practical based activities. These may include:

- Bush walking and camping
- Water based activities including swimming, surfing, and snorkelling
- Bike riding
- Rock climbing

THEORETICAL CONTENT

Students will investigate the theory component for certain outdoor activities as well as a number of learning modules being undertaken. The modules completed will be based on community, communication and project management.

Students will complete an assessment task each term, demonstrating subject specific content knowledge

ASSESSMENT

There are theoretical and practical components of this subject, all need to be undertaken.

HEALTH: YOUR BODY, SEX AND SOCIETY

DESCRIPTION

This Course is a semester study of teen behaviours including

- Sexuality, sexual anatomy and practices, and harm minimisation;
- Pregnancy: stages of, contraception, and child development;
- Parenting responsibilities including care of newborns and toddlers;
- Issues affecting teens: partying, drugs, sexuality, eating disorders, and more;
- Driver safety: road accidents, your decisions and becoming a safe driver.

PRACTICAL CONTENT

Students will explore the content of each learning module, based on text content, research and first-hand experience with relevant organisations.

THEORETICAL CONTENT

Students will explore the content of each learning module, based on text content, research and first-hand experiences with relevant organisations.

ASSESSMENT

Students will be required to complete assessment tasks, topic tests and an exam to demonstrate their content knowledge.

LANGUAGES

JAPANESE

Students should have completed Units 1- 4 of Obento Supreme or equivalent.

DESCRIPTION

The course is intensive and equips students with the necessary skills for VCE Japanese.. The emphasis is on communication competence and practical language skills, as well as proficiency in reading and writing Japanese scripts in a variety of contexts. Students will develop skills in understanding modified materials and communicating in a variety of situations.

TOPICS

Japanese language and culture is taught through the following topics:

- Shopping
- Describing People
- Food and Restaurants
- Japanese and Australian Schools
- Giving Directions
- Sports and Hobbies
- Part-time Jobs

LEARNING OUTCOMES

- Listening – Use context and resources to decipher meaning.
- Speaking – Sustain a conversation of three to five minutes using suitable pronunciation and intonation.
- Reading – Demonstrate comprehension of various types of modified written texts.
- Writing – Write and structure a text according to its text type, using known vocabulary, script, and grammatical patterns.

INVESTIGATING IB

COULD THE IBDP BE RIGHT FOR ME?

In this semester-length subject, students are introduced to the learning and teaching styles associated with the IBDP (International Baccalaureate Diploma Program). The subject will offer students the agency to explore real-life contexts and areas of personal interest. As a class, students will engage with a range of perspectives and consider ethical propositions in art (literature, fine art, music etc.) and technology. A student who is inquisitive, open-minded, can think conceptually and has the ability to manage their time and themselves is well-suited to this subject.

CONTENT (EXAMPLE ONLY)

- Who determines what art is valued, and on what criteria?
- On what criteria could it be decided if the government has the right to censor art that is deemed immoral or blasphemous?
- How might personal prejudices, biases and inequality become “coded into” systems? Can algorithms be biased?
- Should we hold people responsible for the applications of technologies they develop/create, such as Facebook and Tik Tok?
- Determined by student/class

ASSESSMENT

Assessment includes a range of formative tasks culminating in an exhibition presented to an audience.

Their study is complemented by an extended research task, with a written component, on a topic and prompt of their choosing. This is assessed independently of the exhibition.

RELATIONSHIP TO FURTHER OPTIONS

By taking this subject, students will be able to make an informed choice about their Senior School Pathway – IBDP or VCE. Note: This subject is not a prerequisite for the IBDP at Brighton Secondary College.

YEAR 10 SEAL ELHES CURRICULUM

ENGLISH: LITERATURE VCE UNITS 1 & 2

This course is ideal for the keen, independent reader of fiction, who is able to write fluently and enjoys the close reading of fiction texts. The course involves intensive study of a range of challenging fiction, both from past and contemporary social and cultural contexts, and includes the close study of plays, novels, short stories, poetry and films.

This study is designed to enable students to:

- enjoy reading a range of challenging literary texts
- approach unfamiliar texts and negotiate diverse literary territories with confidence
- explore the ways in which authors craft their writing
- recognise there are many possible ways of interpreting literary texts
- develop their own responses to texts, recognising the impact of form, features and language in the creation of meaning
- write creatively and critically, and develop their individual voice
- consider the views of others, including when developing interpretations
- express their ideas, through all language modes, with insight and flair.

UNIT 1

In this unit, students analyse a range of texts with a focus on language, structure and stylistic choices. They also explore the common features of a distinctive type of literature (movement or genre).

UNIT 2

In this unit, students consider the interconnectedness of place, culture and identity through the experiences, texts and voices of Aboriginal and Torres Strait Islander peoples, including connections to Country, the impact of colonisation and its ongoing consequences, and issues of reconciliation and reclamation. Students also focus on the text and its historical, social and cultural context.

ASSESSMENT OF UNIT:

You will make personal, creative, critical and analytical responses to these texts, showing your understanding of character, language, structure and meaning of these texts. You will be assessed by completing a variety of written responses to literature, and examinations at the end of each semester.

YEAR 10 SEAL I&E CURRICULUM

HUMANITIES: MODERN HISTORY AND POLITICS

HISTORY – MODERN HISTORY

UNIT 1 – CHANGE AND CONFLICT

Modern History allows students to explore the significant events, ideas, individuals and movements that shaped the social, political, economic and technological conditions and developments that have defined the modern world. This unit focuses first on Germany and the rise of Hitler and then explores the USSR under Stalin. Answer questions such as:

- How did individuals and movements challenge existing political and economic conditions?
- To what extent did the events, ideologies, individuals, movements and new nations contribute to the causes of World War Two?
- How did society and culture change?
- How did ideologies contribute to continuities and changes in society and culture?

AREA OF STUDY 1: IDEOLOGY AND CONFLICT

AREA OF STUDY 2: SOCIAL AND CULTURAL CHANGE

RELATIONSHIP TO FURTHER OPTIONS

Provides a good foundation to units 3 & 4, but is not a prerequisite.

WHY STUDY THIS UNIT?

History allows students to understand how people and societies behaved in the past so we can apply our learning to the present and future. It provides the opportunity to develop many of the key skills required in a changing society such as both written and verbal communication.

CAREER OPPORTUNITIES: Anthropologist, author, cultural heritage officer, lawyer, journalist, historian, lecturer, multimedia developer, project manager, publisher, researcher, teacher.

POLITICS

UNIT 2 – DEMOCRACY: STABILITY AND CHANGE

In this unit, students investigate the key principles of democracy and assess the degree to which these principles are expressed, experienced and challenged, in Australia and internationally. They complete an in-depth study of a political issue or crisis that inherently challenges basic democratic ideas or practice. Answer questions such as:

AREA OF STUDY 1: ISSUES FOR AUSTRALIA'S DEMOCRACY

AREA OF STUDY 2: GLOBAL CHALLENGES TO DEMOCRACY

RELATIONSHIP TO FURTHER OPTIONS

It is strongly recommended that you complete Unit 2 before undertaking Politics Units 3 and 4.

WHY STUDY THIS SUBJECT?

Politics gives students a broad understanding of the forces that shape our world, it helps to identify what happens below the surface and answer why our society is the way it is. It provides the opportunity to engage with contemporary case studies and develop decision-making skills.

CAREER OPPORTUNITIES: diplomat, campaign manager, government, lawyer, journalist, lobbyist, lecturer, activist, policy analyst, teacher.

HUMANITIES: BUSINESS MANAGEMENT AND ECONOMICS

ECONOMICS

UNIT 1 – ECONOMIC DECISION-MAKING

- Identify basic economic problems of scarcity and the need for economic decision making
- The purpose of economic activity and the influence on material and non-material living standards
- Use demand and supply models to explain changes in prices and quantities traded
- Examine one or more markets to gain insight into the factors that may affect the way resources are allocated in an economy
- Study the insights of behavioural economics and how those insights contrast with the traditional model of consumer behaviour
- Analysis of written, visual and statistical evidence - Folio of tasks, CATs and exams

RELATIONSHIP TO FURTHER OPTIONS

It is strongly recommended that students complete Units 1 & 2 before undertaking Units 3 & 4. WHY STUDY THIS UNIT?

CAREER OPPORTUNITIES: Accounting, marketing, small business ownership, law, journalism, real estate, insurance, banking and financial, computing, engineering, stock broking, teaching, statistician, investment analyst and social research.

BUSINESS MANAGEMENT

UNIT 2 – ESTABLISHING A BUSINESS

- Legal requirements and financial considerations when establishing a business.
- Essential features of effective marketing.
- Market research processes.
- Issues in marketing.
- Cost and benefit of public relations to a business.
- Staffing needs for a business
- Corporate social responsibility management issues regarding marketing and staffing of a business.

ASSESSMENT OF UNIT

Tasks will include a mix of the following:

- Case studies and written reports
- Oral and multi-media presentations
- Business survey and analysis
- Preparation of a start-up business folio
- Economic simulation activities

RELATIONSHIP TO FURTHER OPTIONS

Provides a good foundation to Units 3 & 4, but is not a prerequisite.

WHY STUDY THIS UNIT?

CAREER OPPORTUNITIES: Accounting, business consultant, marketing, small business ownership, human resource management, journalism, banking and financial, operations management, engineering, stock broking and teaching

MATHEMATICS: GENERAL MATHEMATICS UNIT 1 & 2

UNIT 1

This study is designed to provide access to worthwhile and challenging mathematical learning in a way which takes into account the needs and aspirations of a wide range of students. It is also designed to promote students' awareness of the importance of mathematics in everyday life in a technological society, and confidence in making effecting use of mathematical ideas, techniques and processes.

The areas of study are:

UNIT 1

- Data analysis, probability and statistics: investigating and comparing data distributions
- Algebra, number and structure: arithmetic and geometric sequences, first-order linear recurrence relations and financial mathematics
- Functions, relations and graphs: linear functions, graphs, equations and models
- Discrete mathematics: matrices
- Statistics and a mathematical investigation

ASSESSMENT OF UNIT

Students will be assessed across three outcomes with class tests, application and analysis tasks, and a mathematical investigation. The use of technology will generally be embedded in these tasks.

OUTCOME 1

Define and explain key concepts as specified in the content from the areas of study, and apply a range of related mathematical routines and procedures.

OUTCOME 2

Apply mathematical processes in non-routine contexts, including situations with some open-ended aspects requiring investigative, modelling or problem-solving techniques or approaches, and analyse and discuss these applications of mathematics

OUTCOME 3

Apply computational thinking and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring investigative, modelling or problem-solving techniques or approaches.

UNIT 2:

General Mathematics Units 1 and 2 cater for a range of student interests, provide preparation for the study of VCE General Mathematics at the Units 3 and 4 level and contain assumed knowledge and skills for these units. The areas of study for Unit 2 of General Mathematics are 'Data analysis, probability and statistics', 'Discrete mathematics', 'Functions, relations and graphs' and 'Space and measurement'.

OUTCOME 1

On completion of this unit the student should be able to define and explain key concepts as specified in the content from the areas of study and apply a range of related mathematical routines and procedures.

To achieve this outcome the student will draw on key knowledge and key skills outlined in all the areas of study.

OUTCOME 2

On completion of this unit the student should be able to apply mathematical processes in non-routine contexts, including situations with some open-ended aspects requiring investigative, modelling or problem-solving techniques or approaches, and analyse and discuss these applications of mathematics.

To achieve this outcome the student will draw on key knowledge and key skills outlined in all the areas of study.

OUTCOME 3

On completion of this unit the student should be able to apply computational thinking and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring investigative, modelling or problem-solving techniques or approaches.

To achieve this outcome the student will draw on key knowledge and key skills outlined in all the areas of study.

RELATIONSHIP TO FURTHER OPTIONS:

General Mathematics is excellent preparation for students considering studying General Mathematics 3 and 4. This subject also fulfils many University and TAFE Mathematics prerequisites. A satisfactory result in General Mathematics at Year 11 standard is looked at favourably by employers overall, and employers looking for new apprentices in particular.

WHY STUDY THIS UNIT?

Do you like mathematics but don't necessarily want a career in mathematics? Do you want to learn the real mathematics you'll use in your everyday life? Are you able to work with data and manipulate lists of numbers on a CAS Calculator? Do you like shapes, especially triangles? Do you know how to budget and the difference between borrowing and lending, a mortgage and an annuity? Do you want the option of choosing General Mathematics 3 & 4 in Year 12?

YEAR 10 SEAL STEM CURRICULUM

MATHEMATICS: MATHEMATICAL METHODS UNITS 1&2

This study is designed to provide access to worthwhile and challenging mathematical learning in a way which takes into account the needs and aspirations of a wide range of students. It is also designed to promote students' awareness of the importance of mathematics in everyday life in a technological society, and confidence in making effective use of mathematical ideas, techniques and processes.

Essential mathematical activities include calculating and computing, abstracting, conjecturing, proving, applying, investigating, modelling, and problem posing and solving.

UNITS 1 & 2:

- Functions, relations and graphs
- Algebra, number and structure
- Calculus
- Data analysis, probability and statistics

ASSESSMENT OF UNIT

Students will be assessed across three outcomes with class tests, application, analysis tasks and a mathematical investigation. The use of technology will generally be embedded in these tasks.

OUTCOME 1

Define and explain key concepts as specified in the content from the areas of study and apply a range of related mathematical routines and procedures.

OUTCOME 2

Apply mathematical processes in non-routine contexts, including situations with some open-ended aspects requiring investigative, modelling or problem-solving techniques or approaches, and analyse and discuss these applications of mathematics.

OUTCOME 3

Apply computational thinking and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring investigative, modelling or problem-solving techniques or approaches.

RELATIONSHIP TO FURTHER OPTIONS

Mathematical Methods Units 1 & 2 provides a pathway to the Year 12 study of Mathematical Methods Units 3 & 4. It is also required (in addition to Specialist Units 1 & 2) for students wishing to undertake Specialist Maths Units 3 & 4.

Students are advised to carefully check which level of Mathematics will best suit their needs for any tertiary courses.

WHY STUDY THIS UNIT?

Is mathematics one of your favourite subjects? Mathematical Methods is the subject for you! A successful study of Mathematical Methods at Year 11 (along with Specialist) will enable you to choose any of the Mathematics subjects offered at Year 12. For those keeping their options open or as a preparation for any level of Year 12 Mathematics, this subject is an excellent choice for students beginning their VCE studies.

SCIENCE: BIOLOGY AND PHYSICS

BIOLOGY

UNIT 1: HOW DO ORGANISMS REGULATE THEIR FUNCTIONS?

In this unit students examine the cell as the structural and functional unit of life, from the single celled to the multicellular organism, including the requirements for sustaining cellular processes. Students focus on cell growth, replacement and death and the role of stem cells in differentiation, specialisation and renewal of cells. They explore how systems function through cell specialisation in vascular plants and animals, and consider the role homeostatic mechanisms play in maintaining an animal's internal environment.

A student-adapted or student-designed scientific investigation is undertaken in Area of Study 3. The investigation involves the generation of primary data and is related to the function and/or the regulation of cells or systems. The investigation draws on the key science skills and key knowledge from Area of Study 1 and/or Area of Study 2.

ASSESSMENT OF UNIT

Assessment may consist of practical reports, second hand data analysis, fieldwork reports, research, posters, media analyses tests and exams.

PHYSICS

UNIT 1: HOW IS ENERGY USEFUL TO SOCIETY?

In this unit students examine some of the fundamental ideas and models used by physicists in an attempt to understand and explain energy. Models used to understand light, thermal energy, radioactivity, nuclear processes and electricity are explored. Students apply these physics ideas to contemporary societal issues: communication, climate change and global warming, medical treatment, electrical home safety and Australian energy needs.

ASSESSMENT OF UNIT

Assessment may consist of annotated folios of practical activities, data analysis, device design and construction, reports, modelling activities, media responses, summary practical reports, reflective writing, tests and exams



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