

YEAR 12 - 2018 COURSE SELECTION HANDBOOK



**ST ALBANS**  
SECONDARY COLLEGE



ST ALBANS  
SECONDARY COLLEGE

## 2018 COURSE SELECTION HANDBOOK

### Table of Contents

Principal's Message.....	4
Careers Introduction .....	5
Victorian Certificate of Applied Learning (VCAL) .....	7
Units 1 and 2 Offered.....	8
Units 3 and 4 Offered.....	9
VCE Units Offered .....	10
Course Planning Page - Year 12 .....	11
Mathematics Pathway Recommendation Year 12 in 2018.....	12
Arts.....	13
Drama.....	13
Studio Arts.....	14
Visual Communication Design .....	15
Commerce .....	16
Accounting .....	16
Business Management .....	17
Legal Studies.....	18
English .....	19
English.....	19
English Language.....	20
English As An Additional Language (EAL) .....	21
Literature.....	22
Health and Physical Education .....	23
Health and Human Development .....	23
Physical Education .....	24
Humanities .....	25
Australian and Global Politics .....	25
Geography .....	26
History - Revolutions.....	27
Information Technology .....	28
Informatics .....	28
LOTE.....	29
French .....	29
Italian .....	30
Japanese (2nd Language) .....	31
Vietnamese (2nd Language).....	32
Vietnamese (1st Language) .....	33

### CORE SUBJECTS

Mathematics .....	34
Mathematics Pathways from Year 9 to Year 12.....	34
Further Mathematics .....	35
Mathematical Methods (CAS).....	37
Specialist Mathematics .....	38
Science .....	39
Biology.....	39
Chemistry .....	40
Physics .....	42
Psychology .....	44
Technology .....	46
Design and Technology – Woodwork .....	46
Food Studies .....	47

### VOCATIONAL EDUCATION TRAINING 2018

Vocational Education and Training (VET) .....	48
VET Information Technology - Certificate III in Information, Digital Media & Technology .....	50
VET Arts - Certificate III in Music .....	51
VET Technology - Certificate III in Applied Fashion Design and Technology.....	52
VET Health and Physical Education Certificate III in Sport and Recreation.....	53
VET Hospitality Certificate II in Kitchen Operations .....	54
Interview Form .....	55
Notes.....	55

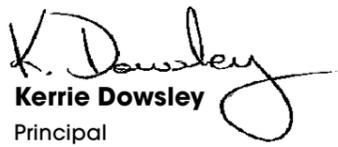


## PRINCIPAL'S MESSAGE

We are pleased to present this VCE Handbook as a part of the school's Managed Individual Pathways (MIP's) program to assist students in their selection of suitable courses and pathways.

The Handbook contains up to date information on the content of VCE and VCAL Units to be offered in 2018 at our school, as well as the requirements needed to satisfactorily complete each unit of work.

This Handbook is only a guide to students, and should be used in conjunction with advice from the Careers / MIP's Coordinator and the Course Counselling Team.

  
**Kerrie Dowsley**  
 Principal

## CAREERS INTRODUCTION

### Choosing a Career

It is not unusual to be undecided about your career goals. You should not feel anxious about this. To help you clarify the direction that is right for you, you may find some of the following ideas useful.

1. **Talk to People** - A good way of finding out what jobs are most likely to appeal to you is by talking to as many people as possible about the work they do.
2. **Work Experience** - This can give you an insight into the world of work and an awareness of whether a particular job is right for you. Year 10 students do work experience the first two weeks of term three.
3. **Vocational Guidance** - There are people who can offer you specialised help in the careers area. Begin by visiting the Careers Room and talking to your Careers teacher at school.
4. **Check out the following web pages:**
  - My Future [www.myfuture.edu.au](http://www.myfuture.edu.au)
  - VTAC Course Link (free service)  
 An interactive web-based program aimed to assist students in Years 10-12 and their parents to investigate course options based on arrange of criteria, including interests, studies undertaken and results [www.vtac.edu.au](http://www.vtac.edu.au) - select 'Explore Options'.

### How your work will be assessed in Units 3 and 4

#### 1. Satisfactory Completion of a Unit

You will receive "S" (for "Satisfactorily Completed") or "N" (for "Not Satisfactorily Completed") for each unit depending on whether or not you satisfactorily complete ALL the learning outcomes. If you complete them properly your efforts and achievements will be rewarded. They are designed as a "set" to cover all aspects of the unit, so if you fail to complete one of them you cannot be considered to have completed the unit.

#### 2. Levels of Performance

In Units 3 and 4 there will be a system of graded assessment. These assessments will also be included on your results.

In every study one or more of the assessments will take the form of a shortened exam. This assessment will be assessed by external examiners. The rest of the assessments will be assessed initially by the school. The grades given to pieces of work will be checked by panels of teachers supervised by an independent chairperson.

#### 3. How each Assessment will be Graded

You will get a grade for each assessment, instead of one grade for the unit as a whole. There will be a scale of five grades (A-E) with two levels in each grade. The symbols used to report assessments will be A+, A, B+, B, C+, C, D+, D, E+, E.

Instead of a grade, you could receive an "UG" (which stands for "Ungraded" meaning that you haven't done enough work or work of sufficient quality to get a grade) and "NA" (which stands for "Not Assessed" and means that you haven't done the assessment).

## Choosing your course

It is important that you maintain a variety of subjects or types of subjects as:

- (i) Your own career aims may change;
- (ii) Pre-requisite and demands of tertiary may change;
- (iii) You may not be able to enter the particular field or course of study of your choice.

**Therefore it is important to KEEP YOUR OPTIONS AS OPEN AS POSSIBLE.**

There are 3 factors that should be considered when deciding on subjects:

1. Do you have some ability in the type of subject?
2. Do you enjoy that field of study?
3. How does it relate to your career intentions?

Remember, talk to your present teachers about your selection of units.

The subjects you select will, to some extent, determine what you are able to do after leaving school.

## Enquiries about the contents of this booklet should be made to:

- Ms C Armstrong – Careers Coordinator
- Ms S Bekiaris – Senior Sub School Leader
- Ms A Woods – Assistant Senior Sub School Leader
- Ms A Langley – Senior Sub School Coordinator
- Mr R Kryszinski – Senior Sub School Coordinator
- Ms L Gough – VCAL and Senior Sub School Coordinator

## Learning Area Coordinators

# VICTORIAN CERTIFICATE OF APPLIED LEARNING (VCAL)

VCAL is the hands-on alternative to VCE for Years 11 and 12 students. This course will help you develop skills such as communication and teamwork that lead on to employment, perhaps in an apprenticeship, a traineeship or on to further training in TAFE.

## Who should choose VCAL?

- Students who are seeking to work in an apprenticeship;
- Students who want to study a TAFE course; and
- Students who are seeking a traineeship.

## The usual week for a VCAL student involves:

- One day in a Work Placement (Structured Work Place Learning), relevant to your VET course.
- One day studying for a VET Certificate or TAFE Certificate that relates to the work you want to do.
- **Three days at school studying:**
  - Literacy;
    - Developing writing and reading skills to help students to take their place in the workforce.
    - Developing oral skills to improve students' communication.
  - Numeracy;
    - Mathematics relevant to life skills and the world of work.
  - Personal Development;
    - Team building.
    - Leadership.
    - Projects relevant to the workplace (eg: design, development, publicity, organisation and production of community projects).
  - Work Related Skills;
    - Occupational Health and Safety.
    - Resumes.
    - Preparation for the world of work.
    - Work placement and on-going monitoring of students' progress.

## The Costs Involved?

As well as your usual Education Resources Charge, you will also have to pay the VET or TAFE Course fees. These vary according to the program you choose.

## If you are interested in VCAL, what should you do?

After speaking with your parents about this, see Ms Gough or your Coordinators for more information about the course. **VET and TAFE fees must be paid in advance.**

## UNITS 1 AND 2 OFFERED AT ST ALBANS SECONDARY COLLEGE

- Accounting
- Australian and Global Politics
- Biology
- Business Management
- Chemistry
- Design and Technology - Woodwork
- Drama
- Economics
- English
- English as an Additional Language (EAL)
- English Language
- Food Studies
- Geography
- Health and Human Development
- History - 20th Century
- Information Technology - Computing
- Legal Studies
- Literature
- LOTE
  - French
  - Italian
  - Japanese (2nd Language)
  - Vietnamese (2nd Language)
  - Vietnamese (1st Language)
- Mathematics
  - Foundation Mathematics
  - General Mathematics
  - Mathematical Methods (CAS)
  - Specialist Mathematics
- Physical Education
- Physics
- Psychology
- Studio Arts
- VCAL (Victorian Certificate of Applied Learning)
- VET - Certificate III in Applied Fashion Design and Technology
- VET - Certificate II in Hospitality in Kitchen Operations
- VET Certificate III in Information, Digital Media and Technology
- VET - Certificate III in Music
- VET - Certificate III in Sport and Recreation
- VET Brimbank Cluster Subjects (See Handbook)
- Visual Communication Design

All units offered are dependent on sufficient numbers of students enrolling for the class to be timetabled. If not enough students choose a particular subject, it will be withdrawn from offer. Students will then be asked to select an alternative unit.

## UNITS 3 AND 4 OFFERED AT ST ALBANS SECONDARY COLLEGE

- Accounting
- Biology
- Business Management
- Chemistry
- Design and Technology - Woodwork
- Drama
- English
- English Language
- English as an Additional Language (EAL)
- Food Studies
- Geography
- Global Politics
- Health and Human Development
- History – Revolutions
- Information Technology - Informatics
- Legal Studies
- Literature
- LOTE
  - French
  - Italian
  - Japanese (2nd Language)
  - Vietnamese (2nd Language)
  - Vietnamese (1st Language)
- Mathematics
  - Further Mathematics
  - Mathematical Methods (CAS)
  - Specialist Mathematics
- Physical Education
- Physics
- Psychology
- Studio Arts
- VCAL (Victorian Certificate of Applied Learning)
- VET - Certificate III in Applied Fashion Design and Technology
- VET - Certificate III in Information, Digital Media & Technology
- VET - Certificate III in Music
- VET – Certificate III in Sport and Recreation
- VET – Hospitality - Certificate II in Kitchen Operations
- Visual Communication Design

All units offered are dependent on sufficient numbers of students enrolling for the class to be timetabled. If not enough students choose a particular subject, it will be withdrawn from offer. Students will then be asked to select an alternative unit.

# VCE UNITS OFFERED AT ST ALBANS SECONDARY COLLEGE

For further information, contact the Department Head listed.

Units Offered	Learning Area Coordinator	Units Offered	Learning Area Coordinator
<b>Arts</b> Drama Studio Arts Visual Communication Design VET - Certificate III in Music	Mr D'Aglas Ms Panteli Mr Orchard	<b>Commerce</b> Accounting Business Management Legal Studies Health and Physical Education	Mr Fraser
<b>English as an Additional Language (EAL)</b> English English / English as an Additional Language (EAL) Literature	Ms Carbonaro Ms Good	<b>Health and Human Development</b> Physical Education VET – Certificate III Sports and Recreation	Ms Hocking Ms Diallo
<b>Humanities</b> Australian and Global Politics Geography History - 20th Century History - Revolutions	Ms Pannu	<b>Information Technology</b> Information Technology - IT Informatics VET - Certificate III in Information Technology	Mr Singh
<b>LOTE</b> French Italian Japanese (2nd Language) Vietnamese	Ms Biondi	<b>Mathematics</b> Foundation Mathematics Further Mathematics General Mathematics Mathematical Methods (CAS) Specialist Mathematics	Mr Hammond Ms Le
<b>Science</b> Biology Chemistry Physics Psychology	Ms Mair	<b>Technology</b> Design and Technology - Woodwork Food Studies VET - Certificate III Applied Fashion Design and Technology	Mr D'Aglas Ms Coleridge
<b>VCAL</b>	Ms Gough	<b>VET (See Cluster Handbook)</b>	Ms Armstrong

# COURSE PLANNING PAGE – YEAR 12

Name: \_\_\_\_\_

HG: \_\_\_\_\_

## Current Year 11 Program

	Unit 1	Unit 2
1.	ENGLISH / EAL	ENGLISH / EAL
2.		
3.		
4.		
5.		
6.		

## Proposed Year 12 Program

<b>FIRST CHOICES</b> Slot 1 <b>MUST BE</b> filled with either English, EAL, English Language or Literature.	1.	ENGLISH / EAL / ENGLISH LANGUAGE / LITERATURE
Slots 2 - 5 are open to any subject.	2.	
	3.	
	4.	
	5.	
<b>RESERVES</b> Select 2 backup subjects	1.	
	2.	

## Have there been any changes to your subjects?

If you have selected new subjects in your proposed Year 12 program, please indicate why you have done so and ensure you have your coordinators signature below.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Coordinator's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent or Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# MATHEMATICS PATHWAY RECOMMENDATION YEAR 12 IN 2018



Student Name: \_\_\_\_\_ Home Group: \_\_\_\_\_

I have discussed my Mathematics Pathway with my current Year 11 Mathematics Teachers (initials):  
\_\_\_\_\_ and \_\_\_\_\_

Student Signature: \_\_\_\_\_

Year 11 Mathematics Teachers:  
I have discussed (student's name): \_\_\_\_\_ Year 11  
Mathematics results with them.

In 2018, I recommend they study (please tick one):

- Mathematics Methods and Specialist Mathematics
- Mathematics Methods and Further Mathematics
- Mathematics Methods
- Further Mathematics

Teacher Name: \_\_\_\_\_ (Teacher 1)

Teacher Signature: \_\_\_\_\_ (Teacher 1)

Teacher Name: \_\_\_\_\_ (Teacher 2)

Teacher Signature: \_\_\_\_\_ (Teacher 2)

If I do not wish to follow my Mathematics teacher's recommendations:

I have considered the recommendations given to me by my Mathematics Teacher and wish to act against these recommendations and study \_\_\_\_\_ in 2018.

I understand that I may be at risk of failing this subject and will not be guaranteed a place in an appropriate Mathematics class if I am not passing and wish to change subjects.

Student Signature: \_\_\_\_\_

Parent Signature: \_\_\_\_\_

## ARTS

# DRAMA

### Unit 3: Ensemble Performance

Students are involved in the development of an ensemble performance drawing on subject matter from a range of sources using non-naturalistic styles from a range of traditions. The processes involved in the development and realization of the ensemble performance are evaluated. A non-naturalistic work selected from the prescribed play list will also be analysed.

#### Areas of Study

- Creating and presenting ensemble performance
- Analysing non-naturalistic performance
- Responding to ensemble performance

#### Unit 3 Outcomes

- To develop and present character(s) within a non-naturalistic ensemble performance.
- To analyse play-making techniques used to construct and present ensemble works.
- To analyse and evaluate a non-naturalistic performance selected from the prescribed play list.

### Unit 4: Solo Performance

This unit focuses on the use of performance styles theatrical conventions and stimulus materials from a variety of cultural sources in the development of a solo performance. The processes involved in the development of solo work are also analysed and evaluated.

#### Areas of Study

- Creating solo performances
- Analysing a solo performance
- Processes used to create solo performances

#### Unit 4 Outcomes

- Create and present a short solo performance based on stimulus material, and evaluate the processes used.
- Create, develop and perform character/s within a solo performance in response to a prescribed structure.
- Describe, analyse and evaluate the creation, development and presentation of a solo performance.

**NOTE:** There is a charge of \$200 for this subject to cover the cost of productions and a camp.

## STUDIO ARTS

### Unit 3: Studio Production and Professional Practices

The unit is designed to assist students to explore and develop an individual design process. They initiate and explore a range of potential ways to present and represent their ideas. Art making is led by a student initiated "exploration proposal" that is, a statement of why a specific topic or theme was chosen and a range of approaches and media they may explore as they develop their ideas. Media experiments in preparation for creating artwork are documented and analysed within a workbook. This unit is directly linked to Outcome 1 of Unit 4.

#### Areas of Study

- Design exploration
- Design process
- Professional art practice and styles

#### Unit 3 Outcomes

On completion of this unit the student should be able to:

- Prepare an exploration proposal that defines the parameters of their individual design process and includes a work plan on how the proposal will be achieved.
- Present a workbook that documents an individual design process. The workbook will be annotated and include a range of directions that reflect the concepts and ideas in the exploration proposal.

### Unit 4: Studio Production and Industry Contexts

The focus of this unit is the creation of a cohesive folio of finished artwork. The artworks within the folio are developed from potential solutions generated for Unit 3 Outcome 2. The folio pieces must be linked by theme, idea, materials, techniques or presentation.

#### Areas of Study

- Studio production
- Focus reflection and evaluation
- Art industry contexts

#### Unit 4 Outcomes

Folio of artworks:

- Present a cohesive folio of finished artworks, that reflect the intent of their exploration proposal and Unit 3 workbook designs.

Focus reflection and evaluation:

- Provide visual and written documentation that identifies the folio focus and evaluates the finished artworks.
- Examine and explain the preparation and presentation of artworks for two different art-spaces and discuss various roles, processes and methods involved in the exhibition of artworks.

## VISUAL COMMUNICATION DESIGN

### Unit 3: Design Thinking and Practice

#### Areas of Study

- Analysis and practice in context
- Design industry practice
- Developing a brief and generating ideas

#### Unit 3 Outcomes

- To create visual communications for specific contexts, purposes and audiences that are informed by their analysis of existing visual communications.
- To describe how visual communications are designed and produced in the design industry and explain factors that influence these practices.

### Unit 4: Design Development and Presentation

#### Areas of Study

- Development of design concepts
- Final presentations
- Evaluation and explanation

#### Unit 4 Outcomes

- To be able to develop distinctly different design concepts for each need, and select and refine for each need a concept that satisfied each of the requirements of the brief.
- To be able to produce final visual communication presentations that satisfy the requirement of the brief.
- To devise a pitch to present and explain their visual communications to an audience and evaluate the visual communications against the brief.

# ACCOUNTING

## Unit 3: Recording and Reporting for a Trading Business

The unit focuses on financial accounting for a single activity trading business as operated by a sole trader and emphasises the role of accounting as an information system. The unit introduces the double entry system of recording using the accrual basis of accounting.

### Areas of Study

- Recording of financial data
- Balance day adjustments and reporting and interpreting accounting information

### Unit 3 Outcomes

- To record financial data into appropriate accounting records using a double-entry accrual-based system for a single activity sole trader.
- To record balance day adjustments prepare financial reports and explain related aspects of the accounting system.

## Unit 4: Control and Analysis of Business Performance

The unit extends on the reporting and reporting processes covered in Unit 3 and the use of financial and non-financial information in assisting management in the decision-making process. The unit introduces the importance of budgeting and financial reports are analysed and evaluated.

### Areas of Study

- Extension of recording and reporting
- Financial planning and decision-making

### Unit 4 Outcomes

- To record and report financial data and information using a double entry accrual-based system for a single activity sole trader.
- To prepare and analyse budgets, evaluate a business using financial and non-financial information and suggest strategies to improve the profitability and liquidity of the business.

**NOTE: Must complete Year 11 Accounting to do Year 12 Accounting**

# BUSINESS MANAGEMENT

## Units 3 and 4

### Unit 3: Managing a Business

In this unit students explore the key processes and issues concerned with managing a business efficiently and effectively to achieve the business objectives. Students examine the different types of businesses and their respective objectives. They consider corporate culture, managements styles, management skills and the relationship between each of these. Students investigate strategies to manage staff and business operations to meet objectives. Students develop an understanding of the complexity and challenge of managing businesses.

### Areas of Study

- Area of Study Business Foundations
- Area of Study Managing Employees
- Area of Study Operations Management

### Unit 3 Outcomes

- On completion of this unit the student should be able to discuss the key characteristics of business and analyse the relationship between corporate culture, managements styles and management skills.
- On completion of this unit the student should be able to explain theories of motivation and apply them to a range of contexts, and analyse and evaluate strategies related to the managements of employees.
- On completion of this unit the student should be able to analyse the relationship between business objectives and operations, and propose and evaluate strategies to improve efficiency and effectiveness.

## Unit 4: Transforming a Business

Businesses are under constant pressure to adapt and change to meet objectives. In this unit students consider the importance of reviewing key performance indicators to determine current performance and the strategic management necessary to position a business for the future. Students study a theoretical model of change, and consider a variety of strategies to manage change in the most efficient and effective way. They investigate the importance of leadership in change management.

### Areas of Study

- Reviewing performance - the need for change
- Implementing change

### Unit 4 Outcomes

- On completion of this unit the student should be able to explain the way business change may come about, use key performance indicators to analyse the performance of a business, discuss the driving and restraining forces for change and evaluate management strategies to position a business for the future..
- On completion of this unit the student should be able to evaluate the effectiveness of a variety of strategies used by managers to implement change and discuss the effect of change on the stakeholders of a business.

## LEGAL STUDIES

### Unit 3: Rights and justice

This unit focuses on the methods and institutions in the justice system and consider their appropriateness in resolving cases. Investigating the roles of the judge, jury, legal practitioners and the parties, and the ability of sanctions and remedies to achieve their purposes. Investigating the extent to which the principles of justice are upheld in the system. Examining reforms to achieve the justice.

#### Areas of Study

- The criminal justice system is used to determine whether an accused person is guilty and to impose sanctions where guilt has been found. The system involves a range of institutions to assist an accused. Investigate the rights of the accused and of victims, and explore sanctions.

#### Unit 3 Outcomes

- Explain rights of the accused and of victims in the criminal justice system, discuss the means used to determine criminal and civil cases and evaluate the system to achieve justice.
- Analyse the factors to consider when initiating a civil claim, discuss the institutions and methods used to resolve disputes and evaluate the ability of the system to achieve justice.

### Unit 4: The people and the law

This unit focuses on the legal system and its relationship with the people, the Constitution and law-making bodies. Exploring how the Constitution establishes law-making powers and protecting the people by structures that act as a check on parliament. Developing an understanding of the High Court interpreting the Constitution. Investigating parliament and the courts, and the roles of the individual, the media and law reform bodies in influencing law reform.

#### Areas of Study

- Examine the relationship between the people, the Constitution and the ways in which the Constitution acts as a check on parliament in law-making. Examine the involvement of people in the referendum process and the role of the High Court in acting as the guardian of the Constitution. Consider factors in commencing a civil claim, examine the institutions and methods used to resolve a civil dispute and explore types of remedies. Consider factors that affect the civil system. Examine reforms to enhance the civil system to achieve justice.

#### Unit 4 Outcomes

- Discuss the significance of High Court cases involving the interpretation of the Constitution and evaluate the ways in which the Constitution acts as a check on parliament in law-making.
- Discuss the factors that affect parliament and courts to make law, evaluate the ability of these law-makers to respond to the need for law reform, and analyse how individuals, the media and law reform bodies can influence a change in the law.

## ENGLISH

### Unit 3:

In this unit students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts.

#### Areas of Study

- Reading and Creating
- Analysing Argument

#### Unit 3 Outcomes

- To explain and analyse how the features of a range of texts create meaning and how they influence interpretation, and the ways readers are invited to respond to texts.
- To plan creative responses to texts by analysing the text and considering opportunities to explore meaning, selecting key moments, characters, and themes worthy of exploration, and taking account of the purpose, context, audience.
- To draft, review, edit and refine creative and analytical interpretations to texts for expressiveness, accuracy, fluency and coherence, and for stylistic effect.
- To identify and analyse the intent and logical development of an argument, language used by the writers and creators of texts to position or persuade an audience to share a point of view, the impact of texts on audiences, and the way in which language and argument complement one another and interact to position the reader.

### Unit 4:

In this unit students compare the presentation of ideas, issues and themes in texts. They create an oral presentation intended to position audiences about an issue currently debated in the media.

#### Areas of Study

- Reading and Comparing
- Presenting Argument

#### Unit 4 Outcomes

- To identify meaningful connections and areas for comparison.
- To explain and analyse similarities and differences between texts in the presentation of related ideas, issues and themes.
- To draft, review and rehearse spoken texts that support the presentation of an argument, critically analysing their own developing texts.

## ENGLISH LANGUAGE

### Units 3 and 4

VCE English Language explores the ways in which language is used by individuals and groups and reflects our thinking and values. Learning about language helps us to understand ourselves, the groups with which we identify and the society we inhabit.

In Units 3 and 4, students build on their learning in Units 1 and 2 to consider the social purposes and functions of language, its interconnectedness with identity and explore language variation and the effect of this.

English Language builds on students' previous learning about the conventions and codes used by speakers and writers of English. Informed by the discipline of linguistics, it provides students with metalinguistic tools to understand and analyse use, variation and change.

### Unit 3: Language variation and Social Purpose

#### Areas of Study

- Informal Language
- Formal Language

#### Unit 3 Outcomes

- On completion of this unit the student should be able to identify and analyse distinctive features of informal language in written and spoken texts.
- On completion of this unit the student should be able to identify and analyse distinctive features of formal language in written and spoken texts.

### Unit 4: Language Variation and Identity

#### Areas of Study

- Language variations in Australian society
- Individual and group identities

#### Additional Information

Given the complexity of this subject, it is **strongly** advised that students choosing this subject will take Units 1 and 2 English Language in Year 11.

For Units 3 and 4, this subject can be taken in addition to English/EAL or instead of English/EAL.

## ENGLISH AS AN ADDITIONAL LANGUAGE (EAL)

### Unit 3:

In this unit students read and respond to texts analytically and creatively. They analyse arguments and the use of persuasive language in texts.

#### Areas of Study

- Reading and Creating
- Analysing Argument
- Listening to Texts

#### Unit 3 Outcomes

- To explain and analyse how the features of a range of texts create meaning and how they influence interpretation, and the ways readers are invited to respond to texts.
- To draft, review, edit and refine creative and analytical interpretations to texts for expressiveness, accuracy, fluency and coherence, and for stylistic effect.
- To identify and analyse the intent and logical development of an argument, language used by the writers and creators of texts to position or persuade an audience to share a point of view, the impact of texts on audiences, and the way in which language and argument complement one another and interact to position the reader.
- To identify, record and organise the literal and inferred meaning in spoken texts.

### Unit 4:

In this unit students compare the presentation of ideas, issues and themes in texts. They create an oral presentation intended to position audiences about an issue currently debated on the media.

#### Areas of Study

- Reading and Comparing
- Presenting Argument

#### Unit 4 Outcomes

- To identify meaningful connections and areas for comparison.
- To explain and analyse similarities and differences between texts in the presentation of related ideas, issues and themes.
- To draft, review and rehearse spoken texts that support the presentation of an argument, critically analysing their own developing texts.

#### Additional Information

Students are entitled to enrol in the EAL program if they have been in Australia or other predominantly English-speaking country for no more than seven years **AND** if prior to their arrival in Australia, their major language of instruction was **not** English.

## LITERATURE

### Unit 3:

In this unit students consider how the form of a text affects meaning, and how writers construct their texts. They investigate ways writers adapt and transform texts and how meaning is affected as texts are adapted and transformed. They consider how the perspectives of those adapting texts may inform or influence the adaptations. Students draw on their study of adaptations and transformations to develop creative responses to texts.

Students develop their skills in communicating ideas in both written and oral forms.

#### Areas of Study

- Adaptations and transformations
- Creative responses to texts

#### Unit 3 Outcomes

- To analyse the extent to which meaning changes when a text is adapted to a different form.
- To respond creatively to a text and comment on the connections between the text and the response.

### Unit 4:

In this unit students develop critical and analytic responses to texts. They consider the context of their responses to texts as well as the ideas explored in the texts, the style of the language and points of view. They investigate literary criticism informing both the reading and writing of texts. Students develop an informed and sustained interpretation supported by close textual analysis. For the purpose of this unit, literary criticism is characterised by extended, informed and substantiated views on texts and may include reviews, peer-reviewed articles and transcripts of speeches. Specifically, for Unit 4 Outcome 1, the literary criticism selected must reflect different perspectives, assumptions and ideas about the views and values of the text/s studied.

#### Areas of Study

- Literary perspectives
- Close analysis

#### Unit 4 Outcomes

- To produce an interpretation of a text using different literary perspectives to inform a view.
- To analyse features of texts and develop and justify interpretations of texts.

## HEALTH and HUMAN DEVELOPMENT

### Unit 3: Australia's health in a globalised world

This unit looks at health, wellbeing and illness as multidimensional, dynamic and subject to different interpretations and contexts. Students begin to explore health and wellbeing as a global concept and to take a broader approach to inquiry. As they consider the benefits of optimal health and wellbeing and its importance as an individual and a collective resource, their thinking extends to health as a universal right. Students look at the fundamental conditions required for health improvement, as stated by the World Health Organization (WHO). They use this knowledge as background to their analysis and evaluation of variations in the health status of Australians. Area of Study 2, focuses on health promotion and improvements in population health over time. Students look at various public health approaches and the interdependence of different models as they research health improvements and evaluate successful programs.

#### Areas of Study

- Understanding health and wellbeing
- Promoting health and wellbeing

#### Unit 3 Outcomes

- Explain the complex, dynamic and global nature of health and wellbeing, interpret and apply Australia's health status data and analyse variations in health status.
- Explain changes to public health approaches, analyse improvements in population health over time and evaluate health promotion strategies.

### Unit 4: Health and human development in a global context

This unit examines health and wellbeing, and human development in a global context. Students use data to investigate health status and burden of disease in different countries, exploring factors that contribute to health inequalities between and within countries, including the physical, social and economic conditions in which people live. Students examine changes in burden of disease over time and studying the key concepts of sustainability and human development. They consider the health implications of increased globalisation and worldwide trends relating to climate change, digital technologies, world trade and the mass movement of people. They look at global action to improve health and wellbeing and human development, focusing on the United Nations (UN's) Sustainable Development Goals (SDGs) and the work of the World Health Organization (WHO). Students also investigate the role of non-government organisations and Australia's overseas aid program. Students evaluate the effectiveness of health initiatives and programs in a global context and reflect on their capacity to take action.

#### Areas of Study

- Health and wellbeing in a global context
- Health and Sustainable Development Goals

#### Unit 4 Outcomes

- Analyse similarities and differences in health status and burden of disease globally and the factors that contribute to differences in health and wellbeing.
- Analyse relationships between the SDGs and their role in the promotion of health and human development, and evaluate the effectiveness of global aid programs.

## PHYSICAL EDUCATION

### Unit 3: Movement skills and energy for physical activity

This unit introduces students to the biomechanical and skill acquisition principles used to analyse human movement skills and energy production from a physiological perspective. Students use a variety of tools and techniques to analyse movement skills and apply biomechanical and skill acquisition principles to improve and refine movement in physical activity, sport and exercise.

Students investigate the relative contribution and interplay of the three energy systems to performance in physical activity, sport and exercise.

#### Areas of Study

- How are movement skills improved?
- How does the body produce energy?

#### Unit 3 Outcomes

On completion of this unit the student should be able to:

- Collect and analyse information from, and participate in a variety of physical activities to develop and refine movement skills from a coaching perspective, through the application of biomechanical and skill acquisition principles.
- Use data collected in practical activities to analyse how the major body and energy systems work together to enable movements to occur, and explain the factors causing fatigue and suitable recovery strategies.

### Unit 4: Training to improve performance

In this unit students analyse movement skills from a physiological, psychological and sociocultural perspective and apply relevant training principles and methods to improve performance within physical activity at an individual, club and elite level. Students consider the physiological, psychological and sociological requirements of training to design and evaluate an effective training program.

Students critique the effectiveness of the implementation of training principles and methods to meet the needs of the individual, and evaluate the chronic adaptations to training from a theoretical perspective.

#### Areas of Study

- What are the foundations of an effective training program?
- How is training implemented effectively to improve fitness?

#### Unit 4 Outcomes

On completion of this unit the student should be able to:

- Analyse data from an activity analysis and fitness tests to determine and assess the fitness components and energy system requirements of the activity.
- Participate in a variety of training methods, and design and evaluate training programs to enhance specific fitness components.

## AUSTRALIAN and GLOBAL POLITICS

### Unit 3: Global Issues and Conflicts

This unit investigates recent global politics and the nature of conflict since the end of the Cold War. The unit begins with an examination of the concepts of globalisation and internationalism and the increasing interdependence of people and societies across a range of matters. They undertake a study of the nature of conflict in a post-Cold War world no longer divided into two ideological blocs. They examine the changed nature of the conflicts based upon tensions which may be religious, ethnic, economic or nationalist. Many of these conflicts have been fought within the new context of global terrorist networks.

#### Areas of Study

- Globalisation and Internationalism
- Global Conflicts

#### Unit 3 Outcomes

- On completion of this unit the student should be able to analyse the concepts of globalisation and internationalism and evaluate their impact on the role of the state and the concept of sovereignty.
- On completion of this unit the student should be able to analyse and evaluate the nature of conflict in the post-Cold War period.

### Unit 4: International Relations

While internationalism and globalisation have had a significant impact on the Asia-Pacific region, this unit focuses primarily on the interactions between states which remain the dominant form of political organisation. The unit begins with a study of the concepts of national interest and power and the way states use power in the Asia-Pacific region. Australia's position in the region, and the world, and the way in which it has asserted its national interest is then investigated.

#### Areas of Study

- Power in the Asia-Pacific Region
- Australian Foreign Policy

#### Unit 4 Outcomes

- On completion of this unit the student should be able to analyse and evaluate types and forms of power used by states and groups in the Asia-Pacific region.
- On completion of this unit the student should be able to analyse those factors that have influenced Australia in its definition and pursuit of national interest, and evaluate the effectiveness of the strategies and policies adopted.

## GEOGRAPHY

### Unit 3: Changing the Land

This unit focuses on two investigations of geographical change: change to land cover and change to land use. Students investigate three major processes that are changing land cover in many regions of the world:

- Deforestation.
- Desertification.
- Melting glaciers and ice sheets.

#### Area of Study

- Land Use Change. In this area of study students select a local area and use appropriate fieldwork techniques and secondary sources to investigate the processes and impacts of land use change. This change may have recently occurred, is underway or is planned for the near future.
- Land Cover Change.

#### Unit 3 Outcomes

- On completion of this unit the student should be able to analyse, describe and explain land use change and assess its impacts.
- On completion of this unit the student should be able to analyse, describe and explain processes that result in changes to land cover and discuss the impacts and responses resulting from these changes.

### Unit 4: Human Population – Trends and Issues

In this unit students investigate the geography of human populations. They explore the patterns of population change, movement and distribution, and how governments, organisations and individuals have responded to those changes in different parts of the world.

#### Area of Study

- Population Dynamics
- Population issues and challenges

#### Unit 4 Outcomes

- On completion of this unit the student should be able to analyse, describe and explain population dynamics on a global scale as well as the nature of significant population issues and challenges in selected locations and evaluate responses.

## HISTORY - REVOLUTIONS

**'A revolution is a struggle to the death between the future and the past.'** (Fidel Castro) The study of Revolutions in Year 12 is an investigation of this struggle in both Russia and China. It allows students to investigate the revolutions which occurred in these countries; from the initial crisis in the old regime, to the development of revolutionary ideas and the success of the revolution itself in bringing about genuine change

#### Areas of Study

The following revolutions will be studied:

- Unit 3: The Russian Revolution 1896 – 1927.
- Unit 4: The Chinese Revolution 1912 – 1971.

#### The study of each revolution will include

- An examination of what led to the revolution.
- An investigation of the ideas and groups behind the revolution.
- An evaluation of the changes which took place.
- An evaluation of the new societies created.

#### Outcomes

- Analyse the causes of revolution and evaluate the contribution of significant ideas, events, individuals and popular movements.
- Analyse the consequences of revolution and evaluate the extent of change brought to society.

#### Key skills necessary for this subject

As well as other general skills, the following skills will be specifically assessed in this subject:

- Analysis and evaluation of documents;
- Independent research and investigative skills;
- Independent essay writing; and
- Analysis and evaluation of historians interpretations.

## INFORMATICS

### Unit 3:

In Informatics Units 3 and 4, students focus on data, information and information systems. In Unit 3 students consider data and how it is acquired, managed, manipulated and interpreted to meet a range of needs.

#### Areas of Study

- Students investigate the way organisations acquire data using interactive online solutions, such as websites and applications (apps) and consider how users interact with these solutions when conducting online transactions. They examine how relational database management systems (RDBMS) store and manipulate data typically acquired this way. Students use software to create user flow diagrams that depict how users interact with online solutions, and acquire and apply knowledge and skills in the use of an RDBMS to create a solution. Students develop an understanding of the power and risks of using complex data as a basis for decision making.
- Students complete the first part of a project. They frame a hypothesis and then select, acquire and organise data from multiple data sets to confirm or refute this hypothesis. This data is manipulated using tools such as spread sheets or databases to help analyse and interpret it so that students can form a conclusion regarding their hypothesis. Students take an organised approach to problem solving by preparing project plans and monitoring the progress of the project.

#### Unit 3 Outcomes

On completion of this unit the student should be able to:

- Design a solution, develop it using a relational database management system, and diagrammatically represent how users interact with an online solution when supplying data for transaction; and
- Use a range of appropriate techniques and processes to acquire, prepare, manipulate and interpret complete data to confirm or refute a hypothesis and formulate a project plan to manage progress.

### Unit 4:

In this unit, students focus on strategies and techniques for manipulating, managing and securing data and information to meet a range of needs.

#### Areas of Study

- Students draw on the analysis and conclusion of their hypotheses determined in Unit 3, Outcome 2 and then design, develop and evaluate a multimodal, online solution that effectively communicates the conclusion and findings. The evaluation focuses on the effectiveness of the solution in communicating the conclusion and the reasonableness of the findings. Students use their project plan to monitor their progress and assess the effectiveness of their plan and adjustments in managing the project.
- This area of study focuses on information management and its importance to organisations. Students develop knowledge about the components of an information system and the role of these components in managing information. They investigate how different organisations store and dispose of their data and information. Students examine the threats to this data and information, whether accidental, deliberate or technical and consider the potential consequences to organisations of ineffective information management strategies. Students recommend information management strategies to protect the integrity and security of data and information, taking into account key legal requirements of organisations and any ethical dilemmas faced by organisations and individuals regarding security of information.

#### Unit 4 Outcomes

On completion of this unit the student should be able to :

- Design, develop and evaluate a multimodal online solution that confirms or refutes a hypothesis and assess the effectiveness of the project plan in managing progress; and
- Compare and contrast the effectiveness of information management strategies used by two organisations to manage the storage and disposal of data and information, and recommend improvements to their current practices.

## FRENCH

### Units 3 and 4:

This course is for students who have completed year 11 or equivalent in French. It will enable students to use French to communicate with others, to make cultural links, to understand language as a system and to apply French to work, further study, training or leisure. Students will complete a detailed study of language and culture through texts during units 3 and 4.

#### Areas of Study

- Themes
  - The individual
  - The French-speaking communities
  - The changing world
- Text Types
- Kinds of Writing
- Vocabulary
- Grammar
- Speaking and Listening.

#### Unit 3 Outcomes

- Express ideas through the production of original texts.
- Analyse and use information from spoken texts.
- Exchange information, opinions and experiences.

#### Unit 4 Outcomes

- Analyse and use information from written texts.
- Respond critically to spoken and written texts which reflect aspects of the language and culture of French-speaking communities.

#### Study considerations: VCE (Baccalaureate)

If you have satisfactorily completed your VCE with a VCE Languages study and have completed a higher level of mathematics as part of your VCE, you may be eligible for the VCE (Baccalaureate).

This award within the VCE recognises the challenges of a broad program of study. To be eligible for the VCE (Baccalaureate) you must have study scores for at least five studies and you must include the following:

- A score of 30 or above from the English Group study; or a score of 33 or above for English as an Additional Language (EAL)
- A VCE Languages study
- VCE Mathematical Methods or Specialist Mathematics.

# ITALIAN

## Units 3 and 4:

This course is for students who have completed year 11 or equivalent in Italian. It will enable students to use Italian to communicate with others, to make cultural links, to understand language as a system and to apply Italian to work, further study, training or leisure. Students will complete a detailed study of language and culture through texts during units 3 and 4.

### Areas of Study

- Themes:
  - The individual
  - The Italian-speaking communities
  - The changing world
- Text Types.
- Kinds of Writing.
- Vocabulary
- Grammar
- Speaking and Listening

### Unit 3 Outcomes

- Express ideas through the production of original texts.
- Analyse and use information from spoken texts.
- Exchange information, opinions and experiences.

### Unit 4 Outcomes

- Analyse and use information from written texts.
- Respond critically to spoken and written texts which reflect aspects of the language and culture of Italian-speaking communities.

### Study considerations: VCE (Baccalaureate)

If you have satisfactorily completed your VCE with a VCE Languages study and have completed a higher level of mathematics as part of your VCE, you may be eligible for the VCE (Baccalaureate).

This award within the VCE recognises the challenges of a broad program of study. To be eligible for the VCE (Baccalaureate) you must have study scores for at least five studies and you must include the following:

- A score of 30 or above from the English Group study; or a score of 33 or above for English as an Additional Language (EAL)
- A VCE Languages study
- VCE Mathematical Methods or Specialist Mathematics.

# JAPANESE (2ND LANGUAGE)

## Units 3 and 4:

This course is for students who have completed year 11 or equivalent in Japanese. It will enable students to use Japanese to communicate with others, to make cultural links, to understand language as a system and to apply Japanese to work, further study, training or leisure. Students will complete a detailed study of language and culture through texts during units 3 and 4.

### Areas of Study

- Themes:
  - The individual
  - The Japanese-speaking communities
  - The changing world
- Text Types.
- Kinds of Writing
- Vocabulary
- Grammar
- Speaking and Listening

### Unit 3 Outcomes

- Express ideas through the production of original texts.
- Analyse and use information from spoken texts.
- Exchange information, opinions and experiences.

### Unit 4 Outcomes

- Analyse and use information from written texts.
- Respond critically to spoken and written texts which reflect aspects of the language and culture of Japanese-speaking communities.

### Study considerations: VCE (Baccalaureate)

If you have satisfactorily completed your VCE with a VCE Languages study and have completed a higher level of mathematics as part of your VCE, you may be eligible for the VCE (Baccalaureate).

This award within the VCE recognises the challenges of a broad program of study. To be eligible for the VCE (Baccalaureate) you must have study scores for at least five studies and you must include the following:

- A score of 30 or above from the English Group study; or a score of 33 or above for English as an Additional Language (EAL)
- A VCE Languages study
- VCE Mathematical Methods or Specialist Mathematics.

## VIETNAMESE (2ND LANGUAGE)

### Units 3 and 4:

This course is for students who have completed Year 11 or equivalent in Vietnamese. It will enable students to use Vietnamese to communicate with others, to make cultural links, to understand language as a system and to apply Vietnamese to work, further study, training or leisure. Students will complete a detailed study of language and culture through texts during units 3 and 4.

### Areas of Study

- Themes:
  - The individual
  - The Vietnamese-speaking communities
  - The changing world
- Text Types
- Kinds of Writing
- Vocabulary
- Grammar

### Unit 3 Outcomes

- Express ideas through the production of original texts.
- Analyse and use information from spoken texts.
- Exchange information, opinions and experiences.

### Unit 4 Outcomes

- Analyse and use information from written texts.
- Respond critically to spoken and written texts which reflect aspects of the language and culture of Vietnamese-speaking communities.

### Study considerations: VCE (Baccalaureate)

If you have satisfactorily completed your VCE with a VCE Languages study and have completed a higher level of mathematics as part of your VCE, you may be eligible for the VCE (Baccalaureate).

This award within the VCE recognises the challenges of a broad program of study. To be eligible for the VCE (Baccalaureate) you must have study scores for at least five studies and you must include the following:

- A score of 30 or above from the English Group study; or a score of 33 or above for English as an Additional Language (EAL)
- A VCE Languages study
- VCE Mathematical Methods or Specialist Mathematics.

## VIETNAMESE (1ST LANGUAGE)

### Units 3 and 4:

This course is for Vietnamese speaking students who have lived in Australia less than 6 years and have completed Year 11 or equivalent in Vietnamese. It will enable students to use Vietnamese to communicate with others, to make cultural links, to understand language as a system and to apply Vietnamese to work, further study, training or leisure. Students will complete a detailed study of language and culture through texts during units 3 and 4.

### Areas of Study

- Themes:
  - Self and Others
  - Traditional and change in Vietnamese speaking communities
  - Global Issues
- Text Types
- Kinds of Writing
- Vocabulary
- Grammar

### Unit 3 Outcomes

- Express ideas through the production of original texts.
- Analyse and use information from spoken texts.
- Exchange information, opinions and experiences.

### Unit 4 Outcomes

- Analyse and use information from written texts.
- Respond critically to spoken and written texts which reflect aspects of the language and culture of Vietnamese-speaking communities.

**NOTE:** \*Students are advised that all written and verbal instructions is delivered in Vietnamese language only.

### Study considerations: VCE (Baccalaureate)

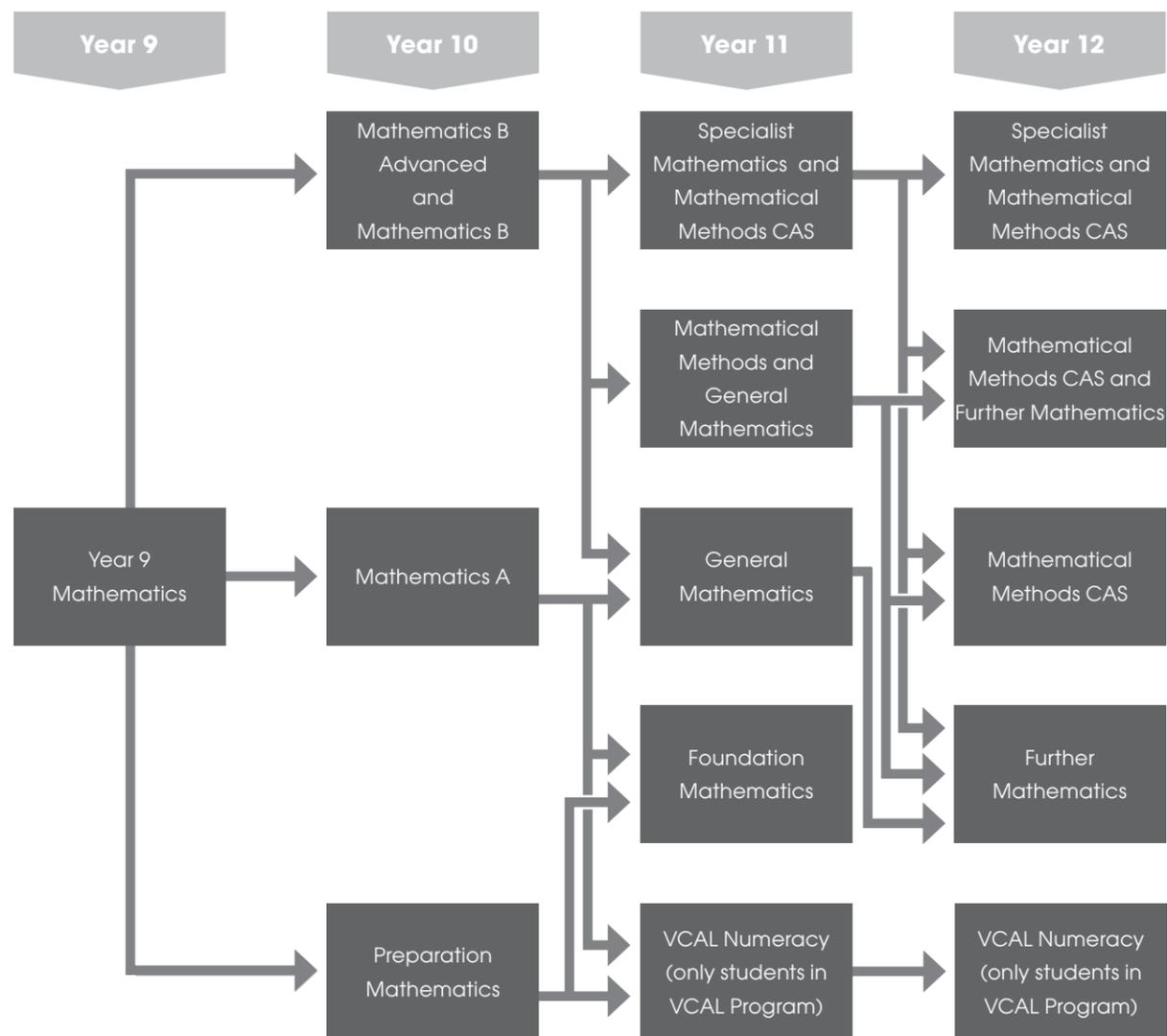
If you have satisfactorily completed your VCE with a VCE Languages study and have completed a higher level of mathematics as part of your VCE, you may be eligible for the VCE (Baccalaureate).

This award within the VCE recognises the challenges of a broad program of study. To be eligible for the VCE (Baccalaureate) you must have study scores for at least five studies and you must include the following:

- A score of 30 or above from the English Group study; or a score of 33 or above for English as an Additional Language (EAL)
- A VCE Languages study
- VCE Mathematical Methods or Specialist Mathematics.

# MATHEMATICS

## MATHEMATICS PATHWAYS FROM YEAR 9 TO YEAR 12



# FURTHER MATHEMATICS

### Prerequisites

Passes in two units of Year 11 General Mathematics A OR attempting two units of Year 11 Mathematics Methods OR attempting one unit of Year 11 Mathematics Methods and passing one unit of Year 11 General Mathematics A.

### Units 3 and 4:

This course caters for students who wish to take tertiary courses which require "any 3-4 sequence of Unit 3-4 Mathematics."

Further Mathematics consists of a compulsory core area of study and a selection of 3 from a possible 6 optional modules. This subject has been designed to enable students to develop mathematical knowledge and skills through the study of these core and option areas. Students are to apply their knowledge and skills from these areas to analyse, investigate and solve problems in a variety of situations. The importance of effective communication of mathematical ideas is stressed, as is the appropriate use of technology in supporting student learning.

### Areas of Study

- Data Analysis - Core
- Applications - Modules (3)

### The optional modules consist of:

- Number patterns and applications
- Trigonometry and Geometry
- Graphs and Relations
- Business Mathematics
- Networks and Decision Mathematics
- Matrices

### Unit 3 Outcomes

- Define and explain key terms and concepts as specified in the content from the "Applications" area of study, and use this knowledge to apply related mathematical procedures to solve routine application problems.
- Apply mathematical processes in contexts related to the "Applications" area of study and analyse and discuss these applications of mathematics.
- Select and appropriately use technology in order to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches related to the selected modules for this unit from the "Applications" area of study.

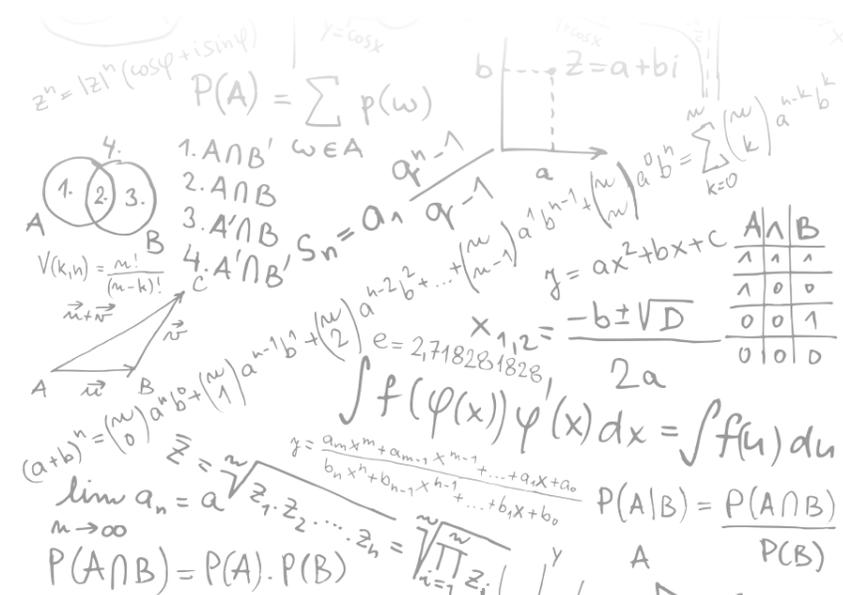
## FURTHER MATHEMATICS CONTINUED...

### Unit 4 Outcomes

- Define and explain key terms and concepts as specified in the content from the areas of study, and use this knowledge to apply related mathematical procedures to solve routine application problems.
- Use mathematical concepts and skills developed in the "Data analysis" area of study to analyse a practical and extended situation and interpret the outcomes of this analysis in relation to key features of that situation.
- Select and appropriately use technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches in the areas of study "Data analysis" and the selected module from the "Applications" area of study.

**NOTE:** It is expected that every student has a TI – Nspire graphics calculator

All Mathematics subjects are offered for selection with a recommendation from your current Mathematics teacher. If you choose to select a Mathematics subject without a recommendation, a parent interview must be organised in advance of subject selection day.



## MATHEMATICAL METHODS (CAS)

### Prerequisites

Passes in any three units from either Year 11 Mathematics methods (CAS) or General Mathematics B.

### Units 3 and 4:

In these units students will extend the work done in Mathematical Methods Units 1 and 2. (CAS) The units have been designed to enable students to develop mathematical knowledge and skills through the study of four (4) major areas. Students are to apply their knowledge and skills from these areas to analyse, investigate and solve problems in a variety of situations. The effective communication of mathematical ideas is developed, as is the appropriate use of technology in supporting student learning.

This subject is a pre-requisite for many courses. Check the current Tertiary Entrance Requirements for exact details.

Mathematical Methods 3 and 4 (CAS) may be taken alone, or with Specialist Mathematics.

**Note:** The use of a TI-Nspire graphics calculator is mandatory.

### Areas of Study

- Functions and Graphs
- Calculus
- Algebra
- Probability

### Units 3 and 4 Outcomes

- Define and explain key concepts as specified in the content areas, and apply a range of related mathematical routines and procedures.
- Apply mathematical processes, with an emphasis on general cases, in non-routine contexts and analyse and discuss these applications of mathematics.
- Select and appropriately use computer algebra systems (CAS) and other technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem solving, modelling and investigative techniques or approaches.

**NOTE:** All Mathematics subjects are offered for selection with a recommendation from your current Mathematics teacher. If you choose to select a Mathematics subject without a recommendation, a parent interview must be organised in advance of subject selection day.

## SPECIALIST MATHEMATICS

### Prerequisites

Passes in all four units of Year 11 Mathematics Methods and General Mathematics B.

### Units 3 and 4:

Specialist Mathematics caters for those students preparing for tertiary courses with a rigorous mathematical component. It is a pre-requisite for many Engineering, Mathematics and Physics based Science courses. Check the correct Tertiary Entrance Requirements for exact details.

Specialist Mathematics must be taken in conjunction with Mathematical Methods 3 and 4.

These units have been designed to enable students to develop knowledge and skills through the study of six areas of study. Students are to apply their knowledge and skills from these areas to analyse, investigate and solve problems in a variety of situations. The effective communication of mathematical ideas is developed, as is the appropriate use of technology in supporting student learning.

### Areas of Study

- Functions, relations and graphs
- Algebra
- Calculus
- Vectors
- Mechanics

### Units 3 and 4 Outcomes

- Define and explain key concepts as specified in the content areas, and apply a range of related mathematical routines and procedures.
- Apply mathematical processes, with an emphasis on general cases, in non-routine contexts and analyse and discuss these applications of mathematics.
- Select and appropriately use technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem solving, modelling and investigative techniques or approaches.

**NOTE:** The use of a TI-Nspire graphics calculator is assumed in all areas.

**All Mathematics subjects are offered for selection with a recommendation from your current Mathematics teacher. If you choose to select a Mathematics subject without a recommendation, a parent interview must be organised in advance of subject selection day.**

## BIOLOGY

### Unit 3: How do Cells Maintain Life?

In this unit students investigate the workings of the cell from several perspectives. They explore the importance of the insolubility of the plasma membrane in water and its differential permeability to specific solutes. Students consider base pairing specificity, the binding of enzymes and substrates, the response of receptors to signaling molecules and reactions between antigens and antibodies.

Students study the synthesis, structure and function of nucleic acids and proteins as key molecules in cellular process. They explore the chemistry of cells by examining the nature of biochemical pathways, their components and energy transformations. Students consider the types of signals, the transduction of information within the cell and cellular responses. Students study the human immune system and the interaction between its components.

A student practical investigation related to cellular processes and/or biological change and continuity over time is undertaken in either Unit 3 or Unit 4, or across both. The findings of the investigation are presented in a scientific poster format.

### Areas of Study

- How do Cellular processes work?
- How do cells communicate?

### Unit 3 Outcomes

On completion of this unit the student should be able to:

- Explain the dynamic nature of the cells in terms of key cellular processes including regulation, photosynthesis and cellular respiration, and analyse factors that affect the rate of biochemical reactions; and
- Apply a stimulus-response model to explain how cells communicate with each other, outline human responses to invading pathogens, distinguish between the different ways that immunity may be acquired, and explain how malfunctions of the immune system cause disease.

### Unit 4: How does Life Change and Respond to Challenges Over Time?

In this unit students consider the continual change and challenges to which life on Earth has been subjected. They investigate the relatedness between species and the impact of various change events on a population's gene pool. Students examine change in life forms using evidence from palaeontology, biogeography, developmental biology and structure morphology. They explore how technological developments have resulted in evidence of change.

Students examine the structural and cognitive trends in the human fossil record and the interrelationships between human biological and cultural evolution. The biological consequences, and social and ethical implications, of manipulating the DNA molecule and applying biotechnologies is explored for both the individual and the species.

### Areas of Study

- How are species related?
- How do humans impact on biological process?
- Practical investigation.

### Unit 4 Outcomes

On completion of this unit students should be able to:

- Analyse evidence for evolutionary change, explain how relatedness between species is determined, and elaborate on the consequences of biological change in human evolution;
- Describe how tools and techniques can be used to manipulate DNA, explain how biological knowledge is applied to biotechnical applications, and analyse the interrelationship between scientific knowledge and its applications in society; and
- Design and undertake an investigation related to cellular process and/or biological change and continuity over time, and present methodologies, findings and conclusions in a scientific poster.

# CHEMISTRY

## Unit 3: How can Chemical Processes be Designed to Optimise Efficiency?

The global demand for energy and materials is increasing with world population growth. In this unit students explore energy options and the chemical production of materials with reference to efficiencies, renewability and the minimisation of their impact on the environment.

Students compare and evaluate different chemical energy resources, including fossil fuels, biofuels, galvanic cells and fuel cells. They investigate the combustion of fuels, including the energy transformations involved, the use of stoichiometry to calculate the amounts of reactants and products involved in the reactions. Students consider the purpose, design and operating principles of galvanic cells, fuel cells and electrolytic cells. They use the electrochemical series to predict and write redox equations, and apply Faraday's laws.

Students analyse manufacturing processes. They investigate and apply the equilibrium law and Le Chatelier's principle to different reaction systems. They use the language and conventions of chemistry including symbols, units, chemical formulas and equations to represent and explain observations and data collected from experiments, and to discuss chemical phenomena.

A student practical investigation related to energy and/or food is undertaken either in Unit 3 or Unit 4, or across both Unit 3 and Unit 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

### Areas of Study

- What are the options for energy production?
- How can the yield of a chemical product be optimised?

### Outcomes

On completion of this unit students should be able to:

- Compare fuels quantitatively with reference to combustion products and energy outputs, apply knowledge of the electrochemical series to design, construct and test galvanic cells, and evaluate energy resources based on energy efficiency, renewability and environmental impact; and
- Apply rate and equilibrium principles to predict how the rate and extent of reactions can be optimised, and explain how electrolysis is involved in the production of chemicals and recharging of batteries.

# CHEMISTRY CONTINUED...

## Unit 4: How are Organic Compounds Categorised, Analysed and Used?

In this unit students investigate the structural features, bonding, typical reactions and uses of the major families of organic compounds including those found in food.

Students study the ways in which organic structures are represented and named. They process data from instrumental analyses of organic compounds to confirm or deduce organic structures, and perform volumetric analyses. Students consider the nature of the reactions involved to predict the products of reaction pathways and to design pathways to produce particular compounds from given starting materials.

Students investigate key food molecules through an exploration of their chemical structures, the hydrolytic reactions in which they are broken down and condensation reactions in which they are rebuilt to form new molecules. In this context the role of enzymes and coenzymes in facilitating chemical reactions is explored. Students use calorimetry as an investigative tool to determine the energy released in the combustion of foods.

### Areas of Study

- How can the diversity of carbon compounds be explained and categorised?
- What is the chemistry of food?
- Practical investigation.

### Unit 4 Outcomes

On completion of this unit students should be able to:

- Compare the general structures and reactions of the major organic families of compounds, deduce structures of organic compounds using instrumental analysis data, and design reaction pathways for the synthesis of organics molecules;
- Distinguish between the chemical structures of key food molecules, analyse the chemical reactions involved in the metabolism of the major components of food including the role of enzymes, and calculate the energy content of food using calorimetry; and
- Design and undertake a practical investigation related to energy and/or food, and present methodologies, findings and conclusions in a scientific poster.

# PHYSICS

## Unit 3: How do Fields Explain Motion and Electricity?

In this unit students explore the importance of energy in explaining and describing the physical world. They examine the production of electricity and its delivery to homes. Students consider the field models as a construct that has enabled an understanding of why objects move when they are not apparently in contact with other objects. Applications of concepts related to fields include the transmission of electricity over large distances and the design and operation of particle accelerators. They explore the interactions, effects and applications of gravitational, electric and magnetic fields. Students use Newton's laws to investigate motion in one and two dimensions, and are introduced to Einstein's theories to explain the motion of very fast objects. They consider how developing technologies can challenge existing explanations of the physical world, requiring a review of conceptual models and theories. Student design and undertake investigations involving at least two continuous independent variables.

A student-designed practical investigation related to waves, fields or motion is undertaken either in Unit 3 or Unit 4, or across both Units 3 and 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

### Areas of Study

- How do things move without contact?
- How are fields used to move electrical energy?
- How fast can things go?

### Unit 3 Outcomes

On completion of this unit, the student should be able to:

- Analyse gravitational, electrical and magnetic fields, and use these to explain the operation of motors and particle accelerators and the orbits of satellites;
- Analyse and evaluate an electricity generation and distribution system; and
- Investigate motion and related energy transformations experimentally, analyse motion using Newton's law of motion in one and two dimensions, and explain the motion of objects moving at very large speeds using Einstein's theory of special relativity.

# PHYSICS CONTINUED...

## Unit 4: How can Two Contradictory Models Explain both Light and Matter?

A complex interplay exists between theory and experiment in generating models to explain natural phenomena including light. Wave theory has classically been used to explain phenomena related to light; however, continued exploration of light and matter has revealed the particle-like properties of light. On very small scales, light and matter – which initially seem to be quite different – have been observed as having similar properties.

In this unit, students explore the use of wave and particle theories to model the properties of light and matter. They examine how the concept of the wave is used to explain the nature of light and explore its limitations in describing light behaviour. Students further investigate light by using a particle model to explain its behaviour. A wave model is also used to explain the behaviour of matter which enables students to consider the relationship between light and matter. Students learn to think beyond the concepts experienced in everyday life to study the physical world from a new perspective. Students design and undertake investigations involving at least two continuous independent variables.

A student-designed practical investigation related to waves, fields or motion is undertaken either in Unit 3 or Unit 4, or across both Units 3 and 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

### Areas of Study

- How can waves explain the behaviour of light?
- How are light and matter similar?
- Practical investigation.

### Unit 4 Outcomes

On completion of this unit students should be able to:

- Apply wave concepts to analyse, interpret and explain the behaviour of light;
- Provide evidence for the nature of light and matter, and analyse the data from experiments that supports this evidence; and
- Design and undertake a practical investigation related to waves or fields or motion, and present methodologies, findings and conclusions in a scientific poster.

## PSYCHOLOGY

### Unit 3: How does Experience affect Behaviour and Mental Processes?

In this unit students examine both macro-level and micro-level functioning of the nervous systems to explain how the human nervous system enables a person to interact with the world around them. They explore how stress may affect a person's psychological functioning and consider the causes and managements of stress. Students investigate how mechanisms of memory and learning lead to the acquisition of knowledge, the development of new capacities and changed behaviours. They consider the limitations and fallibility of memory and how memory can be improved. Students examine the contribution that classical and contemporary research has made to the understanding of the structure and function of the nervous system, and to the understanding of biological, psychological and social factors that influence learning and memory.

A student practical investigation related to mental processes and psychological functioning is undertaken in either Unit 3 or Unit 4, or across both Unit 3 and 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

#### Areas of Study

- How does the nervous system enable psychological functioning?
- How do people learn and remember?

#### Unit 3 Outcomes

On completion of this unit, the student should be able to:

- Explain how the structure and function of the human nervous system enables a person to interact with the external world and analyse the different ways in which stress can affect nervous system functioning; and
- Apply biological and psychological explanations for how new information can be learned and stored in memory, and provide biological, psychological and social explanations of a person's inability to remember information.



## PSYCHOLOGY CONTINUED...

### Unit 4: How is Wellbeing Developed and Maintained?

In this unit students examine the nature of consciousness and how changes in levels of consciousness can affect mental processes and behaviour. They consider the role of sleep and the impact that sleep disturbances may have on a person's functioning. Students explore the concept of a mental health continuum and apply a biopsychosocial approach, as a scientific model, to analyse mental health and disorder. They use specific phobia to illustrate how the development and management of a mental disorder can be considered as an interaction between biological, psychological and social factors. Students examine the contribution that classical and contemporary research has made to the understanding of consciousness, including sleep, and the development of an individual's mental functioning and wellbeing.

A student practical investigation related to mental processes and psychological functioning is undertaken in either Unit 3 or Unit 4, or across both Unit 3 and 4, and is assessed in Unit 4, Outcome 3. The findings of the investigation are presented in a scientific poster format.

#### Areas of Study

- How do levels of consciousness affect mental processes and behaviour?
- What influences mental wellbeing?
- Practical investigation.

#### Unit 4 Outcomes

On completion of this unit, the student should be able to:

- Explain consciousness as a continuum, compare theories about the purpose and nature of sleep, and elaborate on the effects of sleep disruption on a person's functioning;
- Explain the concepts of mental health and mental illness including influences of risk and protective factors, apply a biopsychosocial approach to explain the development and management of specific phobia, and explain the psychological basis of strategies that contribute to mental wellbeing; and
- Design and undertake a practical investigation related to mental processes and psychological functioning, and present methodologies, findings and conclusions in a scientific poster.

## DESIGN and TECHNOLOGY – WOODWORK

### Unit 3: Product Development

Looking at design and development of products for mass markets including such factors as client requirements, social and economic trends, availability of resources and technological development in industry. This course involves safe manufacture of products using wood and related materials.

#### Areas of Study

- Designing for others
- Product Development in Industry

#### Unit 3 Outcomes

- Explain the role of a designer and how products are designed and produced to meet the needs of a client.
- Explain how products are designed and produced within an industrial or commercial setting.
- Develop a product for a client.

### Unit 4: Product Evaluation and Marketing

This unit focuses on how judgments of the success of products can be made by comparing products in terms of quality, usefulness and appeal. Also looking at promotion and marketing of products. This course involves safe manufacture of products using wood and related materials.

#### Areas of Study

- Product Comparison
- Marketing Products

#### Unit 4 Outcomes

- Explain the relationship between aesthetic appeal, function of products and user needs.
- Explain the role of marketing in design and product development.
- Evaluate the outcome of the design and production activities in relation to the client's needs.

## FOOD STUDIES

### Unit 3: Food in Daily Life

This unit investigates the many roles and everyday influences of food. Area of Study 1 explores the science of food; our physical need for it and how it nourishes and sometimes harms our bodies. Students investigate the physiology of eating and appreciating food, and the microbiology of digestion. They also investigate the functional properties of food and the changes that occur during food preparation and cooking. They analyse the scientific rationale behind the Australian Dietary Guidelines and the Australian Guide to Healthy Eating ( see [www.eatforhealth.gov.au](http://www.eatforhealth.gov.au)) and develop their understanding of diverse nutrient requirements.

Area of Study 2 focuses on influences on food choice: how communities, families and individuals change their eating patterns over time and how our food values and behaviours develop within social environments. Students inquire into the role of food in shaping and expressing identity and connectedness and the ways in which food information can be altered and manipulated. They investigate behavioral principles that assist in the establishments of lifelong, healthy dietary patterns.

The practical component of this unit enables students to understand food science terminology and to apply specific techniques to the production of everyday food that facilitates the establishments of nutritious and sustainable meal patterns.

#### Areas of Study

- The science of food
- Food choice, health and wellbeing

#### Unit 3 Outcomes

- Explain the process of eating and digesting food and absorption of macronutrients, explain causes and effects of food allergies, food intolerances and food contamination, analyse food selection models, and apply principles of nutrition and food sciences in the creation of food products.
- Explain and analyse factors affecting food access and choice, analyse the influences that shape an individual's food values, beliefs and behaviours, and apply practical skills to create a range of healthy meals for children and families.

### Unit 4: Food Issues, Challenges and Futures?

In this unit students examine debates about global and Australian food systems. Area of Study 1 focuses on issues about the environment, ecology, ethics, farming practices, the development and application of technologies, and the challenges of food security, food safety, food wastage, and the use and management of water and land. Students research a selected topic, seeking clarity on current situations and points of view, considering solutions and analysing work undertaken to solve problems and support sustainable futures.

The practical component of this units provides students with opportunities to apply their responses to environmental and ethical food issues, and to extend their food production repertoire reflecting the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.

#### Areas of Study

- Environment and ethics
- Navigating food information

#### Unit 4 Outcomes

- Explain a range of food systems issues, respond to a selected debate with analysis of problems and proposals for future solutions, apply questions of sustainability and ethics to the selected food issue and develop and create a food repertoire that reflects personal food values and goals.
- Explain a variety of food information contexts, analyse the formation of food beliefs, evaluate a selected food trend, fad or diet and create food products that meet Australian Dietary Guidelines.

# VOCATIONAL EDUCATION TRAINING 2018

## VOCATIONAL EDUCATION AND TRAINING (VET)

Vocational Education and Training (VETIS) is the term used to describe the education and training arrangements that are designed to prepare people for work.

In Victorian schools this preparation is done by offering students the chance to complete an entry level TAFE Certificate at the same time they are completing their VCE. This means such students will end up with two qualifications recognised by employers and tertiary institutions.

### **What are the advantages in enrolling in a VETIS course?**

There are a number of significant advantages in taking a VETIS course as part of your VCE. Here are a few:

- Students gain a nationally recognised TAFE qualification as part of their VCE program.
- Students are able to pick up skills and knowledge valued and recognised by industry.
- Statistics show that students completing VETIS courses at school have a decided advantage when securing work – particularly in arranging both Traineeships and Apprenticeships.
- Students are able to develop their awareness of what working in a particular industry actually involves.
- All pathways are open to students completing a VETIS course when they leave school. They can apply for entry into a University Course, a TAFE course or seek to join the workforce.
- If they proceed to more advanced TAFE studies, they are usually able to gain a number of credits in related courses. This means that the number of class hours required is shortened.

If you have any questions please see Mr Kortuem in the Careers Room.

# CERTIFICATE III IN INFORMATION, DIGITAL MEDIA AND TECHNOLOGY

### Course Aims

- Provide participants with the foundation knowledge and skills to achieve competencies which will enhance their employment prospects within the Information Technology industry.
- Provide knowledge and skills in the use of a range of technologies.
- Enable participants to gain a recognised credential and make a more informed choice of vocational and career paths.

To complete Certificate III in Information Technology (General) and get a credit of two VCE units at Units 3-4 level, students will need to complete the following units of competence similar to:

### Unit Names

- Create user documentation.
- Install and optimise operating system software.
- Install, configure and secure a small office or home office network.
- Provide IT advice to clients.
- Maintain equipment and software.
- Develop macros and templates for clients using standard products.

# CERTIFICATE III IN MUSIC

### Description

Certificate III in Music enables students to apply a broad range of knowledge and skills in varied work contexts in the music industry.

Units 3 and 4 include 3 preparing for performances, developing ensemble skills scored assessment and include units such as developing improvisation skills, of genre to music making and performing music as part of a group or soloist.

### VCE VET Units 3 and 4

- Develop technical skills in performance.
- Develop improvisation skills.
- Apply knowledge of genre to music making.
- Develop and maintain stagecraft skills.

Students choose one only of the following:

- Perform music as part of a group.
- Perform music as a soloist.



# CERTIFICATE III IN APPLIED FASHION DESIGN and TECHNOLOGY

### Description

This qualification is designed for entry level students and provides an introduction to fashion design and garment construction. Students gain practical skills in basic sewing machine use, garment design, pattern use and alteration and construction techniques.

Unit 3 and 4 continues on from the modules and skills developed in units 1 and 2 of this Certificate. On completion of all units students receive a TAFE Certificate. The Certificate will contribute to the ATAR score.

### Areas of study

#### VCE VET Units 3 and 4

- Identify fibers and fabrics.
- Operate computing technology in a textile, Clothing or Footwear Workplace.
- Modify patterns to create basic styles.
- Embellish garment by hand or machine.
- Prepare and produce sewn garment.
- Prepare design concept for a simple garment.

**NOTE:** This is a Brimbank VET Cluster subject which will be taught at St Albans Secondary College. The class will run on Thursday afternoons from 1:30 to 5:00. Additional charges will apply.

Students have the opportunity for their garments to be entered into state and national competitions.

Students are eligible to select this subject only if they have completed Units 1 and 2 in Year 11.

For more details please read your VET Cluster Handbook available from the careers room.

Cost of materials \$220 to be confirmed.

# CERTIFICATE III IN SPORT and RECREATION

### Course Aims

This program aims to provide specific skills and knowledge required for an assistant level employee at an aquatic centre or gymnasium / dry area fitness centre. The functions of a person with this qualification may include assistance with the conduct of recreation activities and event, facility maintenance and general workplace operations. This course has a strong focus on the practical aspects of the Recreation industry. The program is delivered within the school and students have the opportunity to utilise the facilities at the school.

### Future Pathways

This Certificate provides a pathway for students who wish to pursue a range of occupations in the sport and recreation industry, including:

- Administration in a recreation setting;
- Community recreation;
- Coaching; and
- Fitness Instruction and Personal Training.

#### VCE VET Units 3 and 4

- Conduct basic warm up/cool down programs.
- Plan / conduct sport and recreation session.
- Facilitate groups.
- Analyse public education of use of resources.
- Provide public education of use of resources.
- Undertake risk analysis of activities.
- Provide fitness orientation.
- Instruct and monitor fitness programs.

**NOTE:** This course is only for students who complete Units 1 and 2 in Year 11

# SIT20416 CERTIFICATE II IN KITCHEN OPERATIONS

## Description

To provide access to a range of potential career paths within the hospitality industry by providing training and skill development for the achievement of competence in areas such as commercial cookery. Enable participants to gain a recognised credential and make a more informed choice of vocation or career path.

This qualification reflects the role of individual working in kitchens who use a defined and limited food preparation and cookery skills under direct supervision.

This qualification provide a pathway to work in kitchen operations in organisations such as restaurants, hotels, catering operations, clubs, pubs, cafes, cafeterias, coffee shops and institutions such as aged care facilities, hospitals, prisons and schools.

## Pathways from the Qualification

After achieving SIT20416 Certificate II in Kitchen Operations (Hospitality), individuals could progress to Certificate III qualifications in commercial cookery, patisseries and catering operations.

Future pathways could include: Certificate III in Hospitality, Certificate IV in Hospitality, Diploma of Hospitality (Management), Advanced Diploma of Hospitality (Management), Bachelor of Applied Science (Hospitality Management).

## VCE VET Units 3 and 4

- Use cookery skill effectively.
- Purchase goods.
- Produce appetisers and salads.
- Produce stocks, sauces and soups.
- Produce vegetable, fruit, egg and farinaceous dishes.

**NOTE:** Students are advised the Units 3 and 4 sequence is not designed as a stand alone study  
Students can only continue from Year 1 of this course  
Students are required to wear a uniform and delivery hours or 1.30 - 6.30pm are a guideline only.

My interview is with:

(Teacher)

(Time)

## NOTES



**ST ALBANS**  
SECONDARY COLLEGE

St Albans Secondary College  
Main Road East  
ST ALBANS, 3021

Telephone: 9366 2555

[www.stalbanssc.vic.edu.au](http://www.stalbanssc.vic.edu.au)