Year 12, 2020

Curriculum Information Evening
Monday 22 July 2019
Welcome

Presenting this evening:

Mrs Andrea Sherwood – Director of Learning

Mrs Jenny Howland – Careers Counsellor
What will differ in Year 12?

• You continue to earn credits for subjects and courses
• You need 200 credits to get your SACE
• Courses are graded A+ to E-
• You **must** get a C- grade or higher for all Stage 2 subjects
• All subjects are two semesters and worth 20 credits
• At Stage 2, 30% of the assessment of every subject (e.g. investigations/exams) is marked by experts outside the School
• 70% of the assessment of every subject is marked by your teacher and moderated by the SACE Board
How many subjects?

- 5 subjects (plus a Research line if necessary)
- 4 subjects possible – apply to do 4 via Ms Sherwood
- Music ‘off line’ in conjunction with co-curricular activities
- Requested to select 7 subjects
- ATAR calculation will be out of 90
Subject Selection Process

The subject selection process for 2020 is online. Subject selection can be completed at www.selectmysubjects.com.au

1) Discussion and careful consideration
2) Complete the **Approval Form** in weeks 1 and 2
3) Complete the Subject Selection Planner
4) Discuss choices with your Head of Faculty for each subject you have chosen or your subject teacher
5) Discuss your ideas with your Head of House
6) Discuss your selections with your Parents
Approval Form

Year 12 Subject Selection Process

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>STUDENT REFLECTION ON CHOOSING SUBJECT</th>
<th>STRONGLY RECOMMEND CHOICE</th>
<th>RECOMMEND CHOICE</th>
<th>RECOMMEND AGAINST CHOICE</th>
<th>TEACHER INITIALS &amp; COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<tr>
<td>7</td>
<td></td>
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</tr>
</tbody>
</table>

Student Name: ________________________  House Head: ________________________  Parent signature: ________________________

Write each subject you are considering studying in Year 12 and your reasons for considering them. Ask your current teacher or the Curriculum Leader for the Faculty for their opinion on your choice. They will indicate their advice and comment if necessary. Use their opinions to inform your choices as you enter them into www.selectmysubjects.com.au. They will be discussed at your subject selection interview.

Please hand in this form with your signed, printed copy of your web preferences subject selection elective sheet to the Senior School Office.
Subject Selection Process

• Online Subject Selection to be completed by **Friday 16th August**

• Opens **Monday 5th August** and closes **Friday 16th August**

• Print, sign (student and parents) and return the online form and Approval Form to the Senior School office by **Friday 16th August**

• Missing deadlines could mean restrictions imposed on subject selections

• Year 12 interviews begin on **Monday 19th August**
Senior Mathematics

Year 11 (Stage 1)

Semester 1
Mathematics
2 Units

General Mathematics
1 Unit

Essential Mathematics
1 Unit

Semester 2
Mathematics
2 Units

Mathematics
1 Unit

Essential Mathematics
1 Unit

Year 12 (Stage 2)

Semester 2
Mathematics
2 Units

Mathematical Methods

Specialist Mathematics and Mathematical Methods

General Mathematics

Please note: Students at the end of each block, students can drop downwards, but not move to a higher course.

Specialist Mathematics must be studied with Mathematical Methods
English courses

• English Literary Studies
• English
• Essential English
• English as an Additional Language (Non English Speaking Background)
Special Provisions

• Special provisions are available if you are eligible
• May include misadventure, illness or learning difficulties
  (see Mr Briggs or Mr Ritson or Ms Sherwood)
• Letters will be sent at the start of 2020 regarding this process
Final Advice

• Select subjects you enjoy **within reason**

• Select subjects you are good at and **give you the background you require for future courses**

• Get advice from your teachers, parents, Head of House, Ms Sherwood, Ms Howland or Mr Ritson
Westminster’s Expectations

• Do your best to achieve the highest outcome possible
• Take your schooling seriously
• Use study periods effectively
• Use holiday time to do courses
• If you are struggling there is help
• Get involved in co-curricular
• Be organised
• Set realistic goals
Year 12 2020: Imagine the Possibilities!

Imagine it, Believe it, Achieve it!
Described as a range of new technologies that are fusing the physical, digital and biological worlds, this revolution is certain to alter the way the human race lives, works, and relates to one another.

Source: https://innovate.ieee.org/innovation-spotlight-ieee-fueling-fourth-industrial-revolution/
Global Drivers of Change

1. Technology and Science
2. Internet of things - connectivity, digitalisation, big data projects
3. Migration - impacts both developed and developing nations
4. Environment - climate change, natural disasters, energy.....
5. Growth in new jobs and wages - increase technology and knowledge driven, mega businesses
6. ‘Rise of glittering economies and shabby societies.’
Preparing for 4IR Begins with Education

Technologies Fueling 4IR in IEEE Xplore

- **INTERNET OF THINGS**: 110,000+ documents
- **CLOUD COMPUTING**: 45,000+ documents
- **SYSTEM INTEGRATION**: 110,000+ documents
- **AUTONOMOUS VEHICLES**: 30,000+ documents
- **AUTONOMOUS ROBOTS**: 150,000+ documents
- **3D PRINTING/ADDITIVE MANUFACTURING**: 10,000+ documents
- **BIG DATA**: 110,000+ documents
- **CYBERSECURITY**: 50,000+ documents
- **AUGMENTED REALITY**: 30,000+ documents
Over 3 million Industrial Robots will be in operation globally by 2020.
Preparing for the Future Education!

• 60% of future jobs will require a background in STEAM subjects: Science, Technology, Engineering, Arts (Humanities and Creative Arts) and Mathematics. Not just STEM- need the humanities: ethics, creativity.....

Have **Balance** and Rigor

New opportunities and visions

• Career development is a whole of life experience. It’s a journey not a destination- We need to become life long learners!
The labour market is changing

What does this all mean???

• Labour market change is nothing new
• Automation is not the only reason for change
• Social and demographic changes are having a big impact
Not all jobs can be automated

Jobs requiring social skills, creativity, complex thinking or managerial experience are in demand

Registered Nurses
Fitness instructors
Personal Care Workers
Chefs
Waiters
Baristas
Marketing Professionals
Business and Systems Programmers
School Teachers

...and with population growth, lifestyle changes and an ageing population many traditional jobs in the Services industries will keep growing

Source: NCVER, Future job openings for new entrants by industry and occupation, 2018; Department of Jobs and Small Business, National Occupational Trend data, August 2018 and Projections to May 2023

Department of Jobs and Small Business, Feb 2019
Technology is not only replacing jobs, it’s also creating jobs

AI Designers
Solar Power Design Engineers
Cyber Security Professionals
Social Media Managers

Big Data Analysts
Digital Technology Teachers
Aerial Surveyors
Robotic Clinical Specialists

Source: CSIRO, DATA 61, Tomorrow’s Digitally Enabled Workforce, 2016; World Economic Forum, The Future of Jobs Report, 2018
Workplaces are also changing

How people are employed is changing

- Increased flexibility
  - casual, part-time, working from home/remotely, virtual teams
- Self-employment, contract work, project work

Young people could have as many as 17 jobs over 5 careers over their working life

- A portfolio of jobs (multiple job holding)
- Entrepreneurship
- Job mobility and change

...and the gig economy?
...though it is increasingly visible in the real world, it is not noticeable in our statistics...

Source: Department of Jobs and Small Business, Australian Jobs 2018; Mark McCrindle, The ABC of XYZ, 2014
### Where are the current jobs in SA?

#### Employed persons by industry, South Australia, November 2018

<table>
<thead>
<tr>
<th>Industry</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care and Social Assistance</td>
<td>130,600</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>88,200</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>69,700</td>
</tr>
<tr>
<td>Construction</td>
<td>69,100</td>
</tr>
<tr>
<td>Education and Training</td>
<td>62,900</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>60,800</td>
</tr>
<tr>
<td>Public Administration and Safety</td>
<td>60,400</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services</td>
<td>50,900</td>
</tr>
</tbody>
</table>

*Source: ABS, Labour Force Survey, November 2018 quarter, annual averages*
Things have changed in the last 15 years

Employed persons (‘000) Top 4 industries in South Australia

- Health
- Retail
- Manufacturing
- Construction

Source: ABS, Labour Force Survey, November 2018 quarter; Department of Jobs and Small Business, Employment Projections to May 2023
Which jobs have accounted for most growth in the last 15 years?

South Australia

Professionals: 43%
Community and Personal Service Workers: 26%
Managers: 10%
Technicians and Trades Workers: 9%
Labourers: 6%
Machinery Operators and Drivers: 4%
Sales Workers: 2%
Clerical and Administrative Workers: 0%

Source: ABS, Labour Force Survey, November 2018 quarter, annual averages
Over the next 5 years jobs growth will be strongest for higher skilled occupations.

Indexed change in persons employed by skill level, Australia

Source: Department of Jobs and Small Business, Employment Projections, five years to May 2023, higher skilled = Skill levels 1-2, lower skilled = Skill levels 3-5
What are employers looking for?

**Education & Training**
- Post-school education has become increasingly important

**Experience**
- Australian employers want new staff to have experience

**Employability skills**
- Employers want the RIGHT MATCH for their business

Source: Department of Jobs and Small Business, Survey of Employers’ Recruitment Experiences, Feb 2019
There are multiple pathways

Traineeship, Apprenticeship

VET/TAFE

University

What am I good at?
What do I enjoy doing?

What qualification do I need for my chosen career?
Completing a qualification is vital...

25 – 34 year olds, South Australia

Unemployment rate

This is what students should aim for

First step

<table>
<thead>
<tr>
<th>Level</th>
<th>Unemployment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor degree or higher</td>
<td>5.4%</td>
</tr>
<tr>
<td>Advanced Diploma and Diploma</td>
<td>5.1%</td>
</tr>
<tr>
<td>Certificate III &amp; IV Level</td>
<td>6.0%</td>
</tr>
<tr>
<td>Year 12</td>
<td>8.0%</td>
</tr>
<tr>
<td>Certificate I &amp; II Level</td>
<td>21.0%</td>
</tr>
<tr>
<td>Below Year 12</td>
<td>16.5%</td>
</tr>
</tbody>
</table>

Source: ABS, Census of Population and Housing, 2016
The labour market has become more competitive for university graduates.

Undergraduates who found full-time employment within four months, not necessarily in their field of study.

<table>
<thead>
<tr>
<th>Year</th>
<th>% Employed Full-Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>82.4%</td>
</tr>
<tr>
<td>2018</td>
<td>72.9%</td>
</tr>
</tbody>
</table>

Source: Graduate Outcomes Survey 2018 (percentage of undergraduates who were looking for employment and found it)
There has been a shift away from VET...

South Australia

University undergraduate commencements

- 2007: 18,700
- 2017: 30,000 (61% increase)

Apprenticeship and Traineeship commencements

- 2007: 20,800
- 2017: 15,200 (58% decrease)

Source: NCVER, Apprentices and Trainees, December 2017; Department of Education, uCube, 2017
Training was part of an apprenticeship or traineeship.

...VET can be a good option...

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Employment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a trade occupation course</td>
<td>91.2%</td>
</tr>
<tr>
<td>Certificate IV</td>
<td>84.2%</td>
</tr>
<tr>
<td>In a non-trade occupation course</td>
<td>77.3%</td>
</tr>
<tr>
<td>Certificate III</td>
<td>76.5%</td>
</tr>
<tr>
<td>Certificate II</td>
<td>68.8%</td>
</tr>
<tr>
<td>Certificate I</td>
<td>47.4%</td>
</tr>
<tr>
<td>All VET graduates</td>
<td>77.3%</td>
</tr>
</tbody>
</table>

Source: NCVER, VET Student Outcomes 2018

Department of Jobs and Small Business, Feb 2019
VET graduates also have good starting salaries

Median income ($) of VET graduates employed full-time 6 months after training, Australia, 2018

Certificate IV: 65,000
Engineering and related technologies: 63,800
Education: 62,400
Architecture and building: 60,200
Diploma or higher: 60,000
Management and commerce: 59,800
Health: 55,400
Agriculture and environmental studies: 52,000
Certificate III: 50,000
Society and culture: 49,600

In 2018, the median annual salary of a university graduate employed full-time was $61,000

Source: Graduate Outcomes Survey 2018; NCVER, VET Student Outcomes 2018 for qualification levels Certificate III/IV and diploma, for selected fields of education.
Undertake up to 2 university subjects whilst completing Year 12 (maximum of one topic per semester)

University subjects count as subjects towards Year 12 study
Why should students participate?

- experience university life
- explore a subject area in greater depth
- be challenged
- gain confidence & develop higher level study skills
- access an extended range of subject options
- utilise extended services and facilities
- apply for credit towards a university degree
The SACE Board has determined that university grades will be converted as:

- 85-100 = High Distinction = 20.0
- 75-84  = Distinction     = 19.8
- 65-74  = Credit         = 18.0
- 50-64  = Pass           = 15.8

Transcripts are provided to schools for schools to lodge results with the SACE Board.
New Directions

• Generic undergraduate then masters in Vocational area as at Melbourne - in line with Europe and North America

• New degrees and new topics within degrees to keep up to dare with the 4IR eg changes to Law degree at Flinders- specific to new technology

• It is expected that from about 2020, all new teachers will need to have a Master degree qualification and have studied for at least five years.
Verbal Reasoning
Assesses the ability to critically evaluate information presented in a written form.

Decision Making
Assesses the ability to make sound decisions and judgements using complex information.

Quantitative Reasoning
Assesses the ability to critically evaluate information presented in a numerical form.

Abstract Reasoning
Assesses the use of convergent and divergent thinking to infer relationships from information.

Situational Judgement
Measures the capacity to understand real world situations and to identify critical factors and appropriate behaviour in dealing with them.
Global Learning

• Universities overseas accept SACE
  – most prefer traditional subjects eg Maths, English, Sciences, Languages, Geography, History rather than those with a vocational base

• New Zealand- treat Australian students as domestic- therefore domestic fees

• Some additional requirements:
  USA – SAT + ATAR
  Britain – SACE (ATAR) + entry exam if Oxford or Cambridge
ATAR- a rank not a percentage

- Aggregate- 90:
- Top 3 scaled scores out of 20 = 60 + 30 credits flexible option: scaled score for 4th subject + ½ Scaled score for 5th subject or Research Project
- Or scaled score equivalents for recognised studies eg VET Certificate 3
- Aggregates are ranked from highest to lowest
- Top 5% will get an ATAR 95+
- Top 10% ATAR 90 + etc
- In previous year an aggregate of 75.5/90 has given an ATAR of 90 ie average 17 or A
Scaling

• Aggregate is based on *scaled* scores
• SATALC undertakes the process of scaling to ensure that students have equitable chances of gaining entry to courses
• Based on common candidature

![Diagram showing the relationship between Subject A (Mean 70), Subject B (Mean 75), and a common candidature.]
<table>
<thead>
<tr>
<th>Aggregate /90</th>
<th>ATAR- RANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>88.80+</td>
<td>99.95</td>
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<tr>
<td>85.40+</td>
<td>99+</td>
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<tr>
<td>75.50</td>
<td>90</td>
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<tr>
<td>71.80</td>
<td>85</td>
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<tr>
<td>68.40</td>
<td>80</td>
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<tr>
<td>65.40</td>
<td>75</td>
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<td>63</td>
<td>70</td>
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<tr>
<td>59.90</td>
<td>65</td>
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<tr>
<td>57.10</td>
<td>60</td>
</tr>
<tr>
<td>54.60</td>
<td>55</td>
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</tbody>
</table>
There is a growing disconnect between the role ATAR plays in schools and universities.

- Only one in four domestic undergraduate students were admitted to courses based on their ATAR in 2016, down from one in three in 2014. This is at odds with the message reinforced by schools, families and the media – that the ATAR is everything.

- ATARs limit what teachers teach and how students learn for up to 4 years in some schools

- Students are choosing subjects to maximise ATAR and not necessarily opting for the subjects that provide the foundation for their course- drop out rate is increasing

Pilcher S & Torii K, Crunching the number: Exploring the use and usefulness of the Australian Tertiary Admission Rank (ATAR) Mitchell Institute, Victoria University, March 2918
Basis of admission for commencing domestic undergraduate enrolments, 2016

- 26% Secondary education with ATAR
- 11% Secondary education without ATAR
- 12% VET award course
- 26% Higher education course
- 4% Mature age special entry provisions
- 1% Professional qualification
- 17% Other basis
Adjustment Factors

• Exceptions: Medicine or Vet Science at any University
• Subject Bonuses: students will be awarded 2 points up to a maximum of 4 for completing a subject in any of the following:
  • LOTE or 2x10 credit Indigenous language subjects
  • English Literary Studies or English
  • Mathematical Methods
  • Specialist Mathematics
Effect of Bonus points can be substantial

<table>
<thead>
<tr>
<th>Aggregate (/90)</th>
<th>ATAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>88+</td>
<td>99.95</td>
</tr>
<tr>
<td>84.5+</td>
<td>99+</td>
</tr>
<tr>
<td>75.5</td>
<td>90</td>
</tr>
<tr>
<td>72</td>
<td>85</td>
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<tr>
<td>69</td>
<td>80</td>
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<td>67</td>
<td>77.05</td>
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<tr>
<td>66</td>
<td>75</td>
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<tr>
<td>63 + 4 Bonus</td>
<td>70</td>
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<tr>
<td>61.75</td>
<td>67.65</td>
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<tr>
<td>61</td>
<td>65</td>
</tr>
<tr>
<td>57.75 + 4 Bonus</td>
<td>60</td>
</tr>
<tr>
<td>54.75</td>
<td>55</td>
</tr>
</tbody>
</table>

Bonus points are added to the Aggregate before calculating the ATAR. They can make a big difference to an ATAR score.
• **Selection Ranks** - generally a result of supply and demand and indicate the lowest ATAR of the final student to be accepted into a course, eg course has 200 places - 500 apply, ranked in order of merit - 200 student - ATAR becomes the selection rank

• These can change from year to year.

• Most Universities publish a ‘preferred’ or ‘guaranteed’ ATAR to give students some guidance

• Keep in mind that every year universities are offering new degrees
Interstate

• In most cases English is needed
• Melbourne- English is compulsory
• Melbourne generic undergrad followed by Masters in Vocational area

• ANU and UNSW can get in without English
• Others check individual Faculties
Global Learning

• Universities overseas accept SACE
• - most prefer traditional subjects eg Maths, English, Sciences, Languages, Geography, History rather than those with a vocational base
• New Zealand - treat Australian students as domestic - therefore domestic fees
• Some additional requirements:
  USA – SAT + ATAR + school reports from Year 9-12
  Apply via http://sat.collegeboard.org/home
  Britain – SACE (ATAR) + entry exam if Oxford or Cambridge
• To find out about study in Britain - toll free 016 301 204.
  https://www.uCAS.com/
• https://www.uCAS.com/uCAS/undergraduate/choosing-course
NB Australian Universities offer overseas exchange programs.
Scholarships

- New scholarships each year, currently a lot of new indigenous scholarship.
- Links can be found on the SATAC website: http://www.satac.edu.au/subsidies-and-scholarships
- All TACS have scholarship links- definitely worth checking out! Also:
  - Bond University
  - NYU Abu Dhabi
  - Lincoln University NZ
• Put all the information together to find out what is right for you. It will be different for your friend!
• Take responsibility for your learning- think and think again
• Be Life long learners
• Accept challenges and Don’t give up when the going gets tough
• Useful qualities: Curiosity, Creativity, Tenacity and Persistence, Passion, Resilience, Communication skills, Understanding & Decision making
• Attend Open Days
• All the very best for a successful, happy future
• If you need more help, contact me via:
  E: jhowland@westminster.sa.edu.au
  T: 08 8276 0354 (direct line)
Assistance

- www.sace.sa.edu.au
- Mrs Howland’s email: jhowland@westminster.sa.edu.au
- Mr Ritson’s email: tritson@westminster.sa.edu.au
- Ms Sherwood’s email: asherwood@westminster.sa.edu.au
Year 12, 2020