

SUBJECT PATHWAY AND CAREERS INFORMATION EVENING 2026



HAMILTON
SECONDARY COLLEGE

WHAT TO CONSIDER WHEN CHOOSING A POSSIBLE CAREER

- Job Availability and Location
- Salary
- Nature and Hours of Work (shift work, outdoor work, working with people etc.)
- Personal Interests, Dreams and Passions
- Personal Strengths and Dislikes
- Cost of training (Degree, VET/TAFE Course)
- Industry Futures
- When exploring career pathways, students should consider current labour market information to understand employment opportunities in their chosen industry. (<https://www.jobsandskills.gov.au/data/occupation-and-industry-profiles>)



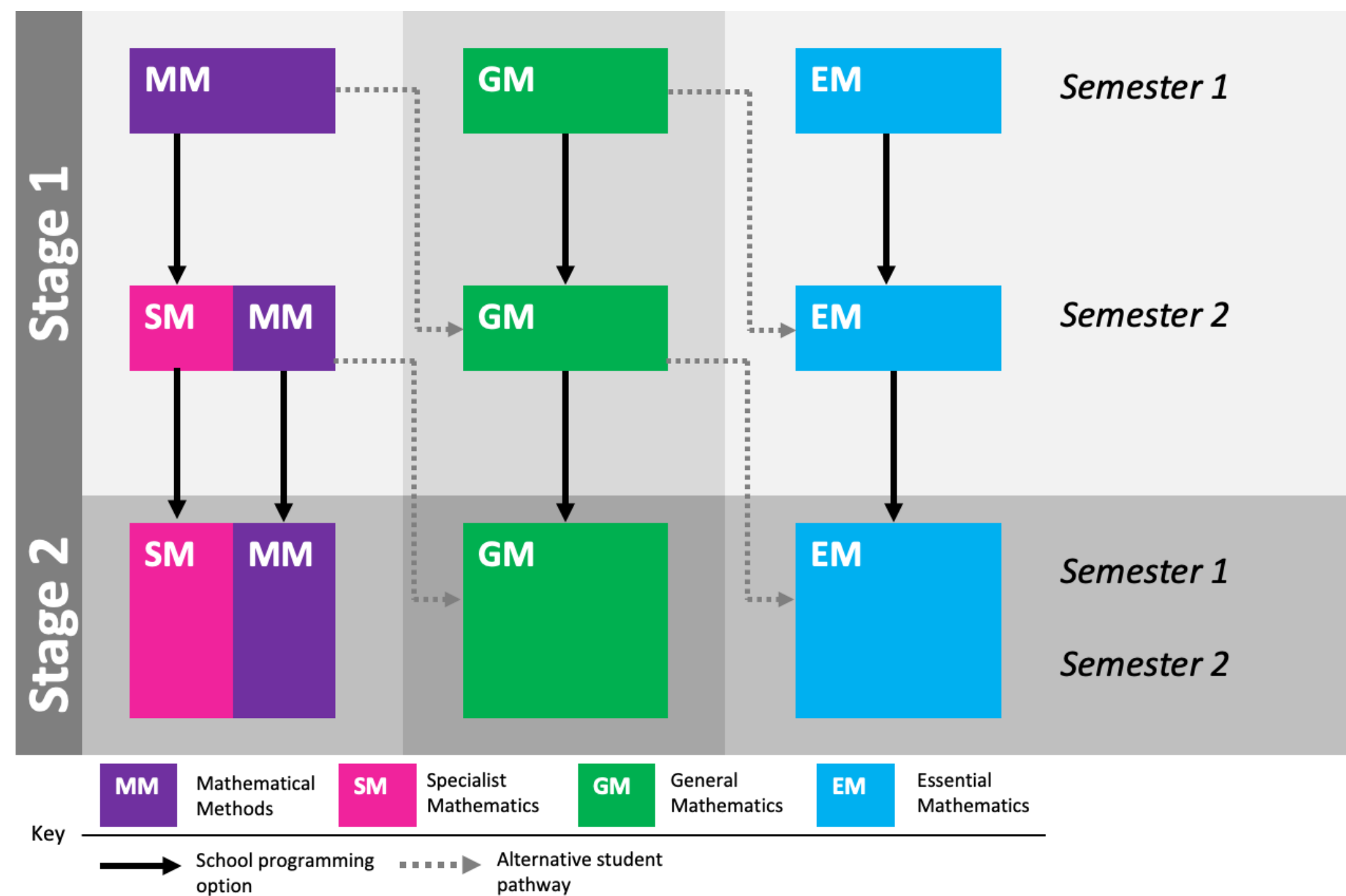
SUBJECT PATHWAYS

MATHEMATICS PATHWAYS

**A strong mathematical foundation opens doors to
diverse and rewarding career paths.
Many jobs utilise mathematical skills even if the
link isn't immediately obvious.**



MATHS PATHWAY



MATHS PATHWAYS

Specialist Mathematics

Focuses on advanced proofs and mathematical induction, vectors and complex calculus.

Mathematical Methods

Focuses on the understanding and application of calculus, mathematical modelling using functions and graphs and high level statistical analysis.

General Mathematics

Focuses on practical problem-solving including financial management, statistical analysis, and mathematical modelling using a variety of tools.

Essential Mathematics

Focuses on practical problem-solving in everyday and workplace contexts. Simple calculations, business mathematics, everyday finance and budgeting.

MATHS CAREER LINKS

Specialist Mathematics

- Prepares students for engineering - mechanical, electrical, civil etc.
- Aerospace careers
- Physical Sciences

Mathematical Methods

- Computer sciences
- Pure sciences - chemistry, biology, forensics
- Medicine
- Health Sciences

General Mathematics

- Nursing
- Architecture
- Commerce
- Accounting
- business

Essential Mathematics

- Building and construction
- Automotive trades
- Community Services
- General Vocational pathways



These are just a few of the first choice careers picked from our current year 11s and 12s.
For more use this link: <https://careerswithstem.com.au/a-z-of-maths-careers/>

ENGINEERING CAREERS – UNIVERSITY



Engineering is a dynamic field that applies principles of science and technology to invent, design, build, and utilize machines, systems, and structures that address problems and achieve practical goals.

Engineers work across various domains to create solutions that improve our daily lives and drive progress.

<https://www.indeed.com/career-advice/finding-a-job/best-engineering-field-for-the-future>

Top 8 of 15 best engineering jobs for the future

- Civil engineering technician
- Cartographer
- Aerospace engineering technician
- Industrial engineer
- Agricultural engineer
- Mechanical engineer
- Marine engineer
- Civil engineer

Advised Mathematical and Science Course

Stage 1 & 2 Mathematical Methods / Stage 2 Specialist Mathematics

Stage 1 & 2 Physics

Stage 1 & 2 Chemistry [Optional but opens many pathways]

Degrees: Bachelor of Engineering

Double Degree with Mathematics / Computer Science / Science

Alternative Engineering Pathways VET (TAFESA and other RTOs)

Associate Degree (2 Years VET, 2 Years University)

Blend practical, hands-on training with personalised support in small, focused classes.

Graduate with the skills to:

- Work as a qualified engineering paraprofessional
- Pursue further university study

<https://www.tafesa.edu.au/courses/mining-engineering-automotive/associate-degrees-in-engineering>

Advised Mathematical and Science Course

Stage 1 & 2 Mathematical Methods, Stage 1 & 2 Physics

Stage 1 & 2 Chemistry [*Optional but opens pathways*]

Certificate III / Diploma Technical Engineer

This nationally recognised course will get you started for a career in a drafting office or as an engineering technician. Gain the skills you need to produce detailed drawings and 3D models, and design and develop prototypes using computer-aided design (CAD) programs and processes.

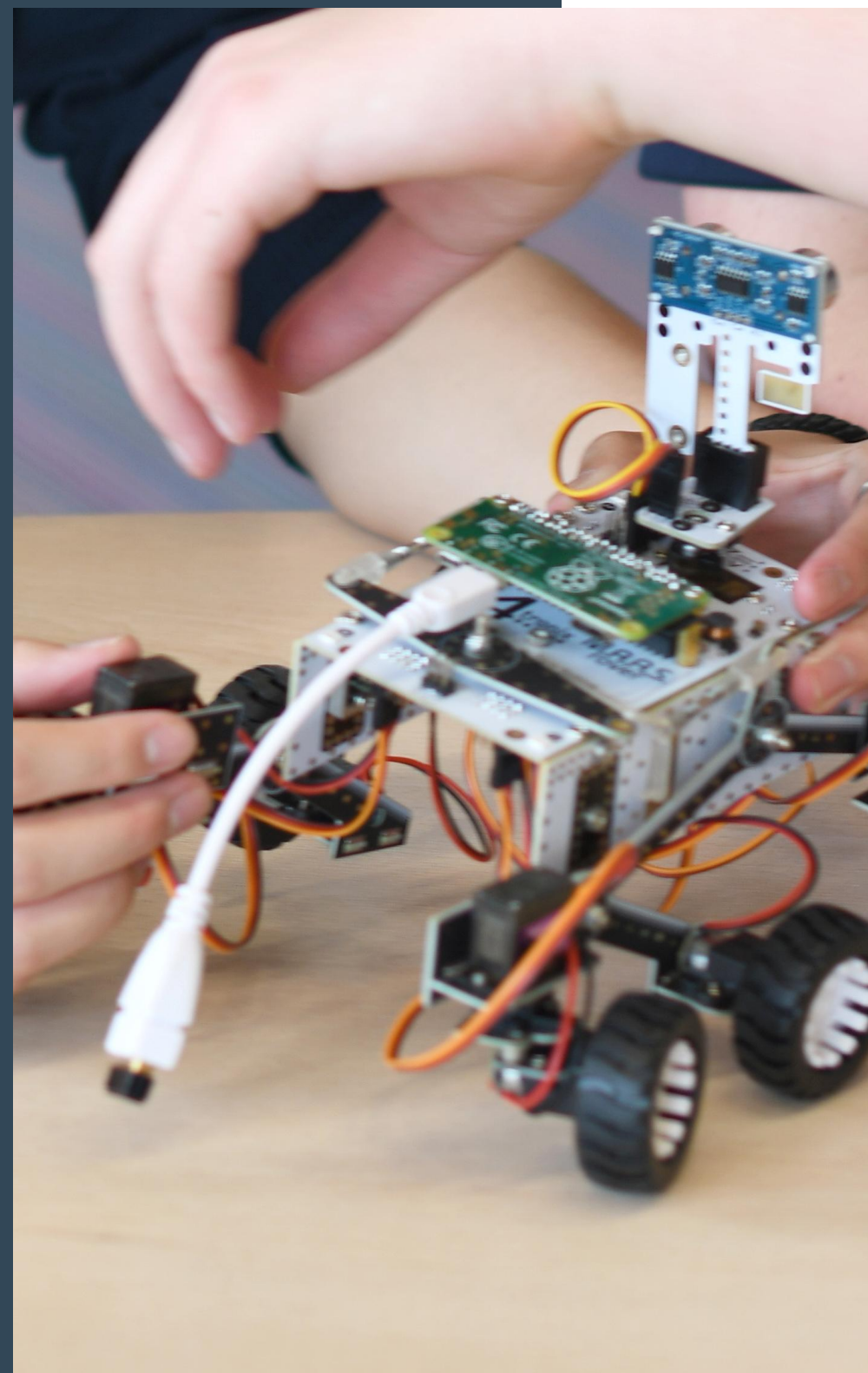
https://www.tafesa.edu.au/xml/course/aw/aw_TP01421.aspx?S=AWD&Y=2026

Advised Mathematical and Science Course

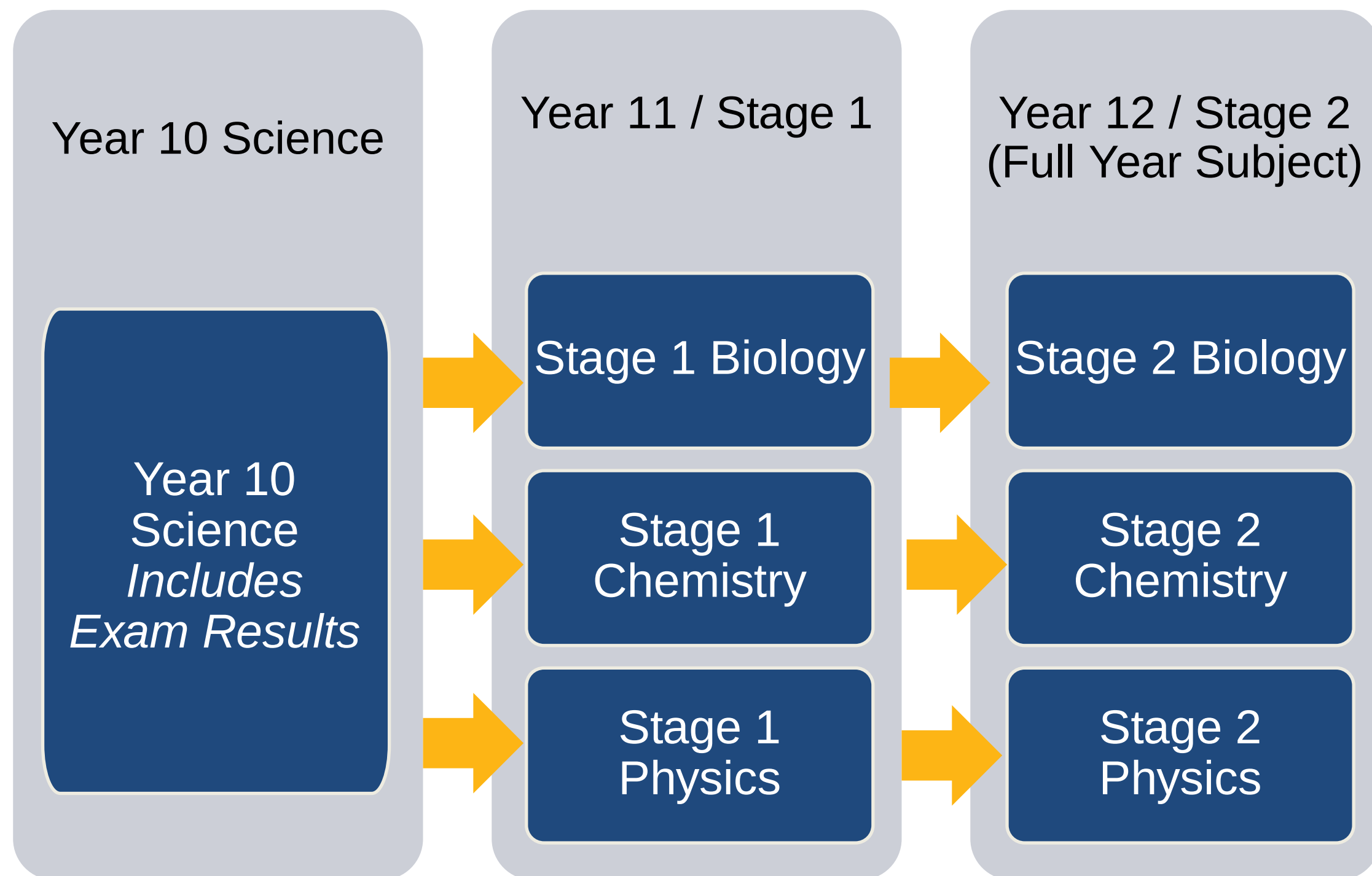
Stage 1 & 2 Essential Mathematics or Higher

Stage 1 & 2 Physics





SCIENCE PATHWAY



SCIENCE CAREER LINKS

Science Careers - Often postgraduate study after a [general science degree](#).

May find employment in "non-science" roles in business or government.

<https://mallory.com.au/science-careers-list/>

<https://careerswithstem.com.au/the-a-z-stem-careers-list/>

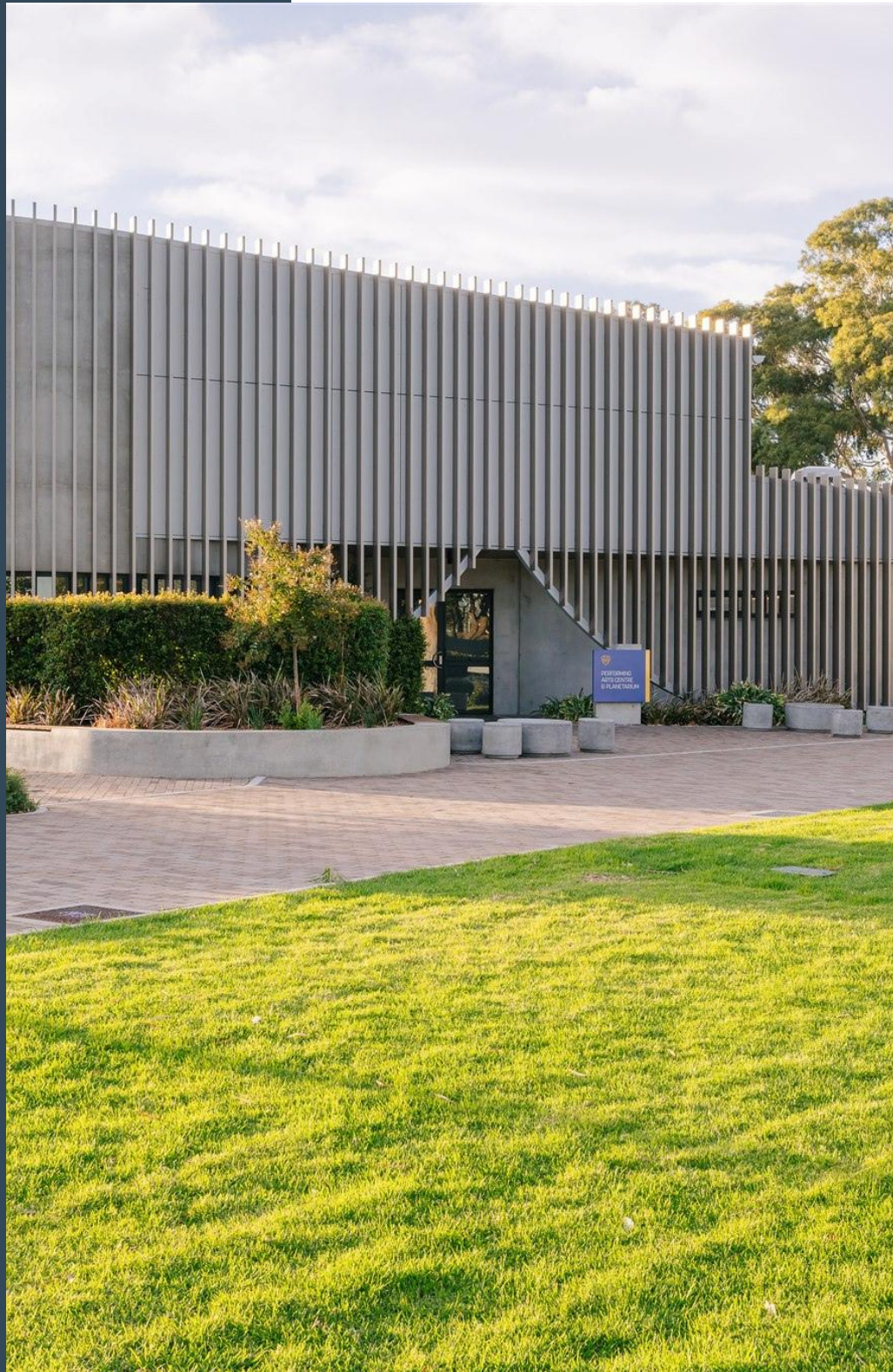
The main job roles in a science career are:

- *Researcher – expand the frontiers of scientific knowledge*
- *Data Analysis - analyse data for scientific experiments/collections*
- *Technician – physically carry out tests and experiments*
- *Applied scientist – apply science knowledge for practical uses*
- *Science-based profession – such as pharmacy and veterinary practice*
- *Educator – teach science at a school or university.*

Choose advised Science Course and Speciality for Degree

Degrees

- Bachelor of Science
- Bachelor of Mathematical Sciences
- Double Degree with Bachelor of Science and Mathematics/Arts/Other



SPACE CAREER PATHWAYS

Hamilton Secondary College - Space Academy and Space Curriculum provide context for high level Mathematics, Science and Cross Curriculum Concepts

Contact with Experts, Space Research and Space Industry Personnel through Talks, Visits and Excursions from a variety of Space Industries including Satellite building and Communication, Rovers & Rockets, Space Medicine, Plants in Space and Astronomy

- Inspire students with real Space/STEM careers
- Build student skills and confidence to apply for opportunities through work experience, internships, traineeships and scholarships

***For more information – Come to Space Careers Night
6:00-7:30 pm Wednesday, 2 September, 2026***



ENGLISH PATHWAY – YEAR 11



English

- Focuses on literature and analytical skills
- Prepares students for Stage 2 English or English Literary Studies

Essential English

- Focuses on modern media, creative and informative writing skills
- Prepares students for Stage 2 Essential English

English as an Additional Language (EAL)

- SACE Requires students to:
 - Speak another language at home
 - have moved to Australia within the last 5 years or
 - language is deemed as restricted by the school
- Focuses on modern media and clear communication skills
- Prepares students for Stage 2 EAL

ENGLISH PATHWAY – YEAR 12



English Literary Studies

- Majority of the course focuses on literary analysis
- Examinable subject
- Provides students with 2 bonus points

English

- Focuses on literature and analytical skills
- Provides students with 2 bonus points
- Required for entry to interstate Universities

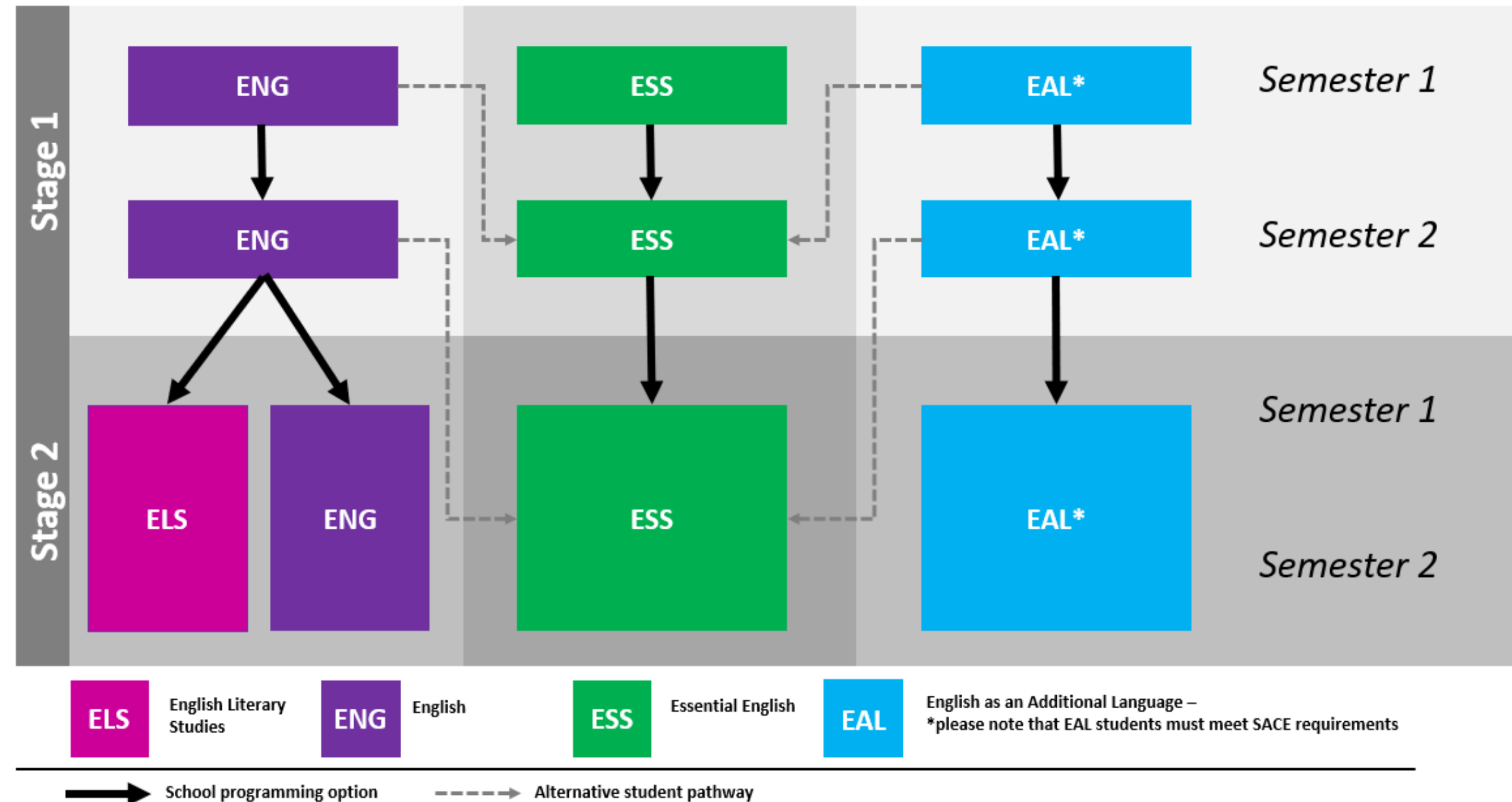
Essential English

- Focuses on modern media, creative and informative writing skills
- A popular choice for students to improve their writing and analytical skills

English as an Additional Language (EAL)

- SACE Requires students to:
 - Speak another language at home
 - have moved to Australia within the last 5 years or
 - language is deemed as restricted by the school
- Focuses on modern media and clear communication skills
- Examinable subject

ENGLISH PATHWAY





ENGLISH & HUMANITIES CAREER LINKS

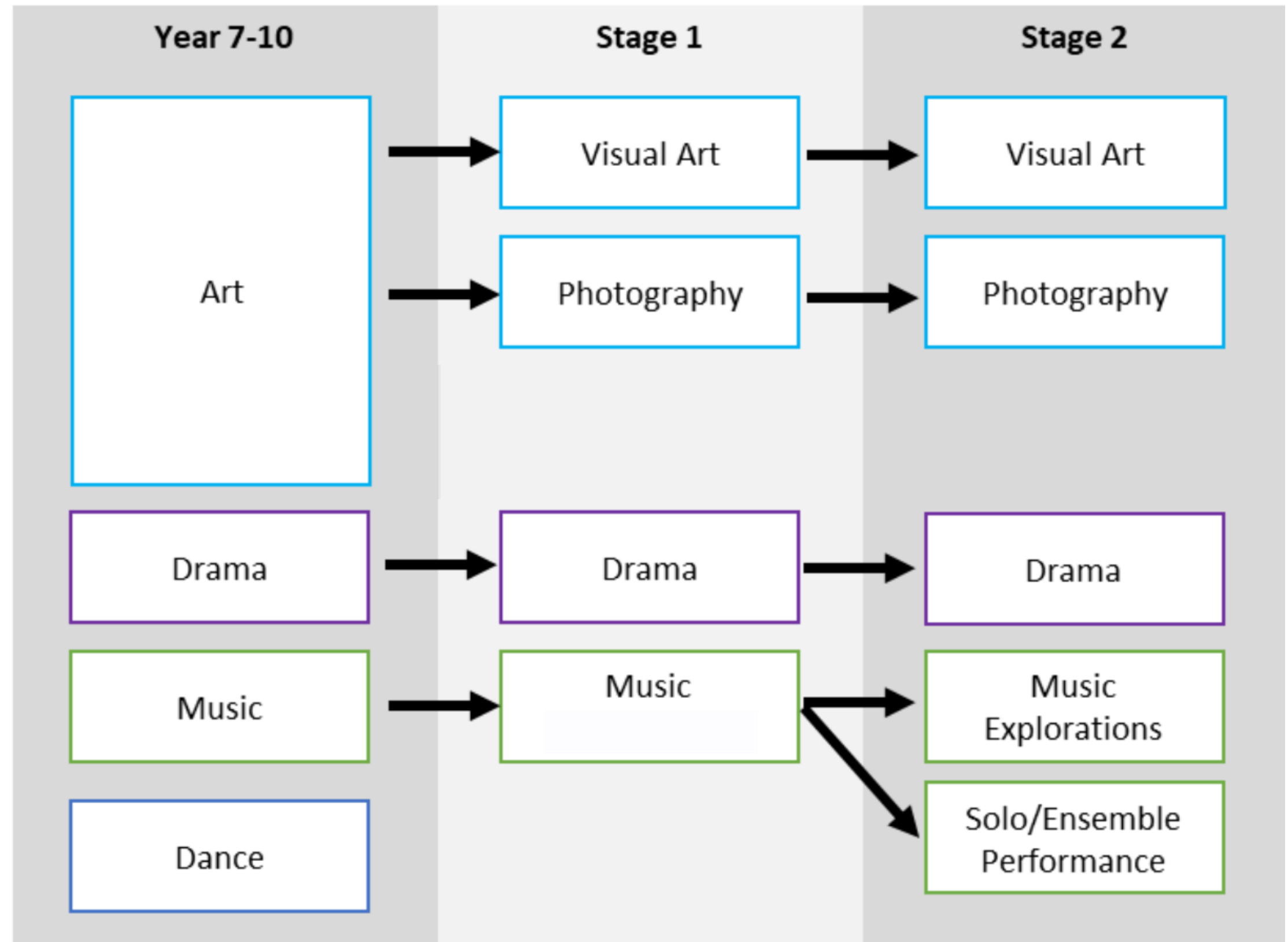
University Pathways:

- Law (Bachelor's Degree)
- Advertising & Marketing (Bachelor's Degree)
- Social work (Bachelor's Degree)
- Education (Bachelor's Degree)
 - ** Stage 2 English is a pre-requisite subject only for inter-state universities*

TAFE Pathways:

- Library Studies (Certificate course)
- Education (Certificate course)
 - Early Childhood, Educational Support
- Legal Services (Certificate course)

CREATIVE ARTS PATHWAYS



CREATIVE ARTS PATHWAYS

Music

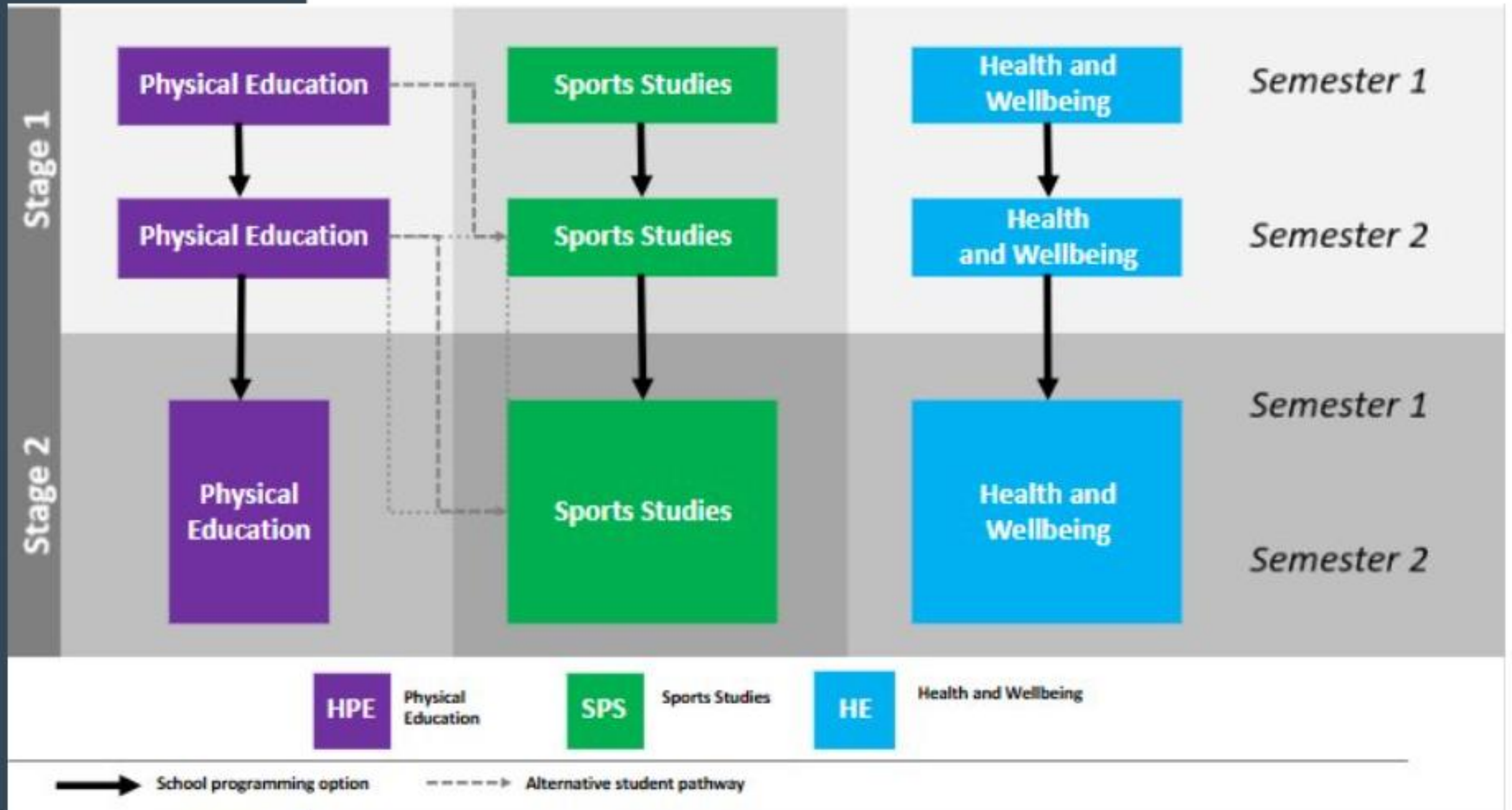
- Bachelor of Music at the Elder Conservatorium of Music-requires audition to gain entry
- TAFE avenues: Certificates and Diploma of Music - requires an audition
- or Certificate in Music and Sound Production

Creative and Performing Arts

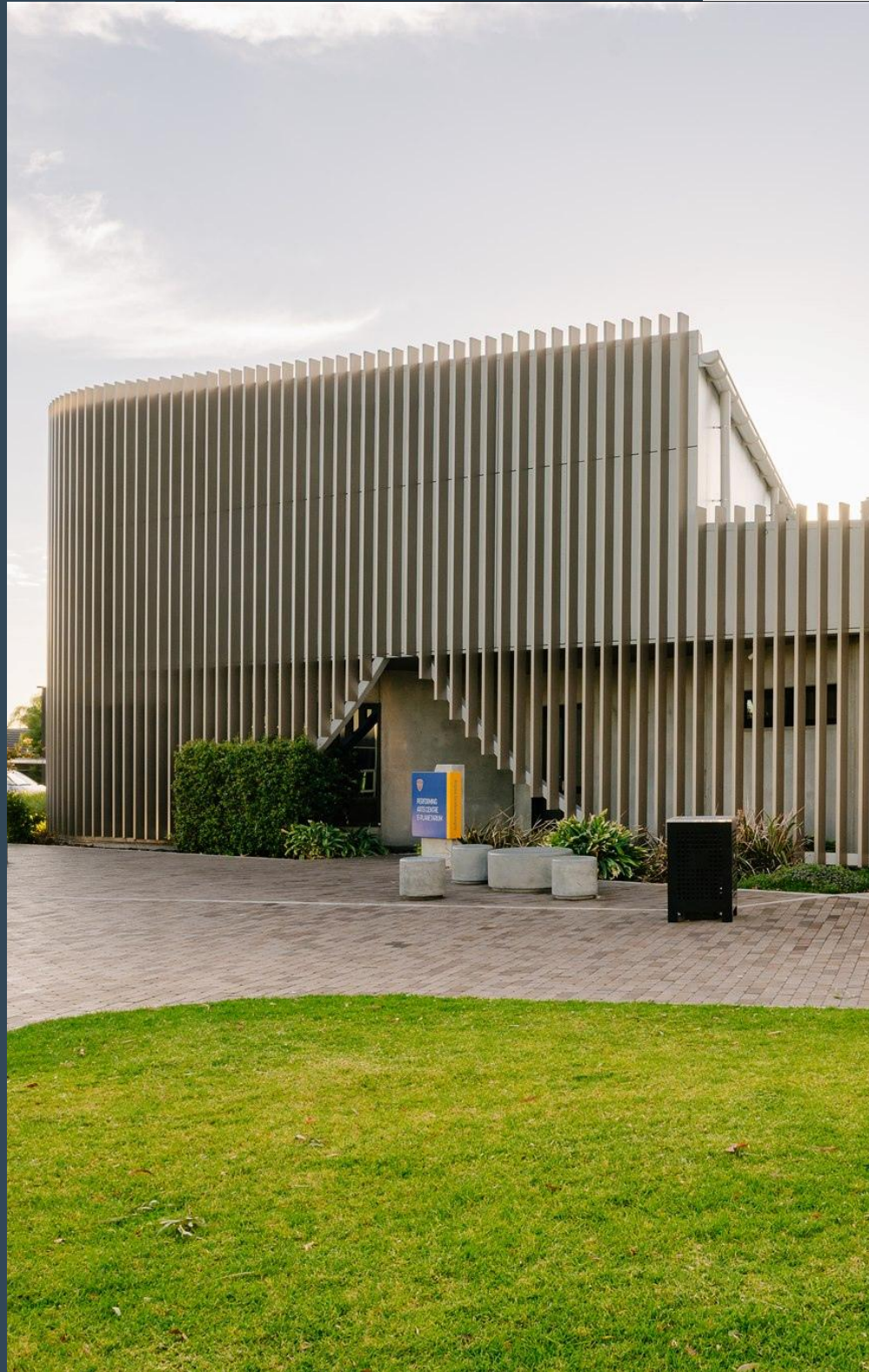
- Bachelor of Arts (Creative Writing, Dance, Design, Art)
- Bachelor of Performance
- Certificate IV in Dance
- Many creative courses require a portfolio of work



HEALTH PATHWAYS



HEALTH SACE SUBJECT PATHWAYS



Physical Education

- Focus on the practical and theoretical side of PE.
- Biomechanics, Energy Systems, Physiology
- Training Methods
- Performance Improvement (Practical)
- Links to Sports Science, Physiotherapy, Coaching, PE Teaching, Human Movement, Occupational Therapy, Health Promotion

Health and Wellbeing

- Focus on health related issues (Mental, Physical, Social, Psychological)
- Health promotion and intervention
- Free choice to explore areas of interest within health
- Link to Medicine, Dentistry, Nursing, Occupational Therapy, Speech Therapy, Physiotherapy, Paramedicine.

Sports Studies

- Focuses on organisational side of PE including coaching and event coordination
- Heavy focus on peer and self-evaluation and feedback
- Career links to Sports Coaching, PE Teaching, Event Management, Sports Management, Personal Trainer.

Psychology

- Focuses on study of human behaviour, psychology of learning, social influence and psychological health and wellbeing.
- Career links to clinical psychologist, social work, forensic psychologist, Police, Human Resources (HR)

Health Career Links

University Pathways:

- Nursing (Pre-Registration)
- Medicine and Clinical Sciences (GAMSAT or UCAT + other requirements involved)
- Health Sciences
- Exercise Science
- Human Nutrition
- Paramedicine
- Psychology
- Medical Science
- Physiotherapy
- Occupational Therapy
- Midwifery

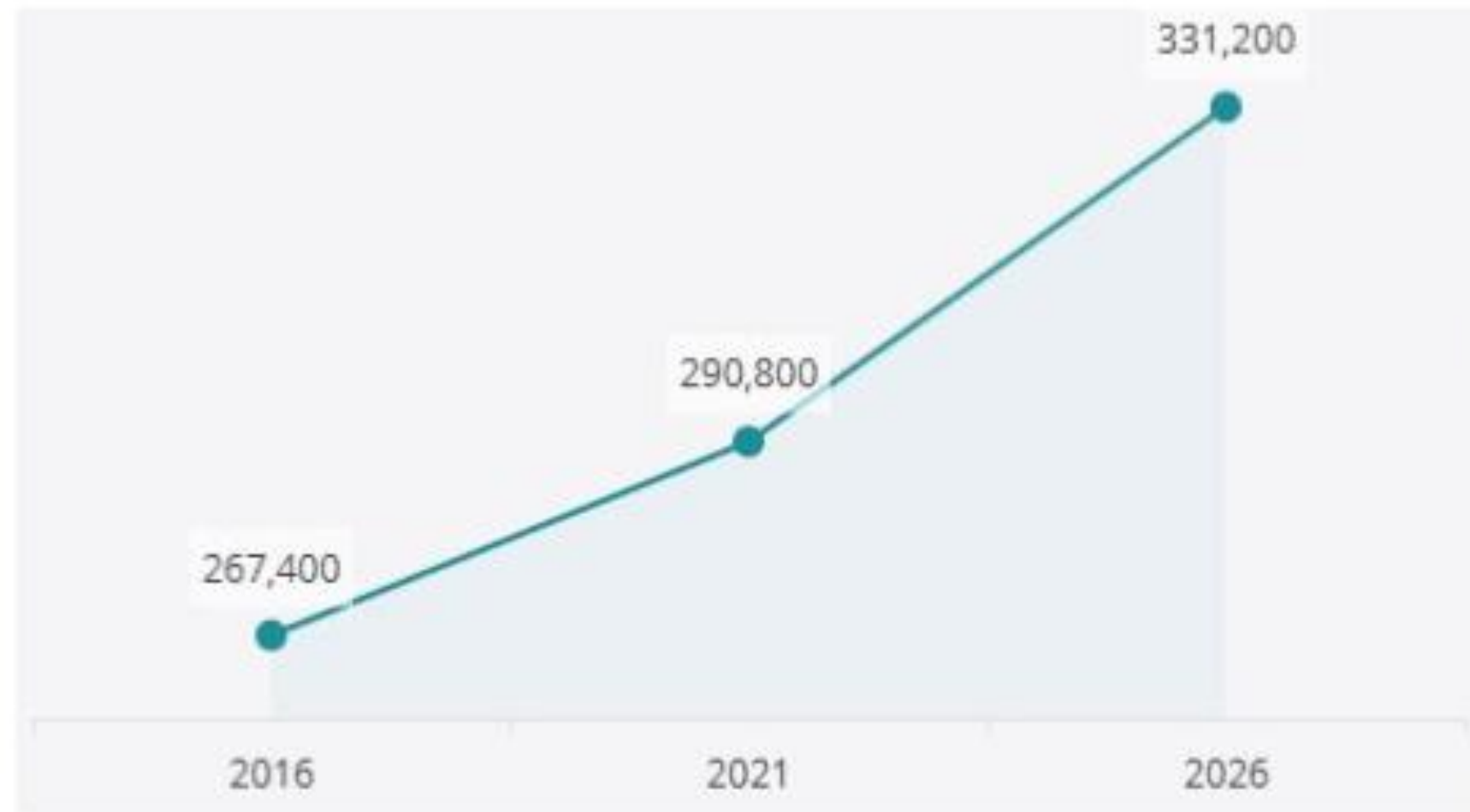
TAFE Pathways:

- Fitness (Certificate 2 or 3 course)
- Dental Technology (Certificate course)
- Dental Hygiene (Advanced Diploma)
- Nursing (Diploma)



HEALTH PATHWAYS

Job opportunities for Registered Nurses



Future growth: Strong

Projected employment growth in 5 years

Career: Registered Nurse

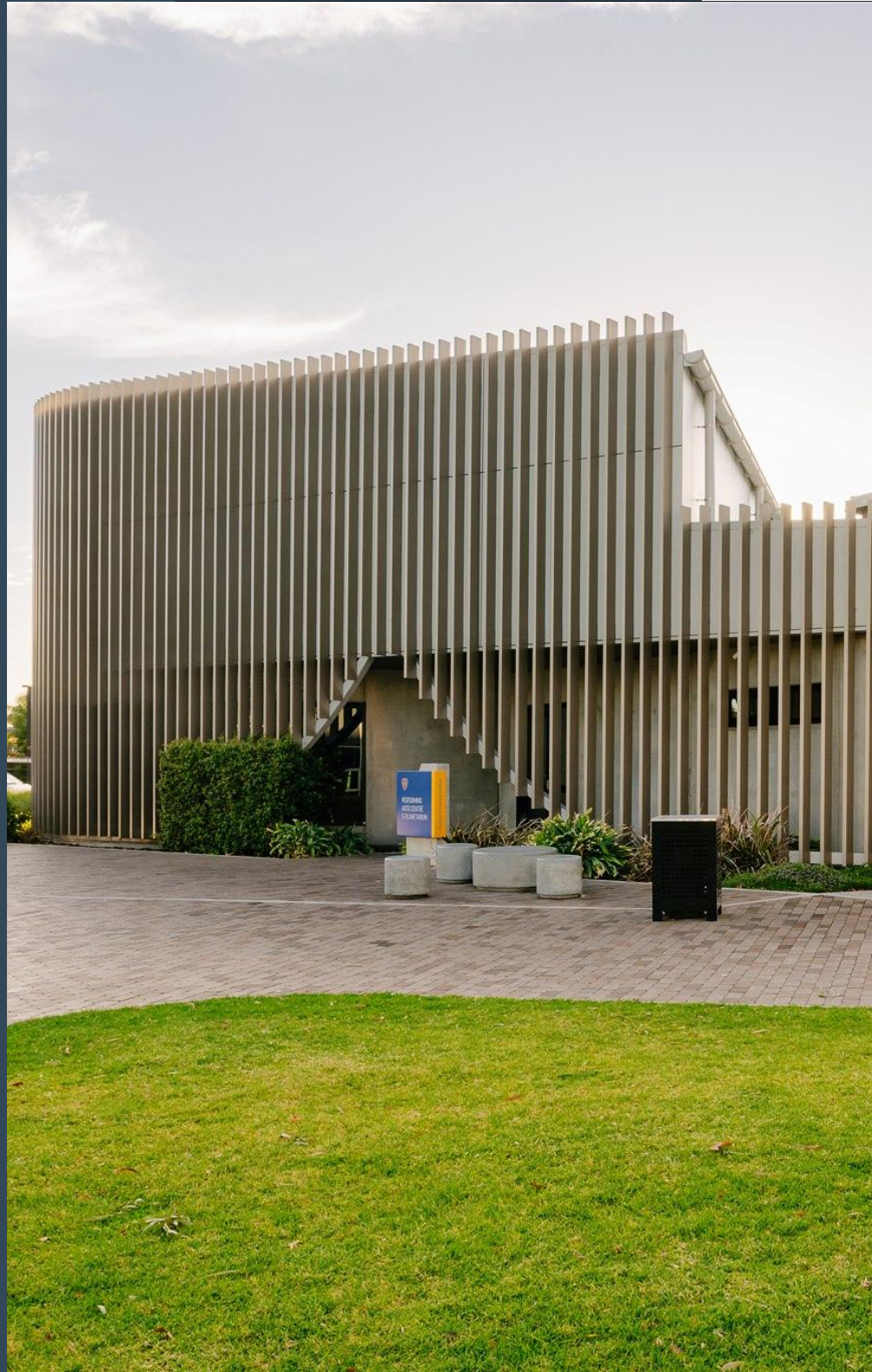
Advised Health Course:
Stage 1 and 2 Health and Wellbeing

Degrees: Bachelor of Nursing (pre-registration)

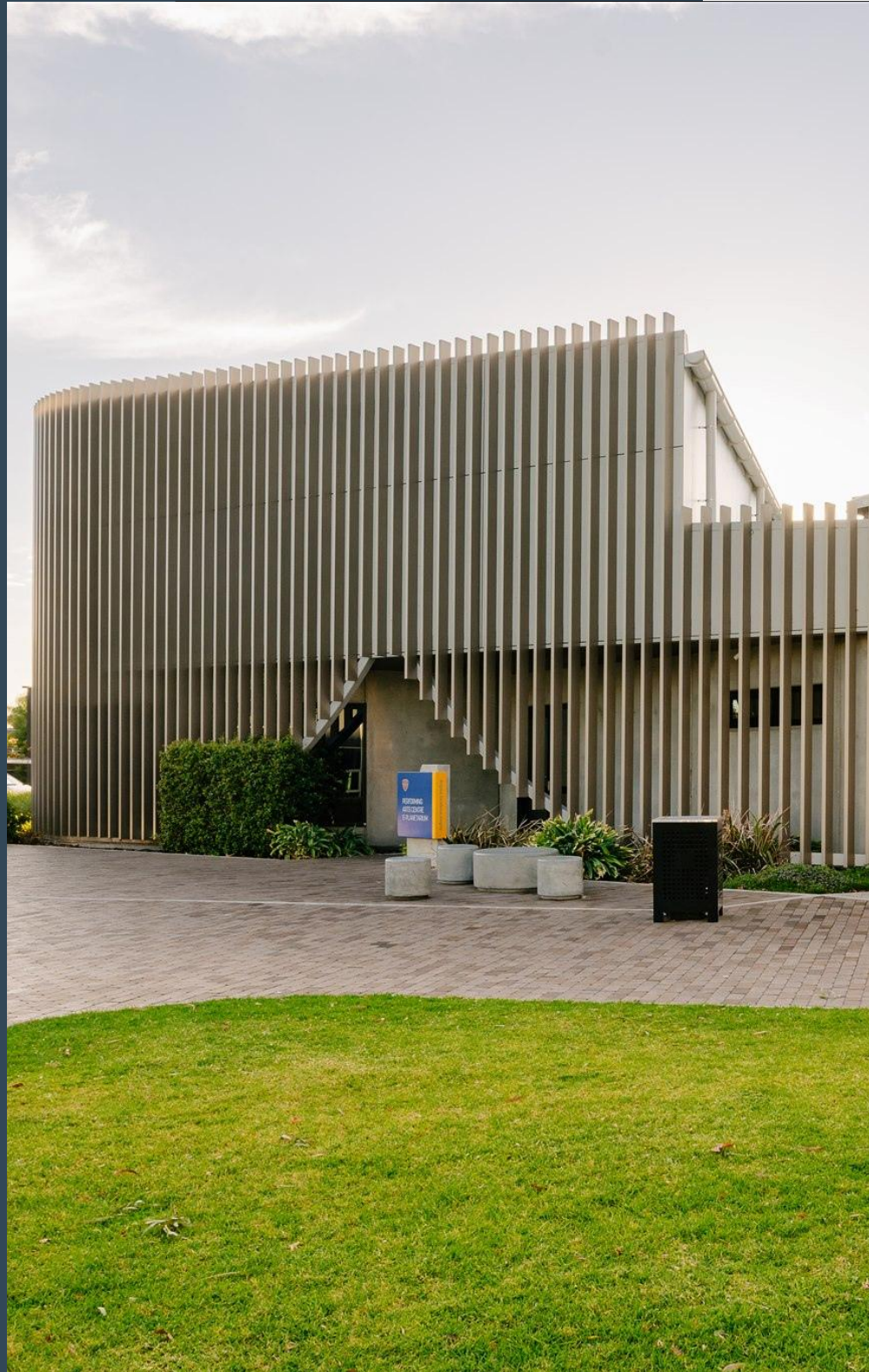
MEDICINE – ENTRY REQUIREMENTS

- One of the most competitive courses to enter at University.
- ATAR is typically 95 or higher.
- Students need to complete:

- 1) Study Maths Methods, Biology or Chemistry in Year 12 (Uni prerequisite subjects vary based on the Uni)
- 2) University Clinical Aptitude Test (UCAT) during Year 12 (tests aptitude for medical studies).
- 2) Achieve an ATAR of 95+
- 3) Complete their University Application
- 4) If invited, complete an Interview with their chosen University



HSC PRE-VET COURSES



Home Economics

Barista

(offered in Year 9 & 11 to develop FOH skills)

Cookery Skills

(offered in Year 10 to develop BOH skills)

Design & Tech

CAD

(Computer Aided Design
Year 9 link to Engineering)

Cert II Engineering Pathways

(develop skills in Years 7-12 Metal work & Construction)

Filmmaking

Year 9 Elective
Leads to Cert III in Screen & Media
(Film focus)

HSC is partner with Flinders Uni
Creative Arts Degree

Vocational Education Training (VET)

Hamilton Secondary College is a Registered Training Organisation – we are accredited to deliver nationally recognised VET qualifications and courses.

What is VET?

HSC courses

Flexible Industry Pathways (FIPs)

Workplace Learning

VET Enrolment Process

<https://www.hamcoll.sa.edu.au/curriculum/vocational-learning/>



VET & SCHOOL BASED APPRENTICESHIPS & TRAINEESHIPS CAREER LINKS

What is the difference between a school based apprenticeship and traineeship?

They both are structured training programs that combine job experience with formal education.

Apprenticeships typically focus on skilled trades, such as carpentry, electrical, plumbing, cookery, hairdressing and often take 3-4 years to complete.

Traineeships are more common in non trade areas, such as business administration, retail, childcare and usually take 1-2 years.

More information

<https://www.hamcoll.sa.edu.au/curriculum/vocational-learning/>



FUTURE CAREER PATHWAYS OPTIONS

- University Undergraduate Degree
- Vocational Education and Training (VET Course) at Technical and Further Education (TAFE) or other training providers
- Apprenticeship (Trades – 4 years) or Traineeship (Non-trades – 2 years)
- Transition to Full-Time Employment



ATAR AND APPLYING FOR UNIVERSITY

- University Applications open in August of Year 12
-
- Australian Tertiary Entrance Rank (ATAR) score is determined by Year 12 grades (plus AIF in Year 11) and determines which University Degrees students can enter.
-
- Students put in 6 preferences of University Courses they wish to enter.
-
- Applications stay open until mid-December for change of preferences





ACCELERATE PROGRAM

The Hamilton Accelerate Program provides students the opportunity to:

- Study a University subject alongside first year university students as one of their year 12 subjects
- University subjects count towards student ATAR scores and students can use their course credits towards their degree if they study at the University where they completed their studies.
- Get a head start on their SACE and extend their knowledge, skills and abilities to prepare them for University Studies.
- Maximise their ATAR (Australian Tertiary Admission Rank for University).

TIPS & TRICKS FOR SUCCESS

How can you reach your career pathway?

- Develop strong learning behaviours (Study Habits)
- Begin career pathway discussions early (Years 7–9)
- Know your subject pathway
- Attend University Open Days
- Complete online research
- Check out the SATAC Guide online
- Engage with school excursions to Careers Expo or Open Days
- Explore many different career pathway options



USEFUL LINKS

Occupation Summaries & Career Info:

- <https://myfuture.edu.au/>
- <https://studentpathways.sa.edu.au/>

Industry Trends and Skill Shortages:

- <https://www.jobsandskills.gov.au/publications/jobs-and-skills-report-2024>
- <https://www.jobsandskills.gov.au/data/occupation-shortages-analysis/occupation-shortage-list>
- <https://www.jobsandskills.gov.au/jobs-and-skills-atlas>

Industry	Employment	% share
Health Care and Social Assistance	174,000	18.0%
Retail Trade	92,600	9.6%
Construction	87,000	9.0%
Education and Training	80,400	8.3%
Professional, Scientific and Technical Services	70,600	7.3%
Manufacturing	69,700	7.2%
Public Administration and Safety	64,600	6.7%
Accommodation and Food Services	57,000	5.9%
Transport, Postal and Warehousing	42,300	4.4%



THANK YOU



HAMILTON
SECONDARY COLLEGE

KEY CONTACTS

Angus Fisher – Year 11 + 12, Health, Physical Education

Dr. Sarah Baker – STEM, Space, Science, Year 10 students

Jay Dyer – Mathematics

Amanda Furness – English, Arts, Drama, Music Year 8 Students

Peter Papageorgiou – Year 7 Students

Desanka Arezina – VET + RTO + Home Economics