

**CLONARD
COLLEGE**
GEELONG

MATHEMATICS

GENERAL
METHODS
SPECIALIST

Summary of courses offered for 2023:

JUNIOR MATHS CLASSES

Courses offered	Compulsory or elective	Notes
YEAR 7 Students Year 7 Mathematics General	One stream of mathematics is compulsory for all students at this level.	Places in support classes offered to students based on results from preliminary testing.
Year 8 Students Year 8 Mathematics NLEP Year 8 Mathematics General Year 8 Mathematics Advanced	One stream of mathematics is compulsory for all students at this level.	Places in advanced or NLEP classes offered to students based on results from the year before. Students are reviewed at the end of each term and upon recommendation from a teacher can move between streams.
Year 9 Students Year 9 Mathematics NLEP Year 9 Mathematics General Year 9 Mathematics Advanced	One stream of mathematics is compulsory for all students at this level.	Places in advanced or NLEP classes offered to students based on results from the year before. All students are reviewed at the end of each term and upon recommendation from a teacher can move between streams. Students can also self-elect to enrol in Advanced classes, however this is reviewed, and students may be placed in classes based on their previous results and teacher's feedback.

Year 10 Students	One stream of mathematics is compulsory for all students at this level.	Places in advanced or NLEP classes offered to students based on results from the year before.
Year 10 Mathematics PreVOC		
Year 10 Mathematics General	Students are not required to enrol in a mathematics course beyond Year 10, apart from VCE VM	All students are reviewed at the end of each term and upon recommendation from a teacher can move between streams. Students can also self-elect to enrol in Advanced classes, however this is reviewed and students may be placed in classes based on their previous results and teacher's feedback.
Year 10 Mathematics Advanced		

SENIOR MATHS CLASSES

Year 11 Students		
VCE VM Numeracy (Foundation, Intermediate)	VCE VM Numeracy compulsory for VCE VM students.	Students are advised to only enrol in Methods or Specialist after completing Year 10 Advanced Math's. Consideration of student grades and teacher feedback will be reviewed on a case by case basis in regard to suitable subject placement for those wanting or needing to enrol in Methods or Specialist.
Mathematics General 1 and 2		
Mathematics Methods 1 and 2	Other streams of math's are electives	
Specialist Mathematics 1 and 2		
Year 12 Students		
VCE VM Numeracy (Foundation, Intermediate or Senior)	VCE VM Numeracy compulsory for VCE VM students.	Students are advised to only enrol in Methods or Specialist after completing Year 10 Advanced Maths.
General Mathematics 3 and 4 (continuation of general mathematics 1 and 2)	Other streams of Maths are electives	Year 9 students considering accelerating into 12 General in year 10 are advised to discuss this with the 12 General Mathematics Teachers and the Mathematics Learning Leader before they make any decisions to see if this is a suitable choice or not.
Mathematics Methods 3 and 4		
Specialist Mathematics 3 and 4		

Process for moving between Support/Foundation, Mainstream and Advanced Classes (Year 7-9)

Students can be moved or make a move between streams in Years 7-9 for many different reasons. Movement between streams is ideally finalised at the end of a term or year and actioned for the beginning of a term or year to ensure minimal impact on the student's learning and timetable for all subjects. However, in certain situations students may be moved within a term if warranted. The following is an outline of the process that takes place for a student to move.

1. A Mathematics Teacher identifies a student who they believe should move to another stream and notifies the student's parent/guardian of this. Or a student and/or parent/guardian request a move by making contact with the student's Mathematics Teacher. The Mathematics Learning Leader is notified of this request.
2. The student's teacher and the Mathematics Learning Leader will discuss if the move is warranted and the best suited stream to move into. If the student is moving between NLEP and Mainstream this discussion will involve either Julie Perry or Kylie Power. If a student is moving between streams both grades and performance will be taken into consideration.
3. The College Timetable Administrator is notified of the requested move so all involved can be informed of any possible changes to the student's timetable or other subjects
4. Either the Mathematics Teacher or Mathematics Learning Leader will contact the parent/guardian to confirm the move. The student will be involved in this process. **Only at this point are parents contacted to give permission, no move will be guaranteed before this point.** If the parent and student agree to the move it will be actioned from this point.
5. The College Timetable Administrator is notified of the confirmation of the move and actions this to occur for the requested time.
6. All subject teachers and the student involved in this move will be informed and the student will be moved at the beginning of a new term or at the most reasonable time.

Clonard Mathematics Experts

The following Clonard teachers are always available to assist you in your planning and decision making:

- Mr. George McMeel – Learning Leader Mathematics (Specialist, Methods and General teacher)
- Mrs. Ashlee Milne – Mathematics Teacher (Methods and General teacher)
- Ms. Bridget Taylor – Mathematics Teacher (Methods and General teacher)
- Mr. Dan Madden – Mathematics Teacher (General teacher)
- Mr. Ned Holland – Mathematics Teacher (General teacher)
- Mr. Patrick Dwyer – Mathematics Teacher
- Mrs. Emma Rhodes – Mathematics Teacher
- Mrs. Carmel Brown - Mathematics Teacher
- Ms. Gabrielle Blythe - Mathematics Teacher
- Mr. Ryan Healy – Mathematics Teacher
- Mr. Hugh Saunders – Mathematics Teacher
- Ms. Rachael Congues – Mathematics Teacher
- Mr. Lance Houlihan – Mathematics Teacher (Support Teacher)
- Mr. David Tripodi – Mathematics Teacher (Support Teacher)

Mathematics Unit Overviews

For detailed descriptors of VCE Mathematics units please see the TRUE NORTH website available via PAM.

“Have you considered a career with Math’s?”

LOVE MATHS? HAVE YOU THOUGHT ABOUT THE FOLLOWING CAREERS?

SHAPE UP WITH **MATHS**

LEVEL 1

**ACCESSIBLE THROUGH
YEAR 12 COMPLETION
OR CERTIFICATE I / II**

**BANK TELLER BARTENDER DEBT
COLLECTOR HOSPITALITY WORKER
INSURANCE AGENT PAYROLL OFFICER
RETAIL BUYER SALES ASSISTANT
TRADES ASSISTANT**

LEVEL 2

**ACCESSIBLE THROUGH
DIPLOMA OR CERTIFICATE III / IV**

**AIRCRAFT MAINTENANCE ENGINEER
DRAFTSPERSON BIOMEDICAL TECHNICIAN
CONSTRUCTION MANAGER CARTOGRAPHER
CIVIL ENGINEERING TECHNICIAN COMPUTER
TECHNICIAN DATA PROCESSOR ELECTRICIAN
INSURANCE CLERK LABORATORY WORKER
LINE MECHANIC MECHANICAL TECHNICIAN
PERSONAL TRAINER PROCUREMENT MANAGER
PRODUCTION MANAGER TELCO ENGINEER**

AND STATS

LEVEL 3

**ACCESSIBLE THROUGH
BACHELOR DEGREE**

**ACCOUNTANT AIR TRAFFIC CONTROL
ANALYST BIOTECHNICIAN BUSINESS
ANALYST COMPUTER SYSTEMS ANALYST
COMMERCIAL UNDERWRITER
CRYPTOLOGIST DATA ANALYST
ECOLOGIST GAME DESIGNER INDUSTRIAL
DESIGNER INSIGHTS ANALYST MARINE
SURVEYOR MARKET RESEARCH ANALYST
METEOROLOGIST NURSE OPTOMETRIST
PHARMACIST PHARMACOLOGIST PILOT
QUANTITY SURVEYOR SOFTWARE ENGINEER
SYSTEMS ANALYST TEACHER VETERINARIAN
WEB ANALYST WEB DEVELOPER**

LEVEL 4

**ACCESSIBLE THROUGH
BACHELOR DEGREE &
POSTGRADUATE**

**ACTUARY AERONAUTICAL ENGINEER
ARCHITECT AUDITOR ASTROPHYSICIST
BIOINFORMATICIAN BIOMEDICAL ENGINEER
BIOSTATISTICIAN CHEMICAL ENGINEER CIVIL
ENGINEER DATA SCIENTIST ECONOMIST
ELECTRICAL ENGINEER ENVIRONMENTAL
ENGINEER FINANCIAL ANALYST GEOLOGIST
GEOMATICS ENGINEER GEOPHYSICIST
GEOSPATIAL SPECIALIST MECHANICAL
ENGINEER MARINE ENGINEER
MATHEMATICIAN METEOROLOGIST MINING
ENGINEER NAVAL ARCHITECT OPERATIONS
RESEARCH ANALYST PHYSICIST QUANTITATIVE
ANALYST RESEARCH SCIENTIST RISK
ANALYST ROBOTICS ENGINEER STATISTICIAN
UNIVERSITY LECTURER**

NEED MORE IDEAS? COULD THIS BE YOU?

JOB KEYWORDS

MINING - ENGINEERING - ENERGY - ANALYTICS - PROBLEM SOLVING
DATA SCIENCE - DATA ANALYTICS - MODELLING - ENERGY - UTILITIES
OPTIMISATION - FORECASTING - PLANNING - STATISTICS - MATHEMATICS

CAT PHILLIPS

SUPPLY PLANNER, EXXON MOBIL

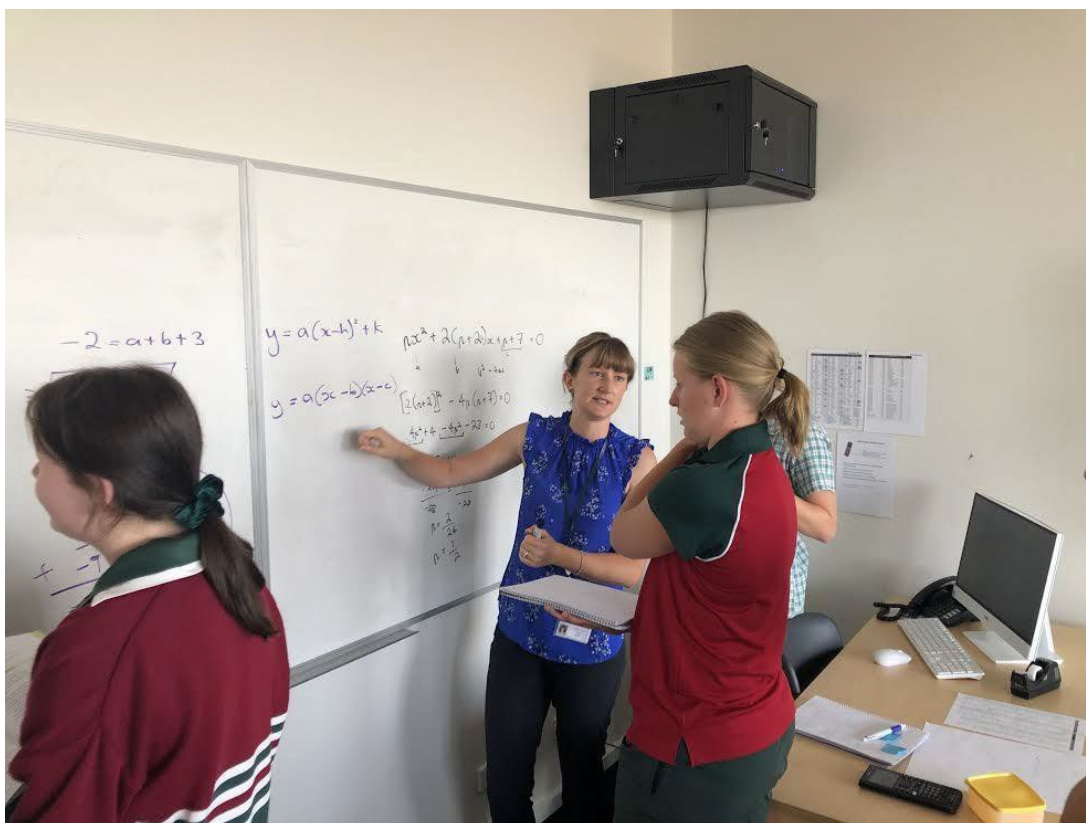
I help keep the lights on, literally. I'm part of the team using maths to make sure Victorians have enough gas to power homes and industry today, tomorrow and into the future.

“A turning point for me was maths in Year 11... It instilled in me a curiosity about how things work and led to me studying science and mathematics at university, followed by a Master of Mechanical Engineering.”

When I studied maths at university, I worried I'd be stuck in a job where I'd be sitting by myself at a computer all day. But that's definitely not the case. My job involves communication and maths, two completely different skill sets that I love.

If you aren't sure what you want to do – don't worry. Just keep your options open for as long as you can and keep your eyes open for exciting opportunities! You never know how things might change or where you might end up wanting to work.

Cat is a careers ambassador for AMSI's Choose Maths project



JOB KEYWORDS

ACCOUNTING - BANKING - INSURANCE - ECONOMICS - DATA ANALYTICS
MODELLING - OPTIMISATION - RISK ANALYSIS - INVESTMENT
STATISTICS - QUANTITATIVE ANALYST - NUMERICAL ANALYSIS

STEPHANIE PARSONS

ECONOMIST, RESERVE BANK OF AUSTRALIA

Whether you realise it or not, the economy impacts everyone.

Most people know that the Reserve Bank of Australia (RBA) is responsible for setting the official cash rate in Australia, mainly because interest rates are so often in the news. But many people don't realise that the RBA has other responsibilities. For example, we have people working to maintain a strong and stable financial system, promote payments system efficiency, provide banking services to the government and produce Australia's banknotes.

I currently work in the area that is responsible for producing Australia's banknotes. I'd love to say that I make the money – but my team's role is actually to provide analytical insights to ensure that the RBA's policies for managing the nation's banknotes are effective.

“Like many economists, I stumbled upon economics when I was at university. You never really know where you might end up so it's always good to keep your options open and go to your economics lectures.”

Stephanie is a careers ambassador for AMSI's Choose Maths project



WENDY EWING

ASSISTANT DEPUTY DIRECTOR OF PHARMACY, MONASH HEALTH

“My Year 12 maths teacher used to say that “maths makes sense”. This resonates with me – there's always an answer when maths is involved.”

Maths is involved in all aspects of medication use: how we determine the appropriate dose to give to a patient, how to determine how well a patient's liver and kidneys are functioning, and how long a medication will be in a patient's body.

I'm responsible for medication safety across Monash Health. Medicines are the most common treatment that patients receive in hospital. They can be very effective, but an error can have major consequences. My role involves governance and responsibility of medication safety initiatives to improve the way medicines are prescribed, dispensed, stored and administered, with an overall aim of improving patient safety. The work that I oversee aims to reduce medication errors that harm patients.

At school it can be tough to see how your subjects will translate to real life or to a future career path or job. Let's be honest, not everything will. But it's part of a journey to find out what you like and what you're good at.

Wendy is a careers ambassador for AMSI's Choose Maths project



JOB KEYWORDS

FORENSICS - FRAUD - CRIMINOLOGY - DATA ANALYTICS - MODELLING
DEFENCE - LOGISTICS - RISK ANALYSIS - INFORMATICS

PUXUE QIAO

INTERN, EPSILON SECURITY

As changing lifestyles and demographics of urban populations fuel the rapid growth of high-density housing, understanding factors influencing the risk of crime occurrence in such buildings has become a vital tool for law enforcers.

To tackle this problem, Epsilon Security teamed up with APR.Intern to place postgraduate student, Puxue Qiao, and statistician Dr Davide Ferrari from The University of Melbourne, to establish a standard method in evaluating building crime rates through modelling which assesses property risk and identifies safety solutions.

“ The main concern is the lack of a standard method to evaluate security levels of buildings for comparisons. To do this we needed to develop a data-driven computer model to assess the security risk and potential crime exposure of a building. ”

Puxue worked with Epsilon Security to build a generalised mixed-effect model, allowing them to make predictions of crime occurrences, whilst obtaining security ratings for each individual building.

The success of this project led the Epsilon Security team to apply for an ARC Linkage Projects grant to continue their work, with the objective of developing a fully automated tool for risk ratings in buildings.

Australian Postgraduate Research (APR) Intern is the only national all-sector all-discipline internship program placing PhD students into business. A not-for-profit program, APR.Intern is driving innovation and accelerating women in STEM through short-term industry and university research collaborations.

