

# Make your mark!

Invest your future in economics

**W**hat kind of person does it take to study economics? Well, just about anyone can. There is way more to economics than just money. Economics is about understanding how different choices affect people's quality of life, what business decisions mean for the environment, why countries trade with each other, how government policies address poverty and even what drives trends in the prices of milk! Careers in economics are on the up, so whether you're a community crusader, keen to research global issues or lusting after a well-off wage, there's a job out there for you.

**1**

## CRIME FIGHTER

Actually, criminologist. Economics has a lot to contribute to our understanding of crime — this could be the first step to solving the case. Check out superstar economist/criminologist Steve Yeong's story in box (right).

**#3**

## BUSINESS STRATEGY MANAGEMENT CONSULTANCY

This might seem obvious, but with well-known employers like PwC, Deloitte and KPMG providing plentiful job opportunities (see box), business-based economics could be your thing.

**#5**

## STOCKBROKING AND INVESTMENT BANKING

It's no secret that there's big money to be made. So if you're a calculated risk-taker and a people person, this is the job for you.

**#6**

## GOVERNMENT POLICY

Be part of the decision-making processes that affect an entire nation with the aim to maximise quality of life and reduce inequality. Think: evaluating funding for infrastructure, health programs and education.

**#2**

## INTERNATIONAL ORGANISATIONS

Got a strong social conscience and keen to work for the UN, World Bank, aid organisations or other NGOs? Put your skills towards tackling poverty and making the world a better place through development economics.

**#4**

## ENVIRONMENTAL ECONOMIST

This is a fairly new discipline, exploring the relationship between the economy and the environment. Given the challenges the environment faces now and into the future, chances are this field will keep growing.

**#7**

## CENTRAL BANKS

Keen to contribute to monetary policy decisions that influence the direction of the economy? If you are interested in economic data, financial markets or developments in the banking system, then the RBA could be the place to make an impact.

**#8**

## RESEARCH AND DEVELOPMENT (R+D)

R+D isn't just about coming up with creative ideas for how to do and make new things — for those ideas to become reality, learning how to implement them correctly is crucial. The theory and technical skills you take away from economics come in handy here.

**#9**

## DATA ANALYTICS

Economics not only gives you technical skills in analysing Big Data, but also the conceptual skills to consider solutions to problems. Demand for these skills comes from fields as diverse as marketing, tech companies and even sports-team performance. Huge choices!

## WHO'S HIRING?

### RESERVE BANK OF AUSTRALIA (RBA)

The RBA offers a two-year Graduate Development Program and an internship. Check out [rba.gov.au/careers](http://rba.gov.au/careers).

### KPMG

KPMG has a graduate program and also a holiday program. Check out [bit.ly/CwMKPMG](http://bit.ly/CwMKPMG).

### DELOITTE

Deloitte's career path includes a paid internship (summer holiday program) and a graduate development program. Visit [bit.ly/CwMDeoitte](http://bit.ly/CwMDeoitte).

### PWC

PwC offers a holiday program (internship), graduate program and traineeship (earn while you learn). Check out [pwc.com.au/careers](http://pwc.com.au/careers).



## THE LAW ON LOCKOUT

NEWTOWN WEEKENDS. DATA ANALYSIS AND POLICY EVALUATION ARE PART OF STEVE YEONG'S ECONOMICS CAREER

**W**hen Steve Yeong first started university, the plan was to become an events manager, but things didn't quite work out that way.

"I was enrolled in event management at the University of Technology Sydney (UTS), which requires students to take a first-year economics unit," Steve remembers. "After getting a taste of economics and economic thinking, I became hooked and ended up switching courses the following year."

"I spent a lot of time in Newtown during my adolescence and during the Honours program. So what really prompted my thesis topic [Sydney's lockout laws and their effects on crime] was seeing firsthand the change in the crowds coming into Newtown on Friday and Saturday nights, following the introduction of the lockouts."

Steve was later offered a policy evaluation job with the NSW Bureau of Crime Statistics and Research and has since enrolled in a PhD in Economics. He credits his thesis for the job opportunity and preparing him for the deep dive into policy evaluation methods and technical issues commonly found in crime analysis. — Tiffany Hutton

BACHELOR OF BUSINESS (HONS), UTS

SENIOR RESEARCH OFFICER, BOCSAR

PHD IN ECONOMICS, UNSW

## WANT MORE?

This *Careers with Economics* poster is part of the *Careers with STEM* series — mags, online articles and videos on the hottest jobs in science, technology, maths and engineering (STEM). Go to [CareerswithSTEM.com.au](http://CareerswithSTEM.com.au) to find more career ideas and browse hundreds of cool study options.



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# FIND YOUR CAREER PATH!

Put your maths mind to the test. Choose from the answers below, find the page and follow your passion

## #1 THE HARDEST PART OF SCHOOL IS...

- A: Understanding algebra
- B: Bullies
- C: Waiting for school holidays
- D: Crushes
- E: Slaving away working without pay

## #2 WHEN YOU WERE YOUNGER, YOU DREAMED OF BEING...

- A: An artist
- B: A spy
- C: A pilot
- D: An astronaut
- E: A millionaire

## #5 THE MATHS TEACHER DOESN'T SHOW UP FOR CLASS. WHAT DO YOU DO?

- A: Draw on your desk
- B: Hack into the teacher's system and get next week's test answers
- C: Go on your phone or talk with your friends
- D: Invent a robot that does the work for you
- E: Calculate how much of your time is being wasted. Invoice the teacher

## #6 WHAT'S YOUR FAVOURITE SCHOOL SUBJECT?

- A: English
- B: PDHPE
- C: Geography
- D: Science
- E: Maths

## #3 YOU OVERHEAR SOMEONE SAY, "ALGEBRA IS SOOOO BORING." WHAT DO YOU SAY?

- A: Agree wholeheartedly
- B: Tell them to be quiet
- C: Change the subject. "Tell me about your holiday in Japan!"
- D: "Without maths we wouldn't have space exploration or Instagram. Now that's boring."
- E: Agree. The wonder when you'll learn something useful like how to balance taxes.

## #4 IF YOU HAD A MILLION DOLLARS, WHAT WOULD YOU BUY?

- A: A studio for reading, writing and painting
- B: The newest gadgets and tech
- C: A one-way plane ticket. And spend the rest on a dream holiday.
- D: A robot sidekick
- E: Invest. In today's economy, it's really not all that much money

## #7 WHAT ARE YOU DOING THIS WEEKEND?

- A: Scrolling through Instagram
- B: Playing sports
- C: Meeting up with friends
- D: Learning to code
- E: Working a part-time job

# ANSWERS!

TIME TO CHECK YOUR ANSWERS AND TALLY YOUR COLOURS. IF YOU GOT...



## MOSTLY A'S MATHS+MEDIA+MARKETING P24

Try as you might to avoid it, maths is going to help you in your creative career. You could be devising social strategy and crunching numbers of successful results, or ensuring your next great creative idea follows market trends.

## MOSTLY B'S MATHS+WORK IN DEFENCE P22

Maths and defence go hand-in-hand with careers in cybersecurity or strategy. You'll be using maths and tech to innovate the ways we protect our borders and defend from new-age cyberthreats.

## MOSTLY C'S MATHS+BE GLOBAL P18 + CAREERS WITH ECONOMICS FLIP P3

Want to travel the world and get paid for it? You can, with a career in maths. You could work in conservation or humanitarianism by tracking and managing population health and wellbeing. Or find your place in economics, or even politics!

## MOSTLY D'S MATHS+FUTURE SOCIETY P10

You'll be using maths to invent new ways to advance our technological capabilities. Will you invent a robot companion, or market a new social network to rival Facebook and Instagram? The future will be decided by you.

## MOSTLY E'S MATHS+FINANCE FUTURES P14

You've got the finance savvy needed to make businesses boom. With maths, you could be reinventing the way we pay through cryptocurrencies, or managing a successful start-up.

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# Why study maths?

You might be surprised where maths turns up and the jobs you need it for



## ALGEBRA IN ANIMATION

**How?** Animators use applied maths to find unknowns from a simple set of equations. You need linear algebra for actions such as resizing, rotating and shifting objects.

**What?** Uni-level algebra, trigonometry, geometry, linear algebra and calculus I and II.

**Where?** Obviously, Disney and Pixar. But also TV programming, game development, web animation, advertising, research, educating and training (across lots of fields).

## STATS IN FORENSIC SCIENCE

**How?** Yes, just like on TV shows, bloodstain analysis can reveal important details about violent crimes. And it's maths that gives forensic analysts the tools to work out those details.

**What?** Uni-level algebra, trigonometry, geometry, statistics and calculus I and II.

**Where?** Too many places to list — but they include police, shops, government departments, legal firms and insurance agencies.



## DATA + DOING GOOD

**How?** International aid organisations rely on maths to work out how and where to do the most good. When there's a limited amount of money to share around, this is super important.

**What?** Data analysis, statistics.

**Where?** Aid agencies and government foreign affairs offices.



## GEOMETRY IN FASHION

**How?** Creating patterns from designs takes maths — and so does making a range of sizes, plus working out fabric requirements and garment cost (how much they cost to make and how much you need to sell them for).

**What?** A good grasp of high school algebra and geometry. Most fashion courses won't have set requirements, but being comfortable with the maths makes it a whole lot easier.

**Where?** Fashion stores and designer studios.



## SOCIAL MEDIA + ALGORITHMS

**How?** You know how social media 'remembers' what you've liked before and 'suggests' stuff, or decides what you see? That's done by algorithms, which are all maths.

**What?** Deep breaths, now — complex network theory, graph structure, nodes, clusters, power-law, weakly connected component, degree distributions, scale-free network and eccentricity.

**Where?** Social media companies. Also anywhere that uses social media for brand and marketing.



## HIGH-LEVEL MATHS IN AI

**How?** Seen Sophia, the humanoid robot that's appeared on TV? Machine learning is setting up computer systems to 'learn' (get better at things) by using data instead of being programmed for each task. Maths is essential to the development of better AI (artificial intelligence).

**What?** Uni-level algebra, linear algebra, trigonometry, statistics and calculus.

**Where?** Tech companies, law offices, car manufacturers, health and anywhere that would benefit from their computer systems being able to learn from data.

## PEER PERCENTAGE

We asked you what would make maths more enjoyable:

- < Maths games **28%**
- < Less homework **19%**
- < Less repetitive and more interactive **16%**
- < Don't mind not enjoying maths **16%**
- < Shorter, harder questions **6%**

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