HSC STUDY GUIDE

MAKE YOUR TALENT COUNT























HSC success simplified for years 9, 10, 11 and 12.

The most comprehensive guide in NSW complete with secrets for acing your HSC.





Talent 100 is famous for delivering exceptional HSC results, the best teaching talent, course notes and online resources. It's the essence of what we do but it hardly tells the whole story.

Our learning centres provide support, mentorship and a homeaway-from-home for students to master their studies.

We open doors to dream careers. We believe that our students have a huge capacity for achieving a positive impact on the world.

We make learning inspiring, productive and most of all, fun.

TALENT 100 STUDENTS TOP THE HSC YEAR AFTER YEAR

At Talent 100, we help you achieve such exceptional results, it's almost unfair.

Numbers don't lie. Our concise, straightforward and results-focussed programs consistently help our students gain the best ATARs and outperform their peers 4 to 1.

"Ultimately, there are more important things in life than exams. Ironically, you might just need to do well in your exams in order to achieve those things." Richard Chua, Founder Talent 100.



More than 30% of our students scored ATARs over 99.

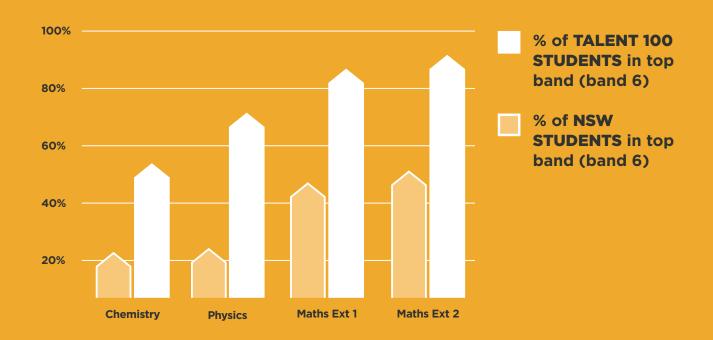


More than 63% of our students scored ATARs over 96.

Our students are four times more likely to score in the Band 6, than the average student.

We've helped thousands of students get into Australia's top universities, and ultimately, their dream careers.

ACHIEVING YOUR BEST ATAR MEANS BIGGER POSSIBILITIES



"There are generations yet unborn whose very lives will be shifted and shaped by the moves you make and the actions you take today." Andy Andrews.

OUR LEARNING CENTRES

"You can't make positive choices for the rest of your life without an environment that makes those choices easy, natural, and enjoyable." Deepak Chopra

Our centres set the scene for 21st century learning. The combination of history's great thought leaders - Mandela, Tesla, Jobs, Einstein, Shakespeare and Newton along with modern day inspirational professional leaders such as Charlie Teo - adorn the walls, while inspirational quotes remind us of their lasting and insightful legacies.

- Our unique Talent 100 space

 designed by award winning agency e2 - creates a learning experience like no other.
- Feel motivated to achieve your goals, and relaxed among your peers in a safe and inspirational learning environment.
- Book your own POD or space for quiet study time, or be

challenged to succeed through the influence of your fellow, dedicated students.

- Success breeds success: surround yourself with the best and brightest students. It rubs off!
- Grab a coffee or tea before class in our students' kitchen at Hurstville, or hang out with your friends in our common area.



Asked what motivated him to start a business in education, Richard commented:

"I think my success was built on the sacrifices that my parents made to give me the best education. This gave me opportunities that I did not think were possible, and part of what we are trying to do at Talent 100 is to provide that very same opportunity to our students."

RICHARD CHUA

UAI of 100.00 (ATAR equivalent of 99.95)

Richard currently works as a Strategy Associate at Google in Mountain View California, and was recently named at No.9 in Smart Company's 'Hot 30 under 30' entrepreneurs.

OUR FOUNDER

Dear students and parents.

The final years at high school can be tough. The HSC is ultracompetitive. To succeed, you have to strike a fine balance between studying hard and spending time doing the things you like; between enjoying the moment and sacrificing for a better future.

Ultimately, there are more important things in life than exams. Ironically, you might just need to do well in your exams in order to achieve those things. At Talent 100, we understand the importance of scoring top ATARs. That's why we've developed excellent, personalised and resultsfocused courses to ensure your HSC Success. It's not about being the smartest kid in the room; it's

If you have your mind on a particular degree, are looking to achieve top results, and are willing to work hard, we have a system that can develop your full potential. You will become part of a learning community that will support you every step of the way.

about understanding how the

system works.

In this study guide, Talent 100 distils the collective wisdom of the top students of previous HSCs. In the following pages, you'll

find tips from those students with break downs on the technique needed to score the top marks in Advanced English, Economics, Physics, Chemistry, Extension 1 & 2 Mathematics and UMAT.

We understand the importance of the final school year. That's why we're 100% committed to ensuring you get the highest ATAR. We believe your performance in high school is a stepping-stone to getting into the degree and, in due course, the profession you want.

What you do now can have an impact on the next 30 years of your life. Once you gain entry into University, the pressure is off. You have earned the right to navigate your way through tertiary studies at your own pace. The HSC is one of the most demanding times in life.

We'd love to help you make your talent count.

Best wishes and good luck.

am

Richard Chua Founder of Talent 100

OUR MENTORS

We're the leaders in HSC Learning. We know exactly what it takes to score the best HSC results.

Our mentors have mastered the HSC: nearly all have scored ATARs above 99.85 or achieved a state ranking in our subject of expertise. Talent Mentors are selected based on their academic achievements and knowledge of the syllabus; teaching ability and communication skills; attitude and leadership abilities.

Anubhav Saxena UAI (ATAR) 99.95 Dux of The King's School 2007, 2008

Kendy Ding ATAR 99.95 1st in Economics (2011)

Konrad Islam
UAI (ATAR) 99.90
Recipient of the UNSW
Scientia Scholarship

Shelley She ATAR 99.95 1st in Maths Ext. 2 (2012) 1st in Maths Ext. 1 (2012) Nikhil Vasan ATAR 99.95 7th in Physics (2010) 4th in Cosmology (2009)

Alyssa Susanto ATAR 99.65 Maths, Physics and Chemistry Mentor

Harry Heo ATAR 99.80 Maths, Physics and Chemis try Mentor

Niyati Chaukra UAI (ATAR) 99.35 5th in Maths Ext. 2 (2007) **Shelley She**1st Ext 2 Maths,

1st Ext 1 Maths HSC 2012

Jessica Li1st Chemistry, HSC 2011

Kendy Ding

1st Economics, HSC 2011

Sharon Sun

1st English, HSC 2010 **Hansaka Fernando**

1st Economics. HSC 2010

Sen Lin

1st Ext 2 Maths, 1st Ext 1 Maths HSC 2008

Alex Borowsky

1st Advanced English, HSC 2007

Anthony Morris

1st Ext 1 Maths, HSC 2007

Alex Stoyanov

1st Physics, HSC 2007

Avinesh Chelliah

100th Percentile, UMAT 2012

Pasan Pannila

100th Percentile, UMAT 2012

Alexander Peng

100th Percentile, UMAT 2011

Anjali Prakash

100th Percentile, UMAT 2010

Vivian Li

100th Percentile, UMAT 2010

Dilshan Seneviratna

100th Percentile, UMAT 2008

Tarini Srivastava

UAI (ATAR) 99.50

16th in Biology (2010)

Nathali Camerlynck

B.A. (Languages)

Khosrow Kvanian

15th in English Adv. (2010)

University of Sydney

Jimmy Huang

ATAR 99.75

ATAR 99.95



"I am interested in the transformative power of technology and education to improve lives. I believe a strong education and a curiosity for learning are the best gifts children can receive - ones that will enable them to solve their own problems. This is particularly so with the HSC, as results often have a large bearing on the eventual career paths open to most students. Through Talent 100, I have been given the opportunity to help students achieve their best results and make their talent count."

Richard Chua, Founder Talent 100

CONTENTS

Secrets of scaling	12
Succeeding in the Sciences	34
Mastering Mathematics	50
Excelling in English	66
Getting the edge in Economics	76
Acing UMAT - Getting into Medicine	88
Headstart your HSC	102
Talent 100 learning system	114
Five ways we help you	115

SECRETS OF SCALING

"Sometimes it falls upon a generation to be great. You can be that next generation. Let your greatness blossom."

Maudela

THE SECRETS OF SCALING

After my HSC, a lot of people asked me if I was surprised about scoring a UAI of 100.

The short is answer is No. In fact, I had been aiming for that UAI (now known as ATAR) since year 11 when I made a blind bet with my father that I could beat my sister in the HSC. The stakes of that bet were a sports car (an r33 Skyline GTS-T) for University. My sister scored an ATAR of 99.9 and although I had previously thought I was capable of about 99, as soon as I heard my sister's mark, I knew I had to get a UAI of 100.00.

In truth, I was not typically a good student. When I was in Year 6, I failed to get into North Sydney Boys High School, being placed on a waiting list. I started in Sydney Grammar in an ungraded class, and even in year 12, I was in the B and C class for Maths and English.

A lot of people were surprised I scored a UAI of 100.00.

However, I was not.

If there was a single thing that differentiated me from other students, it was my unique understanding of scaling and its implications.

If there was a single thing that differentiated me from other students, it was my unique understanding of scaling and its implications. The HSC is not a test of pure intelligence. Rather, it is a test of competitiveness, i.e. your ability to combine your natural talent with preparedness, hard work and ability to perform under pressure. It's a test of gamesmanship as much as anything else. Like any game, you can succeed much more if you know the rules.

In this article, I'll examine the rules of the HSC and break down the scaling of each subject. Top HSC students (whether by research or their own good instincts) not only understand scaling, they actively use this as a tool to score the highest ATAR.

It's not just about working harder; it's about working smarter.

This was my secret; I hope it can help you too.

e most WOLK IS LOTE ou haver nt thing ing. Doi person ers of t es your n you fil d feeds ty; ar not ne v HSC STUDY GUIDE MAKE YOUR TALENT COUNT (17)

THE SECRETS OF SCALING

Most students roughly know that their HSC marks are calculated 50% from their school assessments (a set of 5-6 assessment tasks including half-yearly and trial examinations) and 50% from a common HSC exam paper. To succeed in the HSC, it helps to be specific. There are in fact 6 stages to calculating your ATAR that you should be familiar with:

School assessments are used to determine **RANKINGS**

Common HSC exam all students sit the common paper

BOS determines HSC assessment and HSC exam marks

UAC scales each score to a score out of 50

Score out of 500 determined from best 10 units

ATAR determined based on percentiles

RANK COUNTS FOR EVERYTHING

Most students fail to realise that in the HSC, your ranking in each subject is all-important. Your school assessment marks are only important insofar as they determine your ranking in the course: they have no absolute value.

After a ranking of students within a school has been established, the BOS uses the school's performance in the common paper to calculate what marks should be given as HSC Assessment Marks. The HSC Assessment Mark differs from your internal school assessment mark in that it is moderated, or aligned with the school's performance in the common paper.

To take an example, let's suppose that you were coming 1st in your school assessment for Mathematics and scored 90% as a raw mark in the school exam. If the highest mark from any person in your

The main benefit for going to a good school is that the distribution of marks is fairly high.

school in the HSC Common Exam was 99, then your first rank is effectively worth 99, which is what you will be given for your "HSC Assessment Mark". If the top score was only 95, then your first rank is worth 95.

Likewise, if you were ranked in the middle of the grade and the average of your school in the common paper was 85, the average HSC Assessment Mark is also worth 85. You can see here that your raw school marks do not have a direct bearing on your HSC Assessment Mark. Thus, the main benefit for going to a good school

is that the distribution of marks is fairly high, so if you score well in your school assessments, you can be fairly certain that for at least half of your HSC Mark - the HSC Assessment Mark - you will score relatively well.

Since the common paper is taken under exactly the same conditions by all students, there is no need to re-adjust the marks to the school's common performance. Thus, supposing this one student, who topped his school, didn't do as well in the HSC Exam and only scored 90, he would receive the following scores:

Subject	HSC Assessment Mark	HSC Exam Mark
Mathematics Ext 1	99	90

NOT ALL SUBJECTS ARE CREATED EQUAL

Once your HSC Assessment and Exam Marks have been calculated, they get averaged and given to the UAC. The UAC scales each unit to a score out of 50. It is very important to realise that not all subjects are scaled equally.

Essentially, scaling is the process of standardising marks so that they can be compared across subjects. In scaling marks, the UAC will adjust the highest mark, median mark and standard deviation so that all subjects are directly comparable. You might be asking "Why is scaling needed?" The reason it is needed is that without scaling, it would be impossible to compare a 91 in Mathematics Extension 2 with a 91 in Legal Studies.

It's almost like converting currency. When people from China. USA and Europe come to Australia, how do we know how much their money is worth? First, we convert all their money into a single currency (the Aussie Dollar) that is universally accepted in Australia. In much the same way, the UAC converts all HSC marks into a single UAC score and aggregates the top 10 units including 2 units of English.

The most important piece of advice you will receive in your HSC is that not all subjects are created equal. The subjects with a high level of mathematical content tend to scale the highest, or to continue our analogy, harder subjects have the highest "exchange rate".

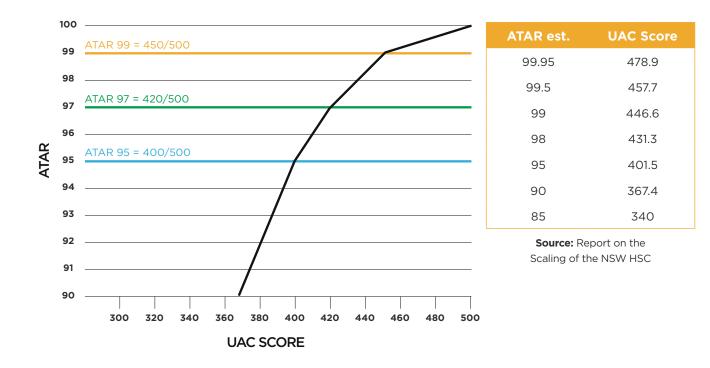
This has very important implications for your ATAR that I will discuss in greater detail.

UAC converts all HSC marks into a single UAC score and aggregates the top 10 units including 2 units of English.

ATAR vs. UAC

As shown on the graph below, your ATAR is actually determined from the aggregate UAC score out of 500 (which includes 2 compulsory units of English + 8 next best units). You should examine this graph carefully to determine what score out of 500 you need to score any ATAR. For instance, you can see quite clearly that if you were looking for an ATAR of 97, you would need an aggregate score of 420/500 or roughly 42/50 for each unit.

The ATAR is actually a rank not a mark. Once every student in the state has had their UAC score out of 500 calculated, the ATAR is determined on percentile ranks, rounded down to the nearest 0.05%. For instance, an ATAR of 99 means that you have performed better than 99% of the people in state. The highest ATAR you can achieve is 99.95.



HOW CAN I MAXIMISE MY ATAR?



In order to maximise your ATAR, you should be acutely aware of how each of your subject scales and adjust your studies accordingly. Most students intuitively know that easier subjects tend to scale downwards, while harder subjects like Mathematics Extension 1 & 2 tend to scale up. In this section. I will show you how to translate any ATAR into a specific mark or rank in each of your individual subjects. We call this ATAR Targeting™.

These scaling graphs show you exactly what rank you need to score any ATAR. (For more comprehensive information of the scaling of any subject, go to www. talent-100.com.au/atar). When you examine the scaling graphs, some clear trends emerge.

The highest scaling subjects are clearly:

- Maths Extension 1 & 2
- Physics and Chemistry
- Advanced English and higher
- Economics

The following table summarises the scaling of each of the categories of subjects and provides some simple decision rules to help you decide what to take.

MATHS	ENGLISH	SCIENCE	HUMANITIES
Extension 1 and 2	Advanced and Higher	Physics and Chemistry	Economics and Modern History
Maths Extension 1 and 2 are by far, the highest scaling subjects in the HSC. Because of their high scaling, you should take the highest level of Mathematics that you are capable of. For instance, to be on target for an ATAR of 99+, you only need to be average in 4U Maths, whereas you would need to be in the top 3% of 2U Maths. This last proviso "that you are a capable of" is very important. There is no point doing a high scaling Maths course if you cannot do it. As a general rule, you should take the highest level of Maths that your school offers you. Anthony Morris's article, "Mastering Mathematics", explains exactly what level of Maths you should study and how to succeed in Maths, and gives you a question-by-question break down of the infamous Maths Ext 2 paper.	Where possible you should take at least Advanced English. The Ext 1 & 2 English courses scale slightly higher than Advanced. However, the higher English Subjects as a group scale well above Standard English. For instance, students who score in the top 25% of Advanced English receive scores higher than those students who score in the top 1% of Standard English. If you are genuinely passionate about English, you should consider English Extension 1 and 2. However, from a scaling perspective alone, Ext 1 and 2 only scale slightly better than Advanced English. Alex Borowsky's article "Excelling in English" explains what it takes to succeed in HSC English.	Physics and Chemistry are the highest scaling sciences and scale significantly better than Biology, mainly because they contain a significant portion of numerical calculations. For instance, to score an ATAR of 95, you would need to score in the top 16% of Physics and 18% of Chemistry, but you need to be in the top 8% of Biology. Students who have fair numeracy should definitely consider taking Physics and Chemistry. Alex Stoyanov's Article "Succeeding in the Sciences" gives a comprehensive break down of the question types in the Physics and Chemistry exam, and what it takes to succeed.	Humanities are generally quite subjective, meaning that it is hard to ascertain what mark you will get until you do the final exam. This means that they also tend to scale lower. Economics is the highest scaling humanity readily available, followed by Modern History which scales appreciably lower Ancient History, Business Studies, Commerce and Legal Studies scale even lower. Aside from Economics, you must do exceptionally well in humanities to score equivalent marks to someone who is doing moderately well in Maths and Science. Richard Chua and Dilshan Seneviratna's Article "Getting the edge in Economics" provides insight into what it takes to excel in Economics.

PREDICT YOUR ATAR

Students who understand scaling are rarely surprised when their ATAR comes out, and can often predict their ATAR very accurately well before they sit the HSC exam. The typical wisdom is to study your hardest for every subject, but if you look carefully at these scaling graphs, you can see that it's much better to "pick your battles".

For instance, if you were positioned in the top 10% in your school in 4U Maths, but only the top 50% in English, you would be better off, in terms of increasing your ATAR, by allocating time from Maths to English, as further improvement in 4U Maths produces proportionately smaller gains in your ATAR.

Many students unconsciously tend to study the subjects they like the most and neglect subjects they are weaker at. This is disastrous from an ATAR perspective because it leads to over-studying subjects in which you are already receiving relatively highly scaled marks and understudying the very subject in which there is the greatest scope to boost your ATAR.

- **~55%** of Maths Ext 2
- ~25% of Maths Ext 1
- ~5% of Physics, Chemistry,

97

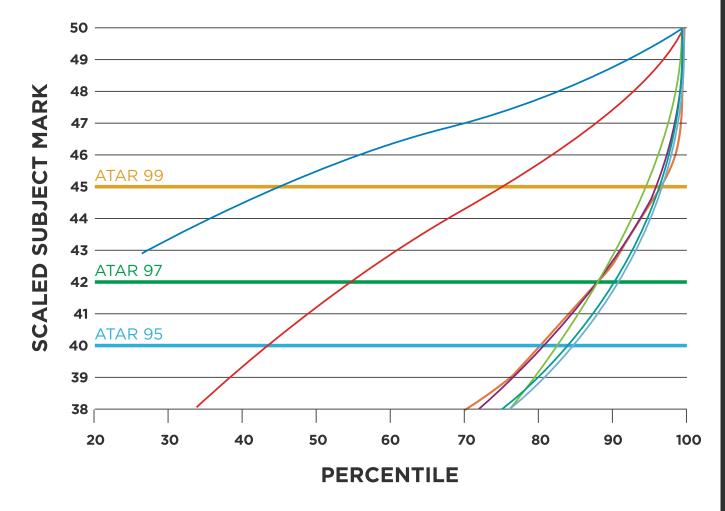
In order to score 97 ATAR, you need to be ranked in the top

- **~80%** of Maths Ext 2
- ~50% of Maths Ext 1
- 10-12% of Physics. Chemistry, Adv. English and Economics

In order to score 95 ATAR, you need to be ranked in the top

- **~90%** of Maths Ext 2
- ~60% of Maths Ext 1
- 15-20% of Physics, Chemistry, Adv. English and Economics

+ Maths Ext 2 + Maths Ext 1 + Maths Adv + Chemistry + Physics + English Adv + Economics



HOW SCALING HELPED ME

I used scaling strategically to score my maximum UAI (now known as ATAR), and I have helped many students to do so too.

Understanding scaling can give you a very strong competitive advantage. For instance, at one stage I was coming 1st in the grade in Mathematics, but decided that it was taking up too much of my time. Because I knew how well Maths scaled. I tactically decided to re-allocate more time to English, History, and Economics (in which I knew I needed a top result to compensate for their less favourable scaling).

I knew I would drop several ranks in Maths, but that this would be better than losing ranks in English and the humanities. In fact, I dropped 15 places in the grade for Maths, but came 1st in History and Economics and 3rd in English, and when my UAI (now known as ATAR) came out, I leapfrogged a lot of students who traditionally outperformed me.

Study smarter. not harder.

Our concise, straightforward and results-focused approach has helped Talent 100 students outperform their peers 4 to 1.

In this article, we've shown you what standards of performance you need in each of your individual subjects in order to score a particular, overall ATAR. The next step is to achieve those standards of performance.

If you are in Year 9-12, and are studying Mathematics. Physics. Chemistry, and English, our courses can help you do iust that.

- 1 We teach you every syllabus dot-point to a full marks standard. Our aim here is to help you understand the work, rather than memorise it. This will equip you with the knowledge to answer every question in the exam. Building a thorough understanding is what separates good students from average ones and that is the focus of our teaching.
- 2 We also methodically perfect your examination technique so that you can maximise your performance in exams. Unfortunately, it is not just what you know in an exam that will score you good marks. It is what you can show the examiner, so it is important that you don't make careless mistakes, and that you manage your time effectively. That's why we have exam-style homework that conditions students to the rigour of examinations.

If you would like to know more information about scaling, you should attend 'The Secrets of the HSC' seminar, or go to www.talent-100.com.au/atar for the most comprehensive ATAR calculator.

ATAR TARGETING

Target and achieve any ATAR.

We will now show you four simple steps to help estimate - and maximise - your ATAR.

You should be able to see exactly which subjects are adding value (or ATAR points) so that you can allocate your time efficiently between subjects, or simply go to www.talent-100.com.au/atar to do it all online.

Step 1 Find the UAC score (out of 500) you need to score your desired ATAR

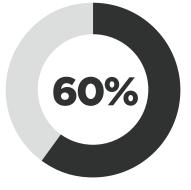
Use the UAC vs ATAR graph on page 19 to determine the score out of 500 you need to score your desired ATAR. We have already done this for ATARs of 99, 97 and 95. Divide this score by 10, to find out what average UAC score you need in each subject. E.g. an ATAR of 99 requires ~450, so this means 45 for every subject

Step 2 Find the relative rank you need to achieve the required UAC score

Use the Percentile vs Scaled Mark graph on page 23 to determine what rank you need to achieve the desired UAC Score. For instance, in order to get 45 in Maths Ext 2, you will need to be in the top 57%, but to get 45 in Physics, you need to be in the top 5%. You now use this as a benchmark for your performance.

Step 3 Find out what percentile or HSC mark your current performance will give you.

You now know what you need to score to achieve your desired ATAR in each subject. Hence, you need to determine what percentile you are in to see if you are above or below that benchmark. The most accurate way is to ask your Director of Studies at school what someone with your current rank scored last year. Otherwise, you may need to 'guesstimate' - for instance if you are average in 4U Maths, and your school is about the state average.



TOP 60% OF MATHS EXT 2 TO BE ON TRACK FOR AN ATAR OF 99+

then you would need to be in the top 50%. If your school is twice as good as the state, you may only need to be in the top 70%.

Step 4 Set the right goals and allocate your time accordingly

After step 3, you should know whether you are on target or not in each particular subject for your ATAR. By seeing whether you are 'over the bar' or 'under the bar', you can see where best to allocate your time in order to maximise your ATAR. For instance, suppose you are aiming for 99. If you are already in the top 20% for Maths Ext 2, but only in the top 50% for English, you should spend more time in English than Maths for the next assessment. Improving further in Maths provides decreasing marginal returns.

THE MOST ADVANCED ONLINE ATAR CALCULATOR

If you want to know what it takes to score any ATAR, Talent 100's online ATAR calculator provides the most accurate ATAR estimate for your HSC, with detailed analysis of your current performance.

Find out exactly how your performance in each of your individual subjects impacts on your overall ATAR.

Our easy-to-use ATAR calculator helps you -

- Estimate your ATAR from your performance in each subject
- Break down your target ATAR into ranks and marks in each individual subject



96.30

COMMERCEFINANCE

91.50

ENGINEERING RENEWABLE ENERGY 97.05

COMMERCEINTERNATIONAL STUDIES

85.30

SCIENCE Anotechnology 98.50

ARTS
MEDIA & COMMUNICATIONS

94.00

MEDICAL SCIENCE

98.35

APPLIED SCIENCE
PHYSIOTHERAPY

99.70

LAW
CRIMINOLOGY AND
CRIMINAL JUSTICE

91.00

ENGINEERINGSOFTWARE

99.40

ENGINEERINGAERONAUTICAL: SPACE

95.00

ARCHITECTURAL STUDIES

98.00

PSYCHOLOGY

MEET THE STUDENT



GEORGE ISSA

School - Sydney Technical High School **UAI/ATAR** - 99.90

Talent 100 is a unique tutoring centre, whose results-focused approach to the HSC is beneficial for ALL students wishing to gain a high ATAR. For me, this approach was instrumental in showing me where to best allocate my scarce time and effort.

Before I went to Talent 100, I believed in the common misconception that exerting all my efforts in 4 Unit Maths - the HSC's highest scaling subject - would lead to the highest ATAR.

However, after doing the ATAR Health Check and understanding scaling, I could see that even if I topped the state in Maths (an unlikely scenario), I would still not get the ATAR I wanted (99.6).

I started to focus on my lower scaling subjects - specifically Advanced English, Economics, and Physics - and as a result, achieved 98 in Economics, 93 in English and 96 in Physics (which was largely a result of the magnificent courses offered at Talent 100). Even though I performed much worse than expected in Extension 1 and 4U Maths, I still got an ATAR of 99.9, which provided me with a scholarship of \$10,000 p.a. to University!

To score the best ATAR, you need to maximise your aggregate marks. Talent 100 has helped me understand this and use it to my advantage. I would highly recommend this learning centre to any student.



STOP PLAYING ATAR ROULETTE

you believe is great north

The most important thing is a person. A person who incites your curiosity and feeds when you find it

TO 3 MITS SHOULD BE SERVED BOX to find what you have

Secrets of the HSC Seminar

If you want to find out exactly how your ATAR is calculated, come to our FREE seminar.

We'll show you how:

- Your ATAR is calculated
- Every subject is scaled
- Your school impacts on your ATAR
- To manage your time properly
- To create a study plan to target and achieve any ATAR

ATAR Health Check

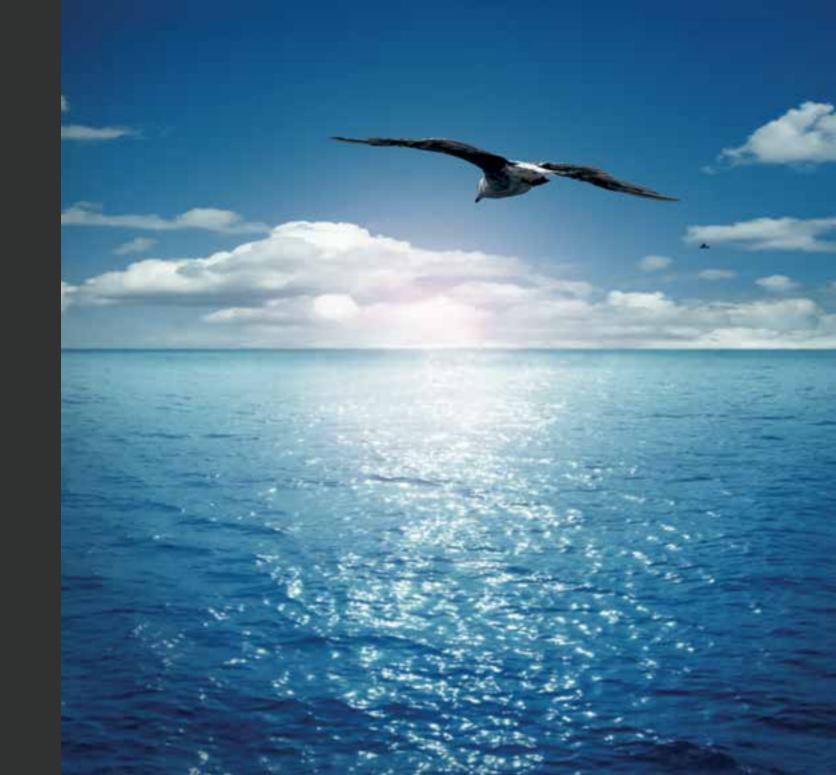
Are you looking for an ATAR estimate? The ATAR Health Check is a diagnostic tool that helps you profile your ATAR based on your current performance in school. We can develop:

- Best case ATAR
- Base case ATAR
- Worst case ATAR

We can show you where you are winning and losing ATAR points, and recommend strategies for you to set the right benchmarks to score your highest ATAR.

Visit www.talent-100.com.au or call us on 1300 999 100

ARE YOU GOING PLACES? CREATE YOUR FUTURE



SUCCEEDING INTHE SCIENCES

"I never teach my pupils.

I only attempt to provide the conditions to learn."

Albert Education



SUCCEEDING IN THE SCIENCES

Know the difference between HSC and real science and what it takes to do really well in HSC Science courses.

Alex came 1st in the state in HSC Physics with a mark of 98, scored an exam mark of 97 in HSC **Chemistry and was ranked 5th in Australia for the Chemistry Olympiad. Alex attended James** Ruse, scored a UAI of 100.00 and currently studies Advanced Science/Medicine at University of Sydney on Scholarship.

Score the best marks in HSC Physics and Chemistry.

By Alex Stoyanov

The great myth of HSC Physics and Chemistry is that you need to be a brilliant Physicist or Chemist to do well in these subjects. I can assure you this is far from the case. In fact, if you looked at the Australian Olympic team - regarded as the brightest young minds in Australian Science - no member of the Physics team achieved a state ranking, while only three members of Chemistry were able to. Why is this the case?

The real key to succeeding in "HSC Physics" and "HSC Chemistry" is being able to understand and effectively answer "HSC Style" questions.

Basically, you need to listen to what the examiner is asking for, and give them what they want to hear. In this sense, writing clearly and articulately is a key skill in doing well in HSC Science. When I asked Jack Dwver how he was able to beat the Chemistry Olympiad team in the HSC, he said that it was his strength in English that probably gave him the edge in Chemistry!

In my case - although I think my Chemistry is stronger than my Physics - I topped Physics because I was able to answer exactly what the examiners were looking for. I have been told by HSC markers that particular Chemistry and Physics questions include 'concise and clear' in their marking criteria. That means you will lose marks for an inaccurate and unspecific response, with the number dependent upon the verbosity.

To provide an analogy, each HSC response will fall into two categories: a sniper response, or a machine-gun response. Snipers will fire few bullets, but will hit the mark squarely. Machine-guns, on the other hand, will waste ammunition by spraying bullets in every direction and just hoping at least one hits the target. In the HSC, machine-gunners will be penalised! A sniper, in contrast. will respond to a four-mark question with four targeted points in order to score those four marks.

SUCCEEDING IN THE SCIENCES



1. Know the Syllabus

Knowing the Syllabus is undoubtedly the most important thing for a Science student.

In the HSC, the syllabus is your Bible: EVERYTHING in the exam comes from the syllabus and NOTHING outside this Holy Book can be asked in an examination paper. It is amazing how many students do not know the syllabus and spend hours studying irrelevant information.

In fact, you should structure your study on the HSC syllabus, writing notes that answer each of the dot-points in the exact detail needed for the exam. At Talent 100, we put this into practice by making sure our notes, teaching and materials are strictly examrelevant. Our teaching concisely covers every syllabus dot-point to a full marks standard, while "extra" information is usually footnoted or in the appendix. This makes it clear to you exactly what you do and don't need to know for the HSC exams and ensure your study with us is time-efficient.

2. Know your verbs

If you look at any question in an HSC Sciences paper you will find that all of them start with a specific verb such as *discuss, assess* or **explain** etc. The verb determines the depth of your answer and every verb has a specific marking guide. In order to blitz a HSC Exam. you must ANSWER THE VERB. A classic example that confuses even the best students is the distinction between the verbs:

- *Discuss*, which requires you to present benefits and disadvantages; and
- Assess, which requires you to present benefits and disadvantage AND give a iudaement.

No matter how sophisticated your answer is, if you fail to give a judgement in an *assess* question you will lose marks. Since these questions are worth 7-8 marks, the failure to appreciate exactly what each verb is asking of you is a costly mistake and is probably the biggest pitfall of many good students (including Chemistry and Physics 'Olympians').

The best way to make sure you answer the verb is to practise. Our examination-style homework can help you to do that on a weekly basis and is a great way to perfect your examination technique.

3. Do practice questions and past exam papers

Once you've comprehended and learnt the syllabus content, you need to be able to put pen to paper and appropriately apply your knowledge. Doing lots of practice questions will not only get you to think about how to employ theory, but also help you quickly and effectively recognise blind spots. Expose yourself to as many different question types as you can find, and this will ensure vou can take dot-points, combine them, and then compose answers for questions worth 2 marks, 4 marks or even 8 marks.

Practice exams should also be part of your exam preparation.

Do them under exam conditions. within the prescribed time and without notes. Like Talent 100's examination-style homework, practice exams get you used to the timing and the format of exams so you won't be caught off-guard or be rushed during the real HSC. Also, remember to be actively thinking about and planning your response to longer questions.

Before answering any HSC style question, challenge vourself to predict the mark allocation. By consciously doing this, you will naturally write concise, structured answers that fulfil the marking criteria, rather than verbose responses that show only general understanding.

This specificity is really what distinguishes top performers from even above-average students. At Talent 100, full marking guidelines and sample responses for every question are provided by students who have topped the state in Physics and Chemistry so you gain a clear picture of what is needed to ace the HSC exams

Unfortunately, memorisation is an unavoidable part of the syllabus. If you look at the syllabus carefully, you can see that it is composed of 65% real Science (performing calculations and explaining concepts which require real scientific knowledge) and 35% 'soft' Science (how Science is applied to and impacts on society and the environment, which pretty much requires pure memorisation).

Consequently, and perhaps unfortunately, there is an unavoidable amount of memorisation. For instance, you may be asked to *Assess the* impact of the generation of electricity/use of petroleum on society and the environment (8 marks). There is no real Physics or Chemistry behind this question: in order to score 8 marks, you need to memorise the facts, then create and deliver a 'perfect answer'. In the case of straight 'dot-point questions', you may even need to memorise and then regurgitate a response.

SUCCEEDING IN THE SCIENCES



However, the majority of the syllabus requires understanding rather than memorisation so it is important you learn from first principles and understand the physical principles at hand. Memorisation works out only if you are lucky and the question suits what you have previously prepared. However, by understanding the concepts from first principles, you will be able to answer every type of question. In other words, you simply apply the principles you have learnt to different scenarios.

Memorisation alone is not enough. If you understand the concepts from first principles, you will be able to answer every type of question by applying the principles you learn to different scenarios.

For instance, instead of rotelearning formulae, understand why and when we apply them. A superficial learning of formulae will often lead to careless and avoidable mistakes

You can reduce the marks you lose in such questions by:

- **ALWAYS** showing as much working as you can. Even if your answer is wrong you will get nearly all the marks if your working is correct. Make sure that you define your variables in Physics and use words in Chemistry.
- **ALWAYS** putting units in your final answer and rounding to the correct number of significant figures.

Memorisation alone is not enough. If you understand the concepts from first principles, you will be able to answer every type of question by applying the principles you learn to different scenarios.

At Talent 100 we are sure to always teach from first principles in order to build a comprehensive scientific understanding. We have also researched all the 'softer' parts of the syllabus extensively, and created model answers for the harder. 7-8 mark discriminators.

4. Know your practicals and the principles behind them

Practicals make up a significant (~15%-20%) of all three Science subjects. So, it is imperative that you know all your practicals, including the set-up, method, and interpretation of results, with suggestions of how to improve them. Also, know the physical principles behind each practical in order to explain and discuss them.

The most common three questions that are asked in **HSC** exams are to evaluate the reliability, validity and accuracy of vour results.

You should be aware that the 'hit and miss' nature of practical assessments could damage your school ranking significantly. My school Chemistry rank was severely hurt by a single practical exam and it is important that you are well prepared for each one.

In our courses at Talent 100, we have developed an effective way to help students train for practicals with special lessons devoted to teaching students how to properly construct an experiment, analyse results and answer the key questions of reliability, validity and accuracy. In addition, we provide a full write-up of all practicals prescribed by the syllabus (including aim, method, apparatus, diagram, results and discussion) and provide dataprocessing exercises to ensure our students are able to ace the practicals component as well as their theory exams.

If you're looking to score top marks in Physics and Chemistry. Talent 100 can help you do that and save time. Over 60% of Talent 100 students have achieved a Band 6 in Physics and Chemistry, and if you're looking to score the top marks, we can help you to. We'll not only cover all the 'real' Science, we've painstakingly researched ALL the practicals and 'soft Science' questions so you won't have to.

SNAPSHOT INTO AN HSC PHYSICS AND CHEMISTRY EXAM

In order to understand how to do exceptionally well in the HSC Science exams, you really need to understand what type of questions they will throw at you in the exam.

If you carefully examine the HSC Physics exam, you will note that there are only a few types of questions they ask you. If you understand how to score full marks in each of these question types, you can easily score a Band 6 in the Sciences

Most students make the critical error of believing that just knowing the bulk of the material will get you the best marks. Even 'good' students believe knowing the theory and how to do calculations will get them top marks.



The good news is that Talent 100's examinationstyle homework is set to test all of these question types, and you get to see answers written by the students who topped the state.



Top students have a much more detailed understanding of the question types and are prepared for anything the examiner can throw at them. This is a myth.

The good news is that Talent 100's examination-style homework is set to test all of these question types. and you get to see answers written by the students who topped the state. You are therefore able to see what it takes to get FULL marks in a methodical fashion.

This is a big advantage, and that's why a majority of our students score a Band 6 in Physics and Chemistry.

If you're looking to score top marks in Physics and Chemistry, our comprehensive 'Yearly Success Package' will give you TOTAL Preparation:

- Teaching system and notes that answer every dot-point comprehensively (including research and 'assess' questions) to a full marks standard
- Weekly exam style homework, with answers written by students who topped the state in Physics and Chemistry.
- Full write up of ALL practicals with discussion of results including reliability, validity and accuracy.
- · Personalised and individual feedback with rigorous examinations, homework and testing.

BREAKING DOWN THE PHYSICS AND CHEMISTRY EXAMS

Question Type	Calculations	Explanations
Weight	30%	30%
What it involves	Almost everyone knows that a Science exam will invariably involve some level of calculations, and they make up the bulk of exams. For example, calculate the final velocity of a ball dropped from a height of 10m.	Likewise, you should all know that a Science exam is going to ask you to explain, describe or apply some key theory. For instance, explain the difference between covalent and ionic bonding.
	The trick is to know how to calculate the answer flawlessly, and even when you don't know how to, 'scab' as many marks as possible. You should really memorise all the formulae that are needed, and better students will take the further step of 'understanding' the formulae and develop a mistake-free process of performing calculations.	Most students know the general principles but better students will understand all the finer distinctions, exceptions, and how to explain concepts clearly and concisely.
Level of Achievement	Average students	Above average students

Research Questions	Practicals	Curve Balls
15-20%	15%	Up to 10%
Research Questions ask for a more in-depth answer to a specific topic area. Usually, these questions are worth 6-8 marks and ask the effect of Science on society, environment or history. Average students tend to consider this 'fluffy stuff', i.e. trivial and to be ignored. Good students understand this is part of the game, and an opportunity to distinguish themselves, and have prepared answers to ALL such question types. These types of questions will be exhaustively listed in the syllabus.	Many students fail to understand that practicals make up a significant portion of the exam. Above-average students have some idea of what goes on during these double-periods, but do not commit to memorising the scientific method (Aim, Method, Approach, Safety precaution). Top students understand how theory is applied in practicals and even know how to analyse their results in terms of reliability, accuracy and validity.	Curve-ball questions have become increasingly popular in HSCs, and are designed to distinguish between those truly gifted (or prepared) and rote-learners. Often, they will take a 'random' magazine article, comment or extract and invite scientific comment. The best students understand that they are asking you to apply some theory you have learnt, identify what that is, and concisely relate the theory to the demands of the question. You need a strong understanding of Science and good writing skills to answer these.
Good students - High achievers	High achievers	High achievers - State rankers/ Talent 100 Mentors

MEET THE MENTOR



ALEX STOYANOV

School - James Ruse Agricultural High School ATAR/UAI - 100.00 University Course - USYD Bachelor of Science (Adv.) / Bachelor of Medicine

Rank in state

- 1st in Physics (2007)
- **Total Hours of Study per Week**
- 20ish

Other subjects

- Chemistry
- Biology
- 3/4U Maths
- 2/Extension 1 English

Academic achievement

- USYD School of Physics Julius Sumner Miller Scholarship No. 1
- USYD Iredale Prize for Intermediate Chemistry

- USYD Dean's List of Excellence in Academic Performance 2008, 2009
- Invitation to Physics Olympiad

Scholar School

+ Dux of James Ruse

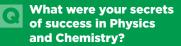
Extra curricular activities

- Class Captain
- Knockout and grade soccer teams

Favourite past time

Soccer and Formula 1

QUESTIONS



- Knowing all of the syllabus and making sure no part of it was left uncovered.
- Memorising what had to be memorised and making sure I understood the rest from first principles.
- Knowing the question verbs and making sure I knew what was expected in each question.

How did you deal with stress and challenges?

By telling myself that the effort and struggle would be worth it. Also, by taking time once in a while to do things I enjoy.

What advice do you have for HSC students?

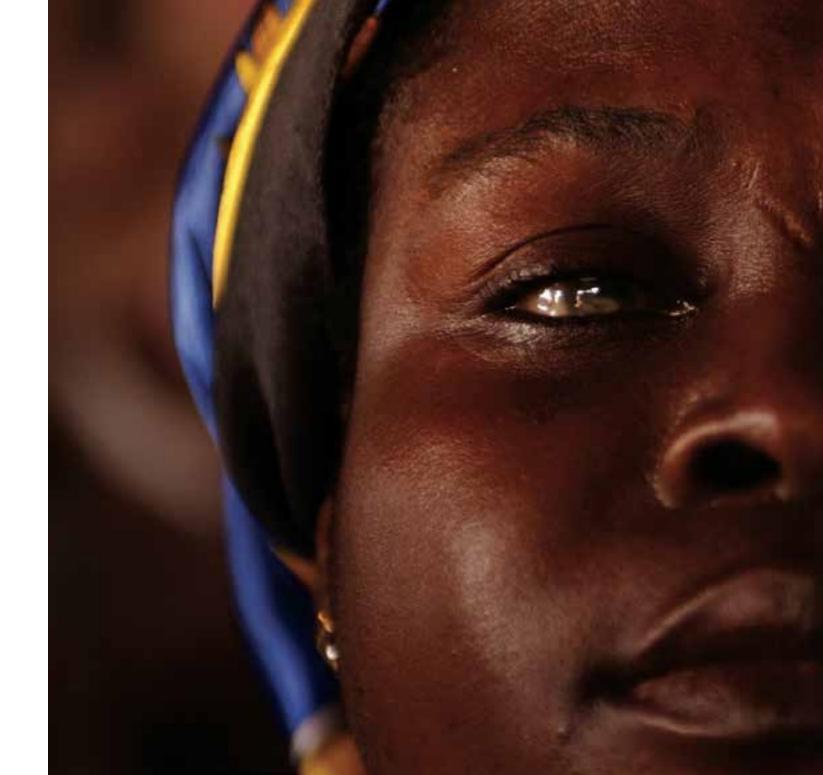
Learn to manage your time make sure you allocate your time to each subject reasonably and don't neglect a certain subject. Remember, it's less than a year out of your life so don't lose sight of your goals and study hard; you'll reap the rewards later.

Why do you like teaching at Talent 100?

I think teaching at Talent 100 is a rewarding and enjoyable experience that allows me to pass onto others the knowledge I gained in the HSC and help them achieve their goals.

Learn to manage your time - make sure you allocate your time to each subject reasonably and don't neglect a certain subject. Remember, it's less than a year out of your life so don't lose sight of your goals and study hard; you'll reap the rewards later.

FIRST PERSON WILL SEE SYOU



MASTERING MATHEMATICS

"Truth is ever to be found in simplicity, and not in the multiplicity and confusion of things."

Js. Mullon

MASTERING MATHEMATICS

Mathematics is the highest scaling subject in the HSC. Being just average in Maths Extension courses can boost your ATAR significantly.

In this article, Anthony Morris provides some tips and strategies to mastering Mathematics. Anthony is a gifted mathematician who came 1st in the State in Maths Extension 1, 4th in Maths Extension 2 (HSC 2007) and won a bronze medal in the International Mathematics **Olympiad. Anthony studied Advanced Mathematics at UNSW,** and currently works as a Google Maps engineer.

In this article, I examine the main issues facing HSC students studying Mathematics. Like English, almost all students study some level of Mathematics.

The most common questions confronting students are:

- What level of Maths should I study and how do each of the different subjects scale?
- How can I improve my marks and eliminate careless mistakes?
- · How difficult is Extension 2 Mathematics and what strategies can I use to tackle the course?

We address these questions in this article.

What level of Mathematics should I take?

One of the first decisions confronting HSC students is

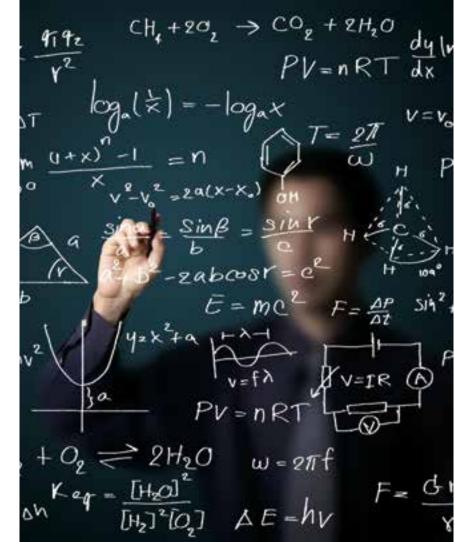
"How many units of Maths should I study?".

In deciding, you need to consider both your own ability in Mathematics and the relative scaling of each subject.

The Mathematics Extension courses are the highest scaling subjects in the HSC, and this has significant implications for your ATAR. For instance, as Richard's article makes clear, if you wanted to score an ATAR of 99, you would only need to be about average in Maths Ext 2 and in the top quarter of Maths Ext 1. In contrast, you would need to be in the top 3% in 2U Maths to achieve an equivalent mark. What is even more astounding is that if you wanted to score over 97, you would only need to be in the top 80% of the Maths Ext 2 course, and 50% of the Maths Ext 1 Course, i.e. you could be below average and still be on track for a top ATAR.

Hence it is clear that Maths Ext 1 and 2 are a must if you are good at Maths. Even if you are average in the Preliminary Mathematics Extension course, Extension 2 may be worthwhile simply because it scales very well.

Even if you are average in the Preliminary Mathematics Extension course, Extension 2 may definitely be worthwhile simply because it scales very highly.



HOW CAN I IMPROVE MY MARKS AND ELIMINATE CARELESS MISTAKES?

While there is undoubtedly a certain amount of natural acumen involved in Mathematics, with the correct technique you can dramatically increase your marks. Here are three of the things that have worked for me:

1. Understand your formulae

One of the most important (but also most tedious) parts of preparation for a Mathematics exam is knowing all the formulae in the course. 'Knowing' is more than just memorising. You need to understand vour formulae and know when and where to apply them, without making mistakes. You should build familiarity with your formulae through repeated practice.

Practice gives meaning to your formulae and will make it clear when and how to apply the formulae to a given circumstance.

Very soon, doing questions will become second nature. However. memorisation without context and practice will not help you because

vou won't even know what formula to use and when to use it. For this reason, at Talent 100, every time we teach a formula we always test it with a series of typical HSC questions so students know exactly what formula to use and how to apply it.

It is also often useful to remember how a formula is derived. When you can see the logic behind the formulae, they will be much easier to understand and to remember. Take, for example, differentiation from first principles. Even if you forget the formula, you can quickly derive it once you realise it is the gradient between any point and another point that is a very small distance "h" away from it. This formula describes the tangent, when these two points become progressively smaller or when $h \rightarrow 0$.

$$\frac{dy}{dx} = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

This same principle to remembering formulae can, and should be applied to almost all formulae in the HSC. You will notice that you get a much better understanding of the underlying Maths and are able to memorise your formulae quickly and effectively.

2. Set out your work properly

One of the most important ways to improve your marks in Mathematics is to set out your work properly. Just as an Economics or English essay requires you to structure your paragraphs in clear and logical fashion, structuring your working clearly is important in Mathematics.

Clear setting out helps you:

- Avoid making careless mistakes in the first place
- Give your examiners a clear picture of the logic and flow of your argument; and
- Solve harder questions.

If you are making a lot of careless errors, vou should avoid skipping steps. Spend the time to write a few extra lines and avoid giving away cheap marks.

Also, it is important to understand that Extension exams (especially the Extension 2 exam) require more than just a correct numerical answer for most questions - they require an explanation as to how you arrived at your answer. My most important piece of advice when taking the Extension 2 exam is to include all your working out and set it out so that it is easy to understand.

Some simple tips to make your proofs clearer include:

- Write a series of equations down the page rather than in a single line, ensuring that you will have enough space for each equation
- Explain what the variables you introduce mean by either indicating clearly on a diagram or by writing at the top of your proof **Let x be the** ...
- Generally, explain the steps in your proof, i.e. talk to your examiners rather than letting them guess your logic. For example, in a harder permutations and combinations problem, don't just state the answer but explain where the solution comes from, or in an induction proof, explain where you used your assumption for n = k when proving true for n = k + 1
- Draw BIG diagrams. In geometry questions a larger diagram allows you to mark in more angles and see things more clearly. In curve sketching questions, you are able to indicate the important features accurately.

HOW CAN I IMPROVE MY MARKS AND ELIMINATE CARELESS MISTAKES?

Doing these things will help you maximise your marks. Not only will you reduce the chances of making careless errors; when you explain your working, the examiner is more likely to award you partial marks if you do end up making them.

At Talent 100, we know the best way to improve your exam technique is to repeatedly put it into practice. This is why every week our homework is set in examination style, structure and difficulty to give you weekly feedback on the type of mistakes you make under exam conditions.

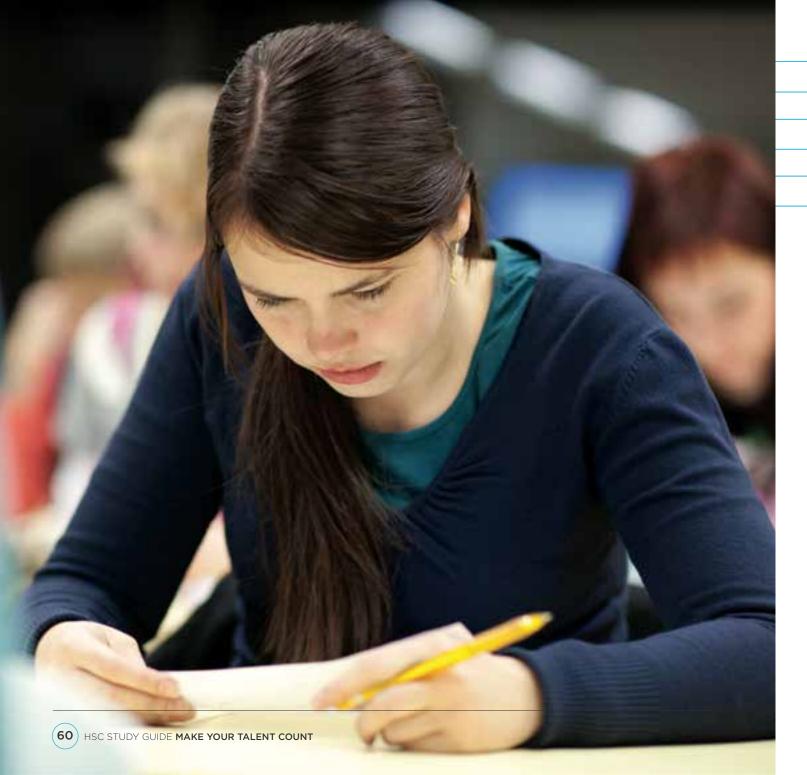
3. Perfect practice makes perfect

Once you have revised all your theory, the most effective way to study in the final few weeks before the HSC exam is to do as many exam papers as possible under exam conditions. Here it is important that you aim to completely eliminate ALL your careless mistakes. I used to lose a few marks in the first few sections of an exam because I would forget the constant of integration or not change the limits when making a substitution. However, after doing full exams for practice I was able to completely eradicate these mistakes in the first 4 or 5 questions of the exam.

When you sum up all your careless mistakes, you may find they can add up to 5-10 marks the difference between a good mark and a great mark, i.e. a Band 5 and a Band 6. You must learn to avoid giving away any unnecessary marks

At Talent 100, we aim to develop perfect exam practice through exam-style homework and rigorous mock-exams. Students are asked to re-write homework corrections to ensure they never repeat those mistakes in the future. In addition, our HSC Students sit 10 weeks of mock-exam papers to discover any shortcomings before they sit their trials and HSC Exams (which collectively account for 70% of their entire marks).





SNAPSHOT INTO AN HSC MATHEMATICS EXTENSION 2 EXAM

Sitting an Extension 2 paper can be a daunting prospect: it is arguably the hardest high school Maths paper in Australia. While considerable mathematical ability may be required to score the very top mark, with the right approach even average students can achieve a strong result.

In this section, we break down the exam question by question and try to give you a realistic snapshot of how an average 4U Maths student can score 75-85/120, which is approaching high Band E3 or Band E4. As Richard's article suggests, this will give you a scaled score equivalent to the top 4% of students in Physics, Chemistry, Economics, and English and put you well on track for an ATAR of 99+.

The infamous Extension 2 paper consists of eight 15-mark questions to be answered in three hours.

BREAKING DOWN THE MATHEMATICS EXTENSION 2 EXAM

Questions 1 - 2

Easy / medium

The first two questions are simple and straightforward, focusing on integration and complex numbers. respectively. The questions are standard and there will be nothing you have not done in class. Although the first time you encounter these topics you may find them challenging, once you have done enough practice. doing these questions should be second nature.

It is important not to forfeit any marks to careless errors in the first parts of the exams as the question get progressively harder and you will almost definitely find questions you cannot do in the latter parts.

Specifically:

- For Integration, write down all substitutions explicitly and not whether the indefinite or definite integral is required.
- For Complex Numbers, you can use the calculator to check the arithmetic of complex numbers.
- Since these questions are standard, you should be aiming for 30/30

Questions 3 - 5

Medium

The next three questions contain other topics of the Mathematics Extension 2 Course, including Curve Sketching, Polynomials, Conics and Mechanics.

These questions are still assessing the standard content of each of these topics and are fairly accessible to students who have a good grounding in each of the Extension 2 topics.

At this point in the exam (up to question 5), an average student should be aiming to be on at least 60-65 out of the 75 marks and have completed it in about 1.5 hours, leaving enough time remaining to allow for a good attack on the last three questions.

However, you should be careful not to rush your work here, to avoid giving away 'easy' marks.

Questions 6 - 8

Hard

The final three questions of the exam are usually made up of long. multi-step problems, which are designed to challenge even the top students. Don't be disheartened!

If you have done the first questions well enough, and can even score half marks in the last three questions, you are on track for a top band performance.

At times, you will need to scavenge marks, i.e. grab a few marks here and there in harder questions (even if you are unable to completely solve the question). It's important to clearly set out vour work and answer as much as possible so that you can be awarded maximum marks.

Many of the questions here are based on "Harder-Extension 1 Topics", involving Extension 1 topics such as Circle Geometry, Mathematical Induction. Inequalities, Motion and Probability, but with a much higher level of difficulty. One of the main areas of confusion is that many schools don't actually teach these as separate topics. Rather, they simply expect you to apply your Extension 1 knowledge to much harder questions. This may work for top students, but for the average student, the best way to prepare is to practise as many different questions as possible and familiarise yourself with the common question types.

The last two questions of the exam are notoriously difficult, even for top students. Rather than getting flustered, it is important to remember to stay vigilant in your approach and attempt every question. It is often easy to gain marks by attempting the first parts of a long question (e.g. prove the base case of an Induction question even if you can not prove for n=k+1), and also to pick off marks in the last part of

questions. For instance, a question may ask for you to prove a result. Even if you cannot prove this result, later parts of the question often allow you to utilise this result, to "hence, deduce" another result. Even if you cannot solve the hardest part of the question, you can still gain an extra mark or two very easily. These few marks can quickly add up to something significant.

Final Score: Raw Score 80-90/120 (66-75%) Band E4. ATAR: 99+

MEET THE MENTOR



SEN

School - James Ruse Agricultural High School **ATAR/UAI** - 100.00 **University Course** - UNSW B Sci (Maths)/B Comm (Actuarial Studies) **Current** - Works for Optiva

HSC mark (Subject)

- Maths Extension 2 100
- Maths Extension 1 100

Rank in school

- Maths Extension 1 1st
- Maths Extension 2 1st

Rank in state

• Maths Extension 1 & 2 - 1st

Textbooks of choice

Cambridge

Total Hours of Study per week

- Non-exam Period 10 hours
- Exam Period 40 hours

Other subjects

• Chemistry, Physics, Advanced English, English Extension 1

Academic achievement

- UNSW Dean's List for the Faculty of Science 2009
- UNSW Scientia Scholarship
- UNSW Mathematics and Statistics Scholarship

• Represented Australia in International Mathematical Olympiad (Hanoi, Vietnam) in 2007

Extra curricular activities

- Class Captain
- School Prefect
- School Opens A Basketball (summer) / Soccer (winter)

Favourite past time

Playing Basketball

QUESTIONS



What were your secrets of success in Mathematics?

preparation, I did as many past



How did you deal with stress and challenges?

The only time I felt stressed was during exam period. I adopted the



Advice for HSC students

so it is better to be good at all

This is your last year of schooling so put in your biggest effort.



Why I like to teach at Talent 100

opportunity to pass on my the fun, relaxed and comfortable environment my students and I share in our classroom has become the most enjoyable aspect of teaching at Talent 100.

Ten units count towards your ATAR, so it is better to be good at all your subjects than to be excellent at some and poor at others.

JOURNEY 88 MILLION KMS LAND MATH



EXCELLING IN ENGLISH

"It is not in the stars to hold our destiny, but in ourselves."

William Shaffreare

EXCELLING IN ENGLISH

English counts for at least 20% of your HSC.

Below is an adapted article from Alex Borowsky who explains the techniques and strategies that helped her top one of the HSC's most challenging subjects (with all the drama that came with it).

Alex attended Moriah College in 2007 and scored 100/100 for **Advanced English; 50/50 Extension** 1; 50/50 Extension 2. Alex scored a UAI of 100.00 and was the No. 1 all-round student in HSC English.



ENGLISH COUNTS FOR AT LEAST 20% OF YOUR HSC.

Ever since that morning when results spilled out - when printers overdosed on HSC headlines. when ABC and Channel 7 haggled for interviews with the family members of best-in-show students, when the high achievers, top-of-the-states and child prodigies were spattered across the pages of the Sydney Morning Herald - I think I may have been asked the same question a good few hundred times:

"So, how did you do it?"

I was left grappling for a halfway decent response each time the local journalists drilled me. "I have no idea!" I wanted to scream, as all of them hovered in silence, their pens poised and breath bated, anxious to unlock the secret of success. How was I supposed to gabble out a couple of sentences that would sum up what I'd done. count off on my fingers a list of stepping stones along the road to high achievement?

Landing top of the state in the Advanced and Extension 2 English courses came as a genuine shock to me. But the prying and pressing of the reporters made me think about how I might answer their big question properly, with all factors and ingredients in mind. And I think - having now had the time to think - that there honestly is a kind of formula to finishing well in English. Don't get me wrong: there's absolutely no substitute for using your own brain and personality to arrive at your own important understanding of the texts and ideas you'll come across in your English courses. But there are some steps I took which I might be able to pass on to you.

This is it, in a nutshell, for now...

1. Commit yourself to English

The first thing you need to understand as you enter into the Preliminary and HSC stages of English is that YES, it is a lot of work, YES, it is very time consuming, and YES, it can feel really exhausting sometimes!

Look at yourself in the mirror and consciously decide to make a commitment to your English study. A lot of students (me included!) who pass through the HSC find that studying for more black-andwhite, right-and-wrong type subjects like Maths and Science comes far more easily than sitting down to really get to know your English texts and hone your essay writing.

Remember that 2 Unit English is the only subject that's compulsory for everyone in the state, and is the single guaranteed factor in determining your ATAR. So

commit vourself and vour time to tackling what is, in fact, a very complex and difficult component of study.

For what it's worth (and it might not seem so important now, but believe me, it will be), English is also the subject where you're learning most how to say what you mean and mean what you say. Achieving highly in English just doesn't happen unless you've committed to working out what you think, finding the evidence that supports it, and using your own words to be as clear and insightful as you can be. Skills like these are not only vital in almost all your HSC subjects. They're skills that are going to affect everything from your career to your relationships.

...And those are the biggest possible reasons for committing yourself to any kind of study.

English is also the subject where you're learning most how to say what you mean and mean what vou sav.

EXCELLING IN ENGLISH

2. Know and use the Syllabus requirements

I've lost count of the number of times I've come across a student who just has not read the Syllabus requirements for any particular unit of study!

Take time to read the Syllabus prescriptions: they'll tell you exactly what is required of you, and they set a kind of perimeter around the work you produce.

Remember that your HSC examinations can ONLY test you on what is referenced in the Syllabus - so if you aren't complying with its prescriptions, you won't be giving those markers what they need to see from you.

Especially with the Area of Study (the focus of Paper 1), the words used in the Syllabus to describe the unit can actually help you to develop your own ideas around which you write your extended response and creative

composition. Personally, all three of my 'insights' about my Area of Study were triggered directly by the Syllabus blurb itself - and I guess it went down pretty well!

3. Think structure

The first factor your examiners look for is whether you've structured your response soundly: that is, whether you've organised your ideas in a way that allows the reader to easily follow your train of thought and shows genuine development of an overall argument.

If you asked me to choose one word that defines the Advanced English course. I'd say 'structure'. i.e., whether you've organised vour ideas in a way that's clear and connected.

Remember that each of your extended responses needs to have:

 An Introduction (with an opening) that shows your thesis and answers the question, a summary of your ideas and references to vour texts)

- A Body (at least 3 or 4 paragraphs constructed via IDEAS as mentioned under 'Think Conceptually' and packed with detailed, insightful analysis of your texts)
- A Conclusion (with an overall statement that re-evaluates your opening statement, and a closing insight that recognises what has been learnt/ discovered/unveiled from your study of the unit).

This is a compressed rundown of the basic structure you need to memorise, and our programs at Talent 100 will flesh out this formula in great detail, making use of specific examples and sample responses.

You should learn this structure and don't let it slip. At all times. make sure your ideas move appropriately from one to the next, that your sentences and analysis flow and directly support the ideas you're presenting, and that your language of connection (how you link your ideas and/or texts) is inserted in the right places and crafts appropriate ties.

Make sure your ideas move appropriately from one to the next, that your sentences and analysis flow and directly support the ideas you're presenting.

4. Identify, Support, Explain (ISE) - the most important acronym you'll ever know

While setting up clear and insightful ideas within each of your responses is hugely important, it's the deconstruction of your texts - your identification of how a composer shapes meaning through the text via their use of distinctive language features - that will award you your marks. So, if I had to choose only one acronym to memorise

throughout the HSC, it would be this one: ISE (Identify, Support, Explain).

In other words, when you're analysing or deconstructing a text, you need to put together sentences (it could be a single sentence or a couple) that ALWAYS comprise the following three components:



Analysis/Deconstruction =

IDENTIFY

the point you're making that relates to your thesis and the question

SUPPORT

the point with well-chosen evidence from the text that is properly woven into your sentence

EXPLAIN

how the evidence (including any techniques within it) demonstrates your point, making sure its relevance to your overall argument is clear.

This formula will help you to steer away from empty rambling about the plot of your text (which doesn't really do anything for your response) and develop clear, concise points of analysis which illustrate your firm knowledge of how your composer shapes meaning, and how your chosen ideas are represented through your texts. This is your essential task in ALL of the different units of study in English.

EXCELLING IN ENGLISH

5. Don't just regurgitate: **Answer the** question!

When it comes to acing English, this is maybe the single most important piece of advice I can impart.

With HSC English comes a major misconception: students want to believe that memorising a couple of solid essays, and then regurgitating them in the exam, is going to get them through. It doesn't!

The Syllabus states that a student can't attain higher than a C in any response if he or she doesn't directly answer the question provided. You're definitely able to prepare main ideas and points of analysis that will go into your responses, but the key to mastering the English course is being able to adapt your ideas to whatever stimulus and question is offered. This doesn't mean simply inserting or changing a couple of words here and there. It means genuinely focusing your line of argument and the reasoning which

drives your idea, so that it becomes relevant and responsive to the question being asked of you.

The key to adapting your predeveloped ideas is being able to look at a given guestion, pick out the key words and/or phrases, and then grasp exactly what is being asked of you in this question. Some students feel they can't afford using up time on planning in an exam - the truth is, you can't afford not to. Before you begin writing, formulate an argument for yourself: What is my personal response to this question? What is the argument I want to communicate? With every practice question you're given in class work, use your highlighter to identify those parts which you need to address continually in your response. Talent 100's English course will give you a systematic rundown of the keys to 'answering the question' - of identifying what's being asked of you and focusing your argument to satisfy these specifications fully.

Throughout your English study, you should never compose a practice response that doesn't address the specific question. You need to get

completely into the habit of moulding your response to comply with what the exam is telling you that you need to demonstrate your insights into.

Remember: in the exam. no matter how strong and sophisticated your regurgitated essay might be, you simply won't do well unless you're addressing the question through and through.

6. Avoid panic territory! **Prepare yourself** for all situations

Don't drive yourself into a corner - that is, be aware of the fact that the information vou'd like to write in your responses might not be the appropriate material for the nature of the question you've been given. If you don't prepare to be adaptable, you're just setting yourself up either to write an irrelevant response or to freak out so that your brain jams when the question isn't what you wanted.



You deserve not to do either of those things, and genuine preparation means you don't have to.

7. Practise your skills

Some people believe that it's impossible to study for Sections 1 and 2 of Paper 1. That's simply not true! It's important to realise from the outset that yes, you can and should study for the sections that don't necessarily focus on your set texts. While every year

will provide a different set of texts and questions, there are structural patterns you can recognise, and useful tips and methods of responding that remain constant. Practise with past HSC papers - familiarise yourself with approaching unseen texts and picking out language features on the spot, and practise structuring paragraph responses within the time constraints. Staying relevant to the question or stimulus is just as important in these sections. I Section 1, you also need to use the number of available marks for each question as your guide for how many ISE points to include.

8. A final note

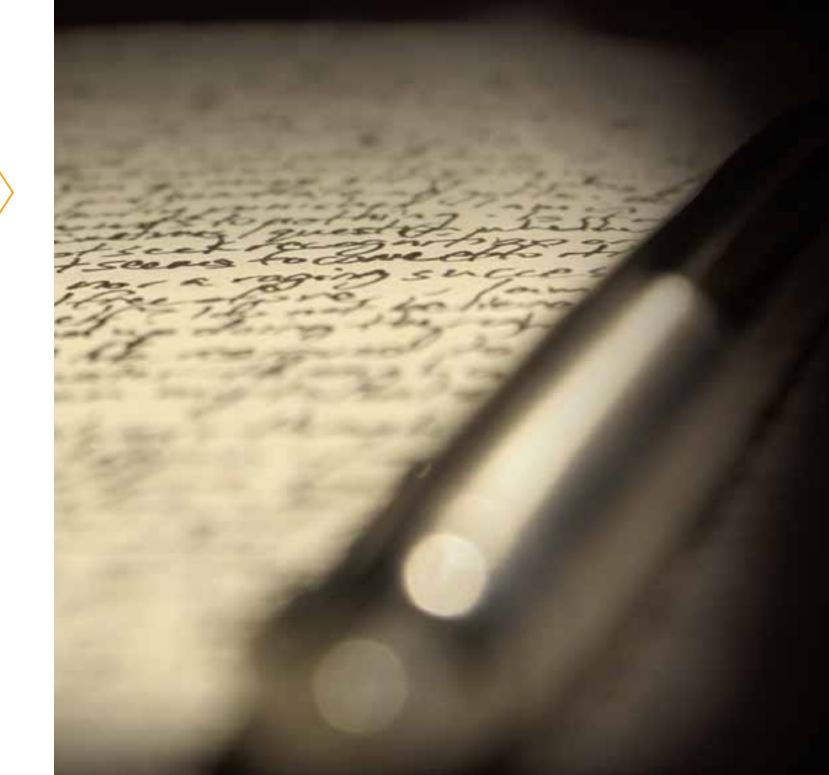
I want to stress that at the end of the day, everyone is different: each student has different methods of study, and these strategies are formed from my own understanding of what worked for me. Once you do commit yourself to your English study, you too need to figure out what works for you as an individual, and tailor your methods to enhance your strengths and improve on your weaknesses.

As I sign out, I'll say one more thing: enjoy your English. Find your own ideas and learn how to express them in ways that you can actually care about. I think that my passion and willingness to learn was a really important part of why I achieved so highly, and why Talent 100 has devoted so much time and energy to developing a course that will help you excel in English.

The HSC is brilliant if you're willing to embrace it; it taught me so much about literature, about the world and how society ticks, and about me. What's to say it can't do the same for you?

Talent 100 offers a yearly English Course updated to the current English syllabus.

DICKENS HEMINGWAY ROWLING JOYCE BRONTE TOLKEN YOU?



"Equal opportunity to me, more than anything, means a great education."

steven jobs

In this article, Richard Chua and **Dilshan Seneviratna explore what it** takes to get the edge in Economics. Richard won the school prize for **Economics at Sydney Grammar,** graduated from UNSW in Finance with Distinction, and has worked as a strategy associate at Bain & Co. and Google Inc. Dilshan ranked 5th in NSW in HSC Economics in 2008. and was offered the coveted UNSW **Finance Coop Scholarship.**

Why study **Economics?**

Studying Economics can help boost your ATAR significantly, but it can also do so much more than that. In this article, I am going to look at three important questions that any prospective Economics student should be able to answer.

- 1. Why Study Economics?
- 2. What are the hidden dangers?
- 3. What does it take to ace the **HSC Exam?**

One of the most practical reasons to study Economics is due to its exceptional scaling.

Of the humanities subjects, Economics scales the best* on par with Physics and Chemistry. To give you some perspective, scoring in the top 5% of Economics puts you on track for an ATAR of 99+, top 10% puts you



on track for 97+, and top 20% on track for 94+. But aside from scaling, there are other more important reasons why you should consider studying Economics.

A basic understanding of Economics is essential knowledge for any aspiring business person, whether you are looking to enter finance, accounting, marketing or sales. It will train you in the right type of thinking needed to succeed in these professions. Before you enter any high-flying

corporate career, you will need to know the basics - what motivates the behaviour of individuals, firms and governments in market economies, and how these groups seek to improve production and profit.

In fact, understanding Economics is so important in succeeding in these professions that it is a

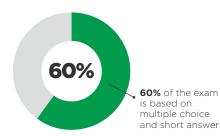
compulsory course in all **Business/Commerce/Economics** Degrees in Universities. What this means is that what you study in

Year 11 and 12, you will also study in first year University Microeconomics and Macroeconomics

And finally, even if you don't ever have the intention of entering the business world, a basic of understanding of Economics is a very good life skill to have. Things like interest rate changes and the ups and downs of a business cycle will affect even scientists, engineers, lawyers, health professionals and creative innovators.

40% 40% of the exam is based on essay auestions

Essay questions: The hidden danger (and hidden opportunity)



Despite the excellent scaling in Economics, there is a hidden danger or risk involved in doing this subject as there are in all humanities: Essay questions. Whilst 60% of the exam is based on multiple choice and short answer questions (which tend to be very predictable), 40% of your exam is based on essay questions.

Essay questions are 'risky' in the sense that they can have a significant impact on your mark and can very often catch even the most prepared students by surprise. If you are able to guess the essay question and adequately prepare for it, you will ace the exam. but if the essay question catches you off guard, you can have a massive swing in your final exam performance.

This is something that affected me

Essay questions are 'risky' in the sense that they can have a significant impact on your mark.

personally in my HSC. I had a knack for guessing the essay questions set by my school teacher and guessed them perfectly for the school trials. I scored a raw mark of 98% and received the Economics Prize. It was my best subject for my assessments. Unfortunately, I guessed the Essay Questions incorrectly in the HSC Exam, panicked and only received a score of 90, dropping more than 30 rankings. This meant that my "best" subject did not even end

up counting for my ATAR. And that all happened in one exam.

In contrast, in subjects like Mathematics or Science, even if one particular question may be difficult or unexpected, you may experience a swing of only 2-3 marks. In Economics, the swing may be 10-15 marks. These essay questions can function like a lottery in determining who gets the very top marks and it is this "uncertainty" that you need to be very well prepared for if you're looking to do well in Economics.

Breaking down the exam

To do well in the Economics exam, you need to understand exactly how the exam is structured. There are 100 marks in the Economics exam. broken down as follows.

Section	Weighting	Preparation
Multiple Choice (20 Multiple Choice Questions)	20%	Syllabus and textbook only
Short-answer questions (4 Questions of 10 marks each)	40%	Syllabus and textbook only
Essays (2 Essays of 20 marks each)	40%	Syllabus and textbook - Current research and recent performance of Australian economy

Acing MCQs and short answer

The multiple choice and short answer sections are very straightforward. They require an understanding of basic economic theory, which has remained unchanged for decades, such as how the Federal Budget and interest rates are used to stimulate or dampen the economy. You'll also need to be able to interpret such theory in a variety of forms, such as tables, graphs, statistics and models.

Some hints and tips for preparing effectively for these two sections are:

1. Make notes on the syllabus dot-points: Since your exam is based entirely on the syllabus, it makes sense to make notes on the syllabus dot-points. These dotpoints also outline the extent of knowledge that you need about any topic through the use of the verbs such as "outline", "explain", "discuss" etc. so being able to answer each specific dot-point to the required level of detail ensures that your study remains focused and relevant.

2. Write concise and structured answers for the short answer questions: When answering short answer questions, you need to ensure that your answers are clear. concise and structured. Many students seem to "ramble on" before answering a question half way down the page. Markers will penalise such verbosity.

When answering short answer questions, you need to ensure that your answers are clear and concise.

First, look at the number of marks and write a comprehensive **answer.** For a four or five mark question, you will need four or five points to get the marks. If you are only writing two or three, you can be almost certain you won't get full marks

Secondly, structure your answer concisely and logically.

- 1st Line: Answer the question immediately
- 2nd Line: Explain and elaborate on your answer
- 3rd Line: Quote a statistic or evidence from the passage, stimulus or memory
- 4th Line: Use this statistic to demonstrate how it proves vour point.

While understanding this basic theory may seem challenging at first, once you have revised thoroughly, you'll find that these two parts are the easiest parts of the exam. For the well-revised students, it's about doing the first two sections as accurately and efficiently as possible so you have enough time to ace the final two essay questions.

Acing the essays

What you should realise is that the essays ultimately distinguish top performers from the above-average students. Writing an essay question purely from "economic theory" will only score you 15/20. To perform well in these, you must go beyond the syllabus and research the decade's recent performance, as well as the economy's most current performance. These essays essentially test how well you know and understand the theory in the context of the Australian Economy.

1. Define the key terms

Unlike an English or History essay, vou must define the essential terms in the question in every Economics essay question. For instance, if the question asked you to 'Analyse Australia's recent economic growth', vou would need to define the term 'Economic growth' straight away. This is an odd peculiarity of the Economics exam.

2. Answer the question

One of the biggest pitfalls that many students experience is that they fail to answer the question at hand. Rather, they start writing memorised answers to the questions they have prepared for, rather than the question that the examiner is actually asking. Preparing for the essay question is vital. Without the right statistics.

research and evidence, your essay will never reach the top band. But vou need to take some time to plan a specific answer to the specific question being asked. You should look firstly at the question verb, and know exactly what that means, e.g. to *discuss* vs. *assess* vs. *evaluate* etc.

For example, when you are asked to *discuss*, you must 'identify issues and provide points for and/or **against'**. Note how this is different from *explain*, which is 'relate cause and effect: make the relationships between things evident; provide why and/or how'. Discuss requires points for and against and *explain* requires an in-depth analysis of mechanisms. They are not just generic terms that have the day-today meanings you would expect in conversations; they have a specific meaning in the HSC and this is part of the marking criteria for the exams.

3. Support your argument with evidence from Australia's recent performance

What distinguishes the top Economics students is how well they are able to integrate economic concepts to explain recent economic trends. In contrast to the short answer questions, which test

knowledge and theory that has remained unchanged for decades (e.g. **Kevnesian fiscal policy** or Adam Smith's *Invisible Hand*), an essay question will require you to interpret or apply that theory to the recent trends. For instance, you may discuss how the Rudd Government responded with a Keynesian approach to stimulating demand during the GFC, or how in fact the market's Invisible Hand has not worked in providing important public goods, such as a National Broadband Network.

In order to gain a proper, relevant and useful perspective of our recent performance, you should split recent performance into two categories:

- How the economy has performed over the last decade. for instance, how the Australian economy has grown over the last 10 years and what issues it has faced
- How the economy has performed in the last two **years,** with up-to-date research on relevant topics being discussed in the news

When you have a solid understanding of Australia's recent performance, you must 'weave' this into your essay. Many students come unstuck trying to remember statistics and facts, such as the % of unemployment, or how much

the CPI has changed. A better way to think of statistics is not so much as a "fact" - or a random morsel of truth - but rather as a piece of evidence. i.e. a useful figure. statistic or story that proves a particular point. This makes it much easier to remember, and it helps you write a good essay because it adds to the argument, becoming another way of "telling the story". In contrast, trying to remember disparate facts can often mean that your essay seems disjointed, even if the facts and figures are correct.

In searching for the right facts and figures, there are three sources of information you should consider. The **RBA's Statements on** Monetary Policy and associated documents provide up-to-date research from some of the best economists in the country, conveniently categorised into topic headings such as Growth, Inflation, Unemployment etc. Likewise, the Federal Budget has very accurate data and summarises both challenges and the economic outlook forecasted by the Treasury.

Finally, you should be constantly scanning **newspapers**, such as the Financial Review to evaluate the most recent trends and issues facing our Economy. A great journalist to follow here is the Sydney Morning Herald's Ross Gittins, who simplifies relevant economic issues into lavmen's terms.

Unlike an English essay, you must define the essential terms in the question in every Economics essay question.



4. Refer to the stimulus

Finally, many essay questions have stimulus materials, such as charts, passages or comments made by a particular person, and ask you to evaluate these in the context of the Australian Economy. With such questions, you MUST refer to all parts of the stimulus in your essay. Many students, with pre-prepared essays, give token recognition in their introduction, but fail to properly consider the stimulus as part of their answer.

Rather than doing this, understand what the stimulus says and refer to it in the body of your essay, explaining why it agrees with or is contradicted by recent trends. If you don't do this, you will lose marks for not answering the question.

5. Include (BIG) diagrams

Where relevant, you should use appropriate and relevant diagrams to explain your answer. A picture is worth a thousand words and many economic theories (e.g. Supply and Demand) are explained most

At Talent 100, we've created an excellent program in Economics that can help you understand the key economic theory, and more importantly, the recent performance of the Australian Economy.



eloquently through the use of a diagram. Again, when including a diagram, ensure you make reference to it, rather than just placing it on the page. It is a method of explaining a theory. rather than illustrating text.

My final tip for you in preparing for essay questions is to focus on the most relevant issues facing the Australian economy, as these have a habit of appearing as Essay questions. For instance in 2009, in the aftermath of the GFC, students were asked to -

Analyse the impact of changes in the global economy on Australia's economic growth and external stability.

Any half-aware student would realise that this question is begging you to talk about how global financial crises can have a massive impact on our economy, and that is the research you would need to integrate into your essays.

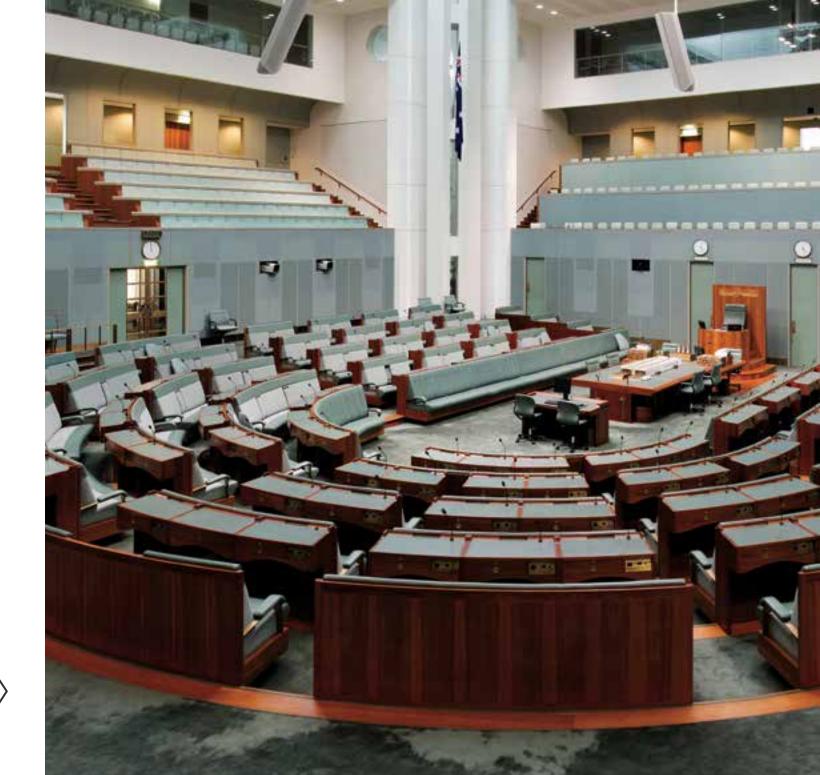
Excel in economics

At Talent 100, we've created an excellent program in Economics that can help you understand the key economic theory, and more importantly, the recent performance of the Australian Economy to ensure you get **the** best marks in Economics. While our programs are designed to ensure you are able to ace any HSC Economics Exam. we hope to inspire a greater passion for a subject that is an essential life skill and forms the cornerstone of all business degrees and professions.

Our course:

- Develops thorough understanding of every syllabus dot-point, including relevant economic models, theories and their applications so that you can score top marks in multiple and short answer.
- Provides up-to-date research on Australia's economic performance, with insightful analysis of relevant economic issues to help you create A-range essay responses
- Provides HSC-style homework and questions, to ensure you can translate your understanding of the course into marks in a real examination
- · Gives One-on-One help with **Economics Essays**, to help vou develop vour own specific. structured, and logical essays to top your examinations.

VOTE FORA FUTURE THAT MATTERS SEATS AVAILABLE



"We have the scientists.
We have some of the most inquisitive minds in the world.
We clearly have the resources.
All we need is the insight and foresight to put our resources to good use."

Marieteo

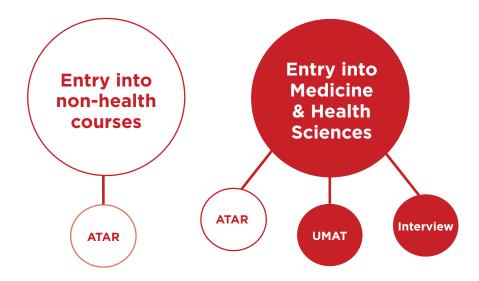
Getting into Medicine is tough. Not only do you have to score top marks in the HSC, you need to master another test - the infamous UMAT.

In this article Dilshan Seneviratna explains the demands of each section in the UMAT exam and what it takes to master them. Dilshan graduated from Baulkham Hills High School in 2008, scoring 99.95 UAI (ATAR) and a UMAT score in the 100th percentile. He currently studies Medicine at the University of Sydney.

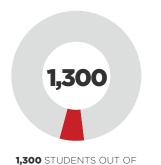
Entering medicine and the other health professions can be extremely challenging.

While most degrees simply require a given ATAR, admission into medicine and health degrees (dentistry, optometry, physiotherapy) requires you to master three types of tests.

THE REQUIREMENT FOR STUDENTS WANTING TO BECOME DOCTORS. **DENTISTS, OPTOMETRISTS, PHYSIOTHERAPISTS.**



Over 20,000 students do the UMAT each year. Be one of the 1,300 students to get into medicine.



20.000 GET INTO MEDICINE.

In this article, we will examine the:

- structure of the UMAT
- importance of speed in the exam
- type of thinking each particular construct is aiming to test

Unlike your HSC which is knowledge-based or curriculumbased, the UMAT exam is skills based. In each of its question types, the UMAT exam is testing a particular type of thinking. Moreover, to score the top marks, you need to complete UMAT questions quickly and accurately.

It is not surprising that ACER describes the UMAT exam as a 'high stakes tests - the results [of which] have the potential to make a major impact on the future career of the test taker'.

How the UMAT is structured

The UMAT consists of 134 multiple choice questions to be completed in 180 minutes. The questions cover three broad styles known as 'constructs'.

	Number of questions
Construct 1: Logical Reasoning and Problem Solving	48
Construct 2: Understanding People	44
Construct 3: Non-Verbal Reasoning	42
Total number of questions	134
Total amount of time	180 mins
Average time per question	81 secs

The UMAT consists of 134 multiple choice questions to be completed in 180 minutes.

In the UMAT you must have the discipline to leave out a question if you cannot solve it in a timely manner.

Time is of the essence

Before examining each question type in greater detail, it is important to emphasise; the UMAT is a race.

Most students could score much higher marks if they had more time. Given an extra hour, most students could finish all questions of the UMAT. However, the time pressure is one of the biggest challenges - and biggest differentiators - of the UMAT.

To illustrate, if you were to take iust 10 seconds longer than allocated on average to finish each question, you would finish the exam without attempting the last twelve questions. This can make a huge difference in percentile scores, particularly in the high ranges.

Understanding the time pressure is one of the most important factors of success in UMAT and this pressure can catch out students who are traditionally good at knowledge-based exams like the HSC. Well-prepared HSC students rarely leave marks in Physics and Chemistry because they know they will have enough time to finish. In contrast, in the UMAT you

must have the discipline to leave out a question if you cannot solve it in a timely manner, or risk losing many more marks because you run out of time.

Furthermore, in HSC subjects, how you arrive at an answer is as important as the answer itself. In contrast, in multiple choice exams, the only thing that counts is getting the right answer and it is often quicker to eliminate the three wrong answer choices than trying to find the "definitively correct" answer.

Time is your biggest enemy

Knowing how to solve a question and knowing how to solve a question quickly are two entirely different skills.

For this reason, our programs at MedStart teach students systematic frameworks to break down the typical question types of each section quickly and accurately to help ensure a competitive advantage in the UMAT.



Construct 1 - Logical reasoning and problem solving

Each question construct tests a different type of thinking. Construct 1 tests your ability to reason and draw logical conclusions based on the stimulus information given. As a health professional, you will need to infer facts and draw logical conclusions from the research you read, and utilise your knowledge in conjunction with the limited information from patient signs and symptoms to reach a diagnosis and appropriate course of action.

It is therefore appropriate that this section of the UMAT tests your ability to reason given a known set of facts.

There are four main question types:

- **Problem solving** you are placed in a scenario and given a series of clues and conditions and are required to solve a hypothetical problem (e.g. who came first in a race out five people).
- Verbal reasoning you are given a passage based on scientific phenomena and asked to draw conclusions or evaluate the arguments presented in the stimulus.
- Data interpretation information is presented as a set of statistics or in table or chart form, and you are required to make inferences.

• Scientific experiments - vou are asked to make conclusions or evaluate the set-up of a controlled scientific experiment.

Students traditionally find this question type the most difficult because of the large amount of 'processing' that is required to solve these problems.

However, if you understand frameworks that can help you quickly break down, analyse and solve the questions, this question type becomes much more straightforward.

Construct 2 - Understanding people

Construct 2 tests your ability to understand and think about people. Here, the information given will be based on a passage, dialogue, or other texts/images that represent a specific interpersonal situation.

As a health practitioner, your ability to understand people is an important part of your work. It is important that you are able to not only diagnose and recommend the correct treatment, but also empathise with a patient and communicate sensitive issues with understanding and care. This construct is designed to screen potential health professionals who are able to develop a patientfocused approach to their work.

In this section, a variety of questions may be asked. However, in the past, questions have often been based around:

- Effective doctor-patient **communication** - determining whether a doctor has appropriately responded to a patient's concerns
- Emotionally intense situations understanding difficult situations like spouses arguing, children arguing with parents, or couples unable to have children
- Dealing with illness communicating how people and their caretakers' lives may be affected as a result of dealing with serious illness

Most students do not have difficulty completing this style of guestion within the time, but if you are not naturally competent at this construct, it is quite difficult to improve without focussed training. This style can also be difficult because it can be hard to discriminate between two answers that both seem correct.

As a health practitioner, your ability to understand people is an important part of your work.



Construct 3 - Non-verbal reasoning

While construct 1 tests your ability to process information and draw logical conclusions, construct 3 tests your abstract reasoning your ability to reason based on incomplete and non-verbal information. Non-verbal reasoning questions are entirely visual and involve interpreting sequences and patterns in a set of shapes.

This is very much like the typical IQ test, and you may be asked to:

- Pick the next item in the sequence - you will be given four patterns that change according to a rule. You need to decipher the rule and determine the next in the sequence
- Arrange the sequence and pick the middle - given a series of five shapes/patterns in random order, you are asked to arrange the sequence and pick the middle.
- Find the missing segment you are given pattern with a missing segment and asked to pick one of five patterns that would represent this missing segment.
- Similarity you are asked to infer a relationship between two objects/words/shapes, and apply it to a second set of objects/ words/shapes. E.g. a "Dog" is to "Wolf" as a "Cat" is to ...

The key to succeeding in construct 3 is to understand that many of these seemingly difficult patterns collapse into a range of much simpler and basic patterns. To succeed, you first need to be able to deconstruct the question i.e. recognise what pattern is being used, then continually practice to develop proficiency.

In this article, we have examined the types of questions and some general tips on the UMAT. However, to succeed in the UMAT exam, you need to know the specific frameworks - or ways of thinking - needed to answer all these question types. Our comprehensive UMAT programs will help you do exactly that, teaching you the methods to categorically break down every question type in the UMAT, providing you with Online Practice (12 Mock Exams and Practice Drills), and personalised follow up support.

Find out more about the UMAT with our free "Secrets of getting into Medicine" information **seminar**, or test your skills with a free online diagnostic exam.

Visit www.medstart.com.au or call 1300 99 UMAT to find out more.

MEET THE MENTOR



DILSHAND SENEVIRATNAD

School - Baulkham Hills High School ATAR/UAI - 99.95 University Course - The University of Sydney Bachelor of Medical Science / Bachelor of Medicine / Bachelor of Surgery UMAT percentile - 100th Percentile

Favourite question type

 Construct 1 - Logical reasoning and problem solving

Recent extra curricular activities

- Group leader (NSW) for the 2013 and 2010 Make Poverty History Road trip
- Volunteer at the Reach Foundation™ (Sydney crew) (2010 - present)

- Co-convenor of the Sydney University Annual Boxing Night (2012)
- Australian delegate at the International Student Festival in Trondheim (February 2011) held in Norway.
- Program facilitator at the International University Scholars Leadership Symposium (August 2010), held in Malacca, Malaysia

QUESTIONS



What were your secrets of success in UMAT?

The one magic pill secret to success in the UMAT, and indeed any academic endeavour, is motivation and belief. Let me explain what I mean.

Success in high school exams and the UMAT is overwhelmingly reflective of effective preparation rather than innate intelligence. **The hard working student will beat the lazy genius every time.**

However, there is a huge difference between 'effective preparation' and 'studying hard'. A lot of students 'study hard' for the UMAT and throughout year 12 and think they do not achieve top results because they are not as 'smart' as those who do. Let me tell you that the only thing that the top students are doing that makes them achieve higher results is that they are undertaking more effective preparation. This does not necessarily mean they are studying for longer hours - rather, the study they are completing is efficient and

results-focussed. They do not fall into the trap of just completing 'one hour of UMAT a day' and seeing little or no results.

And the two things they have that allow them to do that is belief and motivation.

Belief

Top students, for whatever reason, have the belief that they can achieve the top marks. They believe everyone is cut from the same cloth and that what one person can do they can do too. Students who do not think they are 'smart' enough to achieve top marks make this a self-fulfilling prophecy – they will subconsciously not put the effort in that would allow them to achieve

top marks and hold themselves to a lower standard.

This belief is usually acquired through previous exam success - which is why it is so important to study hard in year 10 and 11 and not just in year 12. In much the same way that a diet becomes much easier to follow once you start seeing and feeling real results, it is much easier to complete focussed and dedicated preparation when you know that there is nothing stopping you coming first.

This is also the reason why top students in year 10 and 11 tend to be the top of year 12 even though the competition significantly increases from all other students in year 12.

It is so important to study hard in year 10 and 11 and not just in year 12.

MEET THE MENTOR C STUDY GUIDE MAKE YOUR TALENT COUNT

QUESTIONS

Motivation

Belief is a prerequisite but is not enough. Motivation is essential. Most students have to push themselves to study, but the top students (while they may not enjoy study) feel compelled to study - i.e. they are pulled by their mind to study. Willpower - or simply pushing yourself - is never enough and is unpleasant. Get yourself motivated. Volunteer at hospitals, research medicine. talk to doctors. do what it takes for your brain to want to study.

Finally, be results-focussed.

Always focus on the outcome of what you want to do. This might be improving your average exam marks or completing guizzes in a smaller timeframe. Don't fall into the common trap of feeling busy but being unproductive, which often happens when students try and complete 'an hour of UMAT a day'.

Belief is a prerequisite but is not enough. Motivation is essential.

Advice for UMAT

Get motivated, be results focussed and start early. The UMAT is a skills based exam which means that spaced repetition is essential for improvement, and also means that unlike high school exams (where you forget most of the content the week after the exam). skills and competence stay with you for the long term.

Why I like to teach at MedStart

It is the only UMAT course out there with proper theory material to supplement thousands of practice questions. When I was practising for the UMAT, it was up to the student to work out proper approaches to solving questions for themselves. The UMAT is a standardised examination, and for any standardised examination there is a standardised way of constructing and deconstructing questions - and MedStart teaches this to the students.

In addition to all that, the fun and vibrant atmosphere and genuine focus on individual students and their needs create the perfect environment for teaching - the students actually enjoy learning and know that it is a valuable investment of their time

PERFORM MIRACLES EVERY DAY TISA PRICELESS HONOUR





HEADSTART YOUR HSC

HEADSTART YOUR HSC

If you are in Year 10 right now, you may feel there is little point in studying hard this year.

After all, the HSC isn't for another two years, and you're not even sure what subjects you'll be doing in Year 11 and 12. You can always start next year, right?

This is the typical thinking of a Year 10 student. In this article, we'll answer some of the common questions that face you at this stage of high school.



HEADSTART YOUR HSC

While it's true that the real test doesn't start until Year 11, there are actions you can take this year that can significantly improve your ability to score a top ATAR.

As the name suggests, the Talent 100 Headstart Program aims to give students a competitive advantage by starting them early.

I'm in year 10 now. Is there anything I can do to boost mv ATAR?

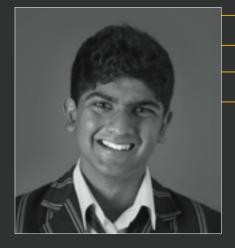
How do I get ahead with mv HSC?

I'm already doing well in year 10. Is tuition useful for me?

Can Headstart really help me?

It's not always the smartest person who scores the highest ATAR, but those who are most determined. If you are in Year 10, you should seriously think about how to invest your time wisely this year, so that you can enjoy your final years and at the same time, be confident you will enter the University course of your choosing.

MEET THE STUDENT



ANIRUDH THEERTHAM

School - Normanhurst **Favourite Pastime** - Tennis **Ranks in School -**

Mathematics Ext 2: 10th Mathematics Ext 1: 4th

Physics: 3rd

Chemistry: 3rd

Headstart is an outstanding course that introduces the Year 11 concept in a simple and easy-to-follow manner. After doing Headstart, I have felt confident and comfortable throughout Year 11.

QUESTIONS

Headstart has helped me improve my marks significantly in school. In the Physics half-yearly, I ranked third in the grade, achieving a mark of 93%.

How would you describe the **Headstart course?**

Headstart is an outstanding course that introduces the Year 11 concept in a simple and easy-to-follow manner. After doing Headstart, I have felt confident and comfortable throughout Year 11. It has been extremely useful in helping me gain a competitive edge over my peers, since I am learning things for the second time.

What did you like most about the Headstart course?

First and foremost the Headstart course is very detailed and very direct. All the key concepts and

syllabus dot-points of Physics and Chemistry were clearly addressed. and this gave me a lot of confidence going into Year 11. The harder concepts were explained in a way that we could easily understand.

Furthermore, the teachers at Talent 100 are very friendly, approachable and intelligent. They have a genuine understanding of how certain questions will arise in school examinations as well as having the secrets as to what will give us those extra crucial marks - things that schools fail to notify us about.

Have your marks improved at school? Who should go to Headstart?

Headstart has helped me improve my marks significantly in school. In the Physics half-yearly, I ranked third in the grade, achieving a mark of 93%. In 2 unit Mathematics I achieved a mark of 94% in my half-yearly exam as well as gaining 92% in my Extension 1 Maths Exam. Without the Headstart course. I don't think I would have achieved these marks. The course helped me to understand what to expect in exams in theory and practice. I would recommend Headstart to anyone who is wishing to excel throughout Years 11 and 12.

MEET THE STUDENT



ALICE JOE

School - Sydney Girls High School Favourite Pastime - Sport Ranks in School -

Mathematics Ext 2: 1st Mathematics Ext 1: 1st

Physics: 1st

Chemistry: 2nd

I really like the way the course was structured, and how it was very to the point. The teachers were fantastic, and helped explain the harder concepts in a way that we could understand.

QUESTIONS

How would you describe the Headstart course?

The Headstart course is an excellent, straightforward program that taught me the Year 11 course a year earlier in an easy-to-follow fashion. The way the head-start course is designed helped me to really grasp the concepts and gave me an advantage throughout year 11, I had already learnt the bulk of the course previously so the Preliminary course felt much simpler and I was much more familiar with the work. In my opinion it gave me a good advantage over my peers.

What did you like most about the Headstart course?

I really like the way the course was structured, and how it was very to the point. The teachers were fantastic, and helped explain the harder concepts in a way that we could understand. They had a real sense of what we needed to know and what we didn't, so the course was very succinct. The notes also follow closely to the

I recommend the course for those who wish to be one step ahead at school and start developing the essential concepts in advance.

Preliminary syllabus and the talent tips given have proven very useful during exams to obtain those final crucial marks.

Have your marks improved at school? Who should go to Headstart?

I recommend the course for those who wish to be one step ahead at school and start developing the essential concepts in advance. I believe the Headstart course has really benefitted my performance so far during the preliminary course as it helped me to understand the topics early on,

so during year 11, I already had an understanding of what was expected. In Mathematics, I ranked 1st for 2-unit with 100% and 98% for 3-unit. For Chemistry I achieved 95% ranking 3rd and came 1st in Physics with 100%. Overall I think the head-start course helped me to develop the deeper required understanding of these subjects earlier and certainly gave me a great head start at school.

CREATE YOUR FUTURE MAKE YOUR TALENT COUNT

LEARNING SYSTEM



THOSE WHO SCORE **BELOW 65%**

Interactive class

A three-hour class systematically reviews the HSC Syllabus, building a deep first-principles understanding of the key theory. Classes have an average of eight students.

- Provides comprehensive set of notes
- Introduces typical range of HSC auestions
- Builds understanding and familiarity

Exam style homework

HSC Style-homework that conditions students to the style, structure and rigour of HSC exams. to train perfect exam technique.

- Mimics HSC exam in style. structure and difficulty.
- Develops ability to succeed under exam conditions.
- Teaches students to maximise marks.

Personalised tutorials

Extra tutorials for any student requiring extra help. Tutorials mandatory for those who score below 65% in homework.

- Provides individual attention
- Finetunes exam technique through homework corrections
- Clarifies conceptual difficulties

"What I really liked about Talent 100 was their extremely useful teaching booklets; they are so clear and concise and contain everything we need to know." Shawn Price, Normanhurst Boys

FIVE WAYS WE HELP YOU

Step 1

Excellent Teaching that focuses on a First Principles understanding, rather than memorising.

"I think the course is perfect. I am truly very happy with the teaching." - Divesh Vashist, Sydney Boys.

Step 2

The most comprehensive set of notes developed by students who came 1st in the state.

"What I really liked about Talent 100 was their extremely useful teaching booklets; they are so clear and concise and contain everything we need to know." - Shawn Price, Normanhurst Boys.

Step 3

Exam practice and technique, with weekly exam-style homework that teaches you to avoid careless mistakes.

"Learning exam techniques was crucial part of my learning development. It's very useful to know how to split a large question into parts and answer the parts James Ruse Agricultural.

Unique understanding of scaling so that you can study smarter, not harder!

(attend our Secrets of HSC seminar for more info).

Step 5

Making it fun, so you remain motivated to study and get into your desired University Course.

"The atmosphere at Talent 100 is really motivating. The tutors know what it's like to strive for success and the other students are really focused. We work hard and have a lot of fun!" - Susie Lauer, Pymble Ladies' College.

FAQS

What is unique about the learning system? How can it help me improve my ATAR?

The Talent 100 learning system is unique in its results focus and ability to maximise ATARs.

- 1. On an overall level, by creating a personal study plan that shows you exactly what it takes to score the ATAR you are lookina for.
- 2. On a subject-specific level. through superior expertise and a practical understanding of what it takes to score maximum marks in Physics, Chemistry, Maths and English.

This approach allows us to set and achieve the right goals for our students.

How does Talent 100 help me improve in each particular subject?

We help our students to dramatically improve their marks through a two-tier system of teaching.

In our classes (average eight students), we familiarise you with the key theory, focusing on building a deep conceptual understanding from first principles, rather than through memorisation. A Talent 100 Mentor explains the theory, working through typical HSC questions. before allowing you to reinforce what you learnt with further questions.

In a personalised tutorial, a Talent 100 tutor gives directed and individual feedback to you (and up to three other students) if you require help in your school or Talent work.

Overall, the teaching system combines the best of a competitive class environment, with the personal attention and care of having a private tutor.

Who are the teachers at **Mentors 100?**

The Talent 100 team comprehensively understands the HSC system and how to succeed in it.

We've topped the state in 2007-2012 in Physics, Chemistry, Maths. Economics and English, and almost all of us have scored ATARs over 99.9. We can show you, in detail, what it takes to succeed in each subject.

Talent 100 Mentors will help vou maximise vour ATAR through their

- Outstanding levels of academic achievement to ensure that you receive the highest quality of
- Effective communication skills to ensure that the theory can be taught to you in a way that you will understand.
- Passion for teaching and improving your results, making sure you always feel comfortable to ask questions.

Who writes the course materials for Talent 100? What makes them so special?

The Talent 100 course materials have been prepared by our notes development team, which consists of students who have scored above 99.9 or scored a state ranking. In fact, for every subject that we teach, we have the students who scored 1st in the state, i.e. for Physics, Chemistry, Mathematics and English overseeing the development of the notes.

Our unique team knows exactly what it takes to achieve the top marks, and have translated that into a very practical set of notes that cover everything you need to know for the exams, in the level of detail that you need to know it. The notes are well structured and guide students through the syllabus in a step-by-step fashion that is easy to understand and follow.

Our notes are written with the central principle of exam relevance - they cover everything that is required by the syllabus in the level of detail needed to score FULL marks. The notes are thorough and comprehensive and designed to make your study time efficient. For instance, in Physics and Chemistry we include writeups of all practicals with a discussion of reliability, validity and accuracy, which ensures that you are able to answer questions, even if you did not perform your practicals successfully.

Effectively, our system of notes and teaching allow you to leverage the collective expertise of the HSC's top performers.

What's so special about examinationstyle homework?

Ultimately how well you do in your HSC depends upon how well vou are able to perform in exams. Hence, students who are naturally very intelligent but fail to develop good examination technique will often perform worse than those

students who are well prepared and have developed perfect examination technique.

While understanding theory forms the basis of learning, we help you score maximum marks by also developing perfect exam technique. Our exam-style homework familiarises you with the typical range of HSC questions and tests your ability to perform under pressure. This gives us feedback on the type of mistakes that you make under exam conditions, and allows us to eliminate careless errors.

Our system of homework ensures that sitting exams is literally like doing another piece of homework.

I'd like to score my absolute, highest ATAR. How do I join the course?

If vou'd like to join the course. simply email us at info@talent-100. com.au or contact Student Services on 1300 999 100 to let us know what classes you wish to join.

ACCESS OUR ONLINE LEARNING SYSTEM ANYWHERE

THE LEADING ONLINE RESOURCE PLATFORM FOR STUDENTS PREPARING FOR THE HSC

Provides you access to:

- Online learning videos created by our inspirational Talent Mentors
- Teacher booklets. to revise lessons
- The best online homework and solutions. Nothing missing. All the work has been done for you
- The best online resources of over 3,000 pieces curated by our best Talent Mentors
- Guaranteed best study notes written by students who topped the state
- 24/7 learning forums managed by our talented HSC top scoring team
- Extra resources collected over 10 years in NSW

Allows you to:

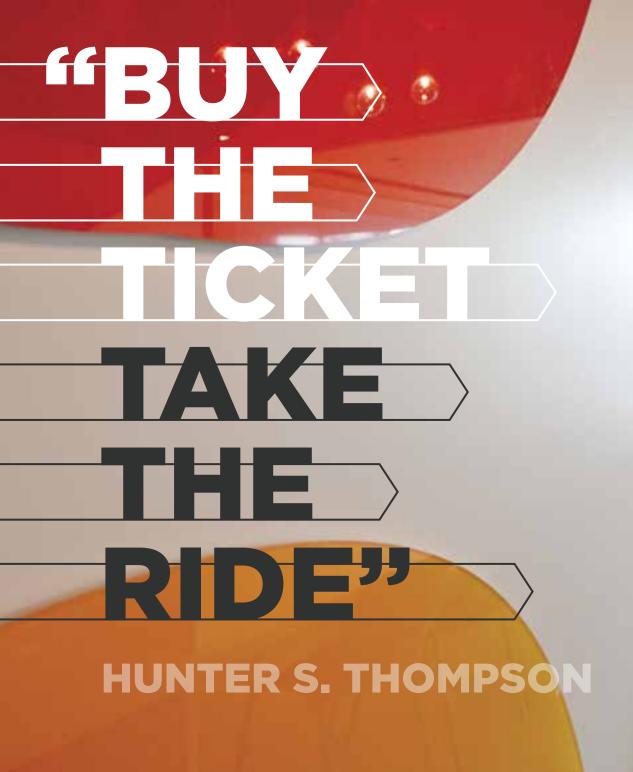
- Book tutorials online
- Set goals based on your personal ATAR targets
- Check homework marks
- Sit practice exams in the comfort of your own home
- · Check the leaderboard, and compare your marks to other students' grades
- Have your say: make suggestions on how we can improve your learning experience, and vote on your favourite feature requests

24/7 LEARNING FORUMS MANAGED BY OUR TALENTED HSC TOP SCORING TEAM

3.000+

COLLECTED OVER 10 YEARS











ENROL WITH THE LEADERS IN HSC LEARNING AND MAKE YOUR TALENT COUNT

YEAR 9 STEPS PROGRAM

Take your first step towards HSC Success.Early preparation and a solid foundation in Year 9 and 10 deliver results in Year 11 and 12.

YEAR 10

HEADSTART PROGRAM

Headstart your HSC. Gain advantage in Year 11 and 12 by preparing one year in advance. PLUS we will personally help you choose the right subjects for your HSC.

YEAR 11

PRELIMINARY YEARLY SUCCESS PROGRAM

Personal ATAR consultation and strategic target plan development. We create a personal study plan that 'translates' your desired ATAR into subject-specific goals.

YEAR 12

HSC YEARLY SUCCESS PROGRAM

Personal ATAR consultation and strategic target plan development. We create a tailored study plan that 'translates' your desired ATAR into subject-specific goals.



HSC STUDY GUIDE

MAKE YOUR TALENT

At Talent 100, we help you achieve such exceptional results, it's almost unfair. We are so confident, we have the most effective system of tutoring; we're offering you a FREE THREE WEEK TRIAL for any one subject. We'll show you why our students consistently score the top marks in the HSC.

1300 999 100

talent-100.com.au

Hurstville | **Epping** | **Chatswood**











