

# HSC STUDY GUIDE

# get results!

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



Simplifying your path to **HSC success**

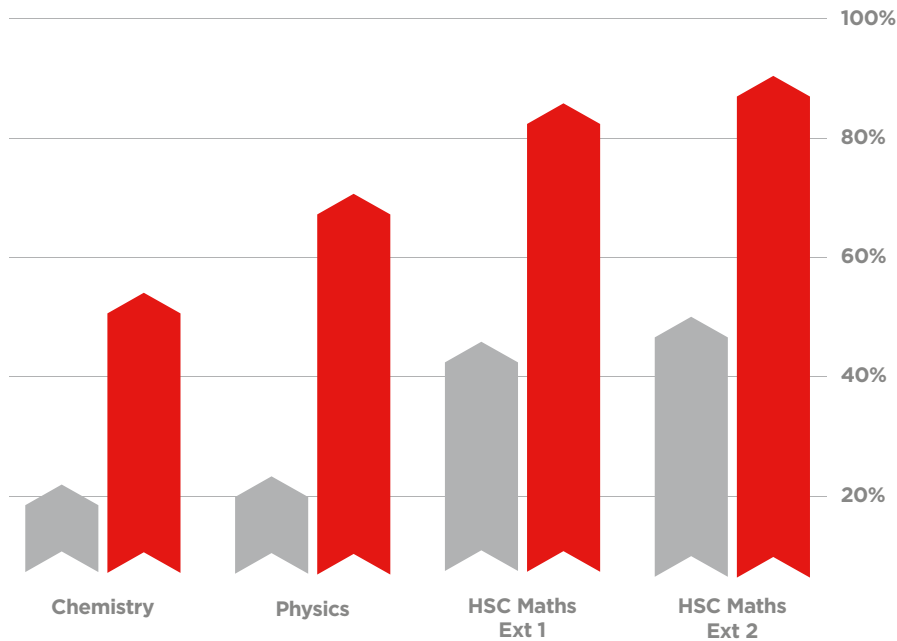
**TALENT100**

# our results

- + results-focused teaching
- + personalised learning
- + unmatched results

At Talent 100, our personalised and results-focused programs consistently help our students gain the best ATARs with 30% of our students scoring ATARs over 99 and 63% over 96, providing our students with the opportunity to study in Australia's top universities

With average-ranked students at Talent 100 scoring Band 6s in Mathematics, Physics and Chemistry, **our students are four times more likely to score in the top band (band 6)**, than the average student:



■ % of students in Talent 100 students in top band (band 6)  
■ % of NSW students in top band (band 6)

# gain an unfair advantage

30% of our students scored over 99 ATAR

63% of our students scored over 96 ATAR

Our students **outperform** their peers by up to **4 to 1**

## our team

**Sen Lin** - 1st Ext 2 Maths, 1st Ext 1 Maths NSW HSC 2008

**Alex Borowsky** - 1st Advanced English, NSW HSC 2007

**Anthony Morris** - 1st Ext 1 Maths, NSW HSC 2007

**Alex Stoyanov** - 1st Physics, NSW HSC 2007

**Dilshan Seneviratna** - 100th Percentile, UMAT 2008

**Eshan Affan** 99.20

**Niyati Chaukra** 99.35

**Richard Chua** 100

**Dinuksha De Silva** 99.85

**David Lee** 99.95

**Vannessa Leung** 99.90

**Marc Mierowksy** 99.95

**Guru Sandhu** 99.95

**Richard Shaw** 99.85

**Jason Tran** 99.45

**Chao Wang** 100

**David Wang** 99.95

# welcome note



## Dear Students,

Your final years at high school can be a tough time. The HSC is ultra-competitive. 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; and between pushing yourself and maintaining your sanity. This study guide has been prepared for you to show you how to score the highest ATAR by working smarter, rather than merely working harder.

In this study guide, Talent 100 has tried to distill the collective wisdom of the top students of previous HSCs. We've collected four articles written by the students who came 1st in the State that breakdown the techniques needed to score the top marks in Advanced English, Physics, Chemistry, and Extension 1 & 2 Mathematics.

While schools and the media debate the merits of placing too much emphasis on exams, students and parents alike know that the stakes in this game very high. In the Australian tertiary environment, your ATAR is your ticket into University, and what you do in the next two years can very much determine what you will be doing in the next 20.

We understand the importance of this and that's why at Talent 100, we are 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.

**Ultimately, there are more important things in life than exams. But, ironically, you might just need to do well in your exams in order to get there.**

We've created excellent result-focused courses for Year 9-12 for English, Maths, Physics and Chemistry that will maximise your ATAR. If you have found the articles in this study guide interesting, useful or would like to know more, please don't hesitate to call us on **(02) 8003 6887**. We're here to help.

Best Wishes and Good Luck,

**Richard Chua**  
Head Education Coordinator

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# the secrets of scaling

by Richard Chua

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

The short answer was 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 was a sports car (an r33 Skyline GTS-T) for University. My sister scored a 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.

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. That is, it is 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 breakdown the scaling of each subject.

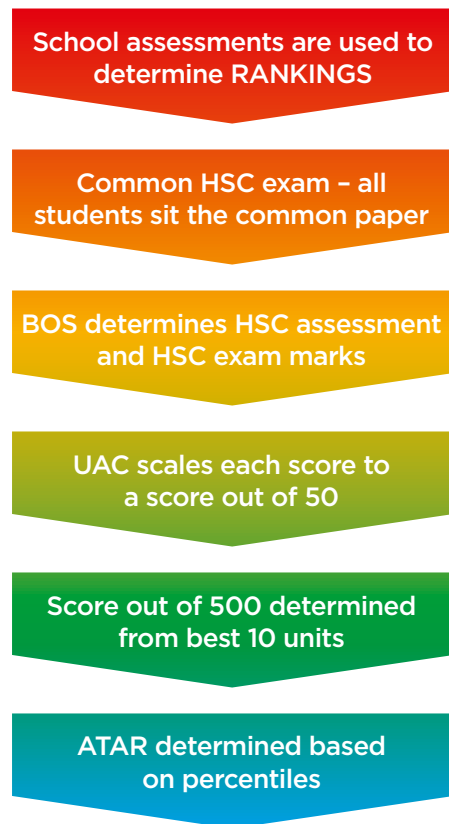
Top HSC students (whether by research or their own good instincts) not only understand scaling, they actively use this as a tool to score the highest ATAR. It's not just about working harder, its about working smarter.

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



# 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:



**Figure 1.** How your marks are converted into an ATAR

## 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 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, there is no need to re-adjust it 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



# the secrets of scaling

## 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 equal.

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 scaling is 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 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.

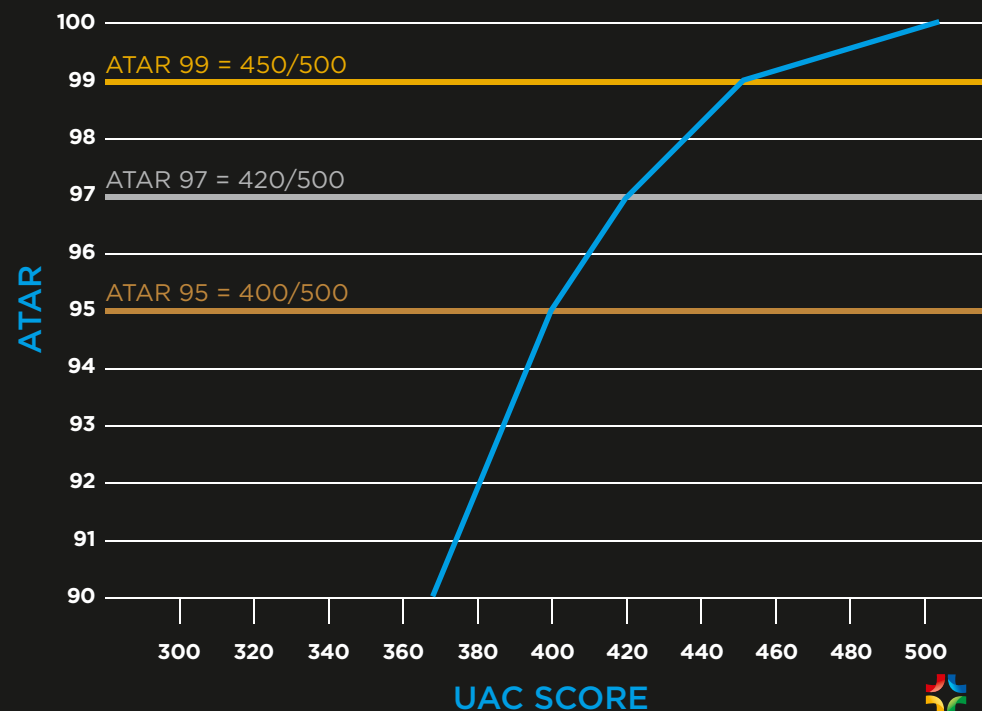
## ATAR vs UAC

As shown on the graph to the right, your ATAR is actually determined from the aggregate UAC score out of 500 (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 the state. The highest ATAR you can achieve is 99.95.

ATAR est.	UAC Score
99.95	478.9
99.5	457.7
99	446.6
98	431.3
95	401.5
90	367.4
85	340

Source: Report on the Scaling of the 2009 NSW HSC



# the secrets of scaling

## How can I maximise my ATAR?

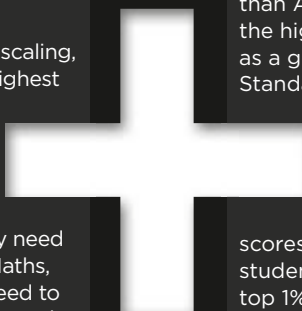
In order to maximise your ATAR, you should be acutely aware of how each of your subject scales and adjust your studies accordingly. Most students intuitively know that easier subjects tend to scale downwards, whilst harder subjects like Mathematics Extension 1 & 2 tend to scale up. In this section, I 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](http://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.

Categories	Maths	English	Science	Humanities
<b>Highest Scaling Subjects</b>	Extension 1 and 2	Advanced and Higher	Physics and Chemistry	Economics and Modern History
<b>Decision Rules</b>	<p><b>Maths Extension 1 and 2 are by far, the highest scaling subjects that are readily accessible to students.</b></p> <p>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.</p> <p>This last proviso “that you are a capable of” is very important. There is no point doing a high scaling Maths course if you can not do it. As a general rule of thumb, you should take the highest level of Maths that your school offers you.</p> <p><b>Anthony Morris’s article, Mastering Mathematics, explains exactly what level of Maths you should study, how to succeed in Maths and gives you a question-by-question breakdown of the infamous Maths Ext 2 paper.</b></p>	<p><b>Where possible you should take at least Advanced English.</b></p> <p>The Ext 1 &amp; 2 English courses scale slightly higher than Advanced. However, the higher English Subjects as a group, scale well above Standard English.</p> <p>For instance, students who scored in the 25% of Advanced English receive scores higher than those students who score in the top 1% of Standard English.</p> <p>If you are genuinely passionate about interested in 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.</p> <p><b>Alex Borowsky’s Article explains what it takes to succeed in HSC English on page 42</b></p>	<p><b>Physics and Chemistry are the highest scaling sciences and scale significantly better than biology, mainly because they contain a significant portion of numerical calculations.</b></p> <p>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.</p> <p>Students who have fair numeracy should definitely consider taking Physics and Chemistry.</p> <p><b>Alex Stoyanov’s Article “Succeeding in the Sciences” gives a comprehensive breakdown of the question types in the Physics and Chemistry exam, and what it takes to succeed.</b></p>	<p>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.</p> <p><b>Economics is the highest scaling humanity readily available*, followed by Modern History which scales appreciably lower.</b></p> <p>Ancient History, Business Studies, Commerce and Legal Studies scale even lower still.</p> <p>Aside from Economics, you must do exceptionally well in a humanities subjects to score equivalent marks to someone who is doing moderately well in Maths and Science.</p> <p><small>* Classical Languages scale extremely well, but only a handful of schools in the entire state have the departments to teach these subjects well. Hence, Economics is the highest scaling subject that is readily available.</small></p>



# the secrets of scaling

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 is 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 ignore subjects they are weaker at.

This is disastrous from an ATAR perspective because it leads to overstudying 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.



In order to score 99 ATAR, you need to be ranked in the top

- + 57% of Maths Ext 2
- + 25% of Maths Ext 1
- + 5% in Chemistry, Physics and English



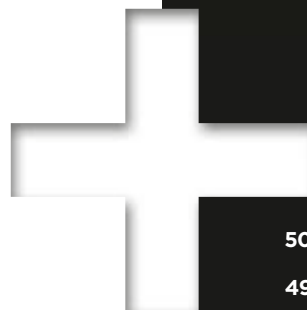
In order to score 97 ATAR, you need to be ranked in the top

- + 80% of Maths Ext 2
- + 47% of Maths Ext 1
- + 12% of Chemistry
- + 11% Physics and Adv English

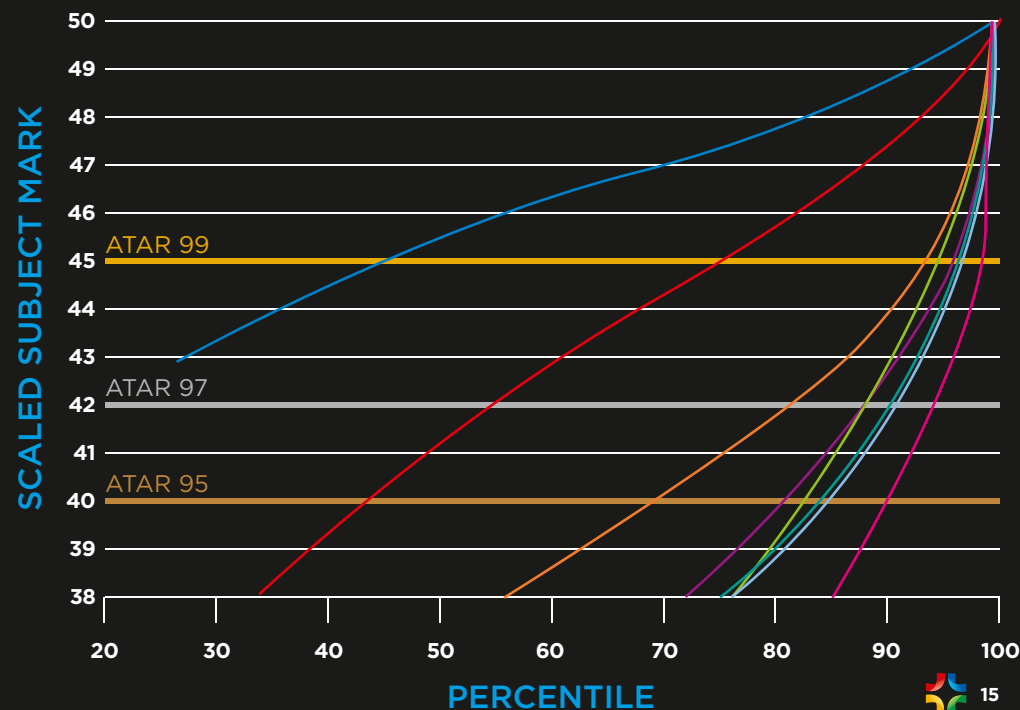


In order to score 95 ATAR, you need to be ranked in the top

- + 90% of Maths Ext 2
- + 60% of Maths Ext 1
- + 18% of Chemistry
- + 16% Physics and Adv English



- + Maths Ext 2
- + Maths Ext 1
- + Maths Adv
- + Chemistry
- + Physics
- + Biology
- + English Adv
- + English Ext 1



# the secrets of scaling

## 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 English, History, and Economics (in which I knew I needed a top result to compensate for their unfavourable 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

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 just that.

**1** We will 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. It is *perfect* practice that makes *perfect*, rather than practice alone.

**Our concise, straight-forward and results-focused approach has helped the Talent 100 students outperform their peers 4 to 1.** 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](http://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](http://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 11 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 15 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 – so for instance if you are average in 4U Maths, and your school is about the state average, then you would need to be in the top 46%. 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

By 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 maximize 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.

Go to [www.talent-100.com.au/atar](http://www.talent-100.com.au/atar) for the most comprehensive **ATAR calculator** in NSW.



# testimonial

**Name** George Issa

**School** Sydney Technical High School

**ATAR** 99.90



“Talent 100 is a unique HSC 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, 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 3U and 4U Maths, I still got an ATAR of 99.9 which provided me with a scholarship of \$10,000 p.a. to University!

I've learnt that the HSC is truly a game in which to score the best ATAR, you need to maximise your aggregate marks. Talent 100 has helped me to understand this and showed my how to use it to my advantage. I would highly recommend any student to attend this unique HSC tutoring centre.”

# ATAR calculator

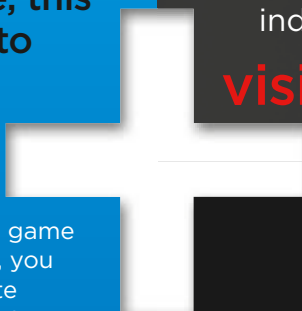
**The most advanced online ATAR calculator on the web.**

If you're wanting 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
- + **Breakdown your target ATAR** into ranks and marks in each individual subject

visit [www.talent-100.com.au/atar](http://www.talent-100.com.au/atar)



# don't miss out on these...

## 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 your ATAR
- + to manage your time properly
- + how 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](http://www.talent-100.com.au)  
or call us on (02) 8003 6887

# succeeding in the sciences

by Alex Stoyanov

## If you are doing HSC Physics and Chemistry, find out how to score the best marks.

Alex Stoyanov explains the difference between “HSC” and “real” science, and what it takes to do really well in the “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.



# succeeding in the sciences

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 Olympiad team – regarded as the brightest young minds in Australian science – no member of the physics team achieved a state ranking, whilst only 3 members of chemistry were able to. Why is this 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 Dwyer 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! And for myself, 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! In contrast, in say a four mark question, the sniper makes four targeted points in order to score those four marks.

**In reality, the HSC is like a game; there are certain things you can do to prepare which can give you an advantage over those that may be more “knowledgeable” in the sciences.**

Here are 4 things I think can really help you improve your marks.

## 1. Know the syllabus

Knowing the syllabus is undoubtedly the most important thing for a science student to know. 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, whilst missing out key points in the syllabus. No dot point should be left unanswered.

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 exam-relevant. Our teaching concisely covers every syllabus dot point to a full marks standard, whilst “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 question verbs

If you look at any question in a HSC sciences paper you will find that all of them start with a specific verb such as “describe”, “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 judgement.

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 practice. Our examination-style homework can help you to do that on a weekly basis and is a great way to perfect your examination technique.



# succeeding in the sciences

## 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 it's a really quick and effective way to pick out any holes in your understanding. Expose yourself to as many different question types and lengths as you can find, and this will ensure you can take dot-points, combine them, and then compose answers for questions worth 2 marks, 4 marks or even 8 marks. Moreover, the 'perfect practice makes perfect' motto is particularly applicable to calculations. Being good at calculation questions takes the stress out of data-processing assessments and will guarantee you marks in your exams.

Practice exams should also be part of your exam preparation. Do them under exam conditions (no notes!) and within the prescribed time. Like Talent 100's examination-style homework, this gets 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 yourself to predict the mark allocation. This way, you will write a concise, structured answer that fulfils the marking criteria, rather than a verbose response that only shows a 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 is composed of 65% real science (performing calculations and explaining concepts which require real scientific knowledge) and 35% 'soft science' (how science is applied, 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.

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, i.e. you merely apply the principles you have learnt to different scenarios.

**Memorisation alone will not suffice. 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 rote-learning 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

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. Together, both intellectual foundation and factual knowledge will ensure you score top marks.



# succeeding in the sciences

## 4. Know your practicals and the principles behind them

Practicals make up a significant (-15%-20%) of all 3 science subjects. So, it is imperative that you know all your practicals, including the set-up, method, interpretation of results and 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 your results.**

You should be aware that the 'hit and miss' nature of practical assessments can 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 data-processing 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.

## snap shot

### into a 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 science 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.

**This is a myth.**

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

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 over 60% of our students in 2009 scored a BAND 6 in Physics and Chemistry.**

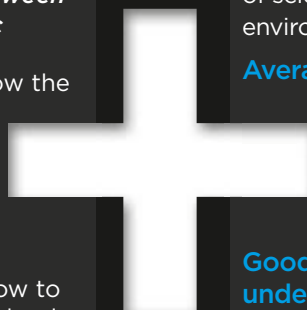
## Physics and Chemistry for Year 11 and 12

**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 Christine Zhang (1st in Chemistry 2008) and Alex Stoyanov (1st Physics 2007).
- + **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.

# snap shot

Question Type	Calculations	Explanations	Research Questions	Practicals	Curve Balls
<b>Weight</b>	30%	30%	15-20%	15%	Up to 10%
<b>What it involves</b>	<p>Almost everyone knows that a science exam will invariably involve some level of calculations, and they make up the bulk of exams. For example, <i>calculate the final velocity of a ball dropped from a height of 10m.</i></p> <p><b>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.</b></p> <p>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.</p>	<p>Likewise, you should all know that a science exam is going to ask you to explain, describe or apply some key theory. For instance, <i>explain the difference between covalent and ionic bonding.</i></p> <p>Most students know the general principles but better students will understand all the finer distinctions, exceptions, and how to explain concepts clearly and concisely.</p>	<p>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.</p> <p><b>Average students tend to consider this the 'fluffy stuff' trivial and to be ignored.</b></p> <p><b>Good students understand this is part of the game, and an opportunity to distinguish themselves, and have pre-prepared answers to ALL such question types.</b></p> <p>These types of questions will be exhaustively listed in the syllabus.</p>	<p>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).</p> <p><b>Top students understand how theory is applied in practicals and even know how to analyse their results in terms of reliability, accuracy and validity.</b></p>	<p><b>Curve balls, questions are become increasingly popular in HSCs, and are designed to distinguish between those truly gifted (or prepared) and rote-learners.</b></p> <p>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.</p>
<b>Level of Achievement</b>	Average Student	Above Average Student	Good Students - High Achiever	High Achievers	High Achievers - State Rankers/Talent 100 Tutors



# profile



## Name

Alex Stoyanov

## School

James Ruse Agricultural High School

UAI100.00

## 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  
+ 2/3U 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

### What were your secrets of success in physics and chemistry?

- + 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.

### Advice 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, its 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 I like to teach 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.



# mastering mathematics

by Anthony Morris

## 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 Morris 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 currently studies Advanced Mathematics at UNSW on scholarship.

In this article, I will 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 below.

### 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 staggering is 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 average-below average and still be on track for a top ATAR.

It is hence clear that Maths Ext 1 and 2 are a must if you are good maths.

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



# mastering mathematics

## 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. Understanding 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 your formulae, know when and where to apply it, and to use the formulae without making mistakes. You should build familiarity with your formulae through repeated practice, that is by constantly using them to do questions and exercises on each topic.

**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 you won't even know what formulae to use and when to use it.

For this reason, at Talent 100, every time we teach a formulae 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 formulae is derived. When you can see the logic behind the formulae, it 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 very small distance "h" away from that point. This formula describes the tangent, when these two points become progressively smaller or when  $h \rightarrow 0$ .

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

This same principle to remembering formulae can, and should be applied to almost all formula in the HSC. You will notice that you get a much better understanding of the underlying maths and are able to memorise your formula 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, it is likewise important that you set out and structure your mathematical explanations clearly.

### Clear setting out helps you:

- + avoid making careless mistakes in the first place;
- + gives your examiners a clear picture of the logic and flow of your argument; and
- + provides a strong platform for "cracking" the harder questions.

If you are making a lot of careless errors, you 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  $n = k + 1$ . 'Talk' to your marker in your proofs and explain why it is true, don't make them guess your logic.
- + Draw BIG diagrams. In geometry questions a larger diagram lets you to mark in more angles and allows you to see things more clearly. In curve sketching questions, you are able to indicate the important features accurately.

# mastering mathematics

By doing these things, not only will you make it easier for the marker to understand what you are doing and award you part marks if you made a calculation error along the way, but you also reduce the chance that you will make a careless mistake, and you make it easier to check where you went wrong if you did.

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 as to 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 personally 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; 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 do 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).

## snap shot

# into a 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.**

**The infamous Extension 2 paper consists of eight 15 mark questions to be answered in 3 hours.**

In this section, we breakdown 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 4. 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+.

questions 1 - 2  
**easy / medium**

questions 3 - 5  
**medium**

questions 6 - 8  
**hard**

## questions 1 - 2 (aim for 30/30)

The first two questions are simple and straightforward, focusing on integration and complex numbers, respectively. The questions are very 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 really be second nature.

**It is important not to give away 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 (aim for 30-35/45)

The next three questions contain questions on the 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.

Although the Maths Extension courses are demanding, doing reasonably well in them provides the cornerstone of a very high ATAR. Mastering mathematics requires sustained and consistent effort throughout the year. The Talent 100 course provides a systematic and structured approach to scoring the top marks. We teach Maths in simple and clear manner which works to build a solid understanding of the theory and perfect your examination technique. If you're looking to score top marks, give us a call. We're here to help.

## question 6-8 (aim 20-25/45)

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. However, 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 your work and answer as much as possible so that you can be awarded maximum marks.

Many of the questions here are based on "Harder 3 Unit Topics", involving 3U 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 3U knowledge to much harder questions. This may work for top students, but for the average student, the best way to prepare is to practice 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 utilize this result, to "hence, deduce" another result. Thus, 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 that you are able to scavenge quickly add up to something significant.

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



# profile



## Name

Sen Lin

## School

James Ruse Agricultural  
High School

**UAI** 100.00

## University Course

UNSW B Sci (Maths)/  
B Comm (Actuarial  
Studies)



## 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, English Advanced,  
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?

Maths was the only subject I consistently finished all my homework for because I knew this was the only subject that is not 'crammable'. In doing all my homework, I understood all the concepts and grew familiar with the type of questions they could ask in the HSC. When it came to exam preparation, I did as many past papers as I could.

### How did you deal with stress and challenges?

The only time I felt stressed was during exam period. I adopted the mentality that I only have to 'suffer' a few days for the next few months of 'freedom'. In the study month before HSC, I told myself this set of exams is the end of 12 years of schooling, so I might as well try my hardest. The scholarship worth \$10,000 a year was also an incentive for me to work towards.

### Advice for HSC students

You will be better at some subjects than you are at others, i.e. it will take you less time to learn one subject than it will to learn another. Organise your time so that you can spend more time on the subjects which you are not as strong. 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.

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

### Why I like to teach at Talent 100?

It has always been a desire of mine to share my enjoyment of mathematics with others. Teaching at Talent 100 provides me this opportunity to pass on my knowledge to the next group of students. Despite the satisfaction I gain from teaching mathematics, 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.



# acing english

by Alex Borowsky

## English is a fact of life in the HSC. Whether you like it or not, it counts for 20% of your HSC.

In this article Alex Borowsky 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.

Ever since that morning when results spilled out, when printers overdosed on HSC headlines, when ABC and Channel 7 haggled for interviews with the sisters of mothers of best-in-shows, 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 to the core. “I have no idea!”

I wanted to scream, as all of them hovered in silence, their pens poised and breath baited, anxious to unlock the secret of success. How was I to possibly

gabble out a couple of sentences that would transcribe what I had done, count off on my fingers a list of bullet points that alphabetised the road to high achievement?

You've probably gathered that landing top of the state in both the Advanced and Extension 2 English courses came as much of a shock to me as it did to the rest of New South Wales.

But then, once the reporters had pried and pressed and the storm of excitement had settled, I began to think about how I might answer that question properly, with all factors and ingredients in mind. And I think – having now had the time to think – that there might just be something of a formula to finishing well in English. Don't get me wrong: there are always those things that can't

really be taught (natural talent and an intrinsic flair for the written language, perhaps), and I certainly cannot promise to pave a direct path to First-in-the-State territory, but there are some steps I took which, though doing so subconsciously and without a second thought at the time, I feel I might be able to pass on to you, albeit with a little experience behind me.

I suppose 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 become very tedious at moments!

Look yourself in the mirror and consciously decide to make a commitment to your English study. A lot of students (myself included!) who pass through the HSC find that studying for more black-and-white, right-and-wrong type subjects like maths and science comes far easier - and so requires far less energy - than sitting down to struggle through an English essay.

Remember that 2 unit English is the only subject that is compulsory for everyone in the state, and is a discriminating factor in determining your ATAR, so commit yourself and your time to tackling what is, in actual fact, a very complex and difficult component of study!



# acing 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 will tell you exactly what is required of you, and set a kind of perimeter around, a premise for the work you produce.**

Remember that your HSC examinations can ONLY test you on that which is referenced in the syllabus - so if you are not complying with its prescriptions, you will not be giving those markers what they want to read.

Particularly 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 the ideas around which you write your extended response and creative composition. Personally, all three of my 'insights' about 'Inner Journeys' were taken directly from the syllabus blurb itself - and I guess it went down pretty well!

## 3. Think Structure

The first factor your examiners will look for is whether you have structured your response/s soundly: that is, whether you have organized and/or ordered your ideas in a way that allows the reader to easily follow your train of thought.

**If you asked me to choose one word that defines the Advanced English Course, I'd say Structure, that is, whether you've organized your ideas in a way that is easy to follow."**

Remember that each of your extended responses need to have:

- + An **Introduction** (with an opening statement, a summary of your ideas and references to your text)
- + A **Body** (at least 3 or 4 paragraphs constructed via IDEA, NOT TEXT, as mentioned under 'Think Conceptually' and chockablock with detailed analysis / deconstruction 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 pretty compressed rundown of the basic structure you need to memorise, and our programs offered at Talent 100 will flesh out this formula in

specific detail, making use of specific examples and sample responses.

You should memorise this structure and **do not let it slip**. At all times, ensure that your ideas move appropriately from one to the next, that your sentences and deconstruction flow and directly support the idea/s you have presented, that your language of connection (how you link your ideas and/or texts) is inserted in the right places and crafts appropriate ties.

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

Whilst setting up clear and insightful ideas within each of your responses is, as already mentioned, extremely important, it is essentially your **deconstruction** of your texts - your identification of **how** a composer shapes meaning through his or her text via his or her use of distinctive language features - that will award you your marks. Therefore, if I had to choose only one acronym to memorise throughout the dreaded HSC, it would be this one: ISE.

In other words, when you are analysing or deconstructing a text, your need to put together sentences that are ALWAYS comprised of the following three components:

### Analysis/ Deconstruction =

#### IDENTIFY

Clearly **state** the language feature you have chosen as an example from the text.

#### SUPPORT

**Quote** the section of the text which utilizes this language feature.

#### EXPLAIN

Explain the **effect** of this quote- that is, how it works to create meaning, in relation to the idea being explored.

Our courses drive this into you again and again, teaching you how to perfect the skill of being concise and clear, but still informative and instrumental in your deconstruction of any text. This formula will help you to steer away from empty wafting about the synopsis of your text (which won't really do anything for your response) and develop clear, concise points of analyse which illustrate your firm knowledge of how your composer shapes meaning, and how the ideas you have set up are represented through your texts - which is your essential task in ALL of the different units of study in English.



# acing english

## 5. Don't just regurgitate: answer the question!

Of acing English, this is possibly the single most important piece of advice I can impart.

**With HSC English comes a major misconception: students seem predisposed to believe that memorising a couple of solid essays, and then regurgitating them in the exam, is going to get them through. This is not the case!**

The syllabus states that a student cannot attain higher than a C in any response if he or she does not directly answer the question provided. Although you are definitely able to learn main ideas, concepts and points of analysis that will go into your response, the key to mastering the HSC English course is being able to **adapt your ideas** to whatever stimulus and question is offered. This does not mean simply inserting a couple of words in here and there: it means re-focusing your line of argument, 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 pre-developed ideas is being able to look at a given question, pick out the key words and/

or phrases, and then comprehend exactly **what is being asked of you** in this question. Before you begin writing, formulate an argument for yourself: how do I feel about this question? What is the argument I wish to communicate? With every practice question you are allocated in class work, use your highlighter to identify those parts to which you need to refer continually in your response. Talent 100's English course will give you a systematic rundown on the key to 'answering the question' – of identifying what is being asked of you, and of focusing your argument to wholly satisfy these specifications.

Throughout your English study, you should never compose a practice response that is not written in response to a specific question. You need to get used to moulding your response to comply with the instructions required of you.

Remember that in that exam, no matter how strong and sophisticated your regurgitated essay might be, you won't score highly unless you are 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 you would like to write in your responses might not be the

appropriate material for the nature of the question specified.

Also, something very important to remember is that there is **no guarantee that you will be asked to write in the form of an essay!** Usually – like in the example from 2007 provided above – the form of the response is not actually referenced, which is code for an essay-type answer. However, another form can be specified at any time: a feature article, letter, journal entry, etcetera.

## 7. Practice makes perfect: practise your skills

In addition to practicing adapting your material to different questions and writing in different forms, there are some sections of the HSC English course – namely Sections 1 and 2 of Paper 1 – about which yet another misconception has formed: that it is impossible to study for them, because you cannot predict what will be given to you.

### **This is not the case!**

It is important to realise from the very beginning that yes, you **can** study for the sections that do not necessarily focus on any one or more of your set texts.

Whilst of course, 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.

As a kind of final thought, I want to stress again that I can't promise a guaranteed success rate from these tips: 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 that which worked for me. Once you do commit yourself to your English study, you too need to figure out what is right for you as an individual, and tailor your methods to enhance your strengths and improve your weaknesses.

As I sign out, I'll say one more thing: enjoy your English. Me - I love it, and I think that passion, that willingness to learn, is an important part of the reason I achieved so highly, and why I've devoted so much of my time and energy to preparing a course that I believe will help you excel in English. The HSC course is brilliant if you're willing to embrace it; it taught me so much about literature, about the world and the society in which we live, and even about myself. What's to say it can't do the same for you?

**Talent 100 offers a yearly English Course updated for the 2009 English syllabus.**

# how to ace your UMAT

by Dilshan Seneviratna

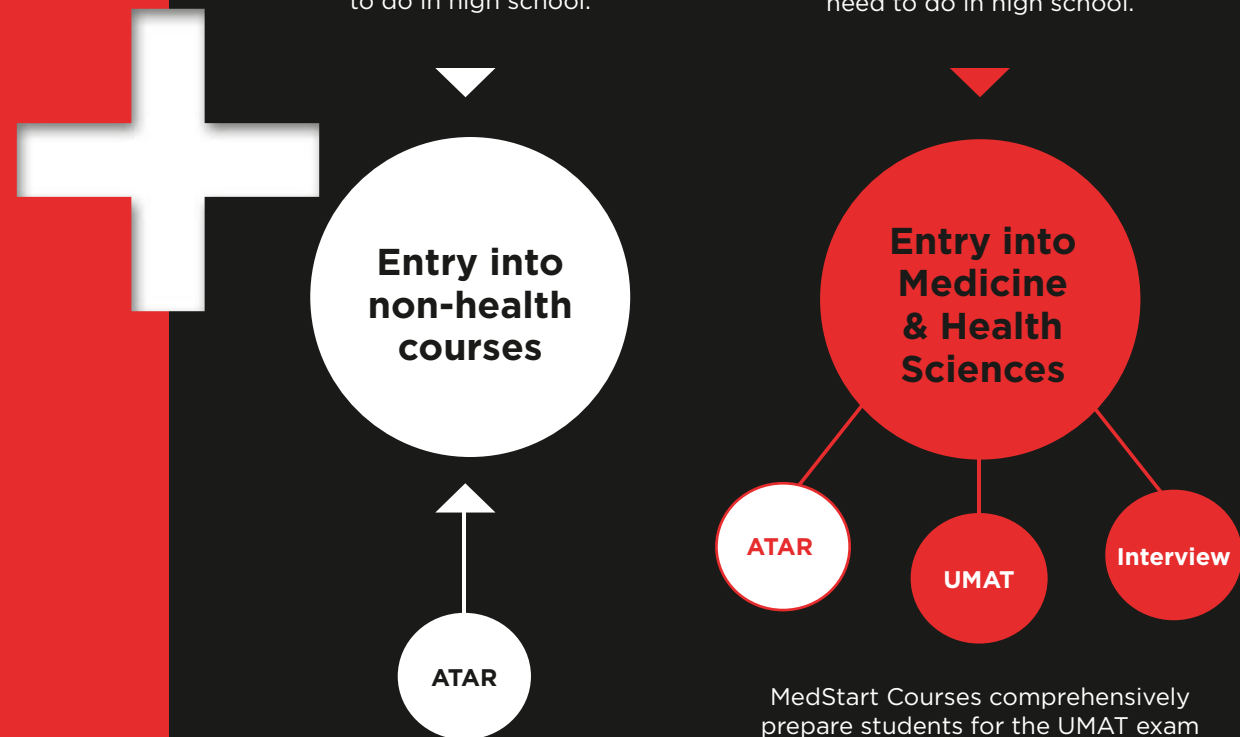
**Getting into Medicine is tough. Not only do you have to score top marks in the HSC, you need to master another test - the infamous UMAT**

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 Advanced Science/ Medicine at Sydney University.

Entering medicine and the other health professions can be extremely challenging. Whilst entering any other course only requires a higher ATAR, admission into medicine and health degrees (dentistry, optometry, physiotherapy) requires you to master three types of tests.

What students wanting to be lawyers, engineers, bankers or any non-health professional courses need to do in high school.

What students wanting to become doctors, dentists, optometrists and pharmacists need to do in high school.



MedStart Courses comprehensively prepare students for the UMAT exam and University Interviews.



# how to ace your UMAT

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'.

In this article, we will examine:

- + How the UMAT is structured
- + The Importance of speed in the exam
- + Review each of the section & the particular type of thinking they test

Unlike your HSC which is knowledge-based or curriculum-based, the UMAT exam is skills based. In each of its section, 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.

## How the UMAT is structured

	Number of Questions	Time in Minutes	Time average per Question (seconds)
<b>Section 1:</b> Logical Reasoning and Problem Solving	44	65	88
<b>Section 2:</b> Understanding People	40	50	75
<b>Section 3:</b> Non-Verbal Reasoning	38	50	79

## Time is of the Essence

Before examining each section in greater detail, it is important to emphasise: **The UMAT is a race.** That is to say, most students could score much higher marks if they had more time. Given an extra 15-20 minutes, most students could finish all sections of the UMAT. However, the time pressure is one of the biggest challenges - and biggest differentiators - of the UMAT.

solve in it 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 may be quicker to eliminate the three wrong answer choices then trying to find the "definitively correct" answer.

**Since time is your biggest enemy, knowing how to solve a question, and knowing how to question *quickly* are two entirely different skills.**

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

## Section 1 - Logical Reasoning and Problem Solving

Each section tests a different type of thinking. Section 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 and other articles you read, as well as to diagnose patient's symptoms etc. It is therefore appropriate that a section of

**To illustrate, if you were to take just 10 seconds longer on average to finish each question in Section 1, you would not have enough time to answer the last 4 questions of the UMAT, and instantly lose 4 marks.**

Understanding the time pressure is one of the most important factors of success in UMAT and 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

# how to ace your UMAT

the UMAT tests your ability to reason, given a known set of facts

There are four main question types:

- + **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** - you are asked to make conclusions or evaluate the set-up of a controlled scientific experiment.
- + **Problem Solving** - you are placed in a scenario and given a series of clues and conditions and are required to solve a hypothetical problem (Eg. who came 1st in a race out 5 people)

Section 1 is traditionally the section that students have the most difficulty with and often do not finish 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, Section 1 becomes much more straight-forward.**

## Section 2 - Understanding People

Section 2 tests your ability to understand and think about people. Here, the information given will be based on a passage, dialogue, or other texts 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 not only able to diagnose and recommend the correct treatment, you must also be able to empathise with a patient and communicate these sensitive issues with understanding and care. Section 2 is designed to screen potential health professionals who are able to develop a patient-focused 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** - i.e. whether a doctor has appropriately responded to a patient's concerns
- + **Emotionally intense situations** - situations such as spouses arguing, children arguing with parents, couples unable to have children
- + **Dealing with illness** - Involves how people and their caretakers' lives

Most students are able to finish Section 2 on time, but the exam can be difficult because it can be very hard to discriminate between two answers that both seem correct.

## Section 3 - Non-Verbal Reasoning

Whilst section 1 tests your ability to process information and draw logical conclusions, section 3 tests your abstract reasoning - your ability to reason based on incomplete and non-verbal information. Section 3 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** - A series of 5 shapes/patterns are given to you in a random order. You need 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 5 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 Section 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 Preparation and Training Courses will help you do exactly that, teaching you the methods to categorically breakdown every question type in the UMAT, providing you with Online Practice (10 Mock Exams and Practice Drills), and personalised follow up support.** Find out more about the UMAT with our **free "Acing your UMAT" information seminar**, or test your skills with **Free UMAT Sample Questions and Practice Papers.**

Visit [www.medstart.com.au](http://www.medstart.com.au) or call **8003 6887** to find out more.

# profile



## Name

Dilshan Seneviratna

## School

Baulkham Hills High School

## University course

USYD Bachelor of Science (Adv) / Bachelor of Medicine / Bachelor of Surgery

UAI 99.95

## UMAT percentiles/marks

- + Section 1 - 81
- + Section 2 - 59
- + Section 3 - 74
- + 100th Percentile

## Favourite Section

- + Section 1

## Total Hours of preparation per week

- + January to April - on and off, maybe one to two hours per week.
- + April to end of June - on and off, maybe one hour per couple of days.
- + July - 3-6 hours a day.

## Extra Curricular activities

- + Program facilitator at the International University Scholars Leadership Symposium (August 2010), held in Malacca, Malaysia.
- + Group leader for the 2010 Make Poverty History Roadtrip
- + Reach™ (Sydney crew) (2010)
- + Events manager of COMA (Combined medical association) 2009 - mid 2010

- + Volunteer at Anglican Retirement Village
- + 2008 National Youth Science Forum (NYSF)
- + Prefect (2008)
- + Sponsored by Baulkham Hills Rotary Club to attend the 2007 Mitchell Youth Leadership Forum (MYLF).
- + Young Scientists of Australia (YSA) (2005 - present)
- + Red Cross (2006, 2007, 2008)
- + Drums since 2003 (School Band 2003-2007)



## Questions

### What were your Secrets of success in UMAT?

Proper practice. Practice does not make perfect, only proper practice makes perfect. Although it would have been more effective and less stressful to do consistent practice throughout the year, as a crammer I was not able to motivate myself to do this. However, when I started putting my head down to practice, it was extremely efficient.

Each practice quiz or exercise should always be done to the time limit. As you are going through, write down each question you are unsure of. Then submit the quiz, and reattempt these questions without looking at the solution. Then the solutions for all questions should be read.

Any epiphany I had about question styles and methods of solution I wrote down. It was more difficult because back in my day, there was

really very little theory behind the UMAT even in the top preparation courses. A lot of it was upon the student to work out for themselves.

Always actively learn. Don't sit down and get your 'one hour of umat' out of the way. Get motivated, imagine your results and your future career, and you will feel compelled to work to improve.

### How did you deal with stress and challenges of UMAT?

I dealt with it very poorly, so this is good advice of what not to do. I was unable to motivate myself to do consistent practice until a month or two out of the UMAT, which resulted in me doing several hours a day in the weeks leading up to the UMAT. In conjunction with the trial HSC, it was an extremely stressful time with very little sleep. There was a big risk that I would get burnt out, but luckily that did not happen.

### Advice for UMAT Students

Start early. Stress can make you super efficient, but if your motivation is not there in the moment then it will be overwhelming and counterproductive. The safe route is to do regular and consistent practice because that is guaranteed to work as long as you are always actively learning.

Learn the concrete theory as early as possible - months or even a year in advance. Then consolidate and internalise your learning by doing regular practice, applying all the skills you have learned. Revisit the theory at regular intervals to ensure you have learned everything.

### Why I like to teach at Talent 100?

It is the only UMAT course out there with proper theory material to supplement hundreds of practice questions. When I was

practicing for the UMAT, it was up to the student to work out proper approaches to solving questions for themselves. As with all standardised tests, there is a lot that can be learned about UMAT questions which can give you a huge head start in your practice.

Also, the teaching at Talent 100 is super efficient. The approach to teaching here requires the bare minimum time investment for maximum results. There is no 'fluff' or unnecessary learning.

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



# getting the edge in economics

by Richard Chua and Dilshan Seneviratna

**Economics is perhaps the highest scaling “humanities” subject, but scoring top marks in this subject comes with its own unique challenges.**

In this article, Richard Chua and Dilshan Seneviratna explore what it takes to get the edge in Economics. Richard won the George Loxton Prize for Economics in Sydney Grammar, graduated from UNSW Commerce with Distinction and currently works as a consultant in Bain & Co. Dilshan ranked 5th in NSW in HSC Economics in 2008, and was awarded the coveted UNSW Finance Co-op Scholarship.

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?

## Why study Economics ?

One of the most practical reasons to study Economics is due to its exceptional scaling. Economics is the highest scaling humanities subject that is readily available to HSC Students\* and scales 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.**

For any of you who are looking to enter the corporate world - in accounting, finance, management or even sales - a solid grasp of Economics is a foundation for understanding how business works, and it will train you in the right type of thinking needed to succeed in these professions. Before you enter the high-flying world of corporate finance, 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 there is significant overlap between what you do in Year 11 and 12 and 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**. Even scientists, engineers and health professionals will be affected by things like interest rate changes and the ups and downs of a business cycle.

\*Classical Languages such as Greek and Latin in fact scale much higher than Economics, but only a select few private schools have the resources to teach these subjects properly. Hence, choosing these subjects on scaling is a false logic. In contrast, Economics is available in almost all schools.

# getting the edge in economics

## The Hidden Danger in Economics - Essay Questions

Despite the excellent scaling in Economics, there is a hidden danger or risk involve 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 (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 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 recieved the Economics Prize and it was my best subject for my assessments. Unfortunately, I guessed the Essay

Questions wrongly in the HSC Exam, panicked and only received a score of 90, dropping more than 30 rankings which meant that what was 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 2-3 marks, whilst 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 straight-forward. They require an understanding of the 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 dot points 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.

# getting the edge in economics

A good way or formula to guarantee you these marks is as follows. Firstly, 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. The following steps are a proven formula for helping you get full marks in, say, a four mark question.

- + **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 your point.

Whilst 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, its 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 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, you 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", you 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 make is that they fail to answer the question at hand. Rather, they start writing pre-prepared answers to the questions they have prepared for, rather than the question that the examiner is actually asking for. Preparing for the essay question is vital. Without the right statistics, research and evidence, your Essay will never reach the top band. But you 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", "asses", "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 to 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-to-day meanings you would expect in conversations; they have a specific meaning in this 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 (for e.g. Keynesian 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
- + **have up-to-date research**, including relevant topics being discussed in the news.

When you have a solid understanding of the 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.

# getting the edge in economics

figures, there are three sources of information you should consider. The RBA's Statement 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 Treasury (although you may need to discount some of the loftier political speak contained within). Finally, you should be constantly scanning newspapers and the financial review to evaluate the most recent trends and issues facing our Economy. A great journalist to follow here is Sydney Morning Herald's Ross Gittins, who has made it his business to simplify economic issues facing the country for the everyday person.

#### 4. Refer to the Stimulus

Finally, many essay questions have stimulus material, such as a chart or a passage or comment made by a particular person or body, and ask you to evaluate such comment 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 it says and refer to it in the body of your essay, explaining why it agrees with or 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 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 cropping up 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 the 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**.

And whilst 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.
- + **Up-to-date research on Australia's economic performance**, with insightful analysis of relevant economic issues to help you create A-range essay responses
- + **HSC-style homework and questions**, to ensure you can translate your understanding of the course into marks in a real examination
- + **One-on-One help with Economics Essays**, to help you develop your own specific, structured, and logical essays to top your examinations.



# headstart your HSC

by Richard Chua

**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 a Year 10 student.

**Whilst 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.**

Firstly, it is important to pick the right subjects. If you look at the scaling of subjects such as Maths Ext 1 & 2, Physics, Chemistry and English Advanced, you can see that performing decently in these subjects will give you a very good ATAR, and performing well will give you an extremely high ATAR

Secondly, if you are considering these subjects, it is worthwhile to invest some time in Year 10 to build a strong foundation for top performance in your final years. These subjects are highly competitive: why not start learning some of them now?

As the name suggests, the Talent 100 Headstart Program aims to give students a competitive advantage by starting them early. Our courses teach a simplified version of the Year 11 syllabus for Maths Extension 1; Physics & Chemistry; and English.

**The aim of the Headstart Programs is to build strong foundations in the highest scaling subjects, so that students are well equipped to score top ATARs.**

The philosophy behind Headstart is simple: when you are doing something for the first time, you basically are aiming for about 70%. When you are doing the same thing for a second time, you naturally aim higher, perhaps 90%. Headstart aims to teach students the bulk of the preliminary HSC course in Year 10 so that they have this second time advantage in Year 11 and 12 when it really counts.

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

If you are currently in Year 10, you can certainly take some actions now that will make it easier to score a higher ATAR. Perhaps the most important decision you will make is to pick the right subjects. As suggested in the scaling article, the subjects that scale the best are Maths Ext 1 & 2, Physics, Chemistry and Advanced (or higher) English. Performing moderately well in these subjects will give you a relatively high ATAR, whilst performing even exceptionally in lower scaling subjects can lead to unexpectedly low ATARs.

# headstart your HSC

If you're serious about getting a high ATAR, a very simple strategy is to perform well in these subjects, often referred to as the 99+ subjects. The Headstart Program helps you to do that by introducing you to the core concepts of the Year 11 Maths, Physics, Chemistry and English syllabi a year earlier, so that you have strong foundations in these subjects and "a second time" advantage in Year 11.

## I'm already doing well in year 10 – is tuition useful for me?

Even though you might already be doing well in Year 9 and 10, you should realise that there is a very big jump in difficulty from Year 10 to 11. For instance, in Mathematics, you only learn Calculus in year 11, which is the first truly conceptually difficult topic, and in science, you will focus on particular branches such as Physics and Chemistry, rather than doing general science topics such as Geology. This is compounded by the fact that competition gets much tougher in the later years, as students who typically procrastinate start to put in more effort closer to the HSC.

Because of this greater focus, the difficulty of the subject increases steeply in Year 11 and steeply again in Year 12, and many students who are typically used to doing well throughout high school suddenly find they are

scoring relatively low marks. The result is that they lose confidence and their marks start to drop in the very years that are most important, leading to sub-optimal ATARs.

## Can Headstart really help me?

The Headstart Program is a very effective program because of its relevant, concise and results-focused approach. In Headstart, we only teach those topic areas that students will study in Year 11, so you can be certain that the effort you put in now will pay dividends in the near future. That means we do not teach topics that you may learn in Year 10 at school if they are not in the Year 11 syllabus such as statistics or geology.

By having such a strong results-focus, Headstart effectively allows a smooth and successful transition into Year 11. The aim is to put you 70% of the way there so that the workload and course content in Year 11 feels familiar and easy, hence it becomes easier to score top marks in assessments.

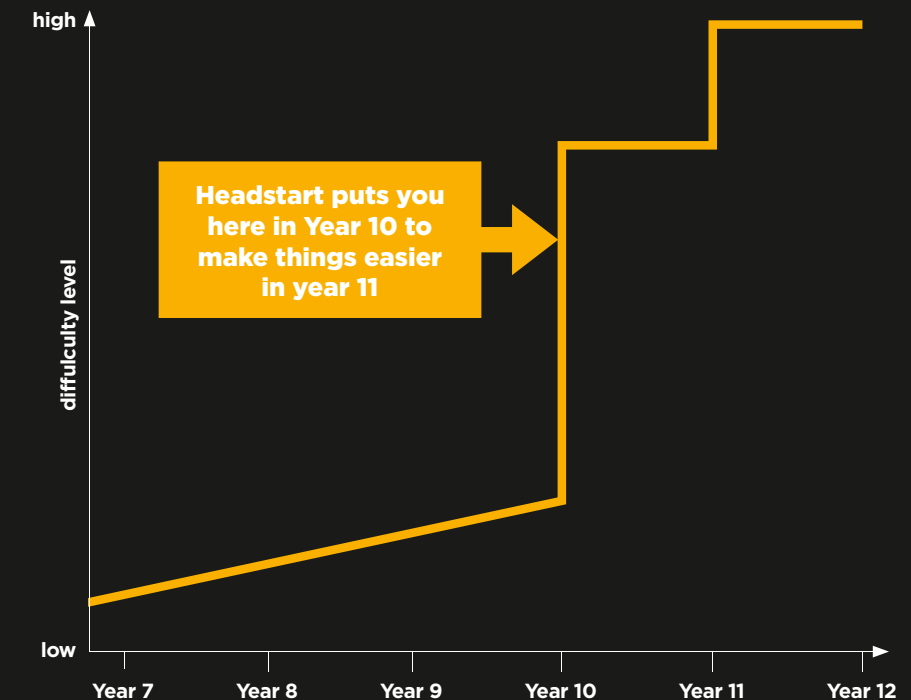
**In fact, our Headstart students out-performed their non-headstart peers in our standardised exams by an average of 6.5% in Mathematics and 5% in the Sciences!**

While this may seem negligible, it could (and often is) the difference between a Band 5 and a Band 6.

Finally, by developing strong foundations in these subjects you can free up more time in Year 11 for more time intensive subjects like English or the humanities that you may wish to take, so there are flow-on benefits as well.

As you can see, scoring a high ATAR is very much a test of preparedness, determination and being savvy about your studies. **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.** My final advice to any student in year 10 is this – pick your subjects wisely and see if you are able to achieve the required level of performance in those subjects. If you are able to perform decently in the highest scaling subjects, you should very much consider doing them as they will secure for you a high ATAR. We believe strongly that the Headstart course can help you do this.





**Name**  
Anirudh Theertham

**School**  
Normanurst Boys High School

**Favourite Pastime** Tennis

**Ranks in School**  
Mathematics Ext 2: 10th  
Mathematics Ext 1: 4th  
Physics: 3rd  
Chemistry: 3rd

**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 which 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 which 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 3 unit Maths Exam. Without the Headstart course, I don't think I would have achieved these marks. The course helped me to understand in theory and practice, what to expect in exams. I would recommend Headstart to anyone who is wishing to excel throughout Years 11 and 12.

**Name**  
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



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

The Headstart course is an excellent, straight-forward 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 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 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 head-start course has really benefitted my performance so far during the preliminary course as it helped me to really 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.

# ace your HSC

At Talent 100, we believe in order to score top marks in any examination, you really need to be able to master two basic skills.

Strong Conceptual Understanding

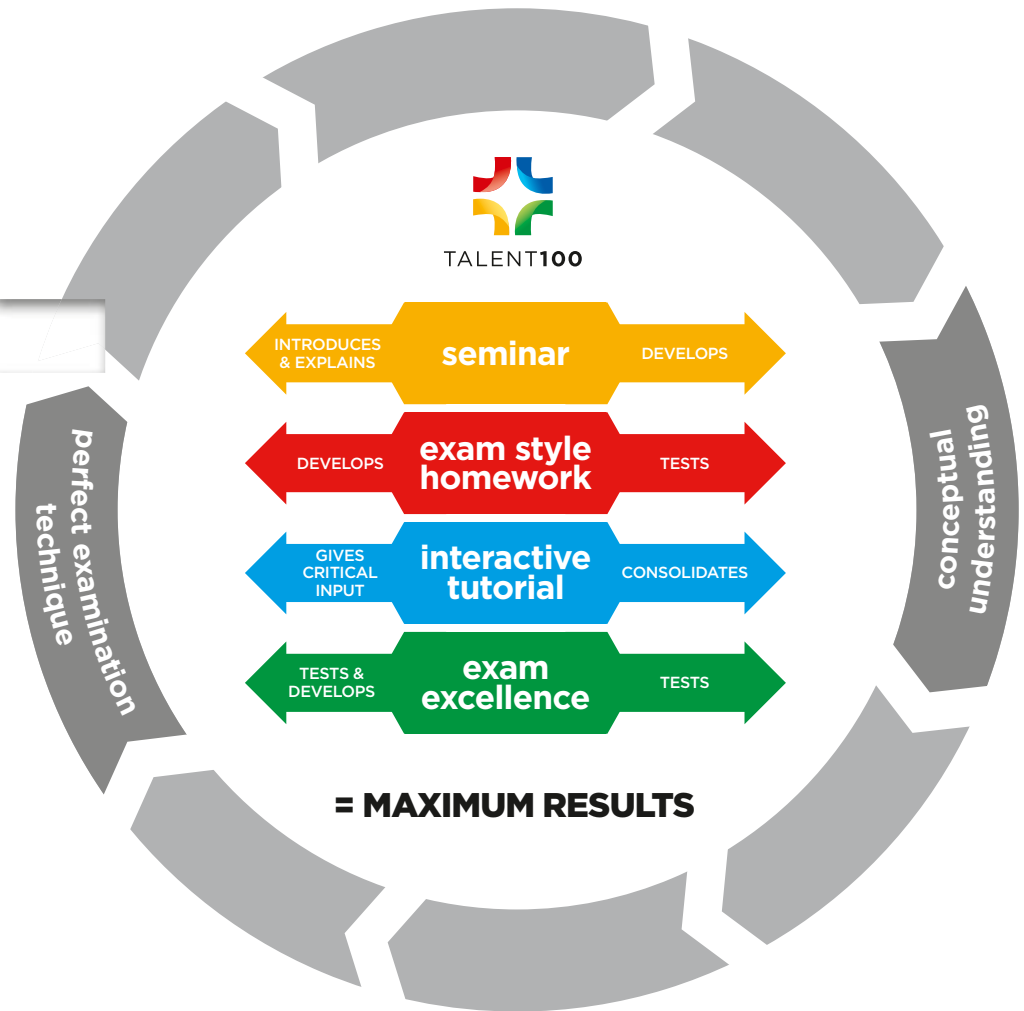
maximum marks

Perfect Examination Technique

That's why our results-focused learning system is designed to develop these two skills.

# learning system

Talent 100's Learning System has helped our students score the best marks in the HSC, with 30% of our students scoring over 99, 63% scoring over 96.



# learning system

## seminar

A 3-hour seminar that systematically reviews the HSC Syllabus, to build a deep first principles understanding of the key theory. Maximum of 13 students.

- + Comprehensive set of notes.
- + Typical range of HSC questions introduced.
- + Focus on building 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.

## interactive tutorial

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

- + Individual attention from tutors.
- + Fine-tune exam technique through homework corrections.
- + Clarify conceptual difficulties.

## exam excellence

HSC style exams to ensure that students are able to perform under the stress of exams, to gauge performance before the 'real thing'.

- + Gauge progress.
- + Develop exam technique.
- + Allow students to improve before actual exam.

# get ahead with the talent advantage

If you would like results-oriented HSC tuition, try the Talent Advantage. You will receive:

- + Excellent teachers and tutors
- + Comprehensive set of notes
- + Examination-style homework
- + Periodic ATAR estimates, so you can benchmark your performance and adjust your efforts accordingly.

For a free trial, visit us online [www.talent-100.com.au](http://www.talent-100.com.au)



# 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. We help you maximise your ATAR –**

**1.** On an **overall level**, by creating a personal study plan that shows you exactly what it takes to score the ATAR they are looking 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 set and achieve the right goals for our students, i.e. those that will help you score the ATAR you are looking for.

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

At Talent 100 we help our students to dramatically improve their marks through a two-tier system of teaching. In our **seminars**, we help to familiarise students with the syllabus and key theory, focusing on building a deep conceptual understanding from first-principles, rather than through memorisation. A Talent 100 teacher explains the key theory, working through typical HSC questions, before allowing students to practice and reinforce what they learn with further questions. Our small class numbers and **tutorial system** allow teachers and tutors to give individual feedback, and to clarify conceptual misunderstandings.

Whilst understanding forms the basis of learning, we help our students score maximum marks by developing perfect examination practice. Our **examination style**

**homework** familiarises students with the typical range of HSC questions and tests their ability to perform under pressure on a weekly basis. This gives us very important feedback to the type of mistakes that students tend to make under examination conditions, and allows us to quickly eliminate careless errors and those due to poor time management.

## Who are the teachers at Talent 100?

**Our teachers are composed of exceptional individuals with a strong level of commitment to helping students achieve their highest marks.**

You can be certain that all Talent 100 teachers have:

- + **Outstanding levels of academic achievement**, to ensure that our students receive the highest quality of instruction.
- + **Outstanding communication skills**, to ensure that the theory can be taught to students in a way that they will understand.
- + **Outstanding character and commitment**, to ensure that students always feel comfortable to ask questions, and are confident that they are prepared and willing to guide them through their latter years of high school.

## 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 write ups 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 Examination style homework? Why can't we just do school homework?

Ultimately how well you do in your HSC depends upon how well you 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 practice.**

Our examination style homework helps students consolidate their understanding whilst simultaneously improving their examination technique. This helps students perform better in exams, by introducing them to the typical range of HSC questions that they are likely to see and conditioning them to the style, structure and rigour of examinations. **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.**

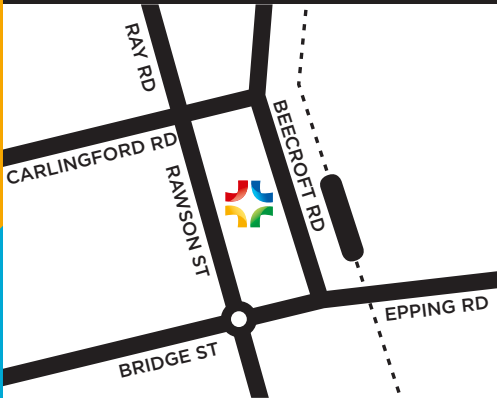
**How do I join the course?**

If you'd like to join the course, simply email us at; **info@talent-100.com.au** or alternatively contact us on **8003-6887** to let us know what classes you wish to join.



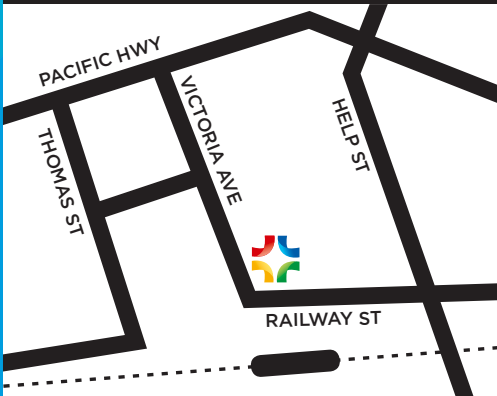
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