

A (sort of) Definitive Guide to Human Biology ATAR

The First trick to doing well in human bio is **not just about cramming** every possible detail that you can come up with and spew it into a test/exam.... When it comes to an assessment, your teacher/examiner is just looking to see **how well you understand the syllabus content not the textbook** because the syllabus is what you are explicitly being taught and it is all you are expected to know at your level.

This is pretty obvious when you check previous examiner reports for the WACE exams...

Every single year since 2016... the examiners report always contains the idea that students should not just rely on the textbook to tell them what they need to and not need to know.

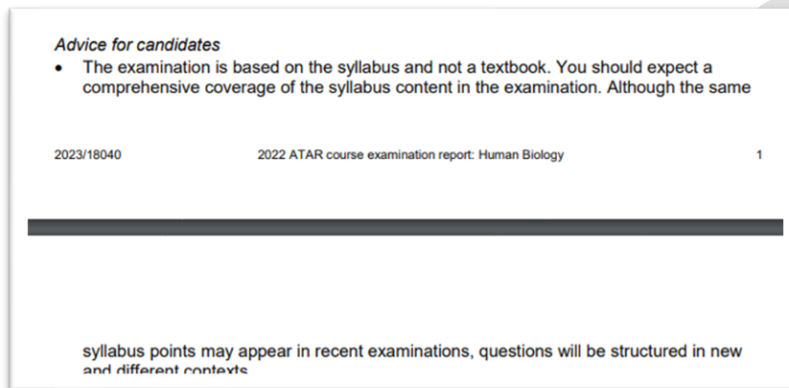


Exhibit A (2022)

The textbook is a resource.... Not the syllabus. If you are ever confused about whether you need to know something... Consult the syllabus and your teachers before relying on the textbook.

I made this mistake of just trusting the textbook and I flopped hard in Semester 1 Year 11 scoring a 52 average score and failing about 50% of my assessments.

This concept here is the one that most candidates struggle with to understand fundamentally... and if you do not understand this then I can say with a 99% guarantee that you will probably not do as well as you think.

The second thing I see most common is that most people do not understand the core concepts... What do I mean by this...

When you learn a topic ask yourself honestly:

- Did anything I learn here make any sense to me, is there logic behind it?

The reason for this is because the content in human bio is very logical... I.e., the concepts all fit together like a puzzle, and everything almost fits into a story.

From experience you will know that you understand a concept if you are able to do the following:

1. Explain the concept without the aid of a textbook/notes.
2. If the concept is like a process of e.g. The process of breathing or an immune response ... you should be able to explain the process in a series of events like in a story with a high level of detail.
3. You should be able to recognize any conceptual links to other topics... for example:

Modulation of blood sugar levels in the body is mainly maintained by the secretion of insulin and glycogen.

When the blood sugar level is too high, chemoreceptors in the beta cell in the islets of Langerhans in the pancreas secrete insulin...

This insulin then promotes the uptake of glucose by body cells through the process of active transport.

This is because glucose is a polar molecule which is soluble... This prevents it from easily being diffused passively through the hydrophobic region of the phospholipid bilayer.

P.S.A. this is not a model answer to anything this is just a representation which shows how concepts should be able to be linked once you understand a topic.

There in that example you can see several concepts that I have chained together such as:

- *blood glucose level modulation with respect to insulin*
 - *the pancreas,*
 - *chemoreceptors*
 - *active transport*
 - *cell structure*
 - *nature of the cell structure*
4. Finally... If you are able to explain syllabus dot-points in a simple and complex manner you are good.

The third thing I see most common is that people do not understand how to answer questions... This is probably one of the most important bases to cover as if you understand all of the concepts but fail to get good marks... it most likely has to do with this issue.

➤ There are a few major tips that I can give here from experience...

1) When it comes to taking an assessment try follow this method to understand a question...

- Highlight any “command words.” If you are not sure what these words are they include stuff such as “describe, define etc....”

PLEASE DOWNLOAD THE LIST OF WORDS ON SCSA's WEBSITE AND FAMILIARISE YOURSELF WITH THEM... Or ill just dump them at the end of this document...

THAT LIST OF WORDS IS VERY USEFUL... IT CAN HELP YOU TO REALLY UNDERSTAND HOW MUCH YOU NEED TO WRITE AND NOT ANYMORE AND IT ALSO HELPS A MARKER TO SEE IF YOU ACTUALLY UNDERSTAND THE QUESTION...

- Find the core concept of the question... How do you do this... I'll give an example:

Congenital insensitivity to pain is caused by a mutation to the SCN9A gene.

(b) Distinguish a gene mutation from a chromosomal mutation.

(2 marks)

Here the **command word** is “*distinguish*”, the **core concept** here is “*mutations*”

- Finally find the context of the question.

The purpose of context is to ensure that you answer the question to the scenario and it also **helps you**... How? It helps you to make sure you do not write too much because otherwise you would be writing pages and pages about random, useless stuff.

In the above example, the context is restricting you to only answer about gene and chromosomal mutations.

If you ever get stuck, reread the question, and make sure to read it once before doing these steps. Eventually once you are super comfortable this process will become second nature.

- 2) The other most important thing you can do to answer question well is to answer as many practical questions as you possibly do and **honestly mark them.**

It may seem fairly obvious that doing **practice questions** can make you better, but the real reasons are as follows:

- Doing them helps you to get a feel for the **type of question** you may be **exposed** to in a test/exam situation **better preparing** you **psychologically and mentally.**
- It allows you to **answer questions** that **potentially** may **show up** in your **assessment.**
- It allows you to answer questions that may have a **concept and context similar to or identical** to one that **you may see in a real exam/assessment.**
- It allows you to **develop “frameworks” for answers** that you can **reuse in similar questions.**
- It allows you to become **faster at understanding questions** like how I explained earlier... which allows you to save a lot of time by preventing you from reading the question several times.

The **purpose of honest marking is very important...** Many people who I talk to who do un-honest marking say that it “**gives them an ego boost**” etc... However, little did they know that they are **falling into a trap of understanding answers with wrong concepts and answers.**

Yes, it may hurt to see that you got 42% in a practice test... but guess what... **IT IS A PRACTISE TEST FOR A REASON...** It is done so you can **understand where you are going wrong...**

- If at any stage, you feel like you are doing marking dishonestly... Just get someone else to mark it for you... Just like an exam marker or your teacher...

The **core idea** is so you understand where your **deficits** are, and it **allows you to intervene to correct them before it's too late.**

The other purpose of honest marking is that it helps to correct any mistakes in your knowledge of a concept(s) and it allows helps you to better understand questions and develop “framework answers”

- By looking at answer keys after writing your own answer you can see:
 - If your answer is right or wrong
 - How the examiner is structured their ideal response
 - If your answer is similar or very dissimilar
 - See if you are putting key terminology in your answer.
 - Improve your answer.
 - And develop a framework for future answers.

If you don't know what a framework answer is it is an answer that you can mold to fit other answers with similar context and concepts without having to learn an entirely different answer.

➤ **AN IMPORTANT THING TO NOTE HERE AS WELL:**

The answers provided in a human bio marking key are just a **guideline** the wording that you give can be different from the answer key.

The main idea is that your answer must contain the following:

- Correct terminology
- Correct concept
- Your answer also must have the same general idea as the model answer.

➤ **ANOTHER THING THAT CANDIDATES ASK IS WHETHER OTHER ANSWERS ARE ACCEPTED EVEN IF THEY ARE CORRECT:**

Now this is dependent... When it comes to WACE exams, examiners have answer keys that can contain several correct answers.... I would say 95% of all candidates who have a correct answer would probably have one of the pre-discussed answers.

However, if your answer is not there and the marker deems it do be a valid answer, the marker will discuss it with his pair* and bring it up in a moderation meeting.

* When your WACE exams are marked, you have two or more people marking your paper to avoid marking bias and to ensure that marking is even.

In school however, it depends on teacher to teacher, generally if your answer is not too far of a stretch, they will accept it however some teachers such as mines were very strict and required that the alternative answer be an almost bulletproof answer to be accepted.

Other exam/test tips:

- Do not freak out if you do not know something... doing another question on a topic may trigger your mind to remember the answer...
- Use diagrams and tables... you will NEVER get marked down and WACE Markers recommend it...
- You are encouraged to present annotated diagrams, charts, or tables to construct responses to questions in the Short and Extended answer sections. This technique is particularly important in the Extended answer section to help you write clear and precise answers and ensure that markers can easily follow and award marks for responses.
- I will always recommend doing multiple choice first as it covers a wide range of topics and helps to remembering concepts that you may have forgotten, or it may help you later in the exam/test when a question with similar nature to the multiple choice comes up.
- Try give yourself about 20 – 30 mins checking time in an exam HOWEVER DO NOT RUSH to meet this target ONLY DO IT IF YOU'RE COMFORTABLE.
- Keep your answer succinct, if you are writing out of the lines you have written too much and if your teacher/examiner has given you too little you will obviously know.
- PLAN YOUR ANSWERS PLEASE... YOUR ANSWERS WILL BE 1000x BETTER TRUST ME SERIOUSLY IT WORKS.

**EXHIBIT B
(2022)**

- You do not have to do the exam/test in order if any stage your stuck on a question just skip it and move on. Do not waste time contemplating it.
- If you are still stuck at the end of a paper/test NEVER LEAVE ANYTHING BLANK write/circle something that makes some sense, and you might pick up a mark.

The fourth thing I see most common is that people do not know how to take notes and revise...

- Taking notes is not a difficult task...
- Many people take too many notes...
- While some take too little...
- Some people like myself took none....

The formula for taking notes varies by person... However, I can say that I used to be an individual who took too many notes at one stage.

The general golden rule to taking your own notes however stems from... you guessed it... My good old favorite... THE SYLLABUS.

I have seen the best outcomes whenever you write notes to the syllabus... Is it a tedious task yes... But is it worth it... 100% you will always take notes that have enough content to them and never too little and too much.

IF your teacher is like mines and writes good PowerPoints or similar... Check to see whether those resources contain notes that follow the syllabus... IF they do.. USE THEM

Those notes/PowerPoints can be used to your advantage because you can use them to write your own notes, or just use them solely while you spend note taking time listening to your teacher explain concepts in person and at home spending more time doing practice questions.

In that instance, it also allows you to take essential notes such as some tips and tricks your teacher may give you or some other important details that may not be in the PowerPoints/notes/book etc.

- **I would highly advise everyone to do some pre-reading before class especially if your teacher provides the resources before the lesson.**
- **In this specific case I would recommend reading the textbook however do not pay too much attention as to how much content there is. It tends to be misleading sometimes.**

****being better prepared for the class in advance allows you essentially solidify your knowledge in class rather than having to learn an entirely new concept in about an hour****

Some other general tips:

- ✓ **USE DIAGRAMS WHERE YOU CAN (IMAGES > BLOCKS OF TEXT).** You can make diagrams for stuff such as immune system, systems like the circulatory system etc.
- ✓ **When preparing for a test make sure that you are not writing notes for preparation... you should be done writing notes for the topic well in advance (unless your teacher is really harsh, and you are learning all the way up till your test).**
- ✓ **For test preparation active recall is really useful. I worked in a pair with my friend to do all of my study and we would regularly do active recall for simple and complex topics. We would even write our own exam style questions.**
- ✓ **Do not make study sessions socialization sessions PLEASE.**
- ✓ **If you find a pair or SMALL group of people that work well to study together... Stick with them because they will be very helpful when it comes to exams and test study. You can bounce ideas of each other.**
- ✓ **PLEASE ALSO USE THE WACE EXAMINORS REPORT TO STUDY FOR EXAMS AND WACE THEY POINT OUT WHAT CANDIDATES DO WRONG MOST.**
- ✓ **PLEASE ALSO CONSIDER DOING SOME WACE QUESTIONS BEFORE YOUR SEMESTER TWO AND SEMESTER ONE EXAMS BECAUSE SOMETIMES EXAM WRITERS ARE LAZY.**
- ✓ **THE TOPICS PEOPLE STRUGGLE WITH IN THE WACE EXAM REPORTS TEND TO SHOW UP IN THE FOLLOWING YEARS PAPER.**

This is all I could think of from my experiences in Year 11 and 12 Human Biology. Most of these tips are also interchangeable with other subjects as well such as Chemistry and Physics.

I wish you all the best for Year 11 and 12 and I hope that these tips were useful.

@.DCN.

WACE LIST OF COMMAND WORDS:



Government of Western Australia
School Curriculum and Standards Authority



Glossary of key words in the formulation of questions

Note – definitions in the glossary are generic and applicable across all courses. Teachers must note that some terms have a more course specific meaning that derives directly from the content and the language of the course.

Account	Account for: state reasons for, report on. Give an account of: narrate a series of events or transactions
Advise	Recommend or inform
Analyse	Identify components and the relationship between them; draw out and relate implications
Apply	Use, utilise, employ in a particular situation
Argue	Make a case, based on appropriate evidence, for and/or against some given point of view
Assess	Make a judgement of value, quality, outcomes, results or size
Calculate	Ascertain/determine from given facts, figures or information
Choose (multiple-choice)	Decide or select the most suitable from a number of different options
Clarify	Make clear or plain
Classify	Arrange or include in classes/categories
Comment on	Make reference to and expand upon
Compare	Show how things are similar and different
Complete	Finish an outlined task
Consider	Reflect on and make a judgement/evaluation
Construct	Make; build; put together items or arguments
Contrast	Show how things are different or opposite
Correlate	Demonstrate a mutual or complementary relationship
Create	Make, invent something
Critically (analyse/evaluate)	Add a degree or level of accuracy depth, knowledge and understanding, logic, questioning, reflection and quality to analyse/evaluate
Debate	Develop a logical (sometimes persuasive) argument, giving differing views in response to a topic
Deduce	Draw conclusions
Define	State meaning and identify essential qualities
Demonstrate	Show by example
Describe	Provide characteristics and features

2016/59359

Determine	Decide, find out
Discuss	Identify issues and provide points for and/or against
Distinguish	Recognise or note/indicate as being distinct or different from; note differences between
Draw (diagrams etc.)	An instruction, as in <i>draw a circle</i>
Evaluate	To ascertain the value or amount of; appraise carefully
Examine	Inquire into
Explain	Relate cause and effect; make the relationships between things evident; provide why and/or how
Explore	Investigate, search for or evaluate
Extract	Choose relevant and/or appropriate details
Extrapolate	Infer from what is known
Identify	Recognise and name
Illustrate	Similar to 'explain' (see above), but requires the quoting of specific examples or statistics or possibly the drawing of maps, graphs, sketches, etc.
Interpret	Draw meaning from
Investigate	To plan, search or inquire into; examine in order to obtain the true facts
Justify	Support an argument or conclusion; give reasons for your statements or comments
Label (and annotate)	Identify by placing a name or word used to describe the object or thing
List	Provide a series of related words, names, numbers or items that are arranged in order, one after the other
Name	Provide a word or term used to identify an object, person, thing, place etc. (something that is known and distinguished from other people or things)
Outline	Sketch in general terms; indicate the main features of
Predict	Suggest what may happen based on available information
Prepare (e.g. in Accounting)	Take the necessary action to put something into a state where it is fit for use or action, or for a particular event or purpose
Present (an argument)	Offer or convey something such as an argument or statement to somebody formally; a discussion that offers different points of view on an issue or topic; debate
Propose	Put forward (for example, a point of view, idea, argument, suggestion) for consideration or action
Recall	Present remembered ideas, facts or experiences
Recommend	Provide reasons in favour
Recount	Retell a series of events

Respond to ...	Provide an answer; reply
Select	Choose somebody or something from among several
Show	Give information; illustrate
Sketch	A picture or diagram that is done quickly, roughly; a brief outline
State	Express the main points of an idea or topic, perhaps in the manner of 'describe' (see above)
Summarise	Express, concisely, the relevant details
Synthesise	Put together various elements to make a whole; gather all ideas and combine them into a complex whole; combine all parts

WACE HUMAN BIOLOGY PAST EXAMS LINK:

<https://www.scsa.wa.edu.au/publications/past-atar-course-exams/human-biology-past-atar-course-exams>

WACE HUMAN BIOLOGY SYLLABUS AND SUPPORTING DOCUMENTS LINK:

<https://senior-secondary.scsa.wa.edu.au/syllabus-and-support-materials/science/human-biology>