

ACADEMIC MEDICAL ENGLISH WRITING

For Foundation / Pathway Programmes

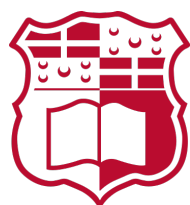
COURSE BOOK

2nd Edition

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**L-Università
ta' Malta**

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Course Overview

This course is aimed at students who are preparing to enter a medical or health sciences degree programme taught in English, and have an IELTS level of 5.5 or above. Its aim is to teach the descriptive, organisational, analytic and other academic skills necessary to produce writing on medical subjects at the required level.

The syllabus consists of 12 units, each focusing on a specific core writing skill.

The course materials comprise:

The Course Book, which contains input, models, discussion topics and practice tasks designed for use in the classroom.

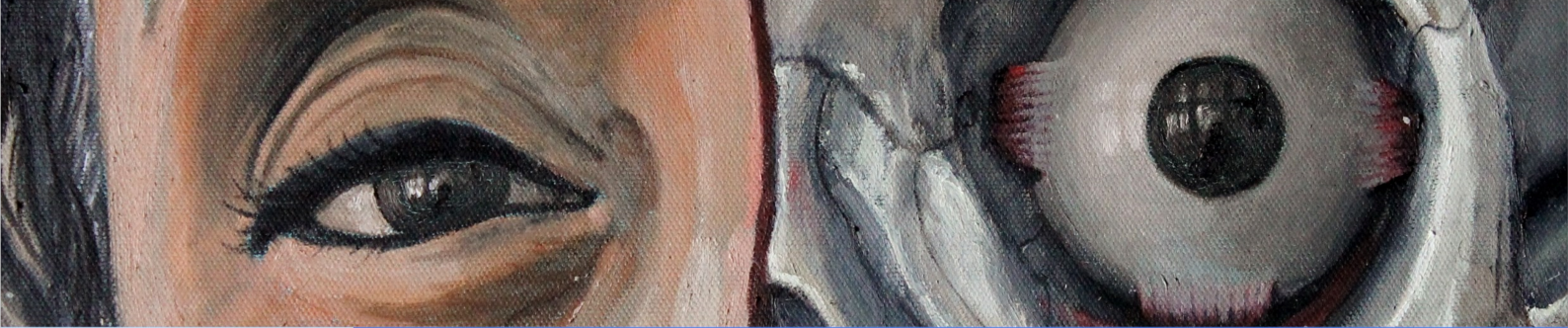
The Workbook, which contains practice exercises designed to be completed individually, to reinforce and consolidate lessons in the course book.

The Teacher's Book, which contains answer keys, further model texts and suggested assessment criteria.

Each unit in the Course Book contains the following sections:

- Discussions:** Group activities to introduce key ideas and elicit existing knowledge.
- Model texts:** These provide examples of both how and how not to write.
- Key concepts:** Specific and detailed guidelines to succeed in the relevant tasks.
- Peer Review:** Examples of authentic student work for review and evaluation.
- Exercises:** Modular tasks to practice key concepts in isolation.
- Writing Tasks:** Longer writing tasks to provide comprehensive practice.

Each unit contains 4-6 hours of class work, plus an additional 2-4 hours of homework. In total, *Academic Medical English Writing for Foundation / Pathway Programmes* comprises 72 to 120 hours of work, which, together with assessment and revision weeks, make it suitable for a two semester Foundation university course of 4-6 ECTS credits.



UNIT 1

ACADEMIC STYLE

OVERVIEW

This unit discusses what distinguishes the academic style of English writing, such as you would be expected to produce on a medical degree course, from styles of English that may be used in other contexts.

It will largely concentrate on language and sentence level structures. Future units will look at putting together good sentences into well-structured paragraphs and essays.

TOPICS COVERED

The unit focuses on five characteristics of good academic writing:

- Formality
- Objectivity
- Concision
- Precision
- Accuracy

LEARNING OBJECTIVES

By the end of this module you will be able to:

- Recognise some key differences between academic writing and general English
- Identify specific problems in sentences that are inappropriate in an academic context
- Write sentences displaying formality, objectivity and precision
- Peer review an essay
- Write a short paragraph in a good academic style

DISCUSSION

1. What do you think is the difference between academic and general English? What characteristics should good academic writing possess?
2. Discuss the following terms, and how they could apply to good writing: *formality*, *objectivity*, *concision*, *precision* and *accuracy*. Use a dictionary if you are unsure of the



MODEL TEXTS

Read through the texts below. Which do you think is written in a more academic style?

Text 1

The body is not considered to be a solid structure. If you look carefully, you can see that it has several spaces in it, some in the back and some in the front. One of the spaces in the back is the cranial cavity. The brain is in this one. Another one is the spinal cavity. This one has the spinal cord in it. The ventral cavities include the thoracic cavity and the abdominopelvic cavity. Inside the thoracic cavity you can see the two lungs and a region near them called the mediastinum. Some very interesting organs are located in the mediastinum.

Between the thoracic cavity and the abdominopelvic cavity there's the diaphragm, which is a muscle used for breathing. This divides the two separated cavities. More often than not anatomists divide the abdominopelvic cavity into a superior abdominal cavity and an inferior pelvic cavity. The organs of the digestive, excretory, etc. systems are located in these wonderful cavities.

Text 2

The body is not a solid structure. It contains four major cavities: two dorsal and two ventral. The dorsal cavities include the cranial cavity, containing the brain, and the spinal cavity, containing the spinal cord. The ventral cavities include the thoracic cavity and the abdominopelvic cavity. The thoracic cavity contains the two lungs and a central region between them called the mediastinum. The heart, aorta, oesophagus, trachea and thymus gland are located in the mediastinum.

The abdominopelvic cavity is separated from the thoracic cavity by the diaphragm, which is a muscle used for breathing. The abdominopelvic cavity is generally divided into a superior abdominal cavity and an inferior pelvic cavity. The organs of the digestive, excretory, and reproductive systems are located in these cavities.

Identify specific differences between the texts, and features that make one more appropriate as a piece of academic writing than the other.

KEY CONCEPTS

ACADEMIC STYLE

FORMALITY

One of the most obvious features of academic writing is that it uses formal language. Recognising whether a word in English is formal or informal is often a matter of instinct, as over time we get used to reading or hearing some words in formal contexts and others in informal ones. However, there are some general rules for identifying formal language if you are uncertain.

1. Words and sentences are written in full. Formal writing generally avoids the use of contractions like “can't”, “isn't”, and “etc.” It is also written in full sentences rather than notes and lists. Abbreviations are still used for units or measurements, and often in widely known names such as the UN or WHO. For less widely known acronyms, such as those for specific disorders, the full form is usually used the first time the condition is mentioned, and the abbreviated form subsequently.

2. Words are of Latin or Greek origin, rather than Old English. This is probably the biggest difference between formal and informal vocabulary in English. Informal words which are used in general conversation, such as 'do', 'have', 'go' tend to be of Old English or Germanic origin. Formal and scientific language tends to be of Latin or Greek origin. If you have studied a Latin-based language such as French or Italian, this will help you identify the more formal terms, as they are very similar to their equivalents in those languages. If not, you will probably start to recognise Latin and Greek roots with time - you will be studying a large number of them while learning medical terminology.

Examples

Text 1

solid structure. In fact, you can see that it **has** several spaces **in** it, some in the back and some in the front.

Text 2

solid structure. It **contains** four major cavities: two dorsal and two ventral. The dorsal cavities include

“Has” is informal. It is a word of very broad meaning, and here the meaning is provided by modifying it with the preposition “in.” “Contains” is a more formal term, that expresses the same meaning in a single, precise word.

Text 1

Between the thoracic cavity and the abdominopelvic cavity **there's** the diaphragm, which is a muscle used

Contractions such as this should be avoided. “There's” should be written in full as “there is”.

3. Words are modified using prefixes and suffixes instead of phrases. When speaking informally we usually modify the meaning of words by adding adjectives or prepositions, and using them in phrases. Formal words of Latin and Greek origin, however, can have their meaning modified by adding prefixes or combining them together with other roots. As a result in formal writing a complicated meaning is often expressed by a single long word, rather than many short ones. This point is particularly true of technical terms (see the box below).

Formal vs Technical Vocabulary

Academic writing tends to use vocabulary that is not only formal, but also technical. Most formal language can be used and understood in any academic context. An engineer, a doctor and a sociologist might all write about conducting or performing an experiment (as opposed to doing an experiment, which might be used in an informal context).

Technical language is only expected to be understood by specialists in the field. A medical term like cardiomyopathy (meaning disease of the heart muscle) is technical: regardless of whether the context is formal or not, you would not use that word speaking to someone who does not know anything about the subject.

Why use formal vocabulary?

Learning a whole new set of formal vocabulary might seem like unnecessary work, especially if you already feel you can express your ideas well in conversational English. There are, however, some good reasons why formal language is preferred in academic writing:

1. It is universal

English is spoken in many different ways in different parts of the world. Different countries, or even different regions within one country, may have different informal words for the same thing. However, everyone uses the same formal vocabulary. Using formal vocabulary means any English speaking academic can read a paper written by any other, without being confused by differences in local expressions.

2. It is precise

Informal vocabulary is often rather vague in meaning. The verb 'get', for example can be used in a huge number of different ways. The formal alternatives, such as 'receive', 'become' and so forth have more specific meanings. This can be important in academic writing to prevent confusion, and to make sure your meaning is clear and precise.

3. It shows you are serious

To a large extent, it is important to use academic language just because it is what people expect in the context. At a job interview people often wear formal clothes not because these are more practical, but just because doing so shows respect, and a desire to join in the spirit of the occasion. In the same way, using formal language shows that you are taking the subject seriously, and means your writing is more likely to be taken seriously by the reader.

Exercises on formal language can be found on p4 of the workbook.

OBJECTIVITY

Objectivity can be contrasted with subjectivity. A statement is *subjective* if it is based on or expresses personal experience or feeling. A statement is *objective* if it is based on facts about the external world. Academic writing generally attempts to be the latter. Objectivity is important for effective communication and collaboration, as it provides a framework of information on which everyone can agree.

In practice, separating what is objective from what is subjective is not always easy. All our knowledge about the world comes to us via our senses and our reasoning, which are of course subjective. However, when writing an academic essay it is usually important to choose language that sounds objective rather than subjective. There are exceptions to this, for example, when discussing medical ethics or reflecting on personal experiences. These types of writing will be covered in detail in later units.

1. Avoid language that implies subjective experience.

A word like 'beautiful' is subjective: what it is understood to mean differs from one person to another. This reduces its usefulness for communication.

Generally speaking, we should avoid using terms that imply an emotional response for this reason. This

includes many adjectives used to make "strong" statements in conversational English, such as amazing, wonderful, exciting and so forth.

Subjective phrases *can* be used if they are quantified correctly. Instead of "beautiful", we could say "attractive to many people." This now expresses a fact about the world rather than the our own experience; one person might disagree with another that the Mona

Examples

Text 1

them called the mediastinum. Some **very interesting** organs are located in the mediastinum.

"Very interesting" expresses the author's attitude, not a fact.

Text 1

be a solid structure. If **you** look carefully, **you** can see that it has several spaces in it, some in the back and

Text 2

not a solid structure. It contains four major cavities: two dorsal and two ventral. The dorsal cavities in-

The second text avoids referring to the reader.

Lisa is a beautiful painting, but we should all be able to agree that, regardless of our personal opinion, many people do find it attractive.

2. Make verifiable statements. To say that something is verifiable means that it is possible to check whether or not it is true. In the example above, it is possible to test whether the Mona Lisa is attractive to many people by experiment: we could show a test group of people the painting, ask them if they think it is attractive, and if a significant number say that they think it is, then the statement is true. There is no experiment, however, to test whether or not something is beautiful.

A good general guideline for writing with objectivity is

to consider whether your claims could be tested. If they cannot, they are likely subjective and should be removed or modified.

3. Avoid writing “I” or “you”. This convention varies somewhat in different academic disciplines, but in medicine and the sciences it is unusual to refer to the writer or the reader directly. In conversational English, we often use “you” to make general recommendations or statements of fact; for example “You can reduce the risk of developing diabetes by eating healthily.” In academic writing we might instead write “The risk of developing diabetes can be reduced by healthy eating.” If we are describing a piece of research, rather than writing “I conducted a study on...” we would state “A study was conducted on...”

The Passive Voice

The passive voice is a grammatical form that focuses on an action, rather than the person performing the action. As such, it can be useful to help make writing sound more objective, particularly when we want to remove reference to ourselves.

Active: “I **performed** the test”

Passive: “The test **was performed**.”

Note that it is not always more academic to use the passive. It is only necessary when we wish to avoid mentioning the subject of the sentence. In a factual statement where the subject is important, it is usually better to use the active form. For example, the statement “the heart pumps blood”, would usually be preferable to “blood is pumped by the heart”. The second statement adds nothing to the meaning and is longer, which breaks the rule of concision (see below).

Exercises on objectivity can be found on p6 of the workbook.

CONCISION

In academic writing we should always attempt to be concise. Note that this does not necessarily mean that academic texts are short—they are often quite the opposite. What it means is that our use of language is *efficient*. We do not describe something in twenty words when the same meaning could be expressed in ten.

1. Cut out words and phrases that do not add meaning. Every word in a piece of academic writing should be there for a reason. A simple test to see whether a word or phrase is necessary is to see what would happen if it were removed. Is the meaning changed? Do the ideas in the text or their relationship become less clear? If the answer is no, then that phrase should be cut out.

There are a number of reasons why language that does not add meaning can creep into writing. One is that in informal written English it is common to add language

to attract the attention of the reader, or to add a friendly, conversational tone to a text. The purpose of academic writing is to inform, not entertain, so these should generally be avoided.

Another reason why unnecessary words and phrases sometimes find their way into a student’s writing is “showing off”, or wanting to use unusual or complicated phrases that they think make their writing sound more intelligent or academic. In fact, the effect is often the opposite.

This is particularly common with easily memorised “filler” phrases, like “x is considered to be” or “there is no doubt that x is” (rather than just writing “x is”). These phrases do have a place, but they should never be used just because you think they sound attractive, or because you want to stretch a piece of writing to meet a word count.

Example—unnecessary language**Text 1**

The body **is not considered to be** a solid structure. **If**

Text 2

The body **is not** a solid structure. **It contains four**

“Is not considered to be” adds nothing to the meaning of the sentence here, which is a simple statement of fact.

2. Avoid repetition of ideas and language.

Occasionally in a long piece of writing it may be necessary to repeat an idea that has been discussed earlier in the text in order to remind the reader of it, or present it in a new context. This should be kept to a minimum, however, and only done when needed.

A clear understanding of the ideas you are writing will help avoid doing this accidentally.

We should also avoid using *tautological* phrases. These are phrases which say the same thing twice, or say something that another part of the statement has already told us is true. “The honest truth” is an example (you cannot have an honest lie), as is “In my opinion, I think that..” (if it is your opinion, it must be something you think).

Example—repetition**Text 1**

The abdominopelvic cavity **is separated** from the thoracic cavity by the diaphragm, **which is a muscle**

Text 2

Between the thoracic cavity and the abdominopelvic cavity there's the diaphragm, **which is a muscle used for breathing**. This **divides** the two **separated**

In text two, the preposition “between”, the verb “divides” and the adjective “separated” are all expressing the same point, that the two cavities are split by the diaphragm. Only one of these is needed.

Finally, we should try to avoid repeating long names and phrases when it is not necessary. We can do this through appropriate use of abbreviations and pronouns such as “it” and “that”.

3. Consider alternative grammatical forms. A simple idea in English can often be expressed using a wide variety of structures. Let us say that we wish to describe the speed at which oxygen is consumed in a

reaction. We could use the noun phrase “the rate of oxygen consumption” to describe this, and form a sentence like “The rate of oxygen consumption is high.” Alternatively, we could choose to use the verb “consume”, and write “Oxygen is consumed rapidly”. In this case, the latter is much more concise.

If a sentence seems long or awkward, consider whether it could be made more concise by changing the grammatical structure.



4. Use a few complex sentences instead of many simple ones. We can often make a text more concise by combining several simple sentences together. This can be done using conjunctions (such as “and”) or relative pronouns (such as “which”), or by rephrasing a sentence as an adverbial or adjectival clause. This way we avoid repeating nouns and verbs unnecessarily.

Academic writing often uses sentences that contain more complex grammar than is used in general English, but allow an idea to be stated more concisely. Be careful not to go too far with this, however. Do not combine sentences if doing so confuses the meaning, or blurs an important distinction between ideas.

Example—combining sentences**Text 1**

One of the spaces in the back is the cranial cavity. The brain is in this one. Another one is the spinal cavity. This one has the spinal cord in it. **The ventral**

Text 2

The dorsal cavities include the cranial cavity, containing the brain, and the spinal cavity, containing the spinal cord.

The second text expresses in one sentence what the first text expresses in four.

Exercises on concision can be found on p7 of the workbook.

PRECISION

In conversational English, we often communicate in vague terms: We might say that London is a very large city, or that smoking is bad for you. In academic writing, however, statements like this need to be quantified or specifically defined. We want to know what exactly the population of London is, and in what way exactly and to what extent smoking is bad for the health. We want to the information we provide to be as detailed and precise as it can be.

Precision means giving figures or precise terms instead of general descriptors like “some” wherever possible, and giving clear and unambiguous definitions and descriptions.

ACCURACY

Accuracy might seem a very similar concept to precision, but they are not quite the same thing. While precision involves making sure that your information is exact and detailed, accuracy involves making sure it is true. A very precise statement can still be completely wrong, such as the claim that human life expectancy is exactly 203.7 years.

Ensuring that you'll the information you include in your writing is correct is an essential part of academic honesty. There are a number of things to bear in mind to ensure accuracy.

1. Check facts and use reliable sources. Claims made in your writing should always be verified using reliable sources, and these sources should be credited with references. How to write references and use sources effectively in your writing will be discussed further in unit 5.

Do not make statements off “fact” without knowing where the information comes from, or whether it is true or not,

2. Accurately state degrees of certainty and frequency. A misunderstanding that some students have about scientific writing is that, because it is factual, statements should always be absolute and certain. In fact, to a large extent the opposite is true. Very little, if anything, in science is known for certain. Instead, scientists conducting research tend to discuss the probability of things being true. The same is true of doctors making a diagnosis or prognosis.

It is very important in academic writing not to overstate the certainty of facts. In research, the conclusions are usually reported along with a statistical probability that they could be incorrect.

Example

Text 1

Inside the thoracic cavity you can see the two lungs and a region **near them** called the mediastinum. The

Text 2

The thoracic cavity contains the two lungs and a central region **between them** called the mediastinum.

“Between the lungs” is a much more precise description of the location of the mediastinum than just “near them”.

In essay writing, if something is not 100% certain, you could say that it is “probably true”, “seems to be true”, or “may be true” not that it is true. This is helpful to remember when writing in academic English exams, when you will not be able to do research to check your facts. Rather than inventing a statistic which is unlikely to be accurate, it is far better to be honest and make cautious statements that indicate your lack of certainty!

The type of language used to indicate uncertainty is often referred to as “hedging” language. See the box on hedging below for more details.

3. Use accurate technical vocabulary. Choice of vocabulary is also important when it comes to ensuring accuracy, particularly when using technical terms. A poor choice of words can change the meaning of a sentence, and make it misleading or untrue.

Example

Text 1

solid structure. It contains four major cavities: two **dorsal** and two ventral. The dorsal cavities include

Text 2

If you look carefully, you can see that it has several spaces in it, some in the **back** and some in the front.

“Dorsal” is the correct technical term, not “back”. “Back” is often used in general English only to refer to the spine, whereas “dorsal” refers to anywhere on the rear part of the body, including the back of the skull.

EXERCISE

The sentences below do not show good academic style. For each one, a) identify the whether the problem is with formality, objectivity, concision, precision or accuracy (or a combination of more than one), and b) write an improved version.

1. The stomach is located in the belly, near the lungs and intestines.
2. Anatomy and physiology are different in that anatomy is about the structure of the body and physiology is also about the body, but about its function not its structure.
3. Your body has got a number of systems that keep you alive.
4. There are quite a large number of different organs in the body, all with a number of different specific functions.
5. Everyone agrees that smoking is unbelievably bad for you.

Hedging

The appropriate use of hedging language is an important part of accuracy in writing. Hedging comes in a number of types:

Certainty. To suggest that something is certain when in fact there is a chance that it may not be is dishonest and bad practice. Phrases like “appears to be” and “is likely to be” are useful here. This type of language is known as hedging.

Frequency. A direct statement like “Smokers develop lung cancer” is clearly untrue, as not all smokers do. In fact, most smokers do not, but the percentage who do is much higher than that of non-smokers. A hedged expression like “Smokers are more likely to develop lung cancer” is far better. Better still would be a statistic to show the probability that smokers will develop cancer.

Popular opinion and belief. Other types of hedging language are used to show that statements are matters of opinion or belief, rather than fact. For example, the phrase “is considered to be” indicates that something is widely believed to be true rather than being a definite or objective fact.

Of course, it is just as bad to use hedging language when it is not appropriate as it is to fail to use it when it is. A statement like “The heart is considered to be responsible for pumping blood...” is silly – this is not something which is a matter of opinion!

Exercise

Write short answers to the following questions without doing any research. Instead, use hedging language as appropriate to indicate your degree of certainty.

1. A man dies of a heart attack at the age of 51. What may have caused this?
2. The reported incidence of depression has increased dramatically in the last 50 years. Why is this?

There are more exercises on hedging on p9 of the workbook.

PEER REVIEW

The ability to critically review your own and others work is crucial in developing your writing skills. This means being able to look at a piece of writing and decide where it is successful, and what should be improved.

Throughout this course you will have the opportunity to practice this on authentic examples of student work. The one below has already been reviewed and annotated for you. Read through and see if you agree with the notes, and if there are any points that the reviewer has missed.

You should write small numbers out fully: 'three', not '3'.

This is very informal. Remove it?

Good academic vocabulary. 'primary causes', 'abundance', 'pathophobic'

Avoid numbered lists - write full sentences with 'Firstly', 'Secondly', 'Thirdly'.

This is just a filler expression. Remove.

Spelling!

This part is written in a nice objective style. Good use of the passive voice.

Some repetition here. You could make this bit more concise.

Over the last decade or so, a pretty significant increase in anti-bacterial resistant bacteria has been observed. This can essentially be linked to 3 primary causes: 1 careless physicians 2 Abundance of anti-bacterial products and 3 pathophobic patients.

Physicians at times could have the tendency to overperscribe anti-bacterial medication solely to please the patients' whim. This is no doubt that unethical and careless behaviour and should be met with tougher sanctions and regulations on doctors who practice in such a way.

Anti-bacterial hand washes and other products that are used on a daily basis are also to blame for this epidemic. Consumers should be more wary of these products and should use them with more caution.

Finally, patients have become increasingly more afraid of catching diseases and want to eliminate symptoms of diseases as soon as possible. Patients should use traditional methods of treatment which might be slower but much safer and healthier in the long run.

Now do the same yourself using the student essay on p10 of the workbook. Make notes on both the good points and areas where it needs to improve.

WRITING PRACTICE

Task 1. The text below was written by a high school student. The style may be appropriate for school work, but is not suitably academic in style for a university essay. Rewrite it to express the same ideas in a more appropriate style. Even though you are expressing an opinion, try to write in a way that sounds as objective and factual as possible.

I'm writing on the subject of smoking on school grounds. I see nothing wrong with this. Students smoke anyway, and teachers can't control who smokes in school because there are just too many to catch in the process. I think about half of the students smoke in school. The other half are affected by the secondhand smoke. But I think the students who do smoke should be able to smoke outside at break during lunch. That way it wouldn't affect those who don't smoke. If they don't give us this opportunity then the bathrooms and the halls will become full of more smoke and more students will be affected by this.

Extension. Do you agree with the student above? If not, write a paragraph in an academic style expressing your own views.

Task 2. Write one or two paragraphs in your own words about:

- a) The characteristics of a good doctor.
- b) The structure of a cell.

Focus on writing in an academic style, with formality, objectivity, precision, concision and accuracy.