UNSW School of Electrical Engineering and Telecommunications

Writing (in exams): Providing clear & relevant information

Never Stand Still

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Clear Writing

- 1 idea per sentence
  - Use complete sentences. (sentence has subject + verb + object)
  - Put the main idea in the independent clause
- 1 main point per paragraph
  - topic sentence
  - supporting sentences
    - elaborate = explain, describe, illustrate, give examples, reasons
  - concluding sentence (optional)
- use active voice, if possible

  "Male guppies advertise their attractiveness by displaying their colourful patterns."

  "Attractiveness is advertised by male guppies when they display their colourful patterns."
- appropriate transition words/phrases

  to link ideas and information

SOME SIMPLE SENTENCES

Noun group	verb group	noun group	*adverbial
Numerous studies	were conducted		on the Darling and Murray Rivers after the 1991 algal blooms.
* Since the mid-1990s, an extensive academic literature	has analysed	socioeconomic changes	in rural Australia.
* Economically, many rural regions	have experienced	the adverse impacts	of global trade pressures on agricultural and manufacturing industries.
Who ? **What ?** ***Adverbial + noun group**	**Does/did what?** **Was done** **Happens/ Happened?**	**To whom/what?** **By whom/what?**	**Where, when, how, why, what for, how far…** **Preposition + adverbial phrase**

SOME COMPLEX SENTENCES

Clause 1	Clause 2+	relationship
While employment and population losses have been particular features of rural Australia for the greater part of the twentieth century,	this trend was seen to accelerate appreciably in response to restructuring processes.	dependent
Thermal stratification is a physical limnological process	that restricts water body mixing and thereby encourages long-term anoxia to develop in the bottom waters.	Projected/ expanded
Wind action (speed and direction) is a source of turbulent energy causing wind shear on the water surface	and this is one of the main mixing forces.	Equal (FANBOYS)
Morphological features of floodplain lakes, which are particularly pertinent to the potential for thermal stratification,	are shape, depth and orientation of the long axis of the lake to the dominant wind direction.	Embedded in noun group

Where is the main idea in each clause?

Can you identify the types of clauses you are using?

What examiners/people don't like

- failing to answer the questions (all parts)
- failing to use relevant material and concepts from the course
- not including your own ideas – be honest
- poor presentation (eg illegible)

Take Time to Analyse the Question

- Find the **question/task/instruction words**
  (describe, give an example, explain how, give reasons, why, what, etc.)
- Find the **topic words**
  the subject/topic areas in the question
- Find the **focus words**
  special aspects of the topics that you need to limit your answer to
- Recall **relevant information**
  from your study notes, textbooks, lectures
- **Develop a plan** ….

Sample essay question - 5 MARKS

- Should engineers be concerned about the environment? Explain your reasoning, and briefly summarise what this means for engineers fulfilling their key role: design.

task words topic words focus words

- Should engineers be concerned about the environment? Explain your reasoning, and briefly summarise what this means for engineers fulfilling their key role: design
- Yes/no + why + what → design

Plan your answer

- Prepare a mind map or bullet list – notes for your answer – logically organise your thoughts
- Practise with this question:

Should engineers be concerned about the environment? Explain your reasoning, and briefly summarise what this means for engineers fulfilling their key role: design

Sample answer (What mark would you give?)

- This is a question that will cause everlasting debate. The balance of benefit to society vs the risk to the environment is a delicate one that must be handled by engineers.
- Personally I believe that engineers have a responsibility to society and humanity as a whole and that any risk or damage to the environment should be minimized, as it will eventually cause bigger problems to society. For example, the design of heavy machinery, that has facilitated the mass clearing of land has given us room to build and extra resources in the short term, but has introduced issues such as soil erosion and salinity in the long term.
- The short term gains must be weighed against the long term problems by any engineer involved.

not a good answer

Answer analysis

[redundant motherhood statement] This is a question that will cause everlasting debate. **[Main point]** The balance of benefit to society vs the risk to the environment is a delicate one that must be handled by engineers.

[state position] Personally I believe that engineers have a responsibility to society and humanity as a whole and that any risk or damage to the environment should be minimized, **[reason for position]** as it will eventually cause bigger problems to society. **[supporting example]** For example, the design of heavy machinery, that has facilitated the mass clearing of land has given us room to build and extra resources in the short term, but has introduced issues such as soil erosion and salinity in the long term.

[qualify position] The short term gains must be weighed against the long term problems by any engineer involved.

Missing – no solution to example problem, no direct link to 'design' – not answering second question

Longer answers

- Clarity extends beyond a few sentences to the structure of the whole answer
- Ideas and information should be logical (in paragraphs and lists -bullet /numbered)
- Time spent **planning** can improve your answer

Scenario based questions

How would you approach this sample question (scenario + instructions)?

You are employed by a company which has almost completed the testing of a new product, and a launch date involving major media exposure has been set. Prior to this day, final safety testing fell behind time and is only 95% completed the day before the launch. You are the engineer in charge of testing. Absolutely no problems have been identified; all completed tests show generous safety margins; no one anticipates any safety issues could arise from the unfinished routine proving. Management suggests you 'abandon' the rest of the testing, implying it will not provide budgetary support, and asks you to certify that all necessary safety tests are complete.

- What would you do and why? Be sure to identify ethical issues.

Sample Answer Analysis–OHT(Q10)-

- Stated opinion of the situation/request
- Identified problem and gave recommendation – continue product launch but do not sign off on safety tests
- Gave reasons for not signing off safety tests –unethical & illegal
- Explained recommendation – addressed management response, ethical issues, counter arguments/strategies and consequences
- Concluded on positive outcome [win-win] if original recommendation/plan is accepted

Sample Question

A friend comes to you for advice. She is installing cables in a new housing development on a former industrial site, where her company has a voluntary agreement with the local authority and residents to place all cable underground. Part- way through the installation, his digging crew uncovers toxic wastes buried 40 cm below ground level. Your friend now believes that immediately changing to overhead installation in the only way to complete the task on time.

What advice would you give your friend and why?

Be sure to identify ethical issues.

Ready for the exam?

How do you learn and remember?

Active strategies are the best:

- Write summary notes of each concept /topic area in your own words
- Create a mind map of the course topics and concepts
- Relate course/text book information to your own experience /prior knowledge
- Practice past exam papers
- Form study groups – discuss the more difficult questions in text books

What else works for you?

Manage your time

Goal: Maximise your marks

- Scan the whole exam paper
- Estimate how much TIME each question is worth
- Stick to time for each question

In this course

Class-test: 1 hr for 5 equal questions

Final exam: 2 hr for 4 equal questions

Read the Question

- Find the **question/task/instruction words**

(describe, give an example, explain how, give reasons, why, what, etc.)

- Find the **topic words**

the subject/topic areas in the question

- Find the **focus words**

special aspects of the topics that you need to limit your answer to

- **Recall information** from your study notes, textbooks, lectures that would be relevant to the question
- **Develop a plan** ….
- Use the question/s to begin your answer…

Sample essay question (short answer- 5 marks)

- Q4. Briefly define the defining features of a profession. Explain why a profession has a leadership role within society and provide an example illustrating how engineering performs this role.

task words topic words focus words

- Briefly define the defining features of a profession. Explain why a profession has a leadership role within society and provide an example illustrating how engineering performs this role.

Plan your answer

- Prepare a mind map or bullet list – notes for your answer – logically organise your thoughts – make a bullet point plan
- E.g. define A, give reason , give example

- Practise with this question:

Briefly define the defining features of a profession. Explain why a profession has a leadership role within society and provide an example illustrating how engineering performs this role.

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Sample short answer - / 5 Marks

- Q4 Short answer.

A "profession" is a vocation that requires knowledge, or the possession, stewardship and conveyance of knowledge. Engineering is regarded as a profession because it is a store of collective technical knowledge.

As society is dependent on the products of stored knowledge, it is the responsibility of the custodians of that knowledge to maintain and add to it as well as monitor its quality and viability. In particular, as we live in a technolo… tech-driven society, engineers (with the stored knowledge) have a resp… make technological decisions, with due consideration of society's moral v… and attitudes, and policies. This is a leadership function.

One role of the Engi… of Ethics, in my opinion, is to align these values (human morals) with "in… knowledge and the limitations of technology, and its exploitation. The challenge of every engineer is to be able to make morally autonomous decisions, much in the same way. Moral autonomy is an important criterion for leadership.

A possessor of knowledge is intrinsically a leader if others don't possess it. Also, a morally autonomous possessor of knowledge could be said to be a 'good' leader

not a good answer

Analysis – Sample Answer

- Q4 - Briefly define the defining features of a profession. Explain why a profession has a leadership role within society and provide an example illustrating how engineering performs this role.
- Short answer.

A "profession" is a vocation that requires knowledge, or the possession, stewardship and conveyance of knowledge. Engineering is regarded as a profession because it is a store of collective technical knowledge.

As society is dependent on the products of stored knowledge, it is the responsibility of the custodians of that knowledge to maintain and add to it, as well as monitor its quality and viability. In particular, as we live in a technology-based and tech-driven society, engineers (with the stored knowledge) have a responsibility to make technological decisions, with due consideration of society's moral values, goals and attitudes, and policies. This is a leadership function.

One role of the Engineers Code of Ethics, in my opinion, is to align these values (human morals) with "incomplete" knowledge and the limitations of technology, and its exploitation. The challenge of every engineer is to be able to make morally autonomous decisions, much in the same way. Moral autonomy is an important criterion for leadership.

A possessor of knowledge is intrinsically a leader if others don't possess it. Also, a morally autonomous possessor of knowledge could be said to be a 'good' leader

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Paragraphs vs headings and points

- Either is Ok (see example files)
- Clarity **always** important – headings should be descriptive - points should be sufficiently elaborated/detailed
- Ideas and information should be logical (in paragraphs and lists -bullet /numbered)
- Time spent planning can improve your answer

Practice analyzing and planning…

- Leadership has been associated with achieving goals. To what extent is failure by a group to reach a nominated goal the responsibility of its leadership? Explain your reasons. How else might you assess the effectiveness of a leadership?
- Work alone or in groups of 2-3

Check your answer

- Have I answered the question (all parts?)
- Is my main point/position clear?
- Are my reasons, examples, explanations clear, concise and relevant?
- Is my answer logical and unambiguous?
- Can I improve my grammar, spelling?
- Have I answered **all parts** of the question?

So …..Exam Preparation

Step 1: Obtain information about all your exams

Step 2: Establish a revision study schedule

Step 3: Review & summarise course material

Step 4: Practise **answering** sample questions

Conclusion

Maximising your marks in exams requires:

- ✓ Active study strategies
- ✓ Understanding questions
- ✓ Answering all parts of the question!
- ✓ Time management in the exam – allocate appropriate time for the marks allocated
- ✓ Analysing all parts of the question and planning your answer
- ✓ Writing clearly and logically
- ✓ Editing your writing for relevance and expression
- ✓ **Above all – answering all parts of the question!**

Helpful links

- The Learning Centre – self paced interactive online resources
  - *iWrite*- Paragraph structure, organization of information, key vocabulary - Writing Clearly Tutorial
    - Allow about 2hrs to complete all exercises in the four modules- recommend about 15 -20 minutes per viewing.
  - Free Moodle course – Academic Writing Skills Workshop – Paraphrasing & summarizing, referencing, essay structure [Email Pam Mort for log in access] p/mort@unsw.edu.au
    - Each module is about 2 -3 hrs work if all activities completed.
    - You have access to this free Moodle course for 1000 days!
  - Exam skills: https://student.unsw.edu.au/exam-preparation

Questions?