ENGG - 1803
Professional Engineering

Written Communication

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ACIIC

Written Communication in University Engineering

- Laboratory reports
- Technical/Field reports
- Project reports
- Presentation reports
- Essays
- Undergraduate Thesis
- Email

Attitudes Of Engineering Students to Written Communications

- From - A necessary ‘evil’ to tolerate
- To - the key to success in Senior Advanced Undergraduate studies
- Vital to develop competence & expertise to succeed in studies

Written Communications in ENGG 1803

- Assessment of student competence (MASUS test, Tech.Writing Challenge, Prof. Eng. Skills Test, Library Quiz)
- Essay Report
- Project report
- Eng. Article commentary
- Effective Writing is a key to success!!

Engineers as Written Communicators

- Professional Success through Written Communication
- Consideration of Audience needs
  - professional background
  - scope of communication
  - style of communication

Professional Background

- Technical - engineers (all disciplines) & scientists, academics
- Non-technical - other professionals inc. legal, sales, finance, managerial

Scope & Style of Communication

- Scope -
- Level of technical detail
- Audience's needs
- Desired outcomes
- Visual aids - figures, tables etc.

- Style -
- Reports
- Essays
- Memos
- Emails
- SMS messages
- Proposals
- Conference Papers

Reports have 3 basic sections:

- Front material
- Body of the report
- Back material

Front material:

- Title page
- Foreward, Preface, Acknowledgments (published reports only)
- Abstract
- Table of Contents
- Summary
- (NB - for Essay report only Title Page and ToC required)

Title page:

- first page of report
- descriptive title
- author’s name
- date
- name of author’s organisation
- name of client

Summary:

- brief factual description of report
- written as prose (sentences), not notes
- known as Executive Summary in business reports

Body of Report:

- Introduction
- Main text
- Conclusions

Introduction:

- nature & scope of situation examined
- context of work as relates to existing knowledge (scientific &/or commercial)
- discusses findings of previous similar research, if available
- states investigation method
- presents key results

Main text:

- elaborates themes in introduction
- develops them in sections &/or chapters
- written with organising principles in mind

Conclusion:

- summarises findings from main text
- does not introduce new ideas/material

Technical reports main text features:

- Introduction
- Literature Review
- Methodology
- Results
- Discussion
- Conclusion

Literature Review:

- Summarises and evaluates the literature used
- Considers contribution of the literature to your research/study
- Evaluates the strengths & weaknesses of previous work
- Informs your understanding and framing of the research issue/problem.

Methodology:

- Explains data gathering/generation process
- Outlines data analysis method & process
- Written in past tense, passive voice (“research was carried out”)

Successful methodology relies on good research practice

Laboratory Notebook -

Complete and accurate notes and records!

Results:

- Research findings - represented in texts and graphics
- Explains key findings, results, issues
- Shows trends or relationships
- Indicates explained or unexplained findings

Discussion:

- Assesses & analyses research results
- Comments on unexplained results
- Compares research findings with literature
- Applies findings to broader research context

Back matter:

- Bibliography - alphabetised list of references cited
- Appendices - detailed data related to main text
- Reference List - additional material consulted, but not cited

Writing Process:

- Plan - time, aim, audience, scope
- Research - data gathering
- Draft - creating ideas & information as text
- Edit &revise - quality control; proofreading, checking, rewriting, formatting.

Checking content & organisation:

- achievement of aim?
- logical flow of argument?
- appropriate headings and title?
- level of detail: too much, not enough?
- paragraphs structured around a key idea?
- appropriate visuals to clarify argument?

Rewriting-clearly & briefly:

- clear, appropriate, direct words and phrases
- content that clearly informs the reader & supports the argument
- removal of repetition & clichés
- short, clear sentences not long wordy ones

Proofreading:

- spellcheck
- ‘naive’ enquirer - external editior
- correct contextual word usage
- punctuation & grammar check - read aloud: do the sentences make sense?, punctuation spaces in the right places?

Document Formatting:

- white space between words & paragraphs
- numbering pages & sections/chapters
- font size (size 12 average)
- underlining , *italics* , CAPITAL LETTERS
- indenting
- lists
- visuals - tables, figures, illustrations

Academic issues in report writing:

- Unclear articulation of desired requirements & expectations
- Presumption that students understand application of written communication process in all subject areas
- Assessment - variable quality of feedback, unclear marking criteria

Student issues in written communication:

- Poor time management
- Incomplete / poor presentation
- Unclear purpose/themes/thesis of communication
- Poor referencing practice
- Academic honesty/plagiarism issues

Essays

- Continuous prose - sentences & paragraphs
- Introduction, Body, Conclusion
- Developing an Argument to Answer a Set Question
- Substantiation through supportive references

The Essay Report assignment is a hybrid writing form

Writing style of Essays

Structure of Reports

Used in ENGG 1803 to cover both forms in one assessment

Documenting Sources

- listed alphabetically by author in bibliography
- book/journal - author's name, initials. publication year, title,volume no. (jrnl), publisher, publication place
- internet - site title, URL address, date accessed

Acknowledging Sources:

- all ideas & material from external sources, except that in public domain, must be acknowledged
- failure to do this is plagiarism & is ethically unacceptable

Sources within text:

- following paraphrased or quoted material - author's name, publication year, page number
- eg: (Smith, 1998, p16.)
- full details are available in the bibliography

Plagiarism includes:

- Representing another person's creative work as your own original work without acknowledgment
- Direct copying of any written or creative material, or ideas, without attribution
- Minor paraphrasing - not using enough of your own words
- Submitting all or part of another student's work
- Portraying group work you have not fairly contributed to as your own.

Overcoming Plagiarism:

- Keeping good research notes to enable acknowledgement
- Draft and edit your work to improve it
- Allowing sufficient time to do references for all assignments
- Bibliographic software - Endnote
- Seek support @ the Learning Centre for poor written English skills.

University Plagiarism Policy:

- Negligent (thoughtless, lazy) & Dishonest (deliberate) plagiarism
- Negligent - 1st offence - counselling & written warning; 2nd offence - penalty
- Deliberate - 1st offence - penalty, written warning & counselling; 2nd offence - stronger penalty (Uni Bylaws)
- Academic Honesty/plagiarism coversheet for all assignments.

Technical Writing references:

- numerous references under technical writing and report writing in SU Library
- Blake, G. & Bly, R.W. 1993, The Elements of Technical Writing, Macmillan, New York.
- Roze, M. 1997, Technical Communication - the Practical Craft, Prentice Hall, Upper Saddle River, New Jersey
- Style Manual for Authors, Editors and Printers (5th edition), 1994, AGPS, Canberra