

# Geothermal Energy (Week 14, 30 Nov)

## - Report Writing & Presentation Guide

민기복

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# Last week Invited lectures



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- 16:30 – 18:30, Mon 23 Nov 2009
  - Geothermal Energy Development in Korea
  - Dr Yoon Ho Song (송윤호), Korea Institute of Geoscience and Mineral Resources (KIGAM, 한국지질자원연구원)
  
- 09:00 – 10:15, Wed 25 Nov 2009
  - Direct Use of Geothermal Energy
  - Mr Hyung Jun An (안형준 차장), KOLON E & C (코오롱 건설기술연구소)

# Today



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- Term project instruction
  - Updated instruction
  - Assessment criteria
- Report Writing Guide
  - Report Writing Guide by Hagan and Mort (2009)
  - Process, structure, format, style, referencing
- Presentation Guide
  - Strategy
  - Useful English Expressions

- Assessment
  - Homework : 30 %, 6 homeworks
  - Mid/Final exam : 30 % (Mid-term: 15%, Final: 15%)
  - Term project : 30 %
  - Participation : 10 % (attendance + eTL discussion + questions)
- Term project (30%)
  - Proposal: 10%
  - Progress report: 20%
  - Final Report: 35%
  - Presentation: 35%

# Term Project Instruction



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- An enjoyable learning experience - become familiar with the technical, economic, political, and environmental issues associated with the topic that they are exploring.
  - Both report and presentation should be in English
  - Timeline
    - ↻ 4 Dec                      Submission of final report (~20 pages)
    - ↻ 7 Dec, 9 Dec              Presentation of term project
    - ↻ 14 Dec                      Upload of revised final report
  - English will NOT be assessed but your English needs to be good to deliver your message.
    - ↻ Your reports will be checked by an editor whose first language is English – will be returned within a week.

# Term Project Final Report



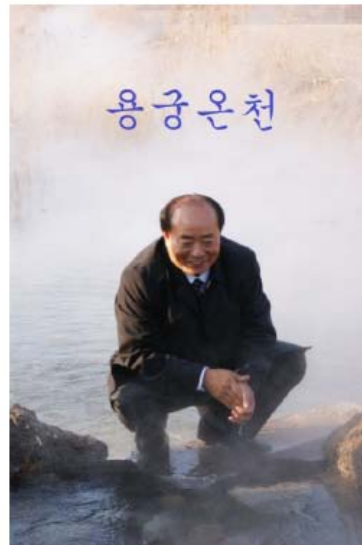
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- Your final reports will be compiled and published as a conference proceedings.
- ~25 copies distributed to the students, and interested people (including KIGAM).
- This proceedings will be also available in the SNU OpenCourseWare website (<http://ocw.snu.ac.kr/>).



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## 2009 SNU Student Conference on Geothermal Energy



Picture by EJ Oh

465.420 Geothermal Energy, Fall 2009

Ki-Bok Min (Editor)

# Final Report Assessment Criteria



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Milestone	Length	Due date	Mark
Proposal	~1 page	25 Sept	10%
Progress Report	~5 pages	30 Oct	20%
Final Report	<u>~20 pages</u>	4 Dec	35%
Presentation	25 minutes (including questions)	7 & 9 Dec	35%

- Keep the page limits (~20 pages excluding cover, table of contents, appendixes). Reports with more than 25 pages will get penalty.



# Final Report Assessment Criteria



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- Six categories for assessment
  - Summary (10%)
  - Introduction (10%)
  - Interpretation/synthesis of information (20%)
  - Methodology/Analysis (30%)
  - Conclusion (10%)
  - Layout and standard of report (20%)
- Excellent – Good – Satisfactory – Unsatisfactory – Poor
- Bonus points considering other factors.

# Final Report

## Assessment Criteria



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- The assessment is on a group basis. Individual contribution is not taken into account.
- How are you going to maximize the capacity of your group?
  - $1 + 1 + 1 = 2, 3$  or  $4$ ?
  - How to maximize your peers' potential?
  - Give a constructive comment on your peers' work.
  - Each of you should be a team leader.

# Presentation Instruction



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- Presentation
  - **Presentation is an extremely important part of your professional life.** Therefore, you have a good reason to be serious about this.
  - 20 minutes + 5 min (questions)
  - Be dressed professionally (e.g., tie/suit)
  - Split the time of presentation between your members
  - Presentation files should be uploaded via eTL (before or after the presentation).
  - As usual, one question will get 2 points as a participation activity.
  - Be present when others are presenting. (late or absent -5)

# Presentation Assessment Criteria



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- Five Categories
  - Introduction (15 %)
  - Content Quality (20 %)
  - Conclusion (15 %)
  - Visual Aids quality (20%)
  - Verbal Presentation (30%)
- Excellent – Good – Satisfactory – Unsatisfactory – Poor
- Bonus points considering other factors.

# Report Writing Guide outline



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- Introduction
- Aims of report writing
- Report writing process
- Structure
- Format
- Style
- References
- Appendixes

# Report Writing Guide

## Introduction



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- Report Writing Guide by Hagan and Mort (2009)
  - [http://www.mining.unsw.edu.au/Publications/publications\\_misc/MEA\\_ReportWritingGuide\\_2010\\_eBook.pdf](http://www.mining.unsw.edu.au/Publications/publications_misc/MEA_ReportWritingGuide_2010_eBook.pdf)
  - Used in Australian Mining Engineering Program
  - Writing requirement may differ in different places
- Not meant to constrain your creative talents but to indicate the accepted norms and conventions.
- Written and verbal communication is **EXTREMELY** important to be successful engineers/managers.
- We need training on this – and this takes time

# Report Writing Guide

## Aims of report writing



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- A report is a form of written communication used within science, engineering and research organizations and, throughout industry.
- Reports are used;
  - To record information
  - To provide an account of an activity or the results of an investigation
  - To discuss options to influence others in decision-making
- 호랑이는 죽어서 가죽을 남기고 과학기술자는...

# Report Writing Guide

## Aims of report Writing



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- In addition to the learning the geothermal energy through this term project, preparation of the reports itself is an important aspect of the learning process.
- Direct your writing to the 'Average' person
  - A person who has general knowledge of the topic but who may not necessarily be a technical expert



# Report Writing Guide

## Report Writing Process



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- Report writing is an iterative process. The steps include;
  - Clarification: topic objective, when, resources, distribution
  - Investigation: questions? Type of information, how
  - Planning: outlining, table of contents
  - Drafting:
  - Editing and re-editing

# Report Writing Guide

## Report Writing Process



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- Drafting and Editing
  - Be selective
    - ↻ Critically comment on the veracity and usefulness of your work and collected information.
    - ↻ Decide what is essential and discard non-essential work/information
  - Create a structure: sections, paragraphs and sentences
  - Edit then edit again
    - ↻ Put aside the draft for at least 24 hours → read with a fresh pair of eyes → more likely to spot errors
    - ↻ Ask someone else for their comment on the report, preferably who is familiar with your field
    - ↻ Use checklist

# Report Writing Guide

## Structure

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- Essay/novel and Report
  - Essay or novel: read from beginning to end
  - Report: only particular sections of a report may ever be read

# Report Writing Guide

## Structure



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- Title
- Statement of originality (be sure to include this for your report)
- Summary
- Acknowledgement (can be before references)
- Table of Content
- List of Tables, Figures, Symbols and Definitions (optional)
- Introduction
- Main sections
- Conclusions
- Recommendation (can be combined with conclusions)
- References

# Report Writing Guide

## Structure



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- Summary (synopsis, executive summary or abstract)
  - Contains an overview of the most important aspects of a report
  - Succinctly state the objective, the process/method involved in the investigation, major findings, and finally major conclusions (and recommendations)
- Introduction
  - Should clearly define the objectives of the study as well as any constraints or boundaries related to the study

# Report Writing Guide

## Structure



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- Main sections (general)
  - Current understanding of the issue
  - Methodology used
  - Models developed to aid analysis
  - Verification of these models
  - Other aspects to consider
- Main sections (experimental)
  - Theory
  - Objectives
  - Method
  - Analysis and discussion
  - Results

# Report Writing Guide

## Structure



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- Conclusions
  - Concluding statement linking the original objective with the outcomes of the study
  - Comment on the impact of the study and how knowledge has been furthered as a result
  - Demonstrate your insight on the topic and an ability to synthesize new information
- References
  - Any information extracted from a textbook, conference paper or other report must acknowledge the original source.

# Report Writing Guide

## Format



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- The layout and format of a report is a matter of personal preference but there are some norms.
- Format must be consistent!

**TABLE 7**  
Report layout settings.

<b>1. HEADING</b>	18 point (pt) Arial (sans serif) bold font, small/all caps, start each section with a new page
<b>1.1 HEADING</b>	14 pt Arial bold font, all caps, 18 pt line space before
1.1.1 <i>Heading</i>	12 pt Times (serif) italic bold font, align left, 12 pt line space before. Note the start of the text in all three levels of section headings (as opposed to the numbering) is aligned perfectly
Text in report	12 pt Times font, left and right justified margins, sentence case
Tables/Figures	Centred on page with 12 pt spacing from text
Table/Figure captions	10 pt Times font. Centred above Table/under Figure
Table contents	10 pt or smaller Arial font
Header	10 pt Times italics font, thin line below the text
Footer	10 pt Times italics font, thin line above the text
References	12 pt Times font, align left, indent second and consecutive entry lines



# Report Writing Guide

## Format



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- Figures: graphs, drawings, sketches, photographs and maps
  - Aid in understanding of a concept discussed in the report
  - Means of displaying measured quantities and can be useful in communication
  - Figures and Tables should be self contained. Your work wants to be referenced by other people.
  - Must be referred in the text of the report
  - Color can be effectively used as a means to highlight particular points but it should be used judiciously – overuse can distract.
  - What is wrong with the following expression?
    - ☞ “refer to the figure above” or “following figures show...”

# Report Writing Guide

## Format

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- Table
  - When the exact values of the data are important
- Captions above the tables/captions below the figures

# Report Writing Guide

## Style



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- Literary writing
  - The wind was blowing fiercely and the air outside was getting cooler.
- Scientific writing
  - The wind velocity was 45 kph which reduced the air temperature to 15°C.
- Avoid emotive language and try to convey information as objectively as possible

# Report Writing Guide

## Style



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- Be concise: Avoid long sentences
  - Use expression economically. Avoid ← get around, investigate ← look into
- Be clear: Avoid being unclear and ambiguous
  - Do not use contractions of verbs: cannot ← can't, they are ← they're
- Be correct
- Do not discriminate
- Check for jargon: for your supervisor or average person
  - Jargon: language related to a particular field of knowledge

# Report Writing Guide

## Style



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- First person vs. third person
  - Third person is the norm → create a formal and objective tone.
  - There can be an exception
- Abbreviation and acronyms
- The first time you use an abbreviation in a report, you must spell out the full term.

# Report Writing Guide

## Style

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- Referencing
  - A means of acknowledging other people's ideas and information.
  - Demonstrates the reader that you have done your research
  - Support your argument

# Report Writing Guide

## Style



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- Examples of referencing

- Keilblock et al. (1998) simulated an ...
- ...begun earlier than this (Hutchison, 1996)
- Kaiser (cited in Hardy 1981) stated that ...
- Roxboroug, F F, 1988. The cuttability of rock in the Sydney Region, in *Proceedings of Tunnelling Australia*, pp 34-42
- Min, K-B, Rutqvist, J, Tsang, C-F, Jing, L, 2004. Stress-dependent permeability of fractured rock mass: a numerical study, *Int J Rock Mech Min Sci*, 41(7): 1191-1210
- Lee, T J, 2009. Personal Communication. 20 Nov 2009.
- McCarthy, P L, 2002. Feasibility studies and economic models for deep mines. Available from <http://www.amcconsultants.com.au/library/browse.asp> [accessed: 6 Dec 2006]

# Presentation Strategy



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- Enunciate
- Be honest
- Be confident
- Be enthusiastic
- Keep the time
- Good engagement with audiences (eye contact)
- Practice, practice and practice



# Presentation

## English Expressions



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- Practice, Practice, and Practice
- You don't need to go abroad to practice
  - Good material – book, movie, English lecture, course in English
  - Internationals are coming – good opportunity to practice
- Useful English Expressions
  - You should read out at least three times before final exam.

# Today



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- Presentation Guide
  - Strategy
  - Useful English Expressions

# Wednesday



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- Summary of the course
- Feasibility of Geothermal Energy
- Take-home exam (2 Dec 2009)
  - ✓ to be submitted within a day via eTL (09:00 Thursday 3 Dec 2009)
  - ✓ Will take about 2-3 hours

# References



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- 
- Hagan P & Mort P, 2007, Report Writing Guide for Mining Engineers, Mining Education Australia (MEA)