



# Technical Report Writing

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*Thermo, Fluids, and Heat*  
*CH EN 3853, 3353, and 3453*

Department of Chemical Engineering  
University of Utah



## Getting Started

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- Assemble all figures, tables, and key equations
- Put them in order and write an outline
- Write. The summary and conclusions are usually done last.
- Edit and rewrite as necessary



## Report Formats

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- Project Report
  - Title page – title, authors, affiliation, date
  - Introduction - objectives, background
  - Technical approach – how you solved the problem
  - Results and discussion – what you did, what you found
  - Conclusions and recommendations – restate findings, make recommendations
  - References



## Report Formats

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- Memo Report
  - To, from, date, subject
  - Summary – short statement of problem and key findings
  - Technical approach – how you solved the problem
  - Results and discussion – what you did, what you found
  - Conclusions and recommendations – restate key findings and offer recommendations



## Voice

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- Passive voice: The valve was opened. (By whom?)
- Active voice: Jake opened the valve. (Active voice is more interesting).
- Passive voice is sometimes preferred for impersonal, technical writing.
  - Passive voice: The feed tank was filled with a mixture of 2-propanol and water.
  - Active voice: My lab partner and I filled the tank with a mixture of 2-propanol and water.
- Active voice can make your writing more interesting but can be overused.



## Verb Tense

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- Write procedure, results and discussion in past tense. This is what you *did*.
- Use present tense for presenting theory, principles, and stating known fact.
- Use present tense for explaining figures, tables, and diagrams.



## Equations

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- Write equations on a separate line.
- Equations that will be referred to in the text should be numbered.

Because the energy conducted to the surface of the iron must leave by radiation and convection, an energy balance yields

$$Q_{elec} = \varepsilon\sigma A(T^4 - T_{sur}^4) + hA(T - T_{sur}) = 1000W \quad (1)$$

where A and  $\varepsilon$  are the area and the emissivity of the base,  $T_{sur}$  is the temperature of the surrounding surfaces and air, h is the heat transfer coefficient, and T is the temperature of the iron. Equation 1 can be solved for T in Excel using the Goal Seek tool.



## Online Resources

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- <http://www.che.utah.edu/~geoff/writing/index.html>
- Sample reports
- Guidelines and tips for technical writing
- Guidelines for literature references, including electronic media
- Statistical analysis of data and design of experiments
- Guidelines for oral reports