

# PHY1600S - Effective Communication for Scientists

## Assignment #7 – 14 February 2017

### A Proposal – Do Either 7A, 7B or 7C

**Assignment 7A** You are a technical advisor to the director of a medium-sized research institute. Below is a copy of an internal memo she recently sent you. Please respond.

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#### CREATIVE RESEARCH INSTITUTE

*Feb 2017*

**TO :** Dr. (You)

**FROM :** D. Boss, Director

**RE: Purchase of New Computer System**

The in-house computers used by our administration have become out-dated. Please prepare a brief report recommending the purchase of computers or cloud computing alternatives to rectify this situation. Your recommendation should provide a compromise between cost and effectiveness. Please have your report sent to my by 9 PM on Sunday, 26 February 2016.

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***Suggestions:** My interest is in form and style rather than content, in the brevity and clarity of your writing rather than in technical expertise - so do not spend a lot of time weighing the technical advantages of one system over another! This assignment is intended to give you the opportunity to learn how to organise and compose a technical report. I suggest that you decide quickly on the characteristics of the system that you would consider important; ease of use, connectivity, software availability, long-term cost.*

Each section of your report should have a clear and descriptive heading, set off from the text. Your brief report might include **some or all** of the following sections:

1. **Title Page.** One third of the way down, put a title, your name, and the date. At the bottom left corner, include the statement "Prepared for ..."
2. **Executive Summary (Abstract).** This section summarizes - very briefly - the reason for the report, your main argument, and your recommendation.
3. **Rationale (Body of Text).** Here you state, again briefly, the problem that your report will attempt to solve and the evaluation of possible solutions. Since the director is a scientist it would be wise to include some technical details; since others may be advising the director, your discussion should also be comprehensible to computer illiterates.
4. **Conclusion, with Recommendations.** Summarize your recommendation for action here, backed by a rationale. Include cost estimates and implications. Details of technical considerations, cost estimates, etc. appear in the Appendices.
5. **Appendices.** These, often in tabular form, provide the detailed technical

specifications of your choice, the detailed budget, timetable and any other information that you think would be relevant.

6. **Footnotes and/or Bibliography.** Refers to documents used in the preparation of your report.

**Assignment 7B** As a faculty member in an academic Department, you have received the following memo. Please respond to the Chair's request.

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**DEPARTMENT OF PHYSICS**

**Feb 2017**

**TO :** Professor (*You*)

**FROM :** Professor D. Leader, Chair

**RE: New Course.**

As we discussed recently, the current gap in our undergraduate course offerings needs to be addressed. Would you be willing to formalize your thoughts so that a detailed proposal could be brought to next week's Faculty meeting? Obviously we would need guidance on the proposed syllabus along with reasonable estimates of required resources: academic and non-academic staff, space, equipment, and projected start-up costs (if any). If the faculty approves, we would request the Dean to support an application to the Faculty Innovation Fund.

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***Suggestions:** As usual, my interest is in form and style rather than content, in the brevity and clarity of your writing rather than in your technical expertise - so do not spend a lot of time agonizing about what course or field of physics to address! This assignment is intended to give you the opportunity to organise and compose a technical report. You may suggest a theoretical or experimental course, or even a single experiment for an existing undergraduate laboratory. Make reasonable guesses for equipment or personnel costs.*

Each section of your report should have a clear and descriptive heading, set off from the text. Your brief report might include some or all of the following sections:

1. **Title Page.** Put a title and your name one third of the way down the page.
2. **Introduction.** This section summarizes - very briefly - the reason for the report, the problem to be solved, your main argument, and your recommendation.
3. **Rationale (Body of Text).** Here you explain in more detail the reasoning that supports your recommendation. Assume that your readers will be mainly other physicists or engineers, though if the report goes forward to the Dean with a request for funding, it should be intelligible to academics in other disciplines.
4. **Budget.** In tabular form, show how much your solution will cost. (faculty salaries are already covered, but TAs or equipment, if required, are a separate budget item).
5. **Conclusion with Recommendations.** A brief restatement of the recommendations and cost appears here.
6. **Appendices.** This would contain supporting but incidental information; e.g.

comments from students, reports from other universities, etc. (which, for the purposes of this assignment, could be quite imaginary!).

**Assignment 7C** – You are a recognized expert in the University community. Dr. Green solicits your help in identifying projects that his office might implement as part of the University's plan to minimize the impacts of the University's activities on global climate change. Please respond.

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**UNIVERSITY OF TORONTO**

**Feb 2017**

**TO :** Dr. You)

**FROM :** Dr. U. Green, Sustainability Office

**RE: Fighting Greenhouse Gas Emissions**

The University of Toronto Sustainability Office promotes projects that achieve a reduction in utilities consumption resulting in greenhouse gas (GHG) emission reductions. Please prepare a brief report that provides suggestions to minimize the environmental impacts of university activities in the research group in which you work, in your Department, or in the wider university community.

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***Suggestions:** As usual, my interest is in form and style rather than content, in the brevity and clarity of your writing rather than in your technical expertise or wisdom - so do not spend a lot of time being brilliantly innovative or worrying about the very best alternatives available! This assignment is intended to give you the opportunity to learn how to organise and compose a technical report. I suggest that you identify a couple of projects that might contribute to a reduction of GHG emissions; the Sustainability Office website might provide you with some suggestions.*

Each section of your report should have a clear and descriptive heading, set off from the text. Your brief report might include some or all of the following sections:

1. **Title Page.** One third of the way down, put a title, your name, and the date. At the bottom left corner, include the statement "Prepared for ..."
2. **Executive Summary (Abstract).** This section summarizes - very briefly - the reason for the report, your main argument, and your recommendation.
3. **Rationale (Body of Text).** Here you explain in more detail the reasoning that supports your recommendation, and why you believe its implementation will achieve a reduction in GHG emissions. Assume that your readers are intelligent academics, but not necessarily scientists.
4. **Conclusion, with Recommendations.** Your recommendation for action, backed by a rationale is summarized. Include cost estimates and implications. Details of technical considerations, cost estimates, etc. appear in the Appendices.
5. **Appendices.** These, often in tabular form, provide the technical specifications of your choice such as the detailed budget and expected impact.
6. **Footnotes and/or Bibliography.** List documents used in the preparation of your report.