TERM PROJECT GUIDELINES

Primary goal: The goal of the term project is to provide you with an opportunity to research a specific topic, develop your own ideas about that topic, present the ideas in the form of a scientific paper, and communicate those results in the form of an oral presentation to the class. As scientists, this type of work is your most essential form of communication.

Overview: The paper should follow the general style of a scientific journal article (see “Components” below for details). To make it easier to meet deadlines at the end of the semester, the term project will be divided into several parts: a proposal, an outline, a final paper, a class presentation, and revisions to the final paper. These parts are as follows:

Proposal: The proposal should be 1 page long, and should include one paragraph describing the proposed project, 3-5 references relating to the project, and 2-3 figures that pertain directly to the project.

Outline: The outline should be a full working outline describing the details of each section of the paper. An updated reference list and 1-2 additional figures (relative to the proposal) should be included.

Paper: The paper should be 8-10 pages long using normal fonts/margins/spacing, etc. (i.e., 12 pt. Times Roman, 1” margins, double spacing). This length does not include figures, figure captions, and references. Papers significantly longer than the maximum page limit will be returned for revisions.

Presentation: The presentation should be 20-25 minutes long, and should include a synopsis of the information from your project. We will discuss the details of this presentation later in the semester.

Revisions: Revisions are THE most important step in the writing process! This is your opportunity to polish the rough edges after having several days away from the paper. I will return your paper to you as soon as possible to give you adequate time to perform revisions for an improved grade.

Topics: You should meet with me to discuss your project topic well in advance of the proposal deadline (see below). You may choose any geophysical topic that interests you, and may select either a regional or global focus for the paper. I suggest (but certainly do not require) that you pick a topic that can assist you in your research when applicable.

Due dates: Since the term project comprises over 1/3 of your final grade, you should begin thinking about this project as soon as possible. I expect that you will devote significant time and energy to this project over the course of the semester. To avoid leaving things to the last minute (as all of us tend to do), the term project will be developed throughout the semester. See the “Important Dates” on the next page for specific due dates of each portion of the term project.
IMPORTANT TERM PROJECT DATES

<table>
<thead>
<tr>
<th>Date</th>
<th>Item</th>
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<tbody>
<tr>
<td>09/22/2006</td>
<td>Proposal due</td>
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<tr>
<td>10/27/2006</td>
<td>Outline due</td>
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<tr>
<td>11/21/2006</td>
<td>First draft due</td>
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<tr>
<td>12/11/2006</td>
<td>Final draft due</td>
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Grading: Your term project will be graded on clarity, organization, use of figures and illustrations, oral presentation, and your effort to incorporate material learned in the class. See the attached sheets for specific components that will be used in this evaluation. Points for each part of the project are as follows:

Proposal: 50 points
Outline: 125 points
First Draft: 200 points
Presentation: 175 points
Final Draft: 150 points
TOTAL: 700 POINTS

Components: While you should choose the exact organization of the paper, here is one possible format to follow:

Abstract: The abstract provides a concise synopsis of the details of the paper. It is generally 1 paragraph long. Particular emphasis should be placed on the results and implications of the research.

Introduction: This section provides background material and motivation for the work discussed in the body of the paper. It is generally short (1-3 paragraphs), and sets the stage for the rest of the paper.

Data and Methods: This section provides the technical details regarding how data was collected and processed, particularly if the process is new or a significant modification to previous analysis methods.

Discussion: The discussion is used for interpretation of the data. This section generally evaluates the implications of the results of the current study and how they relate to the results of previous studies. The discussion sets the stage for the conclusions section.

Conclusions: This section is NOT a repeat of the abstract. It is generally used to clearly explain the well-constrained results, identify the less well-constrained results, and discuss new directions to investigate in future work. New material (i.e., more data, discussion of previous studies) is not included in this section.
Other components:

- **Figures**: I strongly suggest that and encourage you to create original figures that synthesize the results of several studies. For figures that are directly copied from other papers, provide a reference to that paper. Please number all figures, beginning with Figure 1. All figures must be referred to in the text.
- **Figure captions**: The figure captions tell the story for each figure. Your captions should be concise and to the point, but not so short that it is impossible to determine the figure content without searching through the main body text. Clearly identify all symbols, line styles, etc.

**MORE PROJECT DETAILS**

**Plagiarism**
There is a significant difference between plagiarizing and summarizing someone else’s ideas. While you are expected to conduct original thinking in the paper, you are not expected to perform original research for it. Therefore, while direct quotes are not allowed, use copious referencing in your paper. If you are not sure whether you are plagiarizing someone’s work or not, please ask!

**Outline**
The outline should be a full working outline describing the details of each section of the paper. Complete/near complete sentences should be included. This outline is meant to be your roadmap for writing the paper, and to help you determine parts of the paper that you need to clarify with more detail. An updated reference list and 1-2 additional figures (relative to the proposal) should be included.

**Figures and Figure Captions**
Figures should always be accompanied by a descriptive figure caption that includes the reference from which the figure originated. If the figure is your own creation based on the work of others, include a phrase such as “developed from Smith et al. [1990]” to avoid potential plagiarism issues. The caption should include a description (in your own words) of the key points of the figure, including items denoted by symbols, varying line types or widths, or color, as well as a brief summary of the pertinence of the figure.

**Oral Presentations**
- **Length**: 20-25 minutes, with an additional 5-10 minutes for questions.
- **Format**: The presentation should be given in a lecture-style professional format using PowerPoint or a similar electronic presentation product. Please see us for help and advice on creating a simple yet effective PowerPoint presentation. All members of the audience will write a short, anonymous critique of the presentation, and will include at least one question to help clarify points or provide more information about your presentation.
- **Grading**: You will be graded on creativity, clarity, and coherence of your presentation. See the attached sheet for specific components that will be used in this evaluation.
**GLG418/598G: Geophysics**  
**Fall 2006**  
**Term Project Oral Presentation Grade Sheet**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points Possible</th>
<th>Grade</th>
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| **Clarity:**  
Was the presentation easy to understand and properly motivated by introductory background material? | 50              |       |
| **Coherence:**  
Did the presenter provide information in an ordered, logical manner? | 50              |       |
| **Creativity:**  
Did the presenter develop new material or develop conclusions based on the work of others? | 25              |       |
| **Use of figures:**  
Were the figures easy to read and effective in illustrating the presenter’s points? | 50              |       |
| **TOTAL**            | 175             |       |

**Additional Comments:**
GLG418/598G: GEOPHYSICS  
FALL 2006  
TERM PROJECT PAPER GRADE SHEET – FIRST DRAFT

Author’s Name__________________________________________

<table>
<thead>
<tr>
<th>Component</th>
<th>Points Possible</th>
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<tr>
<td>Clarity:</td>
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<tr>
<td>Coherence:</td>
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<tr>
<td>Creativity:</td>
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Additional Comments:
Author’s Name

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<tr>
<th>Component</th>
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<th>Grade</th>
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<tr>
<td>Clarity: Is there clear improvement and effort in the quality of the writing?</td>
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<td>Coherence: Is there clear progress in the order and development of ideas?</td>
<td>45</td>
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<tr>
<td>Creativity: Is the clear improvement of the development of evaluating competing hypotheses? Are the conclusions coherent and logical?</td>
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<tr>
<td>Use of figures: Do the figures and figure captions illustrate key points of the paper?</td>
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<td><strong>TOTAL</strong></td>
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Additional Comments: