Remote Sensing Laboratory Syllabus

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Projected Sequence of Labs:  
1: Photogrammetry December 12, 2005  
2: MTF January 9, 2006  
3: Modtran January 16, 2006  
4: Calibration and PIFs January 23, 2006  
5: Unsupervised Classification February 6, 2006  
6: Supervised Classification February 6, 2006  
7: Registration February 13, 2006  
8: Unmixing February 20, 2006  
The write up for labs 5 and 6 will be written up as a single lab report over a two week period.

Late Labs will be docked ten points a day. If you have extenuating circumstances and need an extension, let me know before the lab is due. The day the lab is due does not count as prior notification.

Submission and Grading:  
Each lab will be graded out of 100. Write-up can be handed in as hard copy or soft copy. Hard copy can be submitted in my office. Soft copy can be submitted via website or e-mail.

Lab Write-up Expectations:  
There are 4 sections that must be included in your lab:

1. Background & Theory  
2. Procedure  
3. Raw Data  
4. Results & Discussion  

These sections were created by streamlining the standard lab format in order to eliminate a large amount of busy work. Here is the expected content of each of these sections:

1) Background & Theory Background information gives the motivation of the lab. Theory describes the science behind the lab. While background information is useful, we are much more concerned that you have a good grasp of the theory. In addition to describing the general science behind the lab, the theory should include any equations that are used for your calculations and describe where those equations come from. Every equation must be numbered so that it can be referenced. Since we believe that graduate students should be capable of translating equations into
code, spreadsheet, or hand calculations this is the only place that you should have math in your report. If you feel that it is necessary to include sample calculations then include it as an appendix. Any figures that you might include in your theory must be numbered and labeled. Do not include arbitrary figures. All figures, equations, tables, etc... that are included must be referred to from within the text and are used to illustrate concepts that you write about. Any outside sources must be referenced and referred to from within the text (including discussion with other students, the professor, etc... about the lab).

2) Procedure The procedure describes the physical process that must be performed in order to complete the lab. Treat this section as a way for you to write a summary of what needs to be done in case you ever want to go back and reference the lab. Do not rewrite the lab handout. If, for some reason, it is necessary to make changes to the given lab procedure, make a note of those changes here. If you want to describe a calculation that you did, it should be noted by referencing the appropriate equations that you developed in the theory section. Do not use the procedure section to develop an additional mathematical treatment of the science behind the lab.

3) Raw Data Raw data is any data that was obtained directly from the information given (i.e. before it was passed through your calculations). It is not necessary to include every piece of raw data that you obtained, a representative sample will suffice. Any raw data that was given to everyone as part of the lab does not need to be provided. The purpose of the raw data is to provide us with a way to figure out what went wrong if it is clear that the results you obtained are faulty. If there is too much important raw data to include in a report then provide us with a link/directory where we can access it on a computer.

4) Results & Discussion This is the most important part of the lab. Your results should be presented in an easy to read form (i.e. a table or a graph). Any figure, table, or plot must be numbered and labeled. Plots and tables must have units. You must discuss any results (tables, charts, figures, etc...) that you present. Do not include any results (tables, charts, figures, etc...) unless they are referred to from within the text and discussed. The discussion should be a well thought out analysis of the results and anything else that comes to mind as a result of the lab. In addition to this analysis, the discussion should tie in how the theory that you developed is (or is not) evident in the results. Any discussion not in the Results & Discussion section will be discounted. Comments and questions that are specifically required by the lab handout are in addition to the normal discussion. It is not necessary to include a specific questions section, but make it clear that you are answering a question. Remember that not only are we interested in your ability to follow the directions given in the lab; we are also interested in your ability to write a structured lab and analyze your results.

Plagiarism will result in a grade of zero for the specific lab. Plagiarism is "a piece of writing that has been copied from someone else and is presented as being your own work" (www.dictionary.com). If in doubt just cite the source.

The labs, images, and data needed are all online at www.cis.rit.edu/class/simg762, or they can be accessed via ftp, or the network, at /cis/www/cis/htdocs/class/simg762. For some of the larger images, it is quicker to copy the images directly from the network to your account rather than downloading them from the web.
The labs are due by the indicated due dates, they can be turned in early if you find you have free time and want to do more than one in a week.