GUIDELINES FOR SURF PROPOSALS

The purpose of the SURF proposal that you are required to write and to submit is to explain to other people

- what you plan to do in your research
- why this work is necessary or desirable
- specifically, how you will do it
- to persuade, by your preparation and by force of argument, that you are the right person for the job.

The people who will read the proposal will include the person for whom you will work and the evaluators who recommend funding priorities to the SURF office. Your prospective supervisor will of course have expert knowledge about your task, and will be best able to judge the merits of your objectives and plan of attack. The evaluators will be less well informed about the background and motivation of your research, so you will have to provide information that will help them put the details in perspective.

No two proposals are alike, and there is no general recipe which, if followed to the letter, will guarantee a good proposal. Most proposals do share -- or can share -- a few common structural features, however. These are indicated by the headings below.

A good proposal will anticipate and answer questions that an informed (and somewhat skeptical) person might ask. Examples of such questions are given below each heading. These examples are not exhaustive, and are not meant to be a check list. They are included to stimulate your thinking about the questions that you should raise and answer in your proposal that are especially pertinent to your task.

A proposal of two or three pages, carefully thought out and precisely worded, should be sufficient to make all the important points. Some excellent past proposals have been contained on a single page.

INTRODUCTION/BACKGROUND

What is the general technical area in which you will be working? What is the problem that you are trying to solve, and how did the problem arise? Why is its solution interesting or worthwhile? What is the status of related work by the professor or group that you will be joining, and what will be the contribution or significance of your research if it is successful?

OBJECTIVES

What do you aim to accomplish in your task? What will you measure, and under what conditions; or, what will you calculate, model, or simulate? What are your starting assumptions or conditions, and what will be the result or product of a successful research project? What are the criteria for success? (In other words, how will you know when you have accomplished what you set out to do?)

APPROACH

Specifically, how will you accomplish your objective? What will you do? What are the principal steps or milestones along the path? How long will each take? What steps promise to be the most difficult, and how will you overcome the difficulties? What equipment or other resources will you need? Which of these are inherited, and which will you have to make or procure? With what other people or groups will you be collaborating? Will completion of your task depend on results from other people in related tasks? (That question may be especially pertinent for team projects.)

Making a schedule of the principal activities and events is a good way of showing the readers that you have taken a systematic approach to planning your work.

REFERENCES

List all pertinent papers or reports that you have consulted to prepare your proposal. Include remarks or suggestions from your prospective supervisor, from graduate students, or from other people with whom you have talked.