



School of Information Technology

Department of Computer Science (MIT 807)

Guidelines on the Preparation of Research Proposal

This is a guideline document to assist students on the content of research proposals. Research proposals should include the following components:

1. Introduction

The introduction provides the reader with sufficient information on the field of study to allow for an appreciation of the proposed research i.e. it places the project in context with what is known. This section can also form the basis for the introduction of the research proposal/dissertation.

2. Aim

A clear statement of the general aims of the project plus a set of objectives that are potentially achievable.

3. Hypotheses and Questions

The hypothesis is a tentative theory about the natural world that can be tested by further investigation, whilst the questions allow for more focussed or specific attention to particular aspects of the project. It is essential that the hypotheses and/or questions are clearly and unambiguously stated. Since it is these statements that are going to guide the research through the practical portion of the project and will also assume central roles in the written mini-dissertation it is important to consider their wording and composition very carefully. Many students find this a difficult task.

4. Methodology

This section varies with each discipline. In essence, the section provides a detailed description of what material is to be used, what experimentation is to be conducted, what data are to be collected and how the data are to be analysed. It is worth spending time on this section as it will give you a clear indication of what work you will be conducting and assists you in planning

the project. Consideration must also be given to the following: whether the material is readily available; whether permission is required to gain access to the material; whether ethics clearance is required. Solutions to potential problems must also be considered.

5. Goals and processes

This section outline details of what work needs to be done and when. It is essential that when this plan is prepared, you are realistic about what can be achieved at any given time. You will find that you often underestimate how long it will take to achieve a particular task, check your timings with your supervisor or other senior postgraduates in your field.

As is common in the industry and the broader workplace, many supervisors also ask for a budget to be prepared for the project (If funding is required for the project).

A proposal document is considered by the Department of Computer postgraduate committee or supervisor. Adjustments and corrections to the document may be recommended by the committee or by the supervisor. Once the project proposal has been accepted by the committee or supervisor, the document is signed by the candidate, supervisor(s), coordinator and Head of the Department. The signed document is submitted to the Department Secretary and a formal acknowledgement by the candidate to undertake the research under the guidance of the supervisor(s).

The proposal document must be submitted to the MIT coordinator within a specified period of the original registration. The students must finalise their research topic within the first year of their registration to avoid a further deal in finishing the program within the stipulated period.

6. Evaluation of Research Questions

You should have a plan for testing your system when it is complete. Work this out now; everything will be wasted if you finish your implementation but cannot evaluate your “advance” convincingly. Indicate the interpretation and conclusions that you will place upon the results. What

difference will they make? Indicate the implications of your research for current theory and practice.

6. Work Detail

Decide on the stages of the project and the dependencies between them. Compile a project plan.

- Timeline, including Gantt chart. Use specific dates so that you finish on time.
- Resources required (equipment, people, special software etc)
- Deliverables
- Milestones (which should refer to the Timeline)

7. Bibliography

List the main sources on which your research will be based. In the proposal, we want a preliminary outline of the key works. All studies must be properly cited. As you progress in writing your research proposal have to show that you have read the relevant papers and books and understand the field. You should show that you know which important contributions are and how they are related and may be grouped. You should know where the concepts you use were first described.