

## Detailed instructions and hints for the DQE May 9, 2008

Overview: You are reporting on the research you did in a roughly semester-long project. You are *not* describing a plan for your entire thesis.

### Suggested Format of Written and Oral Reports

#### 1.) Topic area and significance ( $\leq$ 1 page) (1-2 slides)

In 1-2 paragraphs, explain the big picture for your topic area and why others should care. Indicate where your topic fits into the big picture.

#### 2.) Background/literature review (3-5 pp or slides)

Explain in more detail what your topic is. With regard to your topic, what has been done in this area? What are the advantages or limitations of these approaches?

#### 3.) Analysis and/or future directions (2-4 pp or slides)

This section can take a variety of forms, e.g., a description of how several available tools/techniques might be combined to solve a problem or an in-depth analysis of some aspect of the literature to reveal flaws in current approaches. The goal here is to take your fairly standard literature review of section 2 and demonstrate that you have not only read the literature but that you have read it critically with an eye toward the strengths/weaknesses/gaps/needs.

#### 4.) Results and discussion (2-4 pp or slides)

Building on your perspective/analysis from Section 3, describe the area in which you made a contribution over the term. Describe the calculations, simulations, or experiments that you actually performed. Interpret the results. If something was tried but didn't work, give possible reasons. Indicate what might be the logical next steps (over the course of the next few months – NOT over the course of your thesis.)

#### 5.) Bibliography

The biographical sketch should basically be a resume - where the student was born and grew up, what schools the student went to, main work experience, when the student began here at Michigan

### Helpful hints

1. Don't assume that the faculty is intimately familiar with your topic area and all the abbreviations and acronyms of the field. A good rule of thumb would be that if you didn't know what something meant a few months ago, don't assume the faculty will

know.

2. Be clear about what was actually done vs. what might be done. Be clear about what you think vs. what someone in the literature thinks, and give references for ideas from the literature.
3. Explain why the research is important, and connect the "big picture" to what you are doing in a concrete way. At that same time, don't overdo the big picture. Explain in a paragraph or two and then move on.
4. Include figures in your written document, especially schematics that show the overall principle of how something works. Don't make the figures too small to be read!
5. Be consistent in your notation and abbreviations. Have all references in a similar format.