Guidelines for the Fourth Year MEng Report

IMPORTANT NOTE: Students should NOT include anything that is commercially sensitive or secret information. If in doubt, check with your Industrial Supervisor.

One way around confidentiality of the work you have done is to talk about the computer science you have done but using a different, non sensitive example or by simply changing the context of the work. I can try and help you but the best help will often be a combination of my advice with advice from your industrial supervisor. In difficult cases it may be sensible to ask the industrial supervisor to contact me so that a strategy can be negotiated.

Report Submission: Deadline is Friday 21st September 2018 at midnight. Submit electronically in PDF a file **"<your-name> - <your reg number>.pdf**" via Blackboard (COMP40901). If you have more than one file please archive them using e.g. gzip.

Length: For fourth year MEng students, there is no limit on the number of words. However, please don't make the report unnecessarily long by waffling, and don't make it so short that it fails to convey the amount and the complexity of work you've undertaken. Most reports are between 25 and 35 pages in length. We are looking for a clear and fairly concise report, well explained and illustrated with appropriate diagrams/pictures plus examples.

Format: Please use single-spaced, 12-point text. Both left and right justified looks more professional than just left justified text.

Style: Try to make the report flow. The report should read as a continuous piece of work with a unified theme, rather than several standalone and unrelated sections. Thus you need to link between chapters and sections. Remember that you are writing a report.

Please mainly use the third person and past tense in the report. So instead of, `I then ran a test on the merged sort and multiplication code.', use something like, `The merged sort and multiplication code was then tested.'.

Be positive about what you have done.

Spelling and punctuation matters! Use a spell checker but also please read what you write before you hand it in. If you pause when reading to draw breath, and there's no comma or full stop at that point, then you need one. Furthermore, only have sentences which express a (single) complete thought or statement. If your `sentence' comprises several statements or facts and runs to several lines then you need to split this up into more than one sentence! Break your work into paragraphs of no more than 8-10 lines and try not to have more than one page of text without a section heading; a well thought out contents page will help here. A glossary is often very useful but you must still define technical terms and acronyms on first use.

A diagram is worth a thousand words but please note that all diagrams need to be numbered, titled and cross referenced in the text with some explanation. (They shouldn't be included if you've

nothing to say about them!). Furthermore, you should not leave the reader to struggle unaided through a diagram and then leave them to come to their own conclusions about what they see!

The report must be yours and written in your words, but you will need to mention other people's work and contributions. Do not forget to attribute work that is not yours to its source with an appropriate reference. When describing other people's work you should ideally paraphrase but in some situations a direct quote may be better. Where you use direct quotes these should be clearly enclosed in speech marks and also referenced.

Many students will have done commercial where some confidentiality restriction apply. In this case, check with your manager what you are permitted to say. Do not accept an answer of "nothing". It is frequently the case that students' submit reports describing an artificial artefact or example. e.g. some test data or a test scenario that was used or has been invented for the purpose of the report. The artefact or example should illustrates what was done but is not the actual product. Providing this is clearly stated it is not a problem.

Suggested Layout Guide:

Title Page: giving the report title, your name, MEng Report with the year, and the name of the company.

Abstract: This is no more than a page. The abstract summarises the context and aims of the project, its main achievements and results. An abstract is not an introduction!

Table of Contents: This lists all the chapters, sections, and subsections of the report giving page numbers for the start of each.

Glossary: To define all acronyms used in the report.

Chapter 1 Introduction: This is a statement of the problem, who the firm are, the type of work done by the firm and why the firm wants to undertake this work. Include any background and literature survey done plus a brief overview of the report organisation.

Chapter 2 Design: This should describe the problem in greater detail and how you set about trying to solve it. Design alternatives should be explored. User requirements, system specification and high level design decisions are expected in this chapter. The emphasis should be on the decisions taken and the reasons for taking them; you're writing a report of what you've done and why you have done it that way, not a User's Manual!

Chapter 3 Implementation: This chapter should describe the implementation work undertaken in some depth. You may want to discuss your choice of database, programming language or application package etc. in this chapter (otherwise put it in chapter 2). The use of flow diagrams to describe the implementation is strongly recommended. Only include snippets of real code if there's something you particularly want to illustrate, or if there's something clever or difficult about your code that you feel others might benefit from knowing about.

Chapter 4 Testing/Results and Evaluation: You should describe the firm's and your approach to testing, the tests you have undertaken and the results you obtained, e.g. graphs,

screen shots or CPU usage figures etc. You must point out and discuss the significance of any results you present. You should conclude this chapter with an evaluation of what you have done. This should include how the firm checked that what you have done passes their internal standards and that what you have produced is 'fit for purpose'. This may include talks you have given to your industrial colleagues, regular meetings with your manager, code reviews etc. The evaluation is an important section, so give it due thought and weight.

Chapter 5 Reflective Evaluation and Conclusions: Describe how you have benefited from working in the company, e.g. tools & techniques learnt, skills developed, team working, time management, success of project etc. Summarise what you have achieved. Compare it with what you said you would achieve in the Introduction. Say how well you've managed to solve the problem. Be critical but positive about what you have done; with hindsight, say if a different approach, different tools etc. would have been more beneficial in your explained and justified opinion. Finally, say what if any extensions to the work need to be done in the future and whether the company is using what you have produced.

References: Any manuals, books, papers or internet sources that you have referred to in executing the project should be included in the References and have a corresponding reference to them in the main text. Include full details of your reference including all authors, full name of publication, volume, number (if relevant), year of publication and pages. For a book, include the edition number and publisher. Web references are fine but should give a readable title, author plus the URL and state when they were last accessed to ensure that they are current at the time of writing.

Examples:

1. F. Blogs, 'Basket weaving for Beginners', International Journal on Basket weaving, Vol.599, No.2, pp.14-18, 1995.

2. P. Pat, 'Travels in Greendale', Edition 3, Goggins Book Company, 1975.

3. Bluetooth web site, http://www.bluetooth.com. Last accessed 09/08/2010.

Appendices: Appendices are for details you wish to include (e.g. a User's Manual or a large chunk of code) that are not really central to the main text of the report. My advice is to keep the appendices short or (much better still) don't have any. Remember that writing time is proportional to report length. If you have appendices then label them Appendix A, Appendix B plus give them a title etc.

NOTE ALSO, any copying of books, journals, or documents required for the report must be checked with the Industrial Supervisor before it is carried out and any material that is copied must be acknowledged as such. Attempting to present material written by others as your own is plagiarism

and a serious disciplinary offence, as described in the University guidelines in the Undergraduate Handbook.

Marks: Marks are given based on the introduction (15%), design (20%), implementation (20%), testing/results (10%), evaluation (10%), reflective evaluation/conclusions (10%) and the report presentation (15%). The report counts for approximately 66% toward the overall summer project mark and is thus worth ~16credits.