

JC4000 (2025-26): Graduation Thesis

The Final Project Report Guidelines

During your project, you might spend the bulk of your time on implementation. However, it is very important that you can communicate your ideas and to make your work understandable to others. At end of your project, you may know what you have done but the examiners can only judge the quality of your work by the description you give in your report. Hence you should make sure your written work is presented to a high standard and that it fully describes all the work you have done.

The Project Report

Your Report is primarily a description of what your project was all about. However, it should not be a blow-by-blow account of everything you did or tried to do, nor should it describe every line or subroutine in your code. By now, you should be able to write easily understandable programs. The explanations of the workings of your program(s) should be restricted to an overall description. You should aim to keep details down to an essential minimum, although you should highlight any novel, difficult, or unusual aspects of your project or code. Remember that other people will be reading your report - people who know nothing about the project, and even people who know little about the topic. Therefore, the description should be clear to a non-expert reader, and you should do your best to make it readable, understandable, and interesting.

Declaration

At the beginning of your report, you should include a signed declaration stating that the work is your own. A typical declaration is given below:

I declare that this document and the accompanying code has been composed by myself, and describes my own work, unless otherwise acknowledged in the text. It has not been accepted in any previous application for a degree. All verbatim extracts have been distinguished by quotation marks, and all sources of information have been specifically acknowledged.

Word Limit

Your report should be 15,000 to 17,000 words in length, which is roughly 50 pages at 340 words per page (not counting diagrams, etc.). You may lose marks for exceeding this limit. The idea of this is to encourage you to be concise in technical writing and to get all the important information across and skip anything not relevant. The word limit just applies to the main body of the report, and does not count table of contents or references or appendices etc. You can put whatever you like in appendices, but markers are not obliged to read them.

The text of your report should be in a 12-point font with a spacing factor of 1.5 times normal. Common choices of font are Times New Roman or Arial, for example. Your report should include an Abstract, appropriate Acknowledgements, and a Bibliography.

We do not specify a precise structure for your report. This will depend on the nature of your project. You should discuss possible report structures with your supervisor, who should be able to show you examples of previous reports. In general, you should divide your report into chapters, and these should include at least an Introduction and a Conclusion chapter. The Introduction chapter should describe the background and motivation for your project, and it would typically include a review of the appropriate literature, and your aims and objectives. It could also mention design decisions, and implementation issues, although the details of these would normally go into a separate chapter or chapters. The conclusion chapter should contain a critical discussion of your project. This should include a discussion of what went well and what went not so well about your project – this could range from discussing good and bad design decisions to the quality of your supervisor's advice! You could also discuss what you might do differently next time, and you should certainly give some suggestions for future work.

Bibliography and References

At the end of your report, you should include a bibliography which lists the articles and books that you have cited in the main text. Each entry should allow the reader to identify and obtain the source. Therefore, you should include as much as possible of the following information: authors' names, article or book title, journal or collection title, editors, publisher, place of publication, date of publication, and page numbers. If you are referring to a web page, you should also include its full URL.

In the main text, you should be consistent in the way you cite articles in the bibliography. There are many possible formatting conventions for citations and bibliographies. For example, the entries in the bibliography may be ordered alphabetically by first author name, or in order of citation from the text. They would then be cited from the main text by

author name and publication year (e.g. A. Author et al., 1992), or numerically (e.g. [23]), as appropriate. However, once you have chosen a particular style, you should use it consistently throughout your report.

Figures and Tables

Using good figures and tables, including screenshots, can greatly enhance the quality of your report. Generally, every figure and table in your report should have a unique number with which it is referenced from the main text, and it should have a short explanatory caption (even if it is also described in the main text) so that it can be understood in isolation. It is conventional to locate figures and tables between paragraphs soon after the point from which they are first referenced from the main text. Often word-processing packages allow you to produce an index for the lists of Figures and Tables, in addition to the main Chapter/Section index.

The User Manual

A User Manual is required so that someone other than yourself can sit down at a machine and run your program and test its performance. It is a good idea to ask a friend to test the manual by trying to run the system from its instructions. The User Manual is often a good place to put screenshots that show your program in action. **The User Manual must be added as an Appendix to the main dissertation and will therefore be marked as part of the report.**

The Maintenance Manual

This should be used to describe the details of your implementation. It should be usable by people wanting to install the program, modify the program, extend the program, or trace bugs in its execution. This is an important part of the documentation, and you should ensure that you include details such as:

- Instructions on how to install the system
- Instructions on how to compile/build the system
- Hardware/software dependencies, including libraries and other packages
- Organisation of system files, including directory structures, location of files within directories, details of any temporary files

- Space and memory requirements
- List of source code files, with a summary of their role
- Crucial constants, and their location in the code
- The main classes, procedures, methods or data structures
- File pathnames, particularly for accessing files of data values
- Directions for future improvements
- Bug reports

Again, the Maintenance Manual must be included as an appendix to the main report and will therefore be marked as part of the dissertation.

The PDF Code Listing

This should be submitted as a separate PDF file and is not part of the main report. **The Code Listing will be marked as part of the dissertation** and should include a listing of all your source code together with any necessary input data and output results. Remember that the information must be easy to read, so you should use an appropriate formatting program such as print or pr.

Submission Format

Every page of every document must be numbered so that everything in your report can be found easily. Near the beginning of your report there should be a table of contents page. It is strongly advised to prepare the main report using LaTeX. A LaTeX template is available on MyAberdeen as a reference. However, if you find LaTeX challenging, please consult your supervisor, who can guide you on alternative templates, such as using a Word document

Submission Instructions

To submit your project files electronically, use the appropriate submission link on MyAberdeen. Your final project submission should consist of the following deliverables:

- Final Report PDF File
- Software Code Listing (PDF file)
- Software Tar/Zip File

Preparing The Software ZIP or Tar File

You are asked to arrange your project files and folders under a single top-level folder called `surname_forename`, where, as before, “surname” is replaced by your last name and “forename” is replaced by your first name. You can just make a .zip/.rar/.tar file of it.

In addition to your project files, please ensure that the tar or zip file also contains a PDF version of the pages of your Maintenance Manual, and a simple text file called *readme.txt* that summarises the contents of your tar file. The *readme.txt* file should also mention any hardware or software dependencies (e.g., it requires Java and a particular IDE to be installed), and it should give sufficient instructions on how to compile and run your program.

In summary, your code ZIP/TAR file must contain at least the following:

- An explanatory README file
- Your Maintenance Manual
- All your source code, and any necessary data files
- A working executable of your program

It is generally not necessary to include other code that you may have used but did not modify yourself (e.g. code that could be downloaded from an external website). However, you should mention the dependency on such external code in the list of hardware and software dependencies. If you have any doubts or questions about what you should include in your code tar file, please ask your supervisor. You shouldn’t need to have a huge submission (gigabytes or more). If you have, perhaps you are including things you do not need to.

We suggest that, prior to submission, you verify the contents of your tar file by unpacking it somewhere else

Marking the Project

The project is marked by two members of staff, neither of whom were involved in the supervision of your project. The two markers will first mark your report individually and independently, and they will submit their marks to the departmental secretary. Once both marks have been received, the markers will then be asked to meet to agree on a final mark. If there is a significant difference between the original marks (i.e. they span a critical boundary (1st, 2.1, 2.2, 3rd, marginal fail, etc.), then the procedure is as follows: first the two markers each inspect the other’s report and look at the categories where the marks are significantly different, and read the text comments for those categories. Then

they discuss why they feel their comments are justified or they change their mind to take on board something they had not considered before. If the markers can agree on a change of position (by one or both markers) then there will be no need to call a third person. In the case of agreement, a summary of the outcome of the discussion will be written on the front of the first marker's form. If they cannot agree on a mark, a moderator (that is, a third member of staff) will be called in to determine a final mark, which must lie between the original two marks. The external examiner will also consider the project, and the final mark will be agreed and approved by the Examination Board.

Marking Scheme

Firstly, the work undertaken in your project must be substantial. That is, the amount of work should be compatible with the number of credits (and nominal effort hours) of the course.

Following the BCS Accreditation Requirements (section 2.2.7) the project must provide evidence of your ability to apply practical and analytical skills. Some other project requirements of the BCS code of practice are:

- Investigation of the subject area
- Clearly defined research methods
- Specification of project aims and outcomes
- Development of a solution to a practical problem which involves the development of new software
- Follow a structured design process, involving a number of design stages
- Use of appropriate tools to support the development process
- Description of the verification and validation used
- Consider quality, reliability, maintainability, etc, as appropriate
- Consider the research and design methodologies, as well as the product or deliverable
- Include a critical appraisal of the project

The markers' report form has been designed to assess the above criteria and to embody best practice for marking Honours projects in a similar manner to that of other Scottish universities (e.g. Edinburgh, St. Andrews, Glasgow and HeriotWatt).

What Markers Look For

It is very important that you document carefully anything which you brought into the project "from outside." This includes any external sources of information and specifically

includes any work that has been done on the project by yourself or others prior to the month in which it started. The need for this is obvious – all students must be judged on the work done over the same period. There is no problem with a project which builds on previous work, provided the extent of that work is set out in some detail in the report.

Feedback

The Registry will provide you with a single overall mark for your project. Rather like final exams, this is the principal formal feedback mechanism. However, after publication of your final results, you may request more detailed informal feedback from your supervisor/school admin, who would have access to the material used in marking.