School of Computer Science and Software Engineering
Monash University
Bachelor of Computing (0194)
Caulfield Campus
Guide to the Honours Program
(4th Edition)
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This document is only a guideline for the Honours program and has no status as University or Faculty regulations. The University and Faculty regulations are available in other relevant handbooks.

Jan Miller and Peter Granville are the two contact Honours coordinators. Jan is referred to as the Honours Coordinator in this document, and all research assignments should be submitted to Peter.

Xindong Wu is the research coordinator for the Honours program, providing advice and dealing with comments and questions about the research assignments.
1 Introduction

The Bachelor of Computing with Honours program (0194) is offered on the Caulfield Campus (Caulfield, Melbourne, Australia). Academic staff members involved in the Honours program have been active in international academic activities and have been involved in international research collaboration with various overseas institutions. We are particularly interested in seeking candidates in the following areas:

- AI and Software Engineering
- Computer Operating Systems
- Computer Hardware
- Computer Security
- Data Communications and Networks
- Data Mining and Knowledge Discovery
- Distributed Systems
- Formal Aspects of Software Engineering
- Knowledge-Based Systems
- Information Retrieval
- Intelligent Multi-Media
- Mobile Computing
- O-O Concurrency
- O-O Software Process and Measurements
- Relational and O-O Database Systems
- Reuse & Reengineering
- Software Agents & Machine Learning

Students who have completed a Computing related undergraduate degree with a credit average or above of Computing related subjects are eligible for admission to the Honours program. We make available Honours scholarships to selected full-time Honours candidates whose previous results indicate excellence. Further financial assistance from tutorial and related duties within the School may be available to appropriately qualified applicants.

The Honours program provides the student with the first opportunity for in-depth study and individual instruction in the principles and methods of scientific research, from the acquisition of knowledge in a specialised field, through the recognition and evaluation of questions, the framing of hypotheses, the design of algorithms, software and experiments, the collection, analysis and interpretation of data, and the reporting of research results. The Honours program includes 2 components: a 24-point course work and a 24-point project. It includes training in research techniques and principles and in the written and oral communication of scientific information. The Honours program also aims to result in graduates with a greater breadth of knowledge than the previous 3-year undergraduate coursework.
When applying for Honours, students are expected to include a document of about half a page describing the research area of interest that the student wishes to focus on for the Honours year.

2 The Supervisor

Each student will be associated with a supervisor (sometimes two), who is an active researcher and will advise on the student’s course work and research project throughout the Honours year.

At the beginning of the Honours academic year in February, all staff who are offering Honours projects are expected to make a presentation to Honours students at an Honours information session to describe briefly the project(s) that they are offering. During the following week, the students should discuss further any project that they found interesting with the project supervisor. The students can also bring their own topics to potential supervisors or negotiate with them for possible redefinition of existing projects. One week after the start of the Honours academic year, each student will submit to the Honours Coordinator a list of three projects ordered according to their choice; the first on the list being the first choice. The Honours Coordinator will then assign a project and a supervisor to each student keeping in mind the student preferences and the quota of a maximum of three students for each staff member.

In exceptional circumstances, a student may be allowed to change their supervisor after the initial allocation has been made. The reason for the change should be discussed with the Honours Coordinator who will consult with the Associate Head of School at Caulfield before a decision is made.

The student is required to maintain regular contact with the supervisor to receive advice in time or even to confirm that all goes well. A meeting must be held at least every two weeks and the student is required to e-mail minutes of each meeting to the Honours Coordinator, Peter Granville and the supervisor within the same week of the meeting. This way, the Honours Coordinator and the supervisor know that the student understands what has been agreed upon. However, the student is also expected to demonstrate a degree of initiative and independence, as well as critical thinking ability, during the program. It is not the responsibility of the supervisor to seek out the student for these contacts, nor is the supervisor required to provide unreasonable, last-minute assistance. Feedback on performance in the project will be provided by the supervisor, and in the course work, by staff members concerned with the assessment of the course work. The supervisor and the student should discuss and make an appropriate arrangement if the supervisor is going to be away for an extended period.

3 Course Work

The Honours subjects cover important and interesting areas in Computing, which have not been taught in the previous 3-year Bachelor of Computing program (without Honours). These subjects can be chosen from the 4th- and 5th-year subjects (coded as COT4###, SFT4###, COT### and SFT5###) in the Faculty Handbook.
There can also be other subjects that vary from year to year depending on the research interests of the staff. Honours subjects highlight research interests of individual staff members of the School, consequently not all subjects run every semester every year.

The student is required to undertake 4 6-point subjects to obtain 24 points. One of these 6-point subjects must be the internal “Research Methods and Thesis Preparation” subject run by the School. Make sure to look at the Handbook and let your supervisor know which subjects you are interested in. The supervisor will advise on the selection of them. The following is a list of subjects taken by Honours students in the last 2 years:

- Advanced Programming Tools,
- Advanced Topics in Database Systems,
- Advanced Topics in Distributed Systems,
- Advances in Information Security,
- Case Study in Engineering Software for Reuse,
- CASE Technology,
- Computer Equipment and Operating Systems,
- Database Design and Administration,
- Database Systems,
- Distributed Computation and Simulation,
- Distributed Object Technology,
- Foundations of Programming,
- Information Resource Management and Data Administration,
- Intelligent Software Systems,
- Language Design and Semantics,
- Object-Oriented Programming,
- Query Languages and Information Retrieval,
- Software Lifecycle Processes,
- Software Metrics and Reliability,
- Software Systems Engineering,
- Specifying Non-Sequential & Real-Time Systems,
- Systems Programming,
- System Verification, Quality & Standards,
- Visual Programming, and
- Unix Software Design and Development.
It is possible for the student to take one third-year subject (6 points) if they have not done it before, although this is not encouraged. They can also take one subject in another school and count it towards their Honours course work if the supervisor and the Honours Coordinator both agree. This can be particularly beneficial if the project mentioned in the following sections is related to this subject. However, a minimum of 12 points must be from the Honours subjects specified by the School at the beginning of the year. The School wishes the student to finish as many subjects as possible in the first semester so that most of the remaining time of the year can be devoted to the project.

4 The Project

The second component of the program is the research project, which will be selected as mentioned in Section 2. Differing from the third-year Industrial Experience projects, the Honours project is almost always closely related to the supervisor’s technical interests, and is more research oriented. It requires a reasonable amount of intellectual and practical effort.

At the beginning of the academic year, the “Research Methods and Thesis Preparation” subject introduces students to many research related topics with a series of seminars about techniques in scientific research, writing and facilities at Monash University.

The following outlines the schedule of the project components and their assessment\(^1\).

\(^1\)The rationale behind some of these deadlines is as follows.  
(1) The research proposal and literature review are assessed as part of the “Research Methods and Thesis Preparation” subject.

(2) The first seminar is held on a Friday 1 week after the submission of the project definition. This provides the student some time to prepare for the seminar, and the examiners to read the project definition before Seminar I.

(3) The final thesis needs to be submitted 3 weeks before the final grade of the whole Honours program is due around 16 November. Scholarships for postgraduate students are decided in the last week of November. The Board of Examiners/APA Ranking Meeting for postgraduate scholarships is normally held at the end of November, and the School Board of Examiners/Grading Meeting is normally held in early to mid November to approve the Honours students grades. All thesis corrections can therefore be completed before the APA ranking.

(4) The first draft of the thesis is needed so that the supervisor can produce comments before the final thesis is submitted.

(5) The second seminar is scheduled soon after the first draft of the thesis is completed, and so the student can take up in the final thesis possible comments from the supervisor on the first draft and the feedback from the seminar.
Enrolment  December 23, 1997
Project selection  mid-February
Research proposal  Thursday 30 April
Literature review  Thursday 4 June
Project definition  Thursday 9 July  15%
Seminar I  Friday 17 July  5%
Thesis: first draft to the supervisor  Thursday 8 October
Seminar II  Friday 16 October  10%
Thesis: final draft  Thursday 22 October  70%

100%

Requirements and advice concerning the project are given in Section 5. Students are expected to familiarise themselves with the literature, techniques, and general principles associated with the project, and will be required to present a written thesis, based on the project, for examination at the end of the program. The thesis is the final product of the Honours program.

Verbal and written skills are both essential to the research requirements of the project and to a career in science and the workforce. However brilliant your mind, it is wasted if no one can understand you. It is worth your while to invest time in published guides to scientific writing and speaking and in the clarity of your communication.

It is the responsibility of the student to budget available time sensibly among the above assignments and the course work. These deadlines will be enforced to ensure equitable treatment of all students. There will be penalties for the late submission of assignments unless an extension has been granted in advance by the Honours Coordinator. In general, a penalty will apply to late submissions of each project component. However, in the case of theses, the penalty could be that the student cannot be considered for a postgraduate award in the following year. This is due to the required submissions of applications with final Honours scores in early December. Extensions to the final thesis deadline may be granted only by the Honours Coordinator. If an extension has been granted, a penalty of up to 5% per week may be imposed.

The final grade is decided in mid November at a staff meeting, after the final thesis has been examined. In that meeting, each project will be discussed and a final grade assigned by three examiners (including the supervisor and possibly one external examiner) who have read the thesis. The project marks and the course work marks are then combined to obtain a total mark for each Honours student. Generally, the total grade for the Honours program will be based on the overall marks average, but the distinction of Class I depends on a suitably distinguished performance in both the course work and the project components. Students aspiring to a First Class result should therefore achieve a balanced record of excellence in addition to a high overall average.

Grading scheme: Performance in the Honours year will be graded as follows:

Class I > 80% > IIA > 70% > IIB > 60% > III > 50% > fail
5 Detailed Research Requirements

The following describes what you are supposed to do at each stage of the schedule. All written documents, except program code and other exceptions, should be prepared using \LaTeX.

1. Research Proposal:

Once the project has been selected, the first thing the student is required to do is submit a written project proposal around 10 pages to outline the project. The student is advised to follow the format presented in Appendix 1. Two copies of the proposal should be submitted to Peter Granville and another to the supervisor.

The proposal should cover the following 3 aspects/sections: (1) an introduction which briefly sets the proposed project in the context of existing work and lays out the fundamental problem to be investigated; (2) a discussion of the materials and methods to be employed together with an estimated timetable; and (3) a consideration of any potential difficulties which could arise and how they would be dealt with, as well as likely outcomes. The last section can also include any possible preliminary results which you (and sometimes, your supervisor) have already in mind, following discussion with the supervisor about what the project is supposed to do.

The proposal is assessed in the following criteria: (1) aims and significance (40%) including the statement of the fundamental problem to be investigated, (2) materials and methods to be employed, with an estimated timetable and a consideration of any potential difficulties (40%), and (3) presentation (20%) including material organisation and clarity.

This proposal is the first research assignment. It gives your supervisor an opportunity to correct your scientific writing style before you begin to assemble written assignments.

2. Literature Review:

A literature review is normally a significant part of an Honours thesis to put your project in context. To prepare for this, you are required to submit earlier in the year a critical literature review (in standard scientific format, including an abstract of 100-200 words length, a number of sections and subsections of main text and a list of references/bibliography, normally not exceeding 20 pages excluding bibliography) on a topic related to your proposed project. This is to ensure that you have adequately surveyed the literature of your chosen field and that you have a good understanding of the current concepts, controversies, etc., before you get too far into your project. This review also serves as training in the expository style of scientific writing, which emphasizes the qualities of accuracy, clarity and conciseness. If there is little literature directly related to the project, the student should discuss with the supervisor and agree on a related topic for literature review. In this case, the student should read relevant references, explain in the literature review why the project is interesting, and focus on how the literature relates to the project. Weakness in
writing style, choice of terms, spelling, punctuation and citation techniques\(^2\) can be identified and corrected at this stage, prior to the preparation of the final thesis.

The supervisor’s guidance must be sought from the outset when planning and preparing the review. Each paper that you find relevant to your chosen topic contains a set of references, some of which will also be relevant. These lead to other papers and so on. The result is that your advance into the literature may be by a geometric progression of papers, and obviously you then have to make decisions as to which papers/books are most important to your review. The suggested page limit, 20 pages, is a guide to the extent of literature research expected for the review. However, the review must be more than an assemblage of references under appropriate headings. When you have gathered and assimilated most of your literature, think about what arguments you would like to develop, the weakness that you see in the research to date, and confusions created by the literature. Then write your review of the topic citing the appropriate references. Read some survey papers in some academic journals (e.g., the *ACM Computing Surveys*) in the library (the supervisor will be able to suggest some survey articles), and follow the format recommended in the Honours Thesis Guide in Appendix 2. The final draft should be vetted by the supervisor. Proof-reading and correction of the manuscript is essential prior to submission, and unsatisfactory assignments may be returned for rewriting.

Three copies of the completed review must be submitted to Peter Granville for assessment. The following criteria will be used in the assessment: (1) contents (40%) in terms of scope and depth, (2) organisation (30% marks) in terms of the scientific format mentioned above, and (3) presentation (30%) in terms of accuracy, clarity and conciseness. Following assessment, the comments on the manuscript should be taken up, in the first instance, with the supervisor, and then with the other staff members who have also read your review. Relevant portions of the review may be incorporated into the final thesis.

3. **Project Definition:**

After the literature review, you have 1 month to define your project based on existing work in the literature. You don’t yet need to achieve any conclusions at this stage for your project, but the research direction should be clear in the project definition. Given that you have less than 2.5 months ahead to finish your final thesis, you cannot afford to make any mistakes in the research direction.

You can build the project definition on the research proposal, the literature review and the feedback from the supervisor and examiners. However, you should be able to provide clearer and more detailed descriptions about the aims and significance of the project, and research plan and methods including scope and limitations, potential difficulties, and timetable. The project definition is expected to be 5-10 pages in length.

The project definition is assumed to represent the student’s individual effort, and will be assessed as such, in the following criteria: (1) aims and significance (40%)

\(^2\)BIBTEX in LATEX is a useful tool for managing bibliographies and citations.
including the statement of the research problem, motivations and objectives, (2) research methods and plan (40%) including technical design and a reasonable timetable, and (3) presentation (20%) including material organisation and clarity. Three copies of the completed report must be submitted to Peter Granville by the due date.

4. Seminar I:

Following the project definition, the student is required to present a 20 minutes seminar to staff and postgraduate students. The main purpose of this seminar is to tell the School what the aim of the project is and how you plan to achieve the aim. The seminar should outline the background and objectives of the research project, and give a detailed plan. It is expected that by the time of the seminar you will have a clear idea and a reasonable design of your work ahead. The seminar also provides an opportunity for you to receive advice and suggestions from staff and postgraduate students. It is hoped that potential difficulties may be thus identified and avoided.

A clear and simple presentation is essential to promote feedback. Visual aids such as overhead transparencies are usually very helpful. Some advice on seminar preparation and assessment is given in Appendix 3. If you have the nearly universal ‘stage-fright’ of public speaking, remember that preparation and practice will help. It is expected that a practice session will be included in the “Research Methods and Thesis Preparation” subject.

5. Thesis:

The thesis is the culmination of the Honours program. In most cases it is a student’s first contribution to the body of formal scientific knowledge, as well as detailed training in writing up individual research for publication. As with any scientific writing, organisation and structure is half of the task, and so considerable effort should be invested in detailed outlines before any text is composed. Changing outlines is quick and easy; rewriting text is time consuming.

Some detailed instructions for preparing the thesis are set out in Appendix 2. Only under exceptional circumstances will an extension of the thesis submission deadline be granted by the Honours Coordinator.

The supervisor and two other examiners (one of whom will be a staff member of the School and the other may be an external examiner) will assess the thesis. The thesis will be evaluated in terms of the following criteria: originality, technical competence, data analysis, algorithm design and software implementation, quality of written text, and quality of figures, tables, bibliography, etc. Some qualities (e.g., written text) are normally more important than others, however, all criteria are important to a first class thesis. Although originality is not a requirement for an Honours thesis, it is expected that the work in a first class thesis should be publishable and therefore certain originality is needed. Appendix 4 provides some guidelines for the thesis evaluation.

6. Seminar II:
Between the submissions of the first and final drafts of the thesis, each student will present a seminar to introduce and defend the thesis. Each seminar will generally be followed by questions first from the supervisor(s) who will attempt to identify your achievements and then from the staff members and postgraduate students. The seminar can last up to 30 minutes (at least 5 minutes of which must be set aside for questions). This seminar provides an opportunity to think about what you have accomplished, and to get some comments and suggestions which can be taken up in the final thesis.

A brief introduction providing the context of the research will be necessary, placing the topic in a somewhat broader frame and identifying the questions which are being addressed. If appropriate, a short description of previous techniques employed in the field and major results to date should follow. However, most of the time should be devoted to presentation of your own research and results, and discussion of their interpretation, significance, and limitations in the light of the questions originally posed. Finally, you should draw some conclusions of your existing work and provide an indication of further research.

It is important that you restrict yourself to the allocated time of 30 minutes. A researcher who cannot synthesize their results and present them within a prescribed period of time does not show full confidence in the subject. It is up to you to select what information is worthy of inclusion in your oral seminar, and what information should be left out. Remember that visual aids are always helpful in seminars. A practice run is very strongly recommended.

Appendix 1: Student Research Proposal

The supervisor should be contacted when preparing this document.

The following items need to be covered:

1. Name of Student
2. Supervisor(s)
3. Title of Project
4. Aims and Significance of Project
5. Research Plan and Methods (including scope and limitations, potential difficulties, and timetable)
6. Special Facilities Required
   A list of available resources is given in Appendix 5. Any perceived requirement for additional support must be taken up with the supervisor.
7. Bibliography (if appropriate)
8. Relevance of Project

In up to 250 words, outline the relevance of the project in a form appropriate for circulation to informed members of the general public.

Appendix 2: Honours Thesis – Guide to Preparation

The supervisor will advise on all aspects of the preparation of the thesis, and will normally check through the draft at least once if received by the first draft deadline, but the student is reminded that it is not the supervisor’s responsibility to write or re-write all or part of the work. Refer (with caution) to existing Honours theses of the School for an indication of the required format. The student is being examined not only on research and organisation ability, but also on ability to present and defend ideas. Conformity to conventions, both scientific and grammatical, is important. It is also necessary that the thesis contains a complete account of the work the student has done.

With regard to reference citations in the text and bibliography, the conventions followed by an IEEE or ACM journal or the Chicago style used for the undergraduate course, selected in consultation with the supervisor, should be adopted.

The following internal specifications should be adhered to:

1. The thesis must be prepared with \LaTeX. There is a style file for \LaTeX which is available from the Honours Coordinator. The recommended font size is 11 point.

2. Essential footnotes are normally placed at the foot of the page to which they refer.

3. Number pages consecutively, including pages carrying diagrams, photographs, maps, etc.

4. Diagrams should be computer drawn and included as postscript/latex graphic/etc files directly into the document, or at least photocopied onto the particular page.

5. Photographs must be mounted with dry mounting tissue or spray adhesive, and where possible copied photographically as a whole page and included in the thesis in the normal manner.

6. The thesis should normally not exceed 80 pages, excluding appendices and bibliography. References must be referred to in the text, and listed in the bibliography following a standard and consistent format.

7. The title page must include the following details:

- The student’s surname and full given names and degrees or professional qualifications already held.
- Full title of thesis.
- Wording as follows.

Dissertation submitted by __________________ in partial fulfilment of the requirements for the Degree of Bachelor of Computing with Honours in the School of Computer Science and Software Engineering at Monash University.
• Submission date (day, month and year).

8. The thesis must be preceded by a signed statement on sources (see item 9) on an independent page, and a short abstract not exceeding 500 words on another separate page. The abstract is normally followed by acknowledgements, a table of contents, a list of figures, a list of tables, the main text, appendices and bibliography.

9. The statement of sources should contain the following wording:

Declaration

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institute of tertiary education. Information derived from the published and unpublished work of others has been acknowledged in the text and a list of references is given.

(The Student's Name)
Date (day, month and year)

10. The main text of the thesis should contain:

(a) A clear description of the problem you have tackled,
(b) A description of how your project is related to others' existing work,
(c) The approach you have taken to solve the problem, and
(d) The results and conclusions you have obtained and suggestions for future work.

11. Appendices are not intended as a means to 'pad-out' a sparse thesis with peripheral material, or to circumvent the page limit in an 'obese' thesis. They may serve as a repository for useful products of the research (e.g., documentation including installation of a program and a detailed example run of the program) which are not an integral part of the main text of the thesis. Where the raw data of a thesis cannot be extracted directly from the test figures and tables, it is essential that they be tabulated in an appendix. In short, appendices preserve valuable information which might otherwise be lost, but the thesis should be able to stand without them. Long, detailed program code should be put on a floppy disk in the back of the thesis, rather than listed in appendices taking tens of pages.

Number of copies of the thesis:

1. 3 copies (in a spring folder or temporary binding) are required for Peter Granville.

2. An electronic copy of the complete text of the thesis (including figure legends and references) in \LaTeX must also be submitted to Peter Granville.

Typing, photographs, photocopying, etc.:
• Students must make their own arrangements for the thesis. School facilities are available for the preparation of text, graphs and diagrams by the student. All other expenses incurred, including photographs, are the responsibility of the student.

Thesis corrections:

• Individual examiners may provide lists of corrections required to be made to the thesis. These corrections must be made by the student in consultation with the supervisor, and the corrected copies returned to the Honours Coordinator.

The Honours grading will not be relayed to the University Administration until the necessary corrections to the thesis are completed to the satisfaction of the Honours Coordinator.

• When the corrections have been applied, the student submits 3 final bound copies (an extra copy in a ring binder if you have a co-supervisor) to the Honours Coordinator by 16 November and completes an Honours thesis Library Release Authorization. The bound copies are then distributed to the School, the supervisor and the library (with the Library Release Authorization).

These copies must be printed on acid-free paper (available from School printers).

Appendix 3: Seminar Assessment

There are three primary areas on which seminars will be assessed. Although marking schemes will vary somewhat, as a rough guide you should assume that (1) presentation will count for 40% including material organisation, timing and visual aids, (2) contents for another 40% including adequacy of coverage and clarity of explanation, and (3) competence for the remaining 20% including your understanding of your project area and your ability to answer questions. You will be marked by all staff members, and the marks averaged and returned to you.

1. Delivery Style

Presentation covers all the mechanical aspects of giving a seminar. For good presentation it is not necessary to bring a wide array of electronic equipment to your seminar, though that may be the method you choose. Well-designed and informative slides accompanied by a good speaking style will be sufficient. In particular, avoid using too many slides, avoid reading your slides or from a prepared script, do not put too many words on a slide, and do not make them too small (the recommended font is 18 point or above), and use diagrams rather than words. Words can be said, but a picture may be able to convey an idea which is hard to explain. It is good to familiarise with the equipment you plan to use. For example, ensure that you know how to put the slides right way up on the projector. You may find it helpful to model your presentation style on that of your favourite lecturer - never make the same mistakes your teachers did.
2. Preparing for Questions

Staff members will ask questions after your seminar, not to try to embarrass you, but rather to investigate how much you really know about your topic. So if you are very capable, there is no need to worry about malicious questioners. If in your first seminar you are asked a question that you cannot answer, you should investigate the matter thoroughly since you may be hit with the same question in your second seminar\(^3\).

3. Preparing for An Assessment

The major component of the assessment will be the technical content of your seminar. You will not be assessed on the quantity and correctness of the technical information that you can cram into the allotted time. Rather you will be assessed on your success (or otherwise) in conveying information to the academic staff, who may be entirely ignorant of your subject area. Many school seminars succeed in conveying information to an otherwise ignorant audience, so if you go to a school seminar and feel that you learned a lot, it was a good seminar and you should try to do the same. You should not try to emulate the outrageously difficult seminar where everyone is lost.

On the other hand, you should not make the seminar too easy. A seminar which explains only a few easy things will leave the audience wondering whether you know anything at all. You want to leave the audience thinking they have learned something.

For the first seminar, your primary aims are to explain to the audience what your project is about, why it is important, and what you hope to achieve. You can give some background information on the work which has been done in this area, and explain what ideas you have had and how they fit into the background work. If you have done some work, describe it, but results are not expected at this stage.

For the second seminar, you can assume that your audience knows nothing about your topic, except what you told them in your first seminar, which they have forgotten. In fact, a good strategy for testing this would be to make sure that another Honours student working in a different area can understand the talk. So make sure you include necessary background. Note the word ‘necessary’. Literature surveys, and examination of possible techniques, should have been done in the first seminar and will not be welcome this time. Literature and work by other people should be presented only to the extent that it illuminates, necessitates or foreshadows the work that you have done, and even then only briefly.

You must explain what work you have done - what you have achieved, what you have solved, or how you discovered that you could make absolutely no progress at all on the problem, and it is expected that this be fairly substantial work. Be aware that during presentation of this material, most of the world, let alone the audience, will not have experienced these ideas before. So given the audience’s knowledge of the topic (i.e. what you just told them), you need to explain what your ideas were, and what you did to implement them.

Finally, your audience wants results. What theorems did you think up, how did you prove them, and what do they mean? What techniques did you invent, how did you

\(^3\)Just acknowledge you need to find the information and tell the person you will get back to him/her about it.
implement them, and what results were produced? This is the part of the seminar where you can win the audience (you could have lost them at the very beginning), so go all out to impress them. You should explain what you have achieved, and indeed, your whole seminar should have been aimed at making them understand this achievement and why it is so good.

In summary, pretend you are a lecturer and you are teaching a bunch of Honours students about your work. Although they don’t know much about your work, they learn quickly, and will be pleased if they understand your seminar and learn things from it. The only difference is that they are marking you.

Appendix 4: Honours Thesis Evaluation

The following marking scheme is a guideline that will be used to mark the Honours theses, although it is recognised that it may not be exactly applicable to every project. For example, if an Honours project is concentrated on algorithm design or improvement, the student might not need to demonstrate that the project is user-oriented. In this case, the allocated 10% of the ‘user specifications’ criterion may be allocated to algorithm elegance, for example. The examiners look at each criterion carefully and make a decision in each individual case. Nevertheless, all the criteria mentioned below provide a good indication of what is important in an Honours thesis.

**Documentation: 45%**

- [5%] Statement of the problem, aims and significance
- [10%] Literature review and evaluation of existing methods
- [10%] User specifications (for practical projects)
- [15%] Clarity and extent of description of proofs, implementations and tests
- [5%] Suggestions for further work

**Project Evaluation: 55%**

- [20%] Quality of solution (if programming is involved, consideration is also given to modularity, efficiency, etc)
- [15%] Innovation of solution
- [5%] Quality of proofs or tests
- [15%] Achievements
Appendix 5: Resources

Honours students are provided with shared computing facilities, and located in the Honours Room which contains some DECstations, a photocopier and a laser printer. There is one 486 for each two students. Each student will have a computer account on Faculty and Computer Center machines. There are common labs in Block K where the students can use Faculty and Computer Center machines in case the machines in the Honours Room do not work or are not available.

The students are eligible to use the inter-loan library facilities with arrangements of their supervisor. They are also allowed to use the School photocopiers and laser printers to copy and print material that is related to their academic work. In addition, the line printers are available for use.

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