Beijing-Dublin International College

B.Sc. (Software Engineering) Degree

Project Handbook (Beijing)

Academic Year 2017/18

COMP3032J

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Contents

1 – Introduction

As part of the Software Engineering B.Sc. Degree Programme, all Stage 4 students must complete a major project. The project is the single most important component of the degree programme, with 15 credits allocated to it. It is a key part of your formation as a qualified Software Engineer. The purpose of this Handbook is to assemble, in one place, the key information you need to know to complete a successful project, and to answer most of the questions you may have at different stages of its completion. Please read all sections before beginning your project. The Appendix contains reference information on preparation of reports etc. to which you can refer as needed during the semester.

2 – The B.Sc. project

The BSc project involves each student undertaking a substantial body-of-work in a selected area of Software Engineering. The project runs in Semester 2 and follows a plan drawn up by the student in consultation with their supervisor who is a member of academic staff.

The project work may involve elements of research, design, analysis, simulation, construction, measurement and experimentation, with the mix depending on the project. In addition, you will learn to conduct a critical literature review and enhance your communication skills through various presentations of your results. Before Semester 2 commences, a series of lectures will cover library and internet skills, presentation skills and report writing.

Projects will typically cater for multiple students, with each student normally working independently on agreed aspects of the project and keeping in regular contact with their partner(s), exchanging ideas and results. The division of the workload on joint projects is usually decided by the students themselves in consultation with their supervisor.

2.1 – Aims of the B.Sc. project

Project work is intended to encourage independent thought and critical analysis on the part of each student. It is important to understand that the project is not organised like most of the laboratories you have completed to date. There are no "step-by-step instructions" or prescribed sequence of activities. The project is deliberately structured in this way; since as a practicing Software Engineer in the real-world you will often encounter unstructured or poorly-structured problems throughout your career, to which you must find answers. This is true of the world of work but is also relevant to those of you interested in pursuing research postgraduate courses (e.g. prospective Ph.D. students). Guided by their supervisor, individual students are expected to develop their own ideas for their project and determine how they should be implemented. It is therefore important that you keep in regular contact with your supervisor to ensure that the project is developing along the right lines.

2.2 – Learning outcomes

The precise learning outcomes will depend on the particular project. In general, on successful completion of the project you should be able to:

(a) Describe and explain the scientific, mathematical and engineering principles relevant to the project;

(b) Use the technical literature and other resources to find and evaluate information relevant to the project;

(c) Identify the engineering problem to be addressed and formulate a project plan;

(d) Design an appropriate engineering solution to address the project objectives;

(e) Implement solutions through design, analysis, simulation, coding and/or experimentation;

(f) Analyze project outcomes and results, discuss critically and draw appropriate conclusions, taking account of the wider context of the project;

(g) Take responsibility for your own work and manage the execution of an engineering project safely and in a limited time;

(h) Collaborate with your supervisor, co-workers and/or support staff to achieve a technical solution;

(i) Present the project and results to both specialist and non-specialist audiences through written technical reports and oral presentations.

2.3 – Project workload

The final year project module is a 15-credit module and requires a total workload of approximately 300-350 hours per student. The following table provides an approximate indication of the total number of hours that you should expect to spend working on your project:

	Semester 1	**Semester 2**
Preparation (recommended)	10	0
Information Sessions	4 – 6	0
Practical	0	300-350
Total Workload (semester 2)	**300-350 hrs total (about 21-25 hours per week for 14 weeks)**	

2.4 – How the project is assessed

The overall project grade is derived from several components assessed during semester 2 at the dates specified in Appendix A.

1. **An interim report** describing progress on the project to-date. Only one report per project is required, i.e. multi-person projects should just submit a single report and the same grade will be awarded to all members of the project.
   Shortly after submission you will meet with your project supervisor and be questioned on its contents during a special grading meeting. The grade awarded will consider the quality of the report, the work completed to-date and your performance in the above-mentioned grading meeting.

   10% of final grade (awarded by the supervisor).

2. **End of project assessment:**
   Each student must submit a **final report (written in their own words)** documenting all aspects of the project. During the following week each student will attend an **oral examination** conducted by your supervisor with another member of the academic staff acting as second assessor. Both members of staff will have read the project report and will agree a grade for this component following the interview.

   70% of final grade (report and oral exam combined).

3. **Group presentations:**
   To be held at the end of semester, typically week 15. This is used to access your ability to communicate effectively to an audience of staff and your peers. Typically, all members of a multi-person project will achieve the same presentation grade, but all are expected to participate in the preparation and delivery; unequal participation will reduce grade awarded.

   20% of final grade (both technical content and presentation quality will be judged).

Late submissions and plagiarism are taken very seriously and dealt with according to the rules set out in Appendix C and Appendix D, respectively.

Letter grades (A+, A, A-, B+, etc…) are awarded for each component, which are then combined to form an overall grade. The assignment of grades is done in accordance with the merits of the submissions, work completed, results obtained, communication quality and student participation / work ethic. An indicative grading scheme is outlined in Appendix E.

3 – Project allocation procedure

3.1 – Project descriptions

During Semester 1, a special lecture is held where overview descriptions of the projects on offer are circulated to students, along with a project choice form. Students can obtain additional information regarding projects from the relevant members of Staff.

Completed choice forms must be returned to the BDIC academic affairs office in Teaching Building 4 (Room 805) by the specified date and time.

3.2 – Allocation procedure

Projects are allocated strictly according to each student's Stage 3 GPA i.e. those with the highest GPA are allocated their first available preference. Equivalent GPA scores will be calculated for students who spent part or all of Stage 3 at universities abroad where this arises.

3.3 – Suggested projects

If a student has an interest in completing a project in an area with a specific supervisor, it is possible for them to suggest a possible project / supervisor.

Such a project must be of a similar standard to those proposed by staff. To verify this, it is necessary for the student to prepare a one-page report, to be submitted to the proposed supervisor, which outlines the following:

- Project Motivation
- Project Scope/Overview (to include any previous work, how will the work be carried out e.g. simulation or measurement based, etc)
- Required Resources (software, hardware)
- Proposed Project Goals (must include some minimum expected goals, and one or two stretch goals)
- Rough Schedule of Work

You must then liaise with the intended supervisor who will read the above report and decide if they are happy to supervise such a project.

This must occur **before** project allocation in mid Semester 1.

4 – Day-to-Day running of the project

The 15 credits awarded for the project are earned over one semester in Stage 4; with all 15 credits being assigned to Semester 2. The period between allocation of your project in Semester 1, and the commencement of Semester 2, is a useful time to carry out some background reading, in consultation with your supervisor.

4.1 – Beginning the project

After the allocation of projects, you are expected to contact your supervisor as soon as practicable to discuss details of your project. The responsibility is on you, the student, to make initial contact with your supervisor. Since your supervisor will likely not be based in Beijing at that time, you should contact them via email. This initial contact will be followed by a period where additional information relevant to the project background and objectives is collected from different sources e.g. library journals, data sheets, internet sources etc. This *literature review* is an important part of reading yourself into the project and understanding what previous work has been done in the field.

4.2 – Time management

You are expected to show a high level of engagement with and commitment to your project. Success requires self-motivation and a professional attitude to the work. During daytime periods for which no formal lectures, laboratories nor tutorials have been scheduled, you are expected to be occupied on your project and it is expected that you, in so much as is possible, work in the project space provided so that you can be easily found by your supervisor or other staff members for non-scheduled meetings/discussions. You are reminded that you should carefully balance the time spent working on your project against the time spent studying for your other modules.

4.3 – Keeping a Log-Book

As part of the project, you are encouraged to keep a dated logbook as a hardback notebook or ring binder. This can be supplemented by an electronic blog if you wish. The log-book is not a formal "lab-report" but acts more like a diary, keeping a basic chronological record of each day's work on the project. You might include notes from background reading, derivations of equations from papers, analysis you have attempted, outlines of diagrams and sketches, flow diagrams of code etc. Any results obtained should be recorded in the log-book, including both positive and negative results. Aside from being good professional practice, you will find the log-book invaluable when you come to write your Interim and Final Reports, or to give a presentation, as the raw material will be readily available to you.

After each meeting, you should enter some relevant notes summarising the discussion and documentation any decisions made during the meeting.

4.4 – The role of the project supervisor

The supervisor's role is to advise and monitor your progress. It is not their role to give you precise instructions on what to do next although normally they will indicate promising approaches or recommend against undertaking unproductive or wasteful approaches. If however explicit direction is given then that should be followed. Do not be afraid to come up with your own ideas or suggestions, but make sure to discuss them with your supervisor before committing any significant time or resources to them. It is *your* duty and responsibility to maintain regular contact with your supervisor.

4.5 – Personal laptop / computer

All students are expected to have access to their own, working, personal laptop / computer, which must be in good condition. Depending on the project type, it may be

necessary to install specific software on your computer during the project. You should discuss with your supervisor any special requirements this software might have (e.g. some software may work on Windows, but not on Mac OS). It is your responsibility to ensure this conversation takes place in good time, before the start of your project. The break between Semester 1 and Semester 2 is the ideal time to contact your supervisor for clarification on these issues.

4.6 – Project work space

Project work space is provided where each student has a desk and sufficient space to conduct their studies; it is important to treat this area as a work environment respecting the needs of your fellow classmates. The playing of games or music aloud or any activity that may disturb others is strictly not permitted. Disciplinary action will be taken against any student found disobeying these rules.

4.7 – Equipment and components

Any equipment or components purchased by BDIC for the purposes of project work must be kept in good working condition and treated with respect by all students. Any malfunction or unexpected / unusual behaviour of such equipment must be communicated to your supervisor immediately. Any such equipment will remain property of BDIC.

4.8 – Sources of information

Whatever type of project you are undertaking, you will need to research the background of the subject area. However, before carrying out a literature search there are a number of issues that need to be considered. Relevant information and specific guidelines about starting a project can be found from the UCD Library webpage at:

http://libguides.ucd.ie/infobasics

In order to start a project, up-to-date information on the subject area is normally required. Textbooks may give excellent background information, but they will not necessarily provide detailed information about current developments. Journals will be an important source of information for the project, as they contain details of recent developments in a subject.

All students have electronic access to the most important databases of engineering journals via the UCD Library at: www.ucd.ie/library

It should be noted that the Internet is not always an accurate source of information. Any information gathered in this manner should be critically analysed before being applied in a particular project.

In addition, remember that material contained in your Stage 3 and Stage 4 lecture notes may be relevant to your project work.

4.9 – Insufficient progress

If at any stage your progress is unsatisfactory you may be given a written warning by your supervisor that you are in danger of failing the project module unless you improve your work practices. This is a serious matter, only to be enacted in cases where there is a guanine risk of failure and should not be taken lightly but either the student of staff member. Such warnings are brought to the attention of the Vice-Principal for Teaching and Learning.

4.10 – Problems and seeking help

If you have a problem concerning your project, you should initially approach your project supervisor. In exceptional circumstances after approaching your supervisor you may contact the module coordinator or the BDIC Vice-Principal for Teaching and Learning. You must not approach another member of staff, postdoctoral fellow or postgraduate student for advice or direction on your project without the informing your supervisor in advance.

5 – Report guidelines and submission procedure

The following applies equally to the interim and final reports:

- The format is double-spaced A4 and should be presented as a stapled document.
- A font size of 11pt should be used.
- The margin size should not exceed 2.54cm – the default in Microsoft Word.
- The presentation of your reports is important, with the correct use of paragraphs and headings; the correct positioning of figures; the formatting of text; the use of capitals, bold, italics etc.; and the inclusion of references and use of the correct referencing format.
- Diagrams, graphs etc. should be used where appropriate.

Correct use of References

In preparing your reports and presentations it is important to correctly reference the published work of others.

There are various ways of citing references. It is recommended that the IEEE referencing style be used for project reports and presentations. Guidance on the correct use of reference styles can be found at:

IEEE Guidelines:

- https://ieee-dataport.org/sites/default/files/analysis/27/IEEE%20Citation%20Guidelines.pdf

General information from UCD Library:

- http://libguides.ucd.ie/academicintegrity

All references must be correctly numbered in the main body of your reports and presentations e.g. "as discussed by Smith [1]" or "Smith [1], [2]" or "as discussed in [1], [2]", where [1] or [2] refer to the corresponding reference numbers in the main list of references in the report.

5.1 – Interim report

This is single group document, i.e. only one report per project is required, with the same grade being awarded to all group members regardless of work divisions.

It should be 5-10 pages long with the expectation being that single person projects will be closer to 5 pages, whereas bigger projects will be closer to the maximum of 10 pages. Excessively long reports will result in grade reduction.

A typical interim report could include the following sections:

1. Introduction section (in which the aims of the project are presented).
2. Brief overview of most relevant literature in the area (along with references) including a summary of this previous work in your own words.
3. List of work completed to date – be specific.
4. Work plan / schedule (with dates) for remainder of project. For group projects, this section must include individual work plans for each group member.
5. References using the correct IEEE format.

While the report should only contain a summary of the literature review, it is strongly advised that you prepare a comprehensive literature review at this stage, which you can

add to as time progresses. This expanded literature review will then form the basis of a chapter in your final report.

Note that it is expected that progress will have been made in addressing the project aims at this stage.

5.2 – Interim Report Submission procedure

A hard copy (i.e. printed and stapled / bound) of the interim report must be submitted to the BDIC academic affairs office before the appointed time (see Appendix A). It must be accompanied by a signed Interim Report Receipt and date stamped by the BDIC Office (see Appendix B for a copy of the Receipt).

Before the same deadline, you must also submit your interim report electronically, in PDF format, to the CS Moodle[1]. The PDF file should be searchable so the included text may be interpreted by a computer. By submitting your report using this method, it will automatically be checked for plagiarism of any material included in the report.

5.3 – Final Report

On completion of the practical aspects of your project, each project member must submit a detailed written report describing all the work that they completed during the project.

An independent report, maximum 50 pages long, is required from every student. Whilst describing the entire project, each student's report should emphasise those parts of the project the author was responsible for.

A typical final report could include the following sections:

1. Introduction (in which the aims of the project are presented).
2. Literature Review (the student's own description of up-to-date developments in the field).
3. Description of all the work completed (including the methods used, results obtained). This might involve multiple sections (e.g. software and hardware).
4. Discussion and Conclusions.
5. Suggestions for possible future work.
6. References using the correct IEEE format.
7. Appendices (containing e.g. all lengthy mathematical derivations and verbose technical details).

5.4 – Final Report Submission procedure

Two bound copies of your final report must be submitted to the BDIC Office before the appointed time (see Appendix A). These must be accompanied by a signed Final Report Receipt and date stamped by the BDIC Office (see Appendix B).

It is recommended that any software code should be included on a CD/USB key attached to the inside back cover of your report or delivery electronically on CS Moodle as agreed with the supervisor in advance.

You must also submit your final report electronically, in PDF format, to CS Moodle. The PDF files should be searchable so the included text may be interpreted by a computer. By submitting your report using this method, it will automatically be checked for plagiarism of any material included in the report.

[1] https://csmoodle.ucd.ie/moodle/course/view.php?id=687

6 – Presentation

The presentation should contain an introduction to the problem addressed, a brief overview of the background to the problem including, a clear statement of the project aims, an outline of the methods / approach used and details of results.

When preparing your presentation, you should consider your classmates to be your target audience, i.e. your presentation should be accessible to an audience with a general Software Engineering/Computer Science background, who are not necessarily expert in the specific field.

The presentation will be assessed on both presentation quality and on technical content; it is important, therefore, that you attend the seminar series on Presentation Skills during which guidance on preparing a presentation will be given.

Some important guidelines for the presentation are:

- Duration should be max. 15 minutes, with **all project members** involved equally in the presentation. It is expected that single person projects may be shortened (e.g. 10 mins).
- For organisational reasons, presentations will be held in multiple sessions. The audience will consist of those classmates (peers) also presenting in that session, other BDIC students, BDIC staff members.
- A judging panel consisting of BDIC academic staff will also be present. Your principal supervisor will be exempt from judging your project.
- Diagrams, graphs etc. should be used where appropriate.
- All presentations must be loaded and tested on a designated computer in good time before the start of the session you are scheduled for. Note that students are not permitted to use their own computer for these presentations. Exceptions to this rule are permitted for presenting project demonstrations, however, in such case the responsibility lies with the students to ensure in advance smooth operation – no additional time will be allocated for this purpose.
- Each presentation will be followed by a short question and answer session.
    - All Stage 4 students are encouraged and expected to attend all the presentation sessions their timetable permits.

Appendix A – Key Dates for 2017/18

The following dates indicate important milestones for the project – late submissions are dealt with according to the rules set out in Appendix C.

Note that the BDIC academic affairs office is on Floor 8 in Teaching Building 4 (Room 805).

Item	Submit	Due Date
Interim report	BDIC academic affairs office and PDF to CS Moodle	11am, Monday of week 7. **9th April 2018**
Grading Meeting	N/A	During week 7.
Final Report.	BDIC academic affairs office (2 copies) and PDF to CS Moodle.	3pm, Friday, week 14. **1st June 2018**
Project presentation	PDF of slides to CS Moodle	Slides delivered by midnight, Friday of week 14 **1st June 2018** Presentations delivered week 15
Oral examinations	N/A	During the week 15.

Appendix B – Project Report Receipts

On the following pages, you will find cover sheets for use with a) the interim and b) the final project reports.

Please complete and enclose **two copies** of these with each report submitted. One copy will be retained by the BDIC office. The other copy is retained by you as proof that the report has been received.

B.Sc. (Software Engineering) Degree Program
Stage 4 Project Interim Report Receipt

Project Title:

Supervisor:

Team Members		
Student Name(s)	**UCD Student Number**	**BJUT Student Number**

Plagiarism: the unacknowledged inclusion of another person's writings or ideas or formally presented work (including essays, examinations, projects, laboratory presentations). The penalties associated with plagiarism designed to impose sanctions seriousness of University's commitment to academic integrity. Ensure that you have read the University's ***Briefing for Students on Academic Integrity and Plagiarism*** and the UCD ***Statement, Plagiarism Policy and Procedures***, (http://www.ucd.ie/registrar/)

Declaration of Authorship

We declare that all of the following are true:

1) We fully understand the definition of plagiarism.
2) We have not plagiarized any part of this project and it is my original work.
3) All material in this report is our own work except where there is clear acknowledgement and appropriate reference to the work of others.

We acknowledge the contribution of the following post-graduate students/ post-doctoral fellows/ researchers or technicians to work detailed in this report:

Signed…… Date ……

Office Use Only

Date and Time Received:

[School Stamp]

Received by:

Report Tracking

Demonstrator:
Lecturer:

B.Sc. (Software Engineering) Degree Program
Stage 4 Project Final Report Receipt

Student Name:
Student Number:
Project Title:
Supervisor:

Other Team Members (if applicable)		
Student Name(s)	**UCD Student Number**	**BJUT Student Number**

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3) All material in this report is my own work except where there is clear acknowledgement and appropriate reference to the work of others.

I acknowledge the contribution of the following post-graduate students/ post-doctoral fellows/ researchers or technicians to work detailed in this report:

Signed…… Date ……

Office Use Only

Date and Time Received:	**Received by:**
[School Stamp]	**Report Tracking**
	Demonstrator:
	Lecturer:

Appendix C – Late Submission Policy

Submission deadlines are important for many reasons. Planning and organising work to have it completed by a deadline is an important skill and important for a professional's development. It is important on grounds of equity, in that it is unfair for students to gain advantage by choosing to submit their work late. Deadlines are also necessary for the efficient running of the system. Notwithstanding UCD's exceptional circumstances policy (application to be made through the BDIC academic affairs office) the following deadlines will be strictly enforced:

Interim Report

The standard UCD policy on late submission of coursework will apply to the interim report. If the **Interim Report** is received at any time within two weeks of the due date it will be graded, but a penalty will apply;

1. If the report is submitted at any time up to one week after the due date the grade awarded will be reduced by two grade points (for example, from B- to C);
2. If the report is submitted more than one week but up to two weeks after the due date the grade awarded will be reduced by four grade points (for example from B- to D+);
3. Reports submitted more than two weeks late will not be accepted, and will attract an NG (no grade)

Final Report

To allow sufficient reading time for the accessors it is necessary to have a very strict late submission policy for the project final report:

1. If the report is submitted at any time up to 24 hrs after the due date (i.e. up to 3pm on the Saturday directly following the due date), the grade awarded will be reduced by one grade point (for example, from B- to C+) ;
2. If the report is submitted more than 24 hrs but up to 48 hrs after the due date (i.e. up to 3pm on the Sunday directly following the due date), the grade awarded will be reduced by two grade points (for example from B- to C);
3. Reports submitted more than two days late will not be accepted and will attract an NG (no grade).

Since the BDIC office will not open during the weekend following final report submission, online (CS Moodle) submission is acceptable for late reports on the condition that the required number of copies of the final report are submitted to the BDIC office by 10am on the following Monday.

Presentation

If the presentation is not prepared and delivered at the scheduled time, no grade will be awarded.

Appendix D – Plagiarism

A substantial proportion of academic work generally involves making use of the published and unpublished work of others. This is an everyday part of academic and practical/industrial work. The creation of knowledge and wider understanding in all academic disciplines depends on building from existing sources of knowledge.

In the preparation of your academic work, where the ideas or words of other individuals are being used, you must include a clear acknowledgement of the source of information (see above reference example).

On the other hand, plagiarism is the inclusion of another person's writings or ideas or works, in any formally presented work (including essays, theses, project reports, laboratory reports, examinations, oral, poster or slide presentations) without due acknowledgement, either wholly or in part, of the original source of the material through an appropriate citation. Even the unintended misuse of material without formal and proper acknowledgement can constitute plagiarism.

For information on how to avoid plagiarism and the UCD policy and procedures on plagiarism visit:

http://libguides.ucd.ie/academicintegrity/

https://www.ucd.ie/t4cms/Plagiarism_Policy_Academic_Policy_2005.pdf

UCD acknowledges that plagiarism is a very serious academic issue and is subject to disciplinary actions and penalty in grades. You are therefore strongly advised to review all of your reports and presentations for instances of plagiarism before submitting them.

If plagiarism is detected in any submitted written aspect of your project, appropriate action as described in the UCD Pplagiarism Policy and Procedures document (see above link) will be taken.

Appendix E – Indicative Grading Scheme

Grade	Criteria
A+	**A+** : Exceptional project and report, with aspects potentially publishable in international refereed journals. Excellent in all major aspects such as personal commitment, scale of achievement, quality of report (including review of state-of-the-art) and level of comprehension demonstrated at interview. Hardware aspects containing original or innovative ideas and/or marked by high quality, professional-level implementation and presentation. Software aspects involving original code embodying new ideas, algorithms or analytical concepts. Theoretical/simulation predictions independently verified e.g. by experiment. **A-/A**: Very high quality project and report. Significant independent extension or development beyond reasonable initial project goals, taking account of nature of project and starting baseline of student knowledge. Evidence of high level of success in problem-solving. Challenging hardware design or system implementation achievements. Software achievements beyond routine application of commercial tools/packages, such as developing substantial working original code, professional-level user interface etc. In the A-grade range a high quality professional-level report will be expected, well-organised and clearly written (including figures, spelling etc), with a clear presentation and discussion of results,
A	
A-	
B+	**B+:** High-quality project by a student showing clear potential as a successful research postgraduate student or as a highly competent professional engineer. Above-average achievements in terms of involvement, problem-solving and work completed, taking account of nature of project and starting baseline of student knowledge. High quality report and sound understanding of subject matter of project. **B-/B**: Strong project achieving most major project goals with clear evidence of achievements that could be reasonably be expected in terms of involvement, problem-solving and work completed, taking account of nature of project and starting baseline of student knowledge. Well-organised report demonstrating a very good general knowledge and understanding of the subject matter.
B	
B-	
C+	Satisfactory/ good project. Competent report demonstrating adequate but not complete knowledge and understanding of the subject matter. Work assigned competently performed with serious effort to overcome obstacles and achieve substantive results. Commendable achievement but with some identifiable weakness in one or more major aspects of the project (e.g. insufficient commitment or engagement with project, unsatisfactory report quality, significant failures of understanding evident at interview). Adequate plan and reasonable capacity to apply knowledge to problem solution but with some errors. Some critical awareness and analytical qualities. Generally good presentation with some presentation errors.
C	
C-	
D+	Project showing evidence of work done and acceptable levels of achievement, but with several serious weaknesses in important aspects of the project. Acceptable report demonstrating some basic knowledge and understanding of the subject matter with acceptable level of presentation errors. Limited use of evidence or citation and little critical awareness displayed.
D	
D-	
E+	Marginal project. Fails to meet minimum acceptable standards yet engages with subject matter, albeit with major deficiencies. Insufficient evidence of adequate body of work performed or project showing unacceptable levels of commitment, understanding or achievement. Inadequate presentation with many presentation errors.
E	
E-	
F+	Unacceptable project. Failure to address the problem. Some knowledge displayed but many omissions, errors and major inaccuracies. Unacceptable standard of presentation.
F	
F-	
G+	Wholly unacceptable. Complete failure to address problem. Little or no knowledge displayed. Completely unacceptable standard of presentation.
G	
G-	
NG	No grade