Department of Computer Science

MSc Project Guidance Document 2017-18

INM363: Individual Project

BCS Accredited Programmes in Computer Science

MSc in Business Systems Analysis and Design

MSc in Computer Games Technology

MSc in Electronic Business Systems

MSc Health Informatics

MSc in Human Centred Systems

MSc in Software Engineering

MSc Information Systems and Technology

CILIP Accredited Programmes in Library and Information Science

MSc Information Management

Other Programmes (BCS accreditation is applied for)

MSc in Data Science

MSc Management Information Security and Risk

MSc Cyber Security

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1 Purpose of this Document

This document specifies the rules and guidelines for completing INM363 – the Individual Project module - for a number of MSc programmes offered in the Department of Computer Science, as listed on the front page of this document. The Department reserves the right to vary details of the scheme at any time. Any changes will be announced through the appropriate "forums" of the INM363 module area in Moodle. Any suggestions for improvements to this document should (where possible) be discussed with your project supervisor initially, and then communicated to the relevant Module Leader.

2 Aims of the Project

The successful completion of an individual project is an essential part of a master's degree. It enables students to demonstrate that they have the knowledge, skills and organisational capabilities required to carry out a small-scale piece of work that addresses a clearly specified problem using appropriate and rigorous methods. It enables the university to see that, given adequate support, students are able to identify and apply appropriate knowledge, skills and techniques acquired in the taught part of the master's programme in a relevant, applied and often practical context. The individual project also gives students an opportunity to broaden intellectual abilities, to develop skills of research and evaluation, specific and applied subject knowledge and to develop the capacity for critical thinking. The individual project also enables students to show that they can develop, structure and articulate complex arguments in a clear and convincing manner.

Your individual project will enable you to develop your own ideas as you carry out an original piece of work. You should consider tailoring the project to suit the specific career you wish to follow, keeping in mind that the project is intended to develop and demonstrate your abilities in:

- technical competence in carrying out theoretical and practical work
- use of appropriate research methods to establish and interpret knowledge
- initiative and sustained effort to attain clear objectives within specified deadlines
- communication of ideas and results
- good academic practice

You will need to use appropriate and robust methods in a competent manner, demonstrate that you understand the problem area technically and intellectually, show that you can draw upon relevant theory and existing knowledge, contribute something new to the problem area, and discuss your project in light of other related theoretical and applied work.

The consequence of this is that it is not enough to do a simple systems analysis, evaluation, or design/build exercise. For example, if you carry out an application development competently, then you have not contributed new knowledge, just repeated well-known procedures. The emphasis here is on **critical evaluation**, including **justification** of the key decisions made. Oates (2006) provides excellent guidance on research in Information Systems and Computing. It is strongly recommended that you read the first three or four chapters of her textbook before planning your project and discuss these ideas with your supervisor. This will ensure that you meet the needs listed above and in line with the aims of the module.

You should consult potential supervisors for support in defining your project and associated documentation, and will be guided by a supervisor as described here. Do however note that the project is a piece of independent work for which you must take responsibility and many of the aims that we list here reflect this emphasis.

The project accounts for 60 credits and so represents an average of **600 hours**' effort for the average student. This is the equivalent of 14 weeks full-time work. So whilst this is a "small-scale" study in scientific terms, the individual project is a significant undertaking.

2.1 Phases and "Proceeding to Project"

In the second term (January to April) you choose a project topic and supervisor and produce a "project proposal", which is marked as coursework for the RMPI module, and separately as an "accept" or "refer" mark for the project module, INM363. An accepted proposal if the first condition for being allowed to "*proceed to project*" (and/or internship); the second is that you need to have gained credit for (that is, normally, passed) all eight modules that form the taught part of the course (see your course Handbook for requirements to pass, and compensation regulations).

So, permission to proceed to project will be granted by the Assessment Board that confirms you have acquired all the credits from the other eight modules: following the Spring exams if you pass all your modules by then. If you do not pass some modules, at any exam session, you must advise your intended supervisors accordingly, while you plan in the expectation of successful resits. In these cases, project work will be put on hold until resits have been completed, appropriate credit has been awarded, and students have been informed that they can "*proceed to project*". Furthermore, it should be noted that internships are not available following resits. The ONLY exception to the rule that students must have passed all modules in order to proceed to project, may occur if the Assessment Board deems that the student has been unable to pass certain modules due to extenuating circumstances. If this applies, students will be informed of this by letter.

3 The Three Stages of the Project

The individual project module has three broad stages:

1. selection and confirmation of topic and supervisor
2. preparation, submission, and approval of project proposal
3. execution of the project, and preparation and submission of project report

Note that each stage must be followed in order. Students MUST first have confirmation of their topic and supervisor before they will be given advice on proposal preparation. Furthermore, students are not allowed to receive supervision or submit a project report unless their proposals have been explicitly approved by their supervisor.

Stage 1: Selection and confirmation of topic and supervisor

Students choose a supervisor and (in agreement with the supervisor) a topic by discussion with possible supervisors and agreement with one of them, recorded by the supervisor through the online allocation tool (details are provided in a separate document).

If a student has problems in identifying a suitable topic or supervisor, they should consult their Personal Tutor, or the appropriate project module leader for advice. In cases of real difficulty, which should rarely occur, the Scheme Director can act as a final authority.

It may, rarely, be necessary for the module leaders at a later stage to re-allocate students to alternative supervisors, to meet unforeseen circumstances.

Stage 2: Preparation, submission and approval of proposal

Once the topic and supervisor have been confirmed, students go on to prepare a proposal outlining the critical context, objectives and plan of work with guidance from their supervisor. This is submitted through Moodle for the supervisor's approval. Please note that Moodle submission is essential, even if the supervisor has already seen a copy of the proposal.

The proposal is either "approved" or "referred" by the supervisor, who records their decision and gives feedback. Approval means that the supervisor believes there is the possibility of a successful project. It does not mean that the proposal is perfect; approval will normally come with advice and guidance that should be acted upon and factored in to project planning. Referral means that either the project as proposed is not feasible, or that it is unlikely to get a pass mark; or that the proposal is too vague to judge. **A student cannot progress with a project without the explicit approval of their proposal by the supervisor**.

If a project proposal is referred, the student will be asked to amend and resubmit the proposal through Moodle by the stated deadline. If the supervisor approves the resubmitted proposal, the

student will proceed - carrying on according to the standard project calendar. If the resubmitted proposal is rejected (or if no re-submission is made on time), then the student cannot progress with the project in this year. They are able to rejoin the project process at the next opportunity by taking the individual project module (one year later). In such cases no penalties are applied - the final module mark will not be capped.

Stage 3: Preparation and submission of project report

After the proposal is approved, the student then carries out the work that has been agreed to complete the project. As explained above under rules for "proceeding to project", work will be suspended if the student has resits to complete. A project report (sometimes termed a *thesis* or *dissertation*) is the key deliverable. This is submitted in electronic form through Moodle as explained in section 15.4 of this document.

Extensions may be requested in line with standard policy on extensions. Students should consult their supervisor as soon as possible for guidance, if they feel that an extension may be needed. If an extension is required, students should complete an extenuating circumstances form, and submit it to the Programmes Office, who will advise on this procedure. An extension of more than a few weeks may mean a delay in consideration by the Board of Assessment, and consequent delay in graduation.

A project report that does not receive a pass mark may be resubmitted, after improvements, in the following term, as determined by the Board of Assessment and communicated through results letters. If the Assessment Board decides that the student has to undertake a project on a different topic for resubmission, this must go through the process of approval of topic and proposal in the usual way – as outlined above. Students in this situation should consider carefully, with advice from their supervisor, whether it is wise for them to continue, or to withdraw with an award in line with the credit achieved during the taught module.

4 Online Project Documentation

Supplementary details about the Project, including a link to this document, detailed deadline dates, and a link to a document describing the Harvard Referencing Style, can all be found on Moodle under the module INM363 Individual Project for your academic year.

You should make regular reference to one of the recommended texts thoroughly to inform your work:

- Dawson, C. W. (2009). *Projects in Computing and Information Systems: A Student's Guide* (2nd ed.). London: Addison Wesley, 304pp. see http://bit.ly/xTBXVL
- Oates, B. J. (2006). *Researching Information Systems and Computing*. London: Sage Publications Ltd, 341pp. see http://bit.ly/qbL4pJ

Dawson's text is available through the City Library as an e-Book via the link above.

5 British Computing Society (BCS) Accreditation

Those awarded MSc degrees in all of the programmes listed on the front page of this document as being accredited by the British Computer Society (BCS) are eligible for accreditation. This means that a pass in the degree overall will be recognised as providing part of the educational foundation for those who want status as members of the BCS. In short, those who have succeeded in achieving these requirements are eligible for exemption from some of BCS's professional examinations.

When you begin to formulate your research ideas into a Project Proposal, your supervisor will help you understand the requirements for the purposes of BCS accreditation and will guide you as you work on your project.

The requirements that your project must meet in order for you to be put forward for BCS accreditation are described in the published grade Assessment Scheme for the Individual Project Module used by markers and shown in the table below:

Project report should include;
• elucidation of the problem and the objectives of the project • an in-depth investigation of the context and literature, including alternative solutions for the problem addressed – e.g., when developing a software product, other similar products • for design or development projects, clear descriptions of the stages of the life cycle undertaken, how verification and validation were applied at these stages, the use of tools to support the development process • a critical appraisal of the project, indicating the rationale for any design/implementation decisions, lessons learnt during the course of the project, and valuation (with hindsight) of the project outcome and the process of its production (including a review of the plan and any deviations from it) • a description of any research hypothesis

Projects must give students the opportunity to demonstrate;
• a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of the specialist academic discipline • a comprehensive understanding of techniques applicable to their own research or advanced scholarship • originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline • the ability to deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate conclusions clearly to specialist and non-specialist audiences • self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level • critical self-evaluation of the process

The projects in BCS accredited courses must meet these requirements and when you submit the Project Proposal, your supervisor will check that your project has the potential to meet these requirements. If your supervisor has any doubts as to whether your project can meet the BCS project requirements, he or she will discuss your project and the requirements with you, and help you identify changes that would enable your project to meet the BCS project requirements.

When marking the final project report, the marker will evaluate whether the project and report ***have met*** BCS project requirements, and record their evaluation on the project report mark sheet. This will also be stated in the feedback message to the student agreed between the marker and the moderator.

6 CILIP Requirements

MSc in Information Management

The MSc in Information Management is accredited by CILIP, the Chartered Institute of Library and Information Professionals, rather than the BCS. The BCS requirements do not therefore apply.

CILIP do not have specific needs for the project element of your course. The accreditation requirements are covered by the grading criteria and your successful completion of the degree. Consequently all passing projects meet CILIP requirements.

7 Internships

Many students are keen to apply knowledge gained from their course to work on a real problem for an external organisation. Our Internship Scheme provides an opportunity for students to complete the INM363 Individual Project module by undertaking a **client-based project for an organisation**. The academic aspects of project work are the same for both internship and non-internship projects.

Students on all MSc courses in the School covered by this guidance document (and listed on the front cover) can participate in the Internship Scheme. Information about how to apply for internships is available on the Postgraduate Resource Centre on Moodle and in your Course Handbook. The timetable outlined below is for general guidance only. The specific deadlines will be shown on Moodle.

Project Choice – Internship-based projects will be advertised on the Placement & Internships Resource Centre in Moodle. Internships will be visible to those students who have submitted their CV and had it approved by the Professional Liaison Unit (see Postgraduate Resource Centre on Moodle for full details).

If you want to apply for any of the internship-based projects, you will need to do so by the advertised deadlines. We aim to ensure that arrangements between employers and students are in place by end of April. You will need to fill in specific forms, and will be assigned a Work-based Learning Advisor who will contact you and arrange a pre-internship briefing.

Project Proposal – Even if you intend to transfer to an internship, you will need to submit by the same deadline of other students a project proposal **that is not reliant upon an internship provider**. Once you are accepted on an internship for your project, you will later write and submit a new proposal for the project agreed at that stage.

The regular project proposal will serve as a back-up plan, for a project that you could do independently of the internship provider if your internship project falls through for any reason.

Project Submission Deadline - Students on the internship scheme must submit their project report by the same deadline as ***part-time students*** (**December 2018)**. The project scheme as described in the rest of this document applies equally to internship-based projects, but in addition you should note:

The Internship Scheme is managed by the School's Professional Liaison Unit. An internship is any opportunity advertised by the Professional Liaison Unit as an internship. Specific internship scheme arrangements apply that are detailed in the Guidelines for Internships, and include your signing specific commitments concerning the scheme.

8 Responsibilities of Supervisors

Academic supervisors are experienced in project work and will have some expertise relevant to your project topic. Supervisors vary in terms of the time and guidance they are willing and able to provide, just as students vary in how much they need. Thus, in choosing your supervisor, take care that your needs are compatible in this respect, and ensure that a basic schedule is agreed at the outset.

Overall, a supervisor's responsibilities include providing advice and guidance on:

- ensuring that your project objective is clearly stated, adequately focused and demonstrably achievable, and confirming this by approving the project proposal – possibly after some suggested revisions are made following initial submission and referral;
- writing the project proposal and project report, when advice is sought in good time by you, appropriate to the time you have available before the relevant deadline(s);

- how to ensure that your project work plan is complete, appropriate to your project objective, and that it will enable you to demonstrate an understanding of the relevant topic areas;
- project scope;
- both the subject material and the research process throughout the project;
- ethics and confidentiality issues;
- possible risks and their mitigation;
- appropriate academic literature and other sources, and adequacy of literature searches.

The supervisor may also attend examiners' meetings and Boards of Assessment at which your work is considered.

The supervisor, however, is ***not*** expected to:

- proof-read any part of a report;
- correct poor written English;
- check through any section of a project report more than once;
- assist in the submission of a project report;
- guarantee that that a submission will pass, or be awarded any particular mark or grade;
- carry out or provide detailed instructions on literature searches, or provide copies of materials;
- plan the project for the student, direct their work in detail, or dictate their work pattern;
- provide instruction on research methods or on technical issues, where this has been covered in taught modules;
- contribute data or code unless agreed in the project proposal;
- obtain ethical or managerial clearances (though they may provide background information on the project, if asked);
- take responsibility for alerting the student to potential risks and difficulties (though they may give advice on such);
- remind the student about deadlines, reporting and submission requirements;
- detect plagiarism or other form of misconduct before submission.

Only members of academic staff (full-time or part-time) from the Department of Computer Science, or the School of Journalism for MSc Electronic Publishing students, may supervise individual projects. Others - e.g. visiting staff, research staff and students, staff from other parts of the University, representatives of the organisations in which the project is conducted - may advise, but not act as Academic Supervisors.

If a supervisor leaves the permanent staff of the University while the individual project is in progress, you will be reassigned to another supervisor, though the original supervisor may continue as an adviser. There will be no official co-supervision or joint supervision; one person will be the named Academic Supervisor, others will be advisers.

9 Your Responsibilities

Master's level work requires you to manage your project, with a significant degree of autonomy. You will, therefore, be responsible for:

- Keeping a record of supervisory contact, noting the main points of advice sought or given; it is good practice to send the supervisors written summaries whenever it is useful to confirm common understanding of advice, decisions or other points discussed;

- Ensuring that you satisfy all requirements of the project module, including all deadlines. Failure to meet submission deadlines is likely to result in a module mark of zero. In such circumstances credit will not be awarded and you may be considered for a lesser award than a master's degree.

You should also note that if you are hampered by any extenuating circumstances, you must inform the Programmes Office as soon as possible, providing supporting documentation and the appropriate extenuating circumstances forms.

10 Getting the Basics Right

Project Proposal: A well thought-through project proposal will set your project work in the right direction, so pay significant attention to getting this key element right, and to starting working on defining your project as soon as you can. A project proposal should state exactly what you intend to do, how you plan to do it, and what you will produce in terms of tangible outcomes. These views should be justified and informed by relevant evidence. This will form a sound basis for discussion with potential supervisors, and others. It will also provide the basis for later review of what you did and achieved as part of the assessment process.

Supervision: Frequent consultation with your Academic Supervisor is essential. Firstly, *seeking* and *noting* advice, especially from your supervisor, can help you gain marks both by achieving *more* and by achieving it *well*. Secondly, it is important that the supervisor be aware of what you do and the way you solve problems and proceed: otherwise, at the time of marking there is the risk of doubts as to how much of the work described in your project report is actually your own contribution..

Writing up: Your project report is an essential source of evidence for assessing the quality of your work and results. So, a good report is essential for good marks. Make sure you know how to structure this effectively, write appropriately, and proofread the work. Reserve at least a quarter of your project effort for your write-up and beware that postponing write-up work can quickly become overwhelming, for which you will receive little sympathy. Cite your references correctly in-text and in the References Section using the Harvard Referencing Style – a pointer for a guide to applying this style is available on Moodle.

Make sure that you understand what is meant by good academic conduct and that you know how to demonstrate this. The INM373 Research Methods and Professional Issues module provides some guidance here, but you should also consult the School Handbook and support provided by the University. Do not expect your Supervisor to edit or proofread your work, or check for plagiarism prior to submission, as their responsibility is academic direction.

11 Deadlines and Extensions

11.1 Key Deadlines

The key deadlines for your project are specified in Moodle.

11.2 Project Proposal and Deferrals

The Project proposal is an essential stage in your project. **Without an accepted Project Proposal, you cannot proceed with the project: you do not have a right to academic supervision, and further deliverables will not be accepted; you will be unable to complete the module and thus will be likely to receive a mark of zero and no credit; if you have not taken the module previously, you will be able to re-sit the module the next time it runs; if you are already taking the project as a re-sit and you fail for a second time, you will be considered for a lesser award – such as the Postgraduate Diploma.**

If your proposal is referred, you must resubmit a revised document by the deadline set by the module leaders. Failure to do so will mean that you cannot proceed with the project.

In some circumstances students may wish to defer their studies prior to completing the project. Deferrals may be negotiated **PRIOR** to the project proposal deadline, if there are sufficiently compelling circumstances. Requests must be made at the earliest opportunity by emailing the Project Officer at the Programmes Office. You **MUST** provide strong supporting arguments and documentation.

11.3 Extensions to Submission Deadlines

Extensions are only granted where there are clear extenuating circumstances. Claims should be made via the standard School procedure for extenuating circumstances. You **MUST** provide strong supporting arguments and documentation, *e.g*. medical certificates. You may **NOT** assume that you will be given an extension; **deadlines are an integral part of your project work, and you must make contingency plans for any identified risks.** Extenuating circumstances must be reported at the earliest opportunity Extenuating Circumstances forms are accessible through e:Vision (https://www.city.ac.uk/student-administration/if-things-go-wrong/extenuating-circumstances) Please note that submissions cannot be considered without supporting evidence. **Project supervisors cannot grant extensions.**

11.4 Project Report Submission

Project reports will not be accepted after the relevant deadline, or after any extension agreed by the Individual Project module leader following the advice of the Extenuating Circumstances Panel. The Assessment Board requires a submission in order to recommend a pass or referral; non-submission may result in consideration for a lesser award.

Warning: if you fail a project with a low mark the Board of Assessment may direct you to restart the project process (identifying a new project and supervisor)

12 Project Choice

The main issue in project choice is finding a well-defined problem that interests you and is achievable in the timescale. Choose an area and a question which interest you. You are encouraged to propose your own project topic, which may be influenced by the career you wish to pursue. You may also choose among topics offered by potential supervisors. You may wish to consult examples of good project reports (recommended by the markers and moderators) which are available via Moodle.

Finalising the project choice often involves much negotiation, proposal redrafting, re-negotiation *etc*., especially if external bodies are involved. You may need to discuss a number of project ideas with a number of potential supervisors until you have a topic that you are enthusiastic about, and a willing supervisor. **Remember: your supervisor must be a member of the Department of Computer Science full time academic staff.**

Note that each member of staff can only supervise a limited number of projects; the earlier you sort out your project choice, the more likely you are to obtain the supervisor of your choice (though it is a matter for mutual agreement). You must be prepared to work intensively to ensure that you finalise your project choice on time. You are advised to document your efforts with e-mail evidence of who you have contacted and when, together with their responses.

13 Choosing a Supervisor

See separate document about how to interact with potential supervisors and have your choice recorded).

14 Project Proposal

The project proposal is an essential part of your planning. It is a proposal of the work to be undertaken, that clearly identifies what will be done, how and why. It will form the basis of your

discussions with your supervisor and the post project reflection that is an important part of the project report. It will become Appendix A of your project report. Proposals are not accepted unless approved by your Supervisor.

The project proposal should be headed:

Appendix A: Project Proposal for MSc in <your course>

Name: ……..

E-mail address: ……

Contact Phone number:……..

Project Title: ……..

Supervisor: ……...

A successful project proposal should define a small-scale piece of work that addresses a clearly specified problem using appropriate and rigorous methods.

To achieve this, you must:

1. identify an appropriate research question and justify this with well informed and well-argued critical context;
2. explain the purpose of the work, its objectives, the products that will be generated and the intended beneficiaries;
3. describe the methods or approaches that you will use to answer the question effectively and robustly in some detail -- you need to show that you understand what you will do in terms of any design and build or data collection and analysis;
4. critically evaluate the methods and likely results in the context of the question and the application domain showing that you have an understanding of the scope and reliability of the results that the planned work will produce -- it is important to demonstrate self-awareness here;
5. develop a risk register that identifies risks, their likelihood, potential impact and mitigation strategies;
6. plan the steps required to complete the work and the dependencies between them in detail through a graphical work plan;
7. consider the ethical, legal and professional issues that are raised by the work that you plan and describe ways in which you intend addressing these issues effectively and comprehensively;
8. ensure that the work is informed by a survey and synthesis of relevant academic literature and appropriate technical documentation where relevant to establish critical context;
9. present the proposal with a coherent narrative in a clear, consistent and professional manner that exhibits good academic conduct and includes a comprehensive reference list.

It is your responsibility to pay attention to ethical issues that may arise from your project. Your supervisor will advise you, if you ask, according to his or her experience, and may obtain advice from the School's Research Ethics Panel for guidance about difficult questions. All project proposals must contain a completed **Research Ethics Checklist** that makes reference to the planned project. This is available in the Individual Project area on Moodle.

Submission Details

The single submission must consist of one PDF document. The main body of the proposal must be no more than 8 pages in length including any tables and figures. It must use 11pt text size as a minimum with single line spacing.

Three additional pages must contain:

- list of cited references with full details of the sources -- up to one page
- completed copy of the Ethics Checklist -- Part A of the Ethics Review Form -- two pages

So submissions should be up to 11 pages in length in total.

The document must be submitted through the Task 2 Submission Area in the INM373 RMPI module on Moodle. **If you didn't take INM373 this year**, you must submit the document through the designated submission area in the INM363 Individual Project module on Moodle.

The essential criteria used by supervisors to determine whether the proposal is adequate for the INM363 Individual Project module are that the proposal must:

- outline a valid MSc project, as discussed with the agreed supervisor;
- provide sufficient details of the problem to be solved, the methods and plan, to demonstrate this to be a viable project;
- identify any ethical issues that are raised and show that these can be resolved appropriately;

As explained in detail earlier (section 3, page 2), if your proposal is not accepted for the INM363 Individual Project module, it will be referred. Feedback will be provided on such proposals. You will need to resubmit in light of this feedback and have the proposal subsequently accepted according to the above criteria before you can proceed with your Individual Project.

The approved proposal and associated work plan should form the basis of your activity and ongoing discussions with your supervisor once you have permission from the Board of Assessment to progress with the work.

15 The Project Report

Your project report is the document through which your entire work on the Individual Project will be assessed. It is sometimes referred to as a *dissertation* or *thesis* because you will need to use the document to present a *view* about some selected aspect of the Information and Computing Sciences that has been derived in a systematic and rigorous manner. Choose a short and meaningful title, with respect to this viewpoint and the knowledge derived in the report.

15.1 Audience and style

The project report should be considered a public document and may be read by academics and students as well as any clients with whom you are working. It must be clearly written, complete and concise enough for someone unfamiliar with your project to understand the background and objectives, what resources you used, what work you did and what you accomplished. It must also enable the reader to find any sources you cite. The document will be assessed by members of academic staff, who will make recommendations to the Board of Assessment. They are unlikely to be directly connected with your project work.

You should assume that your reader has a good knowledge of computing and information systems but not the specific field(s) that your topic addresses. Define any specialist terms when they first appear (a separate glossary may also be appropriate). Try to avoid technical jargon.

Regarding style, write simply, formally and clearly; do not waste effort trying to achieve a stylish effect. Above all, take care that what you write conveys what you intend. Explanations should be precise, not verbose. Keep your sentences short. Use diagrams to aid communication, ensuring conventions of meaning are clear, including a 'key' where necessary. Use correct spelling and grammar with consistent use of tenses and pronouns. Dawson (2005) provides further advice, including a note on writing in the third person. This means avoiding mentioning yourself by using passive sentences, *e.g*. "An experiment was designed .." rather than "I designed an experiment …" and is appropriate for some projects.

15.2 Project Report Format

A final project report has typically 12,000-15,000 words, excluding appendices. Write more, if necessary to explain yourself, but **not at the expense of clarity**. Do not exceed 30,000 words (plus appendices). It is easier to produce a readable report, and for a reader to appreciate what you did, if you are succinct. Details that may disrupt the flow of your presentation but may be of interest can be added in appendices. There should always be clear references to such material in the body of the text.

Electronic copies of the report should be formatted for A4 paper, with a large margin of 3 to 4 cm on the side of binding (left side for printing single-sided, alternating sides for printing double-sided) to allow easy reading in the required binding. All other margins should be about 2.5 cm. Slight extra spacing between lines is welcome but not mandatory. **All** pages must be numbered. Number the pages in appendix A as A1, A2, etc., and continue this convention in other appendices, B2, B3, *etc*.; this helps you refer to appendix pages while still writing the preceding pages. Begin each main section and each appendix on a fresh page.

Title page: must contain the following information:

City University London

MA/MSc in <your course>

Project Report

<Year>

<Project Title>

<Your Name>

Supervised by: <Your Supervisor's Name>

<Date of Submission>

Page 1 must contain the following signed declaration:

By submitting this work, I declare that this work is entirely my own except those parts duly identified and referenced in my submission. It complies with any specified word limits and the requirements and regulations detailed in the assessment instructions and any other relevant programme and module documentation. In submitting this work I acknowledge that I have read and understood the regulations and code regarding academic misconduct, including that relating to plagiarism, as specified in the Programme Handbook. I also acknowledge that this work will be subject to a variety of checks for academic misconduct.

Signed:

Page 2 must contain an indicative Abstract of 100-200 words, and up to five keywords. This is more than an introduction to the project – it should explain what has been achieved and how.

Page 3 (4, 5, *etc*.) must contain a Table of Contents with section and page numbers. Use the 1, 1.1, 1.2, 1.2.1, 1.2.2, 1.3, *etc*. style of section numbering. Deeper section numbering is not recommended. The Table of Contents should give the page number of each section and sub-section. It is best to do this automatically, using the facilities offered by your word processor.

15.3 Project Report Contents

The following outline of report chapters is presented as a guide only, and should be read in conjunction with the marking scheme (see appendix A).

Chapter 1 – Introduction and Objectives: This chapter should set the scene for the reader. The background to the problem should be described, with your reasons for the choice of project, and identification of the project's beneficiaries. Your objectives need to be precisely stated, together with the tests that will show, at the end of the project, that they have been met (or not been met). You need also to outline your methods in broad terms, along with a work plan with sufficient detail to show how you planned to meet the objectives. Outline any major changes of goals or methods that happened during the project. Finally, outline the structure of the report, showing how it fits together.

Chapter 2 – Context: This chapter should explain the current state of your topic, in practice and theory. This is the state of the world you intend to improve, and the state of knowledge on top of which you build your advances and from which you learn knowledge to apply and constraints on your work. So, you will report and analyse what is known about a certain topic, as reported in reference literature and published scientific literature, from which you; if you are developing a product, you will need to report about comparable or competing products over which you intend to improve or from which you will obtain ideas; you may need to describe legal or societal situation within which your work takes place; etc

It is important to demonstrate scholarship, *i.e*. the ability to read about a subject area in a range of sources, assimilate the material and then discuss it intelligently.

You should demonstrate that you understand what you have read by providing some analysis or commentary – it is not enough simply to provide summaries of what you have read. References should be cited following the Harvard Referencing Style. **You must also explain, both in this chapter and, as appropriate, in others, how the results of the studies to which you make reference will inform your project work.** To gain a passing grade, your report MUST demonstrate adequate engagement with academic literature and any other sources necessary for the work to be well informed**.**

Chapter 3 – Methods: This chapter should describe in detail the methods for whatever activities were necessary for your project – e.g., data gathering, data analysis, requirements analysis, design, implementation, testing/evaluation, *etc*. –. Your choice of methods should be discussed and justified with respect to the objectives, and with reference to the pertinent literature. Report not only what methods you applied in generic terms, but sufficient information about dates and details for your reader to understand how you ran *your* project, rather than just how one *could* run any similar project.

Report what you did, not what you produced or found as a result (which goes under Results).

Note: only use the word 'methodology' if you know what it means!

Chapter 4 – Results: This chapter should present the outputs produced, by applying the methods that you have selected, including e.g. analysis, design, prototyping, experimental work, evaluation, *etc.* How you report these results will depend on the nature of the work. It may be helpful to divide them into basic data (*e.g.,* for a project that developed a software product, requirements specification, test data, *etc*.) and analysis of the data (*e.g*. statistical analyses, evaluation analyses, *etc*.). Remember that you are informing the reader of what you have found and emphasising the interesting parts, so summarisation at the end of major sections is useful. It is usually very helpful for the readers to include graphics and diagrams to clarify software design or requirements, identify key trends and relationships in empirical data, etc. If you do so, be sure to refer to these figures in the text and use them as evidence to support what you are explaining or arguing; and be sure that your figures are well designed and clearly presented – do not just use default settings of the software you are using.

Chapter 5 – Discussion: This chapter should examine your results in comparison with your objectives, and then in the wider perspective of other theoretical and applied work relevant to your project, as covered in your review in Chapter 2. For instance for a software product, you will discuss how well it satisfies the user needs that it addresses, its performance and dependability, aspects of design, implementation or assessment that have proved good choices

or that you would change if you were to repeat the project knowing what you now know. For novel research results or any other knowledge obtained through the project, you will discuss your confidence in the results, their validity, scope and their generalisability. What are the implications of what you have found out? Do you have any recommendations as a result?

Chapter 6 – Evaluation, Reflections, and Conclusions: This chapter should evaluate the project work as a whole. Here the original choice of objectives, the literature examined, the methods used, the planning, *etc.* are all reviewed to see what has been achieved by undertaking the project. There may be a summary of general conclusions drawn from the work done, highlighting the particular contribution of your project. You should also consider the implications of these conclusions. Discuss any proposals that you might make for further work, having discovered what you now know. It is also important to include a reflective section covering what you have learned from the project process. What would you do differently if you were to start again, knowing what you now know? **Your report MUST include adequate Evaluation, Reflections and Conclusions to gain a passing grade.**

Glossary: If required, the glossary defines specialist terms that are not likely to be known by your intended audience.

References*:* A full list of all references cited in the project report. Citations **must** follow the Harvard Referencing Style.

Appendices: Any material that would interrupt reading the report should be presented here. The appendices must contain all evidence that allows the markers to assess the extent of your success. Appendix A **MUST** be a copy of your project proposal in its original format; other material might include:

- interview records; questionnaires and questionnaire replies;
- routine design documentation; source code;
- test data; output listings; displays, *etc*.;
- if you produced software for general use, ready-to-install software, installation guide & user guide;
- data;
- wireframes and prototypes;
- annotated computer code

If you ran experiments, we would expect the appendices to contain raw data and documentation of the analyses performed on the data; etc.

Some kinds of appendix material can or should be submitted in electronic format only: e.g. massive lists of data, audio/video recordings, long source code listings. As you write up your report, your supervisor (referring if necessary to the module leaders) can answer specific doubts about what should be included and formats.

15.4 Project Report Submission

You must submit your report electronically via Moodle.

You will not be able to submit after your deadline.

The e-copy of the project report must be in a single file and in **non-password protected PDF format**.

Please, remember that the project submission area will not accept compressed files (archives).

The separate submission area will be provided for the additional files, which are not subjected to the originality check, e.g. scanned document, raw data etc.

You must also retain the original source (in Word, for instance), preserving its original timestamp, until after you pass the module, and submit it if requested.

Appendices can be separate files.

Make sure that documents submitted in electronic version only are such that they **will print correctly**: on-screen reading is not suitable for every reader and for every document, so your marker may need to print your file. Of course also make sure they will read well onscreen.

In addition, if your project includes software development, you may need to provide **two CDs, DVDs or USB drives** containing any source code, with a readme file and/or a user manual that describes how to compile and execute the code. Your media must be labelled with the same information as your report, so as to ensure that they do not get lost if separated.

Feel free to submit hard copies of any specific items that are not suitable for on-screen reading (e.g., large diagrams)

You are not required to submit the printed copies of the report and appendices. However, you can submit them as offline items if you think that this is necessary for the assessment.

Please submit the offline items to a **member of staff** (not the hole-in-the-wall submission boxes) in the Programmes Office.

Please clearly label your submission with:

- **Name;**
- **Course;**
- **Student number;**
- **Project supervisor**.

The Programmes Office will supply A4 brown envelopes and standard university binders if required.

On submission you will be required to sign and date as receipt of submission.

15.5 Assessment

The Project Report is marked according to the following criteria:

10%	**Problem Description and Objectives**	*What you are trying to do…*
15%	**Critical Context**	*Why you are trying to do it…*
20%	**Methods**	*What you did…*
25%	**Results**	*What you ended up with having done so …*
20%	**Discussion Reflection & Conclusions**	*What you found and now know…*
10%	**Presentation**	*How well you present all of this …*

Table 2: Individual Project Assessment Criteria

Marks are awarded according to an assessment scheme and a series of criteria that are used to evaluate whether the module learning outcomes have been achieved and to determine the quality of a project report. Grades are awarded in the following bands.

Grade	Mark Range
A*: Publishable	80% and above
A: Distinction	70% - 79%
B: Merit	60% - 69%
C: Credit	50% - 59%
F: Fail	Below 50%

Table 3: Grades and Mark Ranges for Individual Project Assessment

Appendix A describes the qualities required for a project report to be awarded a passing mark of 50% and the criteria for meeting BCS accreditation requirements. In addition the following criteria are used to establish a mark range and are indicative of the characteristics of project reports in each of these bands:

Fail -- a project report will demonstrate some or all of the following characteristics:
Unclear objectives and poorly defined problem or hypothesis.
Inadequate or inappropriate research design, methodology or implementation.
Inappropriate or inaccurate analysis and/or interpretation of research findings.
Inappropriate or inadequate literature review.
Descriptive, uncritical narrative - reliance on hearsay.
Inconsistent or unsupported conclusions.
Lack of or insufficient supporting evidence and citation. Reference section deficient.
Major errors, omissions or inconsistencies.
Lack of logical structure or sequencing of content.
Unintelligible use of language and poor spelling.
Appendices inadequate to support substance of the work.
Does not follow the requirements set down in the project guidelines.
Academic misconduct or poor academic conduct.
A lack of coherence in terms of argument and alignment between objectives, methods and conclusions.
Late submission.
A lack of the key characteristics listed below.

Credit -- a report must demonstrate the following characteristics – see also Appendix A:

Clear objectives and clear definition of the problem, issue, or hypothesis addressed.
Adequate and appropriate research, investigation, design and methodology.
Straightforward and accurate analysis and interpretation of research findings.
Identifies, uses and reviews relevant literature in an appropriate manner.
Critical and logical discussion that demonstrates a sound understanding of the topic.
Clear and valid conclusions.
Necessary evidence to support the chosen line of argument.
Accurate source referencing, including a bibliography of relevant literature.
Coherent content that is consistent with the title/topic.
Appropriate presentation, structure and sequencing of context.
Appropriate appendices to support the substance of the work.
Clear English with accurate spelling and only minor problems with grammar.
Good academic conduct.
Timely submission.

Merit -- a report must, in addition to satisfying the criteria for Credit, demonstrate most of the following:
Comprehensive and well designed research undertaken in a professional manner.
Comprehensive analysis and interpretation of research results.
Comprehensive and critical review of a broad range of relevant literature.
Constructive, focused, and critical discussion that synthesises relevant literature.
Coherent structure and progression to the substance and the topics.

Distinction -- a report must, in addition to satisfying the criteria for Merit, demonstrate most of the following:
Novel or new insights into the chosen subject/topic.
Originality or sophistication of approach.
Evidence of having engaged with cutting-edge research issues around the subject/topic.
Clarity of discussion and the effective and efficient use of English.

Publishable / Impactful Research – a report must, in addition to satisfying the criteria for Distinction, demonstrate
Potential for development into a research publication, or evidence of commercial take-up for innovative software/design.

16 Final Mark

Markers will ensure that the marks awarded match the grades A*, A, B, C or Fail in accordance with the foregoing criteria. The marks awarded will be justified by explaining the strengths and weaknesses of the various aspects of the report in line with the criteria. All work will be marked and moderated subject to the School's policy on Marking and Moderation and will be subject to the recommendation of the Board of Assessment.

17 Results

The Assessment Board will consider the project marks and recommend a pass when the marks have satisfied the Examiners.

Where a project fails to satisfy the Examiners, the recommendation may be:

30-day Minor Amendments – The markers agree that the necessary project work has been carried out but minor improvements are needed in the way the work is reported or presented. A provisional mark, conditional upon specified amendments being carried out, will be presented to the Assessment Board. The Assessment Board will provide written instructions on the changes to be made within the 30-day period. Following re-submission, appropriate checks will be made on the amended project report. Should the amendments be satisfactory, the provisional mark will be confirmed by the Chair of the Assessment Board. The provisional mark will not be subject to capping unless the Individual Project is being taken as a re-sit. Should the amendments not meet the requirements of the Assessment Board a failing mark will be returned and credit will not be awarded, so a Fail/New project is not recommended i.e. a transcript recorded resit.

Referral – The markers agree that there are deficiencies in the project but that some limited additional work will enable the project as described in the original proposal to meet the criteria for a passing grade. The student will receive {in a separated feedback message} written comments on the deficiencies and recommendations for issues to be addressed. Limited supervision will be available over the 3 months prior to resubmission. The referred project will be re-examined by the original markers (where possible) in light of the previous comments. It will be considered by the next available Assessment Board. The new mark will be capped.

Fail/New project – The markers agree that the project does not meet the criteria for a passing grade and that a referral, as described above, will not be sufficient for the project to meet these criteria. The module is considered to have been failed and no credit is awarded. Should the candidate be eligible for a re-sit a new project is required. This should follow the full project cycle at the next available opportunity with the next cohort, in accordance with the Project Scheme. A new project proposal and new supervisory agreement might be required. The mark for a new project (a re-sit of the Individual Project module) will be capped at 50%.

Note that these decisions are a matter of academic judgement and will be made and communicated by the Board of Assessment.

18 Contacts

On the whole we would encourage you to use the Individual Project area on Moodle for discussion about general project issues.

Individual discussions about academic issues should take place with supervisors or the appropriate module leader.

Should you need information relating to administrative issues, submission dates and process, access to resources or fees, please communicate with the Programmes Office in the first instance.

The module leaders and project officer for the current year are listed on Moodle.

19 References

Dawson, C. W. (2005). Projects in Computing and Information Systems: A Student's Guide (1st ed.). London: Addison Wesley, 264pp.

Dawson, C. W. (2009). Projects in Computing and Information Systems: A Student's Guide (2nd ed.). London: Addison Wesley, 304pp. see http://bit.ly/xTBXVL

Oates, B. J. (2006). Researching Information Systems and Computing. London: Sage Publications Ltd, 341pp. see http://bit.ly/qbL4pJ

20. Appendix A - INM363 Individual Project Assessment Scheme	For a mark of 50% – a pass at M-level with credit awarded :	Mark
Problem Description and Objectives *(10%)*: *What you are trying to do…* Extent to which: the problem is fully, clearly and realistically identified and scoped; the project's objectives and beneficiaries are precisely defined; research questions (and associated hypotheses where relevant) are clearly stated; • project outcomes are described: *Outcomes may include knowledge, theory or model, in depth case studies or more tangible outcomes such as tools, techniques or products.*	A clear description of the problem and its scope with precisely defined objectives, research questions and outcomes, all of which are convincingly justified.	
BCS: project must produce one or more clearly defined **tangible outcomes** and describe this and the **practical skills** demonstrated in doing so**.**	**BCS:** is the **tangible outcome** clearly described along with the **practical skills** to be used to achieve this?	**Y / N**
Critical Context (*15%*): *Why you are trying to do it…* Extent to which academic literature and other background information (e.g. competing products, in a project developing a product, reference material) have been used, analysed and effectively synthesized to inform and justify all stages of the work with a sound theoretical and practical context. Coverage, relevance and currency of the reported literature. **i.** Quality, coherence and sophistication of arguments developed from this -including extent to which literature is critiqued and comprehensive understanding of the forefront of relevant academic disciplines is demonstrated.	Relevant literature is identified, evaluated and synthesized to contextualise the project and is used to inform approaches and interpretations of results. In doing so, the work demonstrates critical awareness of current knowledge and problems in relevant disciplines and shows awareness of recent insights.	
Methods (*20%*): *What you did…* Extent to which selected methods: draw upon established and appropriate means of creating knowledge in the discipline; are justified, evaluated and appropriate; are applied effectively with any problems arising having been overcome; constitute a clear, sys]]tematic, logical and well-planned approach • are explained fully and clearly;	Methods must be appropriate for achieving outcomes in a robust manner. Their application should demonstrate self-direction and originality in tackling and solving problems systematically in a way that produces robust results.	*
BCS: where appropriate, projects must include clear and comprehensive descriptions of: the stages of the life cycle undertaken; how verification and validation were applied at these stages; tools used to support the development process; • practical skills demonstrated at each stage	**BCS:** if appropriate, are these described in a clear and comprehensive manner; if not appropriate is this stated convincingly with a full rationale?	**Y / N**
Results *(25%)*: *What you ended up with having done so…*		*

Quality, originality and significance of findings and outcomes. Sophistication of analysis and robustness of outcomes. Extent to which results: address stated research questions and outcomes; are supported by evidence; are original and contribute to disciplinary knowledge; are comprehensively communicated; *Grading takes account of the difficulty and scale of the task undertaken.*	Robust results draw upon evidence to support the chosen line of argument by dealing with complex issues both systematically and creatively. These are well communicated and address project objectives through appropriate and informed application of methods and demonstrate a comprehensive understanding of the techniques applied.	
BCS: quality of the tangible outcome in terms of difficulty of problem addressed, sophistication of solution and degree of problem-solving undertaken	**BCS:** is the tangible outcome of adequate quality in terms of sophistication and degree of problem solving applied in light of the difficulty and scale of the task undertaken?	**Y / N**
Discussion, Reflection & Conclusions *(20%):* What you found and now know… Extent to which: project objectives and research questions are evaluated using results; valid conclusions are derived systematically from results; results and conclusions are discussed objectively in the context of literature and generalized to the wider field; confidence in results and conclusions is established; implications, quality and scope of results and conclusions are considered; critical self-evaluation and learning are evident in a reflective critical appraisal of the outcomes, and of the process, including the plan and any deviations from it. *The discussion and reflection must demonstrate critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of the relevant discipline.* *The reflection must include evidence of self-direction and originality in tackling and solving problems, autonomy in planning and implementing tasks and learning.*	Clear and valid conclusions are informed by the results and relevant knowledge of the forefront of the discipline. Critical, logical and evaluative discussion demonstrates a sound understanding of the topic and involves a realistic assessment of the quality of the work undertaken and its significance**.** Critical appraisal of the process and the outcomes demonstrates learning.	
BCS: reflection must include the rationale for design / implementation decisions	**BCS:** reflection includes the rationale for design / implementation decisions.	**Y / N**
Presentation *(10%):* *How well you present all of this…* The report should be appropriate for and accessible to specialist and non-specialist audiences. Markers will be looking for:	Accurate and precise referencing of sources, using citations in a consistent and standard form and a bibliography of relevant literature.	

clear and consistent structure, layout and organisation that communicates the project context, methods and outcomes effectively; clarity of writing with appropriate scientific reporting style, grammar and spelling; the degree to which arguments are coherent and supported by evidence; appropriate use of references and citations; the quality of presentation of empirical data, including figures and graphics; • the degree to which the abstract is indicative of contents;	Coherent content that is consistent with the title/topic. Appropriate presentation, structure and sequencing of context. Appropriate appendices to support the substance of the work where necessary. Clear English, with appropriate grammar and spelling, written in an appropriate scientific reporting style.	
ALL PROGRAMMES: Does the project reflect the aims and learning outcomes that characterise the programme with which it is associated and to which it contributes credit?		**Y / N**

*****To meet BCS accreditation needs, projects on courses that are BCS accredited must score at least 50% on the "Methods" and "Results" sections, all Y/N criteria must be satisfied and the relationship to programme must be assessed as a "YES" too. A project that does not achieve at least 50% in each of the "starred" criteria, but obtains at least 50% overall, will be awarded a pass, but will not be deemed to have met BCS accreditation criteria. A degree will be awarded, but not the BCS accreditation and exemption.