1 MSc CS+ Project Guide 2023/2024

The MSc CS+ individual project is a very important part of your degree. This guide summarises some of the essential information about the project. The project is 60 credits. This has a major effect on your degree classification. **Note that if you fail your project (a grade less than D3), you will be ineligible to receive a Masters degree.**

1.1 Time allocation

If conducting the project full-time, you should expect to spend at least 400 hours working on your project. This corresponds to **35** hours a week during regular term time, for 12 weeks. If conducting the project part-time, then the expected hours per week would halve, with the project occurring over 24 weeks.

1.2 Assessment

The project is assessed in three parts:

90% Dissertation
10% Professional Conduct

Note that virtually all of the marks are awarded for the dissertation. *No marks are awarded for the research itself, but you must conduct significant research to be able to write the dissertation.*

1.3 Learning outcomes

These are the learning outcomes for the MSc CS+ project. You need to show that you have achieved these goals in the project assessment.

Students should be able to:

- 1. Formulate and execute a project plan for an appropriate research project.
- 2. Use standard methods to conduct research (e.g. literature review, case studies, experiments).
- 3. Write a dissertation that will clearly describe the value of their research project.
- 4. Describe their work to both technical and non technical audiences, demonstrating research as appropriate.

2 The project

The individual project is *your* work. Unlike most of the courses you have taken, the responsibility for running the project lies squarely with **you**. We provide support, but you will have to manage and organise your own work. You will have a project supervisor who can give you guidance and direction, but you must demonstrate that you are independently leading the work. Make good use of your supervisor -- they will have limited time available, so make sure you prepare well for meetings and take on board guidance offered.

2.1 What we offer you

Regular supervision. Your supervisor will meet with you once a week during term time, for a duration of up to half an hour. Any other contact with your supervisor is exceptional and at their option.

Fair marking. Your project will be marked by two members of staff, using the guidelines you can see on Moodle, and a formal reconciliation process (which may include a third independent maker) will be used to award a final grade.

2.2 What you need to do

Act professionally and independently: You are expected to work in a professional manner, leading the work, managing your own time and using your supervisor's time effectively. You must follow rules on academic plagiarism and ethical approval (and intellectual property/non-disclosure agreements, if applicable to your project).

Produce a significant research output: A good project requires a serious research output, which demonstrates technical sophistication and knowledge in computer science appropriately applied to a problem.

Write an excellent dissertation: The dissertation is the only part of your project that is marked, excluding the specific marks for professional conduct. You must demonstrate that your research output is excellent *through* the dissertation. If you write thousands of lines of excellent code and a scrappy dissertation, you will do poorly.

3 Deadlines

The project module has very few mandatory deadlines. You will be expected to set your own timeline and goals and manage the project independently. Refer to the Moodle page for up-to-date deadlines.

4 Research focus

CS+ projects are predominantly **research-style** projects, where the output should be a research insight.

What is a research-style project?
A research focused project is one whose main purpose is conducting research to solve a new/existing problem, discussing relevant literature, proposed ideas/methods, experiments, evaluations etc. The student is expected to proceed in a well organised manner, passing through a series of phases.

Finally, the student must submit a dissertation that includes a project report together with the implemented code and appropriate documentation. The educational justification for such projects is training in professional research methods.

5 Professional conduct

We explicitly assess your professional behaviour in the project module, and it counts for 10% of your grade. Good professional conduct varies, and your supervisor may give you more specific advice, but we provide some general guidance. **Be aware that failure to take this guidance on board may affect your professional conduct grade!**

Preparation for meetings

Students should **share an agenda of the topics to be discussed at the meeting in advance, using the provided progress log template (see Moodle).**

You should prepare questions to ask at meetings, and have progress ready to show and discuss (or if no progress has been possible, have prepared questions that will help you move forward). It is good practice to have **written** questions and status report, even if brief, coming into a meeting.

Students should lead the meeting, addressing the topics that they have put on the agenda. They should timebox appropriately (e.g. 10 mins for current progress, 10 mins requirements capture, 10 mins for next actions)

Minuting meetings

You are responsible for taking minutes of meetings. **You should do so.** It is hard to remember everything said in meetings without notes. How you take minutes is up to you -- handwritten notes, Google Docs, etc. Be ready to share minutes with your supervisor, so you can make sure you are both on the same page.

Students should **email or otherwise share (e.g. via a .docx on onedrive, or through the progress log) a summary of the meeting as soon as possible after the meeting** (and definitely before the next meeting). This should include precise action items where appropriate.

Note that **attendance and engagement at regular supervisory meetings is mandatory.** Credit can be withheld if the student does not engage with the supervisor throughout the project process.

Other guidance

Attendance at meetings

If you cannot make a meeting, please rearrange a suitable time with your supervisor with reasonable notice (your supervisor may also need to rearrange on occasion). If necessary, a meeting may be cancelled, but **avoid cancelling more than one meeting consecutively**. If you do not have a meeting for two weeks, the project coordinator will be informed. If a meeting is cancelled, email a status report and/or any questions to your supervisor.

Use appropriate tools, particularly version control

You should use best practices and appropriate technology for the work you are doing. In particular, **you should use version control.** The specific VCS you use is up to you and your supervisor, but unless there are exceptional reasons you absolutely should use one. Your supervisor may wish to have access to your project repository (e.g. so they can clone and test your code); be prepared to accommodate this. If you intend to use a public VCS server (e.g. GitHub) discuss this with your supervisor before doing so, in case there are any confidentiality issues; in general this should be perfectly acceptable.

Note: **Students are responsible for regularly backing up their project outputs** (source code, dissertation). We will not accept data loss as an excuse for Good Cause claims if the issues could have been mitigated by reasonable use of backups (e.g. to OneDrive, Github etc.).

Reference management

As part of your project, you will need to manage a bibliography of references. The scope of this bibliography will vary depending on your specific project. It is **strongly** recommended that you use a reference manager like Zotero, papis, Mendeley or EndNote to manage your references, *from the very start of the project*. These managers can be used to organise your research, annotate references and automatically produce BibTeX ready for inclusion in your report. Note that you can be penalised for an inaccurate or poorly formatted bibliography in the dissertation portion of the marking scheme; a reference manager will minimise that risk.

Plagiarism

You should check the University plagiarism policy **very carefully**, and rigorously adhere to the rules. **Uncited text and figures have cost students dearly in Academic Conduct proceedings in recent years**. The University has no tolerance for plagiarism and the rules are enforced vigorously. Plagiarism in the final project can jeopardise your entire degree.

Ethics

If you are doing a project that involves any human participants at all (e.g. user evaluations), you must comply with the School Ethics procedure. See https://www.gla.ac.uk/schools/computing/informationforstudents/#ethicsprocedures for details of what this entails. In most cases, a checklist procedure is sufficient, but it is your responsibility to make sure appropriate ethical approval has been gained. **You should include evidence of compliance with ethical procedures (e.g. signed checklist or an approval notice) in the appendices of your dissertation.**

Dissertation feedback

Supervisors will typically offer the opportunity to provide some feedback on dissertation writing e.g. reading a select chapter. Talk with your supervisor about this, and establish what feedback they are happy to provide, and when. Note that such feedback can only be provided if students share drafts significantly prior to the deadline (e.g. a couple of weeks before the last week). Share/make available drafts of your dissertation to your supervisor as you progress. Do not expect to receive meaningful feedback from your supervisor if you provide a draft in the last week of the project.

5.1 IP, commercial partners and employers

We do not recommend, and do not support, projects involving external or third parties for the MSc CS+ programme, given the duration of the project. Whilst we understand this may be disappointing to some, in the past there have been significant challenges around IP ownership, conflicting supervisory aims, the need for NDAs or other legal agreements, and difficulty in assessing the agency of the student and their ownership of their work – particularly in projects where students were current employees of a proposed partner.

6 When things go wrong

Most projects run smoothly without significant problems. However, there have been cases where things have not gone to plan, and this can have serious consequences for your degree.

6.1 Let us know early

If problems do occur, let the project coordinator know as soon as possible. These might be health or personal issues, conflicts with supervisor or issues with access to data, software or hardware.

Not every problem is easily fixable, but there is virtually nothing that can be done by the time it gets to hand in. Remember that while your supervisor can provide support and guidance, you are responsible for delivering the project. You will be expected to work around obstacles that occur during the project in a professional manner.

6.2 Late submission and extensions

We do not typically offer any extensions for projects. If you submit late, you will be subject to a two-band-per-day penalty, as in other modules. This has a major effect on your degree classification. Do not miss the deadline.

Extensions will only be granted in exceptional cases with Good Cause claims, and will require written evidence that indicates why you could not submit the project at the deadline (e.g. medical issues). Problems that occurred earlier in the project are not likely to be considered as reasonable cause for an extension unless they are ongoing at the time of submission. **Any such extensions are normally limited to one week,** and in very rare occasions two weeks. No further extension is typically possible, regardless of circumstances. **See the extensions policy published on the CS+ projects Moodle for more details here.**

6.3 Non-submission

Graduating **requires** that you have passed this project module. If you do not submit your project, you will receive credit withheld and be unable to graduate.

In exceptional cases where sufficient medical evidence has been submitted you may receive a medical void. However, if the project is voided you *still* cannot graduate with an MSc degree. In these cases you may be permitted to re-submit a project for a following exam board, but this is at the School's discretion and it will incur a delay of at least six months to graduation. You may alternatively be required to resit the entire year, if you are qualified to do so.