CSCM10/CSCM10J Computer Science

Project Research Methods

2021/22 for CSCM10 & 2022 for CSCM10J

Assignment Handout

Version 4 with updates on

Project specification & Design document & Updated deadlines

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1. Statement about Academic Integrity

By submitting coursework for this module, electronically and/or hard copy, you state that you fully understand and are complying with the university's policy on Academic Integrity and Academic Misconduct. The policy can be found at

https://www.swansea.ac.uk/academic-services/academic-guide/assessment-issues/academic-integrity-academic-misconduct

2. Overview

The aims of this module are to introduce you to research in computer science, as well as discussing various current research topics. You will be introduced to some fundamental research methodologies and good practice in research. In the spring semester 2022 you will undertake some background research, including a study of the literature in order to allow you to fully specify the aims of your summer MSc project. The module will consist of a series of lectures/seminars on various topics including:

- Computer Science research culture.
- Academic Integrity.
- The main research areas in the department - Visual Computing, Theoretical Computer Science, HCI and Cyber Security.
- Writing documents: bibliographies, the typesetting system Latex.
- Project Planning and Management and the Ethics of Computer Science Research.
- How to write an initial project report.
- How to give a presentation.
- How to write a project specification.

For CSCM10, you should have been allocated a project supervisor and you should have regular meetings with your allocated project supervisor to discuss your progress. In the case of CSCM10J, the process of project allocation should take place in February with an allocation of a project by early March, and then should as well have regular meetings with your allocated project supervisor to discuss your progress. For both CSCM10 and CSCM10J, you should as well discuss the initial project report, specification, and the presentation with your supervisor.

You are expected to write an initial project report on your project, give a short presentation on your project ideas, and write a specification report for your project. In addition, there will be lectures about careers and employment, which will be specified by the lecturer of that component, Jennie James, separately.

3. Schemes with Different Project Arrangements

The MSc Computer Science Informatique (Grenoble schemes) and the MRes schemes have project arrangements which are different from the other MSc schemes. For these schemes the deadline and precise content of the coursework assignments are adjusted and determined by coordinator of CSCM10/CSCM10J in discussion with the scheme coordinators and project supervisors.

4. Assessments

The assessment for this module is 100% coursework based. There are four assignments. Detailed marking criteria will be provided on Canvas.

4.1 General Comments on the Assessments

The assignment descriptions below are intended to be indicative rather than prescriptive. The detailed content is likely to vary according to the precise nature of the project you are undertaking. Some will involve the production of a software solution to a given problem which has been fairly precisely specified - in such instances the background research required, for example, is likely to be largely about finding the tools/algorithms to complete the task set. Other projects may be more speculative or investigative in nature, so the background research is likely to be more wide ranging in order to determine what can be achieved. The final project plan is also likely to have to be more flexible as it may be impossible to predict precisely the outcome of some of the initial stages. You should discuss with your supervisor exactly what is required in each document and in the presentation.

The initial project report and the specification are expected to be technical/scientific reports, not essays. Typically, we would expect it to have a title page, an abstract or summary, a contents list, and a list of references. The main body of the work would be split into numbered sections and subsections. A technical/scientific report is characterized by a logical structure; clear and concise writing; and the incorporation of diagrams, tables, figures, bullet points etc. which help to present the work in a precise and unambiguous manner. Figures should be labelled (and with a short description) so that they can be referred to from the text.

4.1.1 Submission of Documents

The initial project report, specification and the slides of the presentation need to be submitted electronically via Canvas.

- The filename should be <student_ID>.pdf
- Don't worry if Canvas slightly modifies it (e.g. adds "-1" to the file name).

As a backup (in case of submission problems via Canvas) you can submit your coursework to

cs-submissions@swansea.ac.uk

- Note that this is an unmonitored mailbox.
- It serves only as a backup, so that if something goes wrong with the Canvas submission a backup copy can be retrieved from there. It doesn't replace submission via Canvas.
- In case you know that you fail to submit via Canvas, you should send a copy of your coursework to su.yang@swansea.ac.uk, where it is easier to retrieve your solution. This should only happen in exceptional cases, however.
- If a solution is only submitted via email, we reserve the right to deduct marks from your

solution.

In case of the initial project report and the specification, the document needs to be submitted in pdf format.

The file name should be in case of the initial project report and specification of the form

<student_ID>.pdf

Canvas might change the file name to something like <student_ID>-1.pdf, this is not a problem.

In case of the presentation slides the file name should be

<lastname>-<firstname>-<student_number>.<filename_extension>

(Again, Canvas might change the filename slightly).

The subject line of your email should be in case of the initial project report

CSCM10-report <student_ID>

In case of the presentation

CSCM10-presentation <lastname>-<firstname>-<student_ID>

And in case of the specification

CSCM10-specification <student_ID>

If you don't follow these instructions marks may be deducted.

4.2 Careers Exercise

The careers exercise (worth 10% of the module) will be specified by the lecturer of that component, its detail arrangements for both CSCM10 and CSCM10J will be confirmed by Jannie James (jennie.james@swansea.ac.uk) (please confirm the deadline via the College Intranet Coursework Timetable in due course).

4.3 Initial Project Report

This coursework component consists of an initial project report. It should clarify the nature of the project, its aims and objectives. It should contain the results of a preliminary literature search, including a summary of the content from the most important articles for your project. It should contain an introduction which includes a motivation and overview over the content of the document in the beginning, as well as a conclusion in the end. It should contain at least 5 references, referenced correctly as taught in the lectures of CSCM10/CSCM10J, most of which or all should be proper academic references.

For projects which are more biased to a software implementation, this initial project report may be viewed as a clarification of requirements, as well as research on the project topic. Systems of a similar nature should be reported, if there is any. The initial project report

contributes 15% of the mark for the module. The size is approximately 2~3 pages (A4, font 11) including references. It is due by the beginning of March for CSCM10, late March/early April for CSCM10J. Please confirm the precise deadline via the College Intranet Coursework Timetable in due course.

4.4 Presentation

This coursework component consists of a presentation on your project and initial plans for it. It contributes 25% of the mark for the module. It consists of a short presentation (approximately 10 min plus 2 minutes questions - the precise duration will be communicated by the organizer of the presentation Matt Roach). You will need to submit an electronic copy via Canvas of your slides/presentation on the day of the presentation. The presentations will take place at a student conference. The presentations will probably take place in parallel sessions. A detailed schedule will be made available nearer the time. You will be assessed by usually two or more members of academic staff or postgraduate markers. Matt Roach will communicate the precise logistics for this event. Note that it will be compulsory to attend the whole day and you will lose mark if you don't participate in the whole day.

The date of the student conference for both CSCM10/CSCM10J is to be announced (please confirm the deadline via the College Intranet Coursework Timetable). The markers will consider that CSCM10 and CSCM10J had different length of time since allocation of their project.

4.5 Project Specification and Design Document

This coursework contributes 50% of the mark for the module. The size is approximately 5000 words (excluding references and the appendix). Please confirm the submission deadline via the College Intranet Coursework Timetable in due course.

The project specification and design document will be a complete and detailed specification of your project.

It should include changes and additions to the literature review for your project, and to the background research carried out in the initial project report. Furthermore, it should highlight any changes to the motivation, aims and objectives of the project stemming from refining and focusing your initial project idea. For reference, you should include unmodified parts of the initial project report that remain valid for your project in an appendix.

In addition, your document should include the following aspects to supplement the initial report:

- a clear and concise project description,
- a description of deliverables, i.e. components to be developed,
- a project plan for the CS-M20 project taking into account the development methodology (software life cycle and/or research methodology) to be used,
- a risk analysis, and

- a timeline with task descriptions and major milestones covering the time from the submission of the initial project document until the end of the project.

You should view this document as providing the plan for the work you expect to carry out for CS-M20.

4.6 Project CS-M20

Please note that the main MSc project is carried out in the module CS-M20, worth 60 credits. Students with January intake should carry out a substantial part of their work for CS-M20 over summer, i.e. before submission of the specification document.