

Instructions for Coursework 2 (CW2)

1. Marking.

CW2 accounts for 70% of the final total mark.

Your work will be graded as a mark between 0 and 100.

2. Coursework Instruction

- This is an opportunity for you to apply the knowledge you have learned in this module on a research question of your own choice.
- Firstly, you identify a network-related research topic that you are interested in. You conduct a literature survey on the topic to learn more about the topic and existing works related to this topic.
- Secondly, you formulate one or two specific research questions that you aim to investigate. Criteria of your research questions are as below.
 - These questions should be specific.
 - Answers to these questions should not be obvious or already known.
 - Answers to these questions should be valuable or interesting.
 - Answers to these questions should not be trivial to obtain.
 - You propose to use a network science method to investigate these questions.
- Thirdly, you obtain a relevant network dataset, conduct quantitative analysis, and then provide your answers to the research questions.
 - You may use datasets available online, or you may collect your own datasets.
 - You may use network analysis tools or libraries that are already available online, or you may write your own code.
- Finally, you write a project report (see details below).

3. Advice

- You are welcome to discuss your choice of topic and research questions with me by sending me an email, having a chat after a lecture, or attending the online Q&A session on Fridays after the Reading week. I cannot provide help in data collection, programming, data analysis or report writing.
- You should not spend too much time in data collection or programming. You are encouraged to use datasets and tools available online.
- You should focus on (1) the choice and formulation of your research questions, (2) the analysis methods and the quality/depth/rigour of your analysis and evaluation, and (3) the new knowledge/insights that you gain from your results.
- Important advice: This is a coursework, not an MSc project. Thus, when you plan your coursework and choose research questions, please be realistic and make sure you can finish your work and write your report before the deadline.

4. Online Submission

- You should submit your coursework as a **PDF report** and an **archive file** containing your data and/or code.
 - Other file formats will not be accepted.
- You can submit your report many times before the deadline. Only the last submission will be recorded in the system.
- Please be aware of UCL's policy on late submission penalties. Please note the mark shown on Moodle will be your original mark BEFORE any penalties applied. Your final mark (after any penalties applied) will be shown in Portico. Please contact the Teaching and Learning Team (TLT) regarding any penalties as the module leader is not involved in them.

5. Project Report: 2,000 - 3,500 words (excluding reference and appendix)

- **Cover page**
 - Coursework project title
 - Abstract (suggested length: half-page)
- **Background:** 1 - 2 pages;
 - to explain the topic area, the network/system that you will study, and any other information relevant to the work.
- **Research questions:** 1 - 2 pages
 - To introduce your research questions.
 - To explain **why** you choose to investigate these research question.
 - Have they been studied? on the same kind of networks?
 - Why are these questions interesting and valuable?
 - Why are they suitable for network-science analysis?
- **Literature survey:** 1 - 2 pages
 - introduce and discuss (critically and objectively) about 3 - 5 recent research works that are relevant to your project. You should explain why they are relevant, what you learn from them, or what are their limitations/problems.
- **Methodology:** 1 - 2 pages;
 - describe your datasets (e.g. how/where they are collected, what are nodes and links) and the methods /algorithms /tools that you use. You should provide brief but sufficient information to allow others to reproduce your work.
- **Results:** 2 - 5 pages;
 - present, explain and analyse your results; and if possible, evaluate your results. You should show the most significant and relevant results (and leave other results in appendix). Graphical illustrations of your results are encouraged.
- **Discussion:** 1 - 2 pages;
 - what are the main conclusions? are the results interesting/surprising? any insights or new knowledge obtained? what are limitations of your work? lessons or advice for future research.
- **Reference:** 5 - 20
 - citations in a scientific format. When citing an online source, you should provide the title of the webpage/file, names of the authors or organisation, URL (of a specific webpage, not a website) and the date of your last access.
- **Note:** You do not need to include a content list, acknowledgement, or lists of figures and tables. It is optional to have an appendix section.
- **Format and presentation**
 - >10 pt font size;
 - 1 line space;

- page numbers at bottom centre;
- Each table and figure must have a caption with sufficient information and explanation to allow readers to understand the table or figure without referring to the main text. It is normal, for example, to have a 7-line caption. Show figures and tables as large as possible (as there is no page limit). Minimum font size 10 in figures and tables.

6. Example reports.

- The example reports are from previous students. Many of them received a mark >65. Please note the latest instructions on report structure and format can be different from these example reports.
- Authors of these reports have kindly agreed to share their reports with students studying this module only. Please do not share these reports with anyone else. Posting online is strictly forbidden.