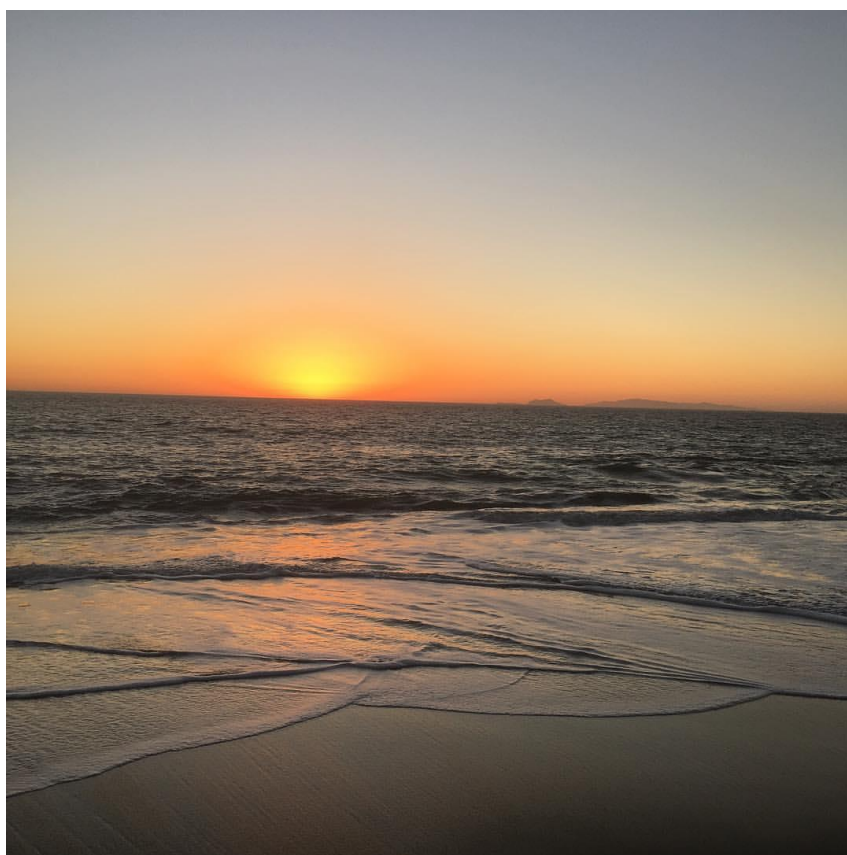# Centre for Advanced Spatial Analysis Masters Dissertation Handbook[i]

2020/21

Module convenor: Dr Andrew MacLachlan

Contents

1 Logistics

1.1 Module staff

Dr Andrew MacLachlan convenes the dissertation module working alongside Dr Martin De-Jode, their contact details are available on Moodle. Lectures will be given by Andy and Martin along with a host of guests from research institutions, CASA and UCL.

2 Requirements of the Dissertation

2.1 Aims

All Masters students are required to submit a dissertation as a major element of the work that they do towards their degree. The dissertation should present the findings of a programme of original research, the topic of which is chosen by the student in consultation with members of the academic staff in CASA.

It is your opportunity to demonstrate the ability to formulate and investigate a question of relevance to your programme of study, and to analyse and present the findings of that investigation as an original piece of writing. It is a chance to pursue research themes that you have yourself chosen and find particularly interesting. It is also a chance to put into practice the skills that you have learned or refined through work for the taught course elements of your Master's degree.

2.2 Intended learning outcomes

After having taken this module, you should be able to:

- Formulate an original and novel research question applicable to the discipline of spatial analysis.
- Describe, explain and synthesise literature and policy documents relevant to the research question and objectives.
- Develop a robust research design demonstrating technical proficiency and advanced skills
- Describe and explain results with a clear and guiding narrative.
- Critically reflect on findings and discuss the academic and or policy advancements from the research.
- Construct and manage a substantial independent research project.

2.3 MRes and MSc

The MRes and MSc share common approaches to research, and a common set of goals in their assessment framework. There is a separate MRes section to this document which describes some of the differences.

2.4 Scale of the work

The dissertation accounts for 60 (MSc) or 90 credits (MRes) from the total of 180 which make up the Masters as a whole.

The dissertation should normally be of **10,000-12,000 words (MSc)** or **10,000 (dissertation) + 5000 (publication) words (MRes)**, excluding figures, bibliography, footnotes and appendices. The maximum word limit should not be exceeded. In some instances, particularly those research projects which are largely computer based, rather less supporting text may be required. However, you should offer some justification for any departure from the normal format and this should be discussed with your course director and supervisor well in advance of the submission date.

2.5 Word Count Penalties

Penalties will be applied to overlength dissertations:

Dissertation length	MSc	MRes
Less than 10,000 words	No penalty	No penalty
10,000-12,000 words	No penalty	No penalty
More than 12,000 words	10% penalty	10% penalty

Similar penalties apply to the MRes publication:

Publication length	MRes
Less than 5,000 words	No penalty
5,000-6,000 words	No penalty
More than 6,000 words	10% penalty

2.6 Topic

The topic is entirely up to you, but is likely to be related to the various material introduced during the rest of the programme. If you are already professionally employed part-time, or are planning to take up professional employment in the summer, you may wish to propose a topic connected with your place of work, although this must be done with the knowledge and consent of your employer.

There are a number of ways in which you can define your dissertation topic:

- following up on a topic or issue raised in your taught classes, or arising out of the literature you have consulted
- developing an aspect of your coursework which warrants further investigation
- using inspiration from a particular data set you have encountered
- focusing on an area in which you would like to seek employment, in order to acquire greater understanding
- a project offered by an external partner
- discussion with tutors, fellow students and professionals.

You may find it helpful to look at both the titles of past dissertations and past dissertations in their entirety available on Moodle. However, you should bear in mind that the kind of topics accepted in earlier years may not always be acceptable now. Your choice of topic will be subject to the agreement of your Course Director and potential supervisor, and you are advised not to begin work on the dissertation until the topic has been agreed. We reserve the right to reject or amend your proposal, subject to discussion with you. In any case, the proposal (detailed below) should be seen as a working document which may change as your work progresses.

2.6.1 Working with external partners

There will be multiple opportunities to work with external partners through connections at CASA and the Consumer Data Research Centre (CDRC). The CDRC scheme is external to

CASA has informal agreements to place students with companies, charities or Government departments and can vary from weekly meetings to simply being given access to data. The CDRC scheme is external to CASA and requires a separate application directly on their website. However, you can use that application for your CASA proposal. In both cases it's important to have a backup idea (or Plan B) as all these projects are competition based. CASA do not distribute the contact details of external partners.

2.6.2 Working with academics
Occasionally there are also opportunities to work on part of an academic's project (either in CASA or wider UCL). These will also be competition based and advertised with the external projects.

2.7 Proposal
You will complete a compulsory dissertation proposal towards the end of Term 2. Prior to the submission of the proposal you will have opportunities to talk with supervising CASA staff members regarding your project.

Your draft proposal document will include the following:

- Provisional dissertation title
- Details of any collaboration with an outside body
- Proposed research topic
- Research question, aim and objectives of the dissertation
- Outline of the methodology
- Sources of data you intend you use
- Outline of formal ethical approval if applicable
- Outline of any required fieldwork if applicable
- Sort term action plan

2.8 Research question, aim and objectives definitions
This section briefly outlines the differences between key terms you will come across when writing your dissertation, which are also requirements of your proposal.

Research question: Is the central question to the thesis that you will try to answer

Example: What has been the impact of the UK sugar tax on obesity levels?

Research aim: Is a broad statement of intent that you will try and achieve within your thesis, it is usually just the research question rephrased

Example (in a sentence): This research will evaluate the impact of the 2018 Soft Drinks Levy (commonly know as the sugar tax) on obesity levels in the UK

Research objectives: Think of research objectives as the set of measurable and specific goals you need to achieve your aim / research question. As you tick each one off you build a stronger case for answering the research question. It's good practice (but not always essential) for objectives to follow the S.M.A.R.T. format where possible:

Specific: state exactly what you need to achieve

Measurable: clearly outline how you will know if you have achieved the objective

Achievable: set objectives that you think you probably will be able to complete based on your experience through the programme so far

Realistic: establish if you will be able to fulfil the objective. Whilst research often attempts to push the boundary of knowledge it only needs to be a small (or tiny) advancement, not a massive leap forward in science that would often be unrealistic of an MSc thesis.

Time constrained: identify when objectives should be completed by to ensure the project is finished on time.

Objectives will develop as you carry out your work, but using the example of the sugar tax a starting point could be:

1. Review existing work and the political landscape that led to the new levy.
2. Provide a compressive statistical and spatial comparison between obesity levels prior to and after the implementation of the 2018 Soft Drinks Levy. (As you develop the work this objective could become measurable, by specifying a certain method or technique).
3. Establish the spatial distribution of influence and explore any regional variations through spatial analysis. (Has the law had similar or different effects across the UK and explore potential reasons why, again this could also become measurable as the research develops).
4. Evaluate the effectiveness compared to levies implemented in other similar countries of the UK levy and produce recommendations for targeted evidenced based policies or actions.

2.9 Supervision

It is important that there is effective communication between student and supervisor, both initially, in the definition of the topic and the method of approach, and subsequently, in the provision of continuing guidance and the monitoring of progress.

You will be allocated a supervisor during Term Two. After having clarified the topic and methodology, students are expected to see their supervisors on up to five occasions before the date of submission. The onus is on the student to make this contact, and if necessary it may be electronic rather than in person, provided both parties agree to such an arrangement. All students may submit one piece of written material for comment by their supervisor, well in advance of the submission date.

2.10 Submission

All dissertations must be submitted electronically via Turnitin on Moodle by 5pm on Monday 23rd August. All dissertations will be submitted via Turnitin.

2.10.1 Extensions

2.10.1.1 Short term

You are able to apply for: a Summary of Reasonable Adjustment (SoRA) or Extenuating Circumstances (EC) to gain an extension to the deadline. UCL provides specific guidance on the criteria for each, so please consult the Academic Manual Chapter 5, Section 5 for SoRA information and Chapter 5, Section 6 for Extenuating circumstance information. If you think you are eligible for an extension please advise the department and your supervisor as soon as possible. Further information regarding ECs is available on the main CASA Moodle page.

2.10.1.2 Long term

In extreme cases and with sufficient proof a longer term extension might be offered in the form of a Deferral, i.e. a 'new first attempt' or a 'new second attempt'. If a student successfully completes a Deferral of their first attempt, their module marks will not be capped. If the student successfully completes a Deferral of their second attempt (i.e. they

have ECs on a Resit or Repeat), their module marks will be capped at the Pass Mark (i.e. the existing cap will not be removed). Applications for a Deferral will be assessed on a case by case basis.

2.11 Late penalties

Dissertations are subject to the same lateness penalties as other submissions, following [UCL regulations](.).

Lateness	Penalty
Before or at deadline	No penalty
1 second – 2 working days late	10% penalty
2 – 5 working days late	Mark capped at pass (50%)
Over one week late	Fail (1%)

In the case of coursework that is submitted over- or under-length and is also late, the greater of any penalties will apply.

For regulations regarding the presentation and format of dissertations, see below.

2.12 Assessment

A mark scheme (similar to those published for the assessment for individual modules) is published on Moodle.

All CASA Master's dissertations are marked by two internal examiners, going to a third internal examiner if there is any significant disagreement, as defined in the UCL Academic Manual. A selection or the submitted work is marked by one of the External Examiners.

2.13 Fieldwork

If you are planning on conducting any fieldwork then this must be clearly stated in your proposal, otherwise you will be unable to conduct it. Please speak with the Module convenor before you submit your proposal if it includes fieldwork. You are also required to follow the guidance and complete the required forms on the [UCL Off-site working webpage](.), which your supervisor can advise on.

2.14 Research ethics in dissertation projects

All research has ethical implications, which may affect to participants of research or wider societal issues, e.g. risk physical, reputational, medical, political harm. You must consider ethical issues that might arise in relation to your dissertation research. In some cases, you will need to submit an application of ethical approval to UCL's Research Ethics Committee. Ethics should forma key part of your discussion with your supervisor from the beginning and should be considered at all stages, I.e. when planning, executing, and writing up your project.

2.14.1 Statement of Ethics

All dissertations are required to include a clear Statement of Ethics. This should be included in a separate subsection – as part of the methodology, for example. The length and details of the Statement of Ethics will vary – for example, a study which makes physiological measurements on people, or collects or uses sensitive information from people, may need a full ethics application, which could be explained briefly and the full application presented in appendix. In other cases CASA students may be dealing with issues of deanonymisation or privacy, for example, and they would need to explain potential risks or storing and analysing

the data, and how they have mitigated against these risks. In other cases, students may be working with aggregate, anonymous public data, which would only require a brief reference to how disclosure or privacy issues have been dealt with by the data collectors.

Ethical reflection is categorised under the Research design criterion, and the absence of a Statement of Ethics will be reflected under that category. In exceptional circumstances, a lack of ethical reflection can lead to a mark penalty across the dissertation and could lead to a fail mark.

2.14.2 Research Requiring UCL Research Ethics Committee Approval

Any research at UCL that makes use of living human participants, or the collection and/or study of data derived from living human participants requires approval from the UCL Research Ethics Committee or an external research committee (depending on the subject area), unless it falls into one of their exemption categories. If you are planning to record information that would allow your research subjects to be identified, then you will also need to complete a Data Protection form.

Detailed guidance on ethics and applications will be shared on the Moodle site and discussed in a dedicated session.Your supervisor will support you with any research requiring an ethics application.

2.15 Risk Assessment

Risk Assessment is distinct from ethical assessment. Risk Assessment focuses on risks arising as part of conducting the research; and these risks may affect the research team, which includes you.

You may have to submit a Risk Assessment Form if your research is likely to have any associated health and safety issues. Examples where this might be required could include primary collection of data in locations that could be dangerous, conducting your research abroad, conducting interviews in private residences, or collecting data in any other dangerous circumstances or environments. A range of risk assessment forms for different circumstances can be found on the UCL Risk Assessment website and you will most likely need to complete a riskNET risk assessment. Your dissertation supervisor will be able to advise you further on this.

2.16 Copyright and publication

Exceptionally good dissertations often constitute a contribution to professional and academic knowledge, and as such may be published in a relevant journal. CASA wholeheartedly supports this and your tutors will be happy to advise on this. The copyright of the work belongs to the student. However, students are advised that they must acknowledge that the work was originally written as part of a UCL Master's degree.

We hold printed copies of your dissertation after submission, and may share these with students or prospective students – if you would prefer us not to (e.g. for reasons of commercial sensitivity) please let us know.

3 General Advice

3.1 Goals

Throughout your research and writing up, it is important to keep in mind the ultimate goal of the project, i.e. the completed dissertation. It is easy to become diverted, disheartened or disorientated: stick closely to the agreed outline and submission deadline, and try to remain positive ('I can do it!').

Within the overall completion timetable, work to a series of smaller targets agreed with your supervisor. It helps to break up the project into manageable tasks, and to stick to your deadlines. Allow plenty of time for proof-reading, checking footnotes, and formatting your final version. Careful planning is vital to producing results.

3.2 Planning

From the beginning of your research, it is important to agree an appropriate framework for study.

3.2.1 Suggested timeline

Task	Recommendation	Requirement
Submission of dissertation draft proposal form	Towards the end of term 2 (requirement)	Fill out proposal form online. I'd recommend drafting using a word document to start with
Allocation of dissertation supervisor	Beginning of March	Students informed by Moodle
Initial meeting with supervisor (+ allocation of 2nd supervisor for MRes)	March	
Literature review outline (annotated bibliography) (MRes students)	End of March	
Submission of work for review	Mid-May (MRes) Beginning of June (MSc)	1,500 – 2,000 words submitted to your dissertation tutor
Final digital dissertation submission	23rd August (requirement)	Completed digital thesis submitted on Moodle

3.3 Literature Review

Before commencing your research, it is essential to make a survey of existing professional literature in the chosen area. Useful starting points are as Google Scholar and Web of Science a bibliographic database. You can access WoS and many other resources from the library catalogue and databases. There may also be published bibliographies of relevant works. If not, you will need to compile your own from library catalogues, citations in other literature etc.

With regard to unpublished research, you may need to contact other academic institutions, both in the UK and overseas, to discover the nature and progress of continuing research projects. In some subjects (e.g. history) there are online guides to theses completed and in progress. Your supervisor should be able to advise. There are also various published lists of completed PhD theses which are available through reference libraries.

3.3.1   Bibliography and reference managing software

It is very important to keep an accurate bibliography throughout your project. You may want to compile your own bibliographic database of relevant works, both published and unpublished. Free software and easy to use such as Mendeley and Zotero are great for managing references and inserting citations into a variety of documents.

3.3.2   Literature Review section

Having compiled your initial literature survey, you should undertake a programme of selective background reading. The bibliography can be added to as your work progresses and will serve as the basis of your footnotes and final bibliography. Ensure that references are recorded fully and consistently, in the form they will appear in your bibliography.

Once you have reviewed the existing literature you will be in a better position to define your precise area of research and to produce a thesis outline. Although both may need to be modified in the light of further research, the basic structure should now be laid.

3.4   Writing up

It is advisable to submit at least one draft chapter for comment by your supervisor. It is important not to leave all the writing up to the end! Writing and obtaining feedback on a draft chapter will greatly assist with the compilation of the final dissertation.

When writing be concise and pertinent. Verbosity, repetition and loose writing should be avoided. A poor writing style will not impress the examiners and may make it hard for them to follow your ideas.

Keep in mind the need for a clear line of argument as you reveal the results of your research.

- What do the results demonstrate (or fail to demonstrate)?
- How does your research relate to other work in the field?
- What are its limitations and what remains to be done?

Analysis and commentary are essential. The work that you submit must be more than a record of raw data or results. Be careful not to lose your reader by moving into an explanation without providing adequate context. Give enough general background to make your information meaningful. Then build your case logically, and finally, at the end of the section or the chapter, bring your ideas together in a coherent summary. In this way your reader will be able to follow the logic of your thinking. The body of the dissertation should generally be divided into six main parts (excluding ancillary material such as appendices).

You should also consider providing a short introductory paragraph to each chapter, reviewing what was covered in the previous chapter and how it will be built upon in the current chapter.

In the table below I've provided a generic guide that should be used in consultation with the mark scheme and your supervisor's recommendations

Main section	Section name	Contents of section
0	Preamble	Title page and abstract, contents page, declaration and anything else of this nature.
1	Introduction	The introduction should set the scene and introduce the reader to issue (what is the background to it), its importance (so what?) and lead onto outlining the research question of the study.
2	Literature review	The literature review should evaluate existing research, demonstrate contrasting and/or similar views whilst highlight research gaps (that hopefully your research will contribute to / address). This could also include policy documents or documents from reputable sources (e.g. UN / EU / authoritative bodies). Wikipedia is not a valid academic source and please don't just list what authors have done in the past (e.g. Smith 2009 did x but Jones 2008 did y then Frank 2010 did x). Synthesise previous work / policy documents and provide a narrative through it whilst trying to show where the research gap is / where you question fits in. Try to end the literature review with a concluding paragraph that concisely summarises everything within it and states what your work is going to contribute or address. Think of this section as providing a story to what everyone else has done (whilst also showing issues / research gaps) then at then end BAMMM… this is what you are going to do and look how amazing it is.
Optional	Study area and or data chapter	If you used a particularly complex study area or data sets that needs a lot of explanation or reasoning as to why you selected or it's specific nuances you might consider a short study area and or data chapter. Otherwise these could be included within the methodology.
3	Methodology	Methodology is what you did (analysis, data processing, data cleaning, ethical applications / processes, etc), a reader should be able to replicate your analysis, but you don't need excessive detail — you do not need to list every tool you used.
4	Results	Results is what you found — be selective about figures you include and provide. To do so ask yourself what does this contribute to my research question / aim / objective to see if you need it. Try to provide a narrative that guides the reader through your findings, don't just present result after result after result after result.
5	Discussion	Discussion should have lots of critical reflection…by that I mean… how do your results fit in with and then advance the ideas presented by others either in academic or policy literature. Really say why this is important with appropriate referencing.
6	Conclusion	Your conclusion should restate what you set out to investigate, summarise how you achieved it, what your results showed and why it is important. Do not add any new material in this section (e.g. talk about new ideas or add new references). You could

also consider having recommendations as part of your conclusion if appropriate (e.g. what should be changed or altered to fix the issue / question you explored). Whilst it seems like I've listed a lot of things to include it short be relatively short — a concise summary.

3.5 Problems

Problems sometimes encountered by students during their dissertation include:

- Lack of clear definition of topic
- Lack of sources
- Lack of technical skills (research, presentation, programming etc.)
- Lack of workspace or computer equipment
- Lack of time to research or complete
- Lack of financial resources
- Lack of originality (e.g. discovery of other research duplicating or overlapping with chosen topic).
- Lack of critical reflection

In the majority of cases, such problems can be solved by communication with your supervisor. For example, the supervisor may be able to help you in clarifying or refocusing your topic, seeking technical advice, or altering your work schedule. It is important that you approach your supervisor as soon as the problem arises, as it will become increasingly difficult to remedy the situation.

3.6 Managing your supervisor

It will help both you and your supervisor if you are very clear about what to expect from each other. The following are some tips on how to get the best out of the supervision process.

3.6.1 Supervisions

Arrange a schedule of appointments early in the process and stick to them (even if you have made less or very minimal progress than expected since the last appointment). Do not expect your supervisor to manage the project for you, remind you to make or keep appointments, or chase up work. This is your research, and you are expected to be in charge of it. If you need a meeting and don't have one scheduled, ask! Please come to all meetings prepared, bring analysis / figures / flow charts to the meetings or send a few slides **in advanced** with content such as this to maximise your time with your supervisor. Your supervisor should be supportive and helpful and provide feedback and suggestions on the direction of your work.

3.6.2 Drafts

If the appointment is to discuss a draft, send the draft several working days before the appointment. Obviously, the longer the draft, the more time needed before the appointment. Expect this process to take even longer during "peak periods" (e.g. near the submission deadline). In particular:

- Please do not expect the reading of your draft to be given automatic priority over other essential teaching, research and administrative work that your supervisor has to undertake.
- Please do not expect your draft to be read "overnight" or "over the weekend".

- Make sure both you and your supervisor are aware of any periods when supervision cannot take place (e.g. because of holidays, conference attendance or other periods away from college). Take these into account when scheduling work on the dissertation.

3.6.3 Before handing in a draft

- Has the draft been read through carefully?
- Has the draft been spell checked?
- Is the draft written in plain, concise and grammatically correct English?
- Are all the pages and sections numbered? (This is essential for written feedback.)
- Is the draft double-spaced? (Again, this is essential for written feedback.)
- Is the draft reasonably easy to read and understand? Is there an indication of where it will be placed in, or in what way it will contribute to, the overall dissertation?
- Is there an accompanying (albeit tentative or provisional) outline or table of contents for the whole dissertation?
- Does the draft include all references? (Do not hand in drafts with the intention to "add references later".)
- If the draft includes previously submitted material, is there a clear indication of which bits are new

3.7 Research log

It's both common and good practice to keep a research log when undertaking a large project. A research log is a diary of tasks, issues and accomplishments that occur during your dissertation project. It's recommended that you include a research log as an appendix to your thesis (but it's not required). There are some basic examples on Moodle.

4 Presenting your dissertation

4.1 Format

All dissertations are submitted electronically via Moodle. Images and other illustrations should be embedded in your document, except for interactive visualisations which can be linked to. All dissertations will be submitted via Turnitin.

4.2 Order of contents

The order of contents within the dissertation should be as follows:

Title page	- Title of the work - Full name of candidate (as registered) - Date - Module title and code (the code is specific to your degree – CASA0004 or CASA0010 or CASA0012) - Name of your supervisor(s) - URL for any material hosted online (e.g. code, URLs can also be included again within the thesis) - Word count The title page should also include the following statement: 'This dissertation is submitted in part requirement for the MSc (Or MRes) in the Centre for Advanced Spatial Analysis, Bartlett Faculty of the Build Environment, UCL.'
Abstract	A summary of content, context and conclusions (300 words maximum). This is not included in your word count.
Declaration	A signed declaration of originality and word count in the following format: 'I hereby declare that this dissertation is all my own original work and that all sources have been acknowledged. It is xxx words in length.'
Table of contents	A table showing title and page number of each chapter, section and subsection
List(s) of tables and figures	Titles of tables / illustrations and page numbers illustrations etc. (if appropriate)
List of acronyms and abbreviations	Key to abbreviations used in the text
Acknowledgements	Any and all help received in the preparation of your dissertation should be acknowledged here
Text	Divided into chapters, sections and sub-sections as appropriate
Footnotes	At the foot of each page
Bibliography	A list of all works cited and referred to in your text. Everything cited in the main body of the dissertation should appear in your bibliography and everything in your bibliography should be cited or referred to in your text.

Appendices and Glossaries	As required

4.3 Layout

Legibility and clear layout are essential. A good quality publication could be used as a model.

In particular:

- Spacing (e.g. between sections) should be reasonably generous
- Bold print should be used for headings
- Each chapter should begin on a new page.

4.4 Templates

There are several UCL thesis templates available online and you a free to use them if you wish, however, make sure they have all the required information specified within this handbook. I'm aware of the following UCL specific thesis templates:

- Andy's Bookdown CASA dissertation template
- Overleaf
- Latex

Of course, it's fine to use Word, I did during my MSc and PhD. However, I'd strongly advise using the inbuilt long document functionality (e.g. headings, figures, table of contents) and a reference manager (e.g. Zotero). You can use the examples on Moodle as a refence for formatting.

4.5 Quotations

Sometimes you will want to quote the words of another author in the text of your dissertation. Short quotations (less than three lines of text) should be included in your own text, enclosed in single quotation marks. Double quotation marks should only be used for quotes within quotes. Longer quotations (more than three lines) should form a separate paragraph, indented and single spaced, without quotation marks.

Quotations should reproduce the original spelling, punctuation and emphasis, as far as possible. Any changes should be indicated by a note in square brackets within the text. It is vital that you understand the difference between plagiarism and quotation. If in doubt always quote and cite references and ask you supervisor. If you cannot find the source of an idea or quotation, take it out. Never pass off the ideas of others as your own work.

The context of the quotation is also key. What do you say about it? How does it inform your work? Do you agree or disagree?

4.6 Punctuation

Try to use punctuation sparingly and correctly. To quote Judith Butcher, 'use the minimum punctuation necessary to clarify what would otherwise be ambiguous or misleading' (J Butcher, Copy-editing: the Cambridge Handbook for Editors, Authors and Publishers, 3rd ed., Cambridge University Press, 1992, p.106).

4.7 Capital letters

Upper case (capital) letters should be used sparingly. They should be employed for personal names (e.g. John Smith), institutional and organisational names (e.g. British Library, Public

Record Office), peoples (e.g. the British) and geographical names (e.g. Ghana). Optionally, they may also be used in chapter or section headings and in citing the titles of published works. They should not be used routinely for emphasis (e.g. the archivist, not the Archivist).

4.8   Numbering of sections and pagination

Sections and sub-sections should be numbered in a simple sequence (see Appendix A for an example). Complex numbering schemes and multiple hierarchies of sub-sections should be avoided. Aim for clarity and simplicity.

All pages (including illustrations, tables etc.) should be numbered in one continuous sequence (from the title page to the end of the appendices) in Arabic numerals from number 1 onwards.

Footnotes should re-start from number 1 at the beginning of each chapter. Arabic numerals should be used.

4.9   Bibliographic citations

It is essential that citations in your dissertation are accurate and consistent.

Your dissertation should contain a comprehensive bibliography detailing every work referenced in the text. The bibliography should be laid out in alphabetical order according to the Harvard convention. The following list gives examples of referencing for most kinds of information sources used in dissertations. Do not do this manually, use the plugins provided in reference managing software (e.g. Zotero).

4.9.1   Books:

Harvey, D (1996) *Justice, Nature and the Geography of Difference*, Blackwell, Oxford.

Hohenberg, P M and Lees, L H (1985) *The Making of Urban Europe 1000-1950*, Harvard University Press, Cambridge MA.

4.9.2   Book chapters:

Pearce, D (1992) Economics and the global environmental challenge. In I H Rowlands and M Greene (eds) *Global Environmental Change and International Relations*, Macmillan, Basingstoke, pp 60-87.

4.9.3   Journal articles:

Smith, N D (1993) Anatomy of an avulsion, *Sedimentology* **26**: 1-24.

Scott, A J and Paul, A (1990) Collective order and economic co-ordination in industrial agglomerations: the technopoles of southern California, *Environment and Planning C: Government and Policy* **8**: 179-93.

4.9.4   Academic working papers:

Leyshon, A (1990) Financial infrastructure withdrawal, *Working Papers on Producer Services* **3**, Department of Geography, University of Hull.

4.9.5   Newspaper articles:

McCarthy, M, Brown, C and Heath, T (1999) Farming hit by worst crisis since the Thirties, *Independent*, 28 August.

4.9.6   Web sources:

Ministry of Agriculture, Fisheries and Food (MAFF) (UK) (2001) *Organic Aid Scheme,* (http://www.maff.gov.uk/environ/envsch/oas.htm) – accessed 18 May 2001.

4.9.7 Citing references in the text:

Any work used should also be cited in the text of your dissertation, giving page numbers where you quote directly from a source:

> As Hobsbawm (1992, p 11) has noted, the very term English nationalism 'sounds odd to many ears'.

> While Scott and Paul (1990) maintain that new industrial districts have engendered a new localism, others are more sceptical.

Your bibliography should include all references cited in your dissertation. A common mistake is to exclude a reference because it is embedded in a quotation from another work that is itself listed in your bibliography. For example:

As Harvey (1996, p 53) notes, 'The latter all *produce* – to use Lefebvre's (1991) terminology – their own forms of space and time.

Even if you have not directly used Lefebvre (1991), it must be referenced as well as Harvey (1996) in your bibliography, because both references are cited. This is not cheating. It is not the same as 'padding out' your bibliography with superfluous references – which is an unacceptable practice.

4.9.8 Further advice on citations

See also the UCL information on citation and avoiding plagiarism:
http://www.ucl.ac.uk/current-students/guidelines/plagiarism

And the Moodle page for plagiarism and academic writing:
https://ucl.rl.talis.com/items/559D6A29-A819-3252-BBE6-C6FF6B79C963.html

4.10 Final Checking

Before submission, the work should be thoroughly proof-read and corrected. In particular, check that bibliographic references are complete and consistent.

Spelling should be checked using a dictionary or a computerised spelling checker. If you use a spelling checker you should proof-read the text after using it, to ensure that the automatic corrections are accurate and that no inadvertent errors have been introduced. It is important to eliminate all spelling and typing errors before submitting the work.

5 Assessing your work

Your work will be marked according to the marking criteria distributed on Moodle, if you have any questions about this please ask your supervisor.

6 Appendix A: MRes Dissertation Guide

MRes Dissertations are similar in form to MScs, but more substantial in scope and outcome. They carry a higher credit assignment (90 rather than 60), and are assessed through a dissertation and a publication.

The assessment criteria have much in common with the MSc dissertation assessment scheme, sharing, as they do, a set of principles for research practice and writing. The MRes is assessed through two submissions, and it is the student's responsibility to tailor their writing and structure to the demands of each document inline with the respective mark schemes.

Dissertation (70%)

Although the research project is bigger component of the degree than MScs, the dissertation is no longer (10,000, with a penalty applied if it exceeds 12,000 words). It is an additional challenge to fit a larger project into these constraints.

The purpose of this document is to provide a detailed summary of your work; to demonstrate performance on the assessment criteria; and to provide evidence to your assessors of the work you've completed.

Publication (30%)

The publication should be aimed at an appropriate journal in your field, and follow a structure based on current issues of that journal. In consultation with your supervisor, you may decide that a technical report or working paper is a more suitable, but this needs to be agreed and discussed in advance with your supervisor.

Because the publication is based on the same research as the dissertation document, it is likely to have a basis in common with the dissertation; however, students should prepare an original and distinct document and **not "cut and paste" from their dissertation**. Students should pay particular attention to how they can communicate their key outputs in a condensed form – the communication category will be assessed in the context of this document being a shorter research publication.

7 Frequently Asked Questions (FAQs)

This is for all CASA MSc programmes so please read it as such. For example, if it refers to a publication then that is only applicable to the MRes Spatial Data Science and Visualisation.

How should I format my dissertation document

Use software to do so, this could range from Microsoft Word headings to LaTeX.

Can I do my analysis using a range of different software

Yes. You can do your analysis in anything you wish.

Can I just use methods covered in the programme

Yes, you can and if you have provided a decent write up it is likely you will pass. However, we encourage you to explore other methods.

How can I show my code / method within the assignment

Within the thesis you can provide a normal methodology section. You may wish to include a hyperlink/url to an online repository or shared space to show any code or data you have analysed. This might have appropriate documentation or code commenting to assist reproducibility. There must be no interpretation of analysis, results, methods discussion or conclusion presented in anything other than the thesis / publication document required for the course.

How should I display my results

However you deem appropriate for your data and analysis. A reader should be able to understand any figure you have produced using only the figure and the caption.

Can I use interactive maps / visualisations

Yes, but only where appropriate for your data and analysis. You can recreate any of the online mapping tools we demonstrated and link this into the thesis / publication document you submit.

Can I use flowcharts

Yes, and we strongly encourage them, but make sure they are relevant and fit for purpose.

Can I use private data

Private data would entail something that is not publicly accessible or open. For example, if you work for a company and they have given you access to a private dataset that they have complied. You can use private data, but there are no extra marks for doing so. That said if you aren't able to publish the data in a repository (because it's private) you won't lose any marks in terms of reproducibility, but we'd recommend making up a mock dataset so we can see your code/toolbox/analysis actually works. This data wouldn't need to show the same result as your original private dataset, most likely it shouldn't as it could risk identifying the original data. Please make sure you fully acknowledge the source of any private data, as with all data and be sure to adhere to any UCL ethical and / or data requirements.

Can I scrape data from the web

Yes as long as you follow the terms and conditions from where you sourced the data and clearly state this along with how you have adhered to them in your final report and also any repository / reproducible material. If you have any associated documentation about your methodology (e.g. comments in your code) you should state where the data is from, adherence should be in the report and any reproducibility online document you create (e.g. RPubs / similar). You probably won't be able to store the original data in a personal online repository, so it might be useful to have a random mock dataset (probably a smaller dataset) to show it runs. Again, make sure you adhere to any UCL ethical and / or data requirements.

What's a credible reference

Something that is unbiased and can be supported with evidence. Generally, this would include academic journals, reviews and books alongside evidenced based policy documents. It would exclude online sources such as Wikipedia.

Something else?

Ask the module convenor or your supervisor.