UNIVERSITY OF PLYMOUTH

SCHOOL ENGINEERING

BSc (Hons) Construction Management and the Environment
BSc (Hons) Building Surveying and the Environment
BSc (Hons) Environmental Construction Surveying

GUIDANCE NOTES FOR THE INDIVIDUAL DISSERTATION

1.0 Introduction

All students (including sandwich students) of the construction management, building surveying and environmental construction surveying degrees undertake a dissertation during the final stage of the programme.

The subjects of the student's degree, the available supervision and the time and resource restrictions all influence the dissertation topics available to the final year students. Each student is responsible for their choice of topic but obviously, members of staff will counsel students through the usual supervision system. Where dissertations span different subject areas, assistant supervisors or joint supervision may occur.

What are the major aspects/skills that lead to a successful dissertation?
A good starting point is to read Paul Murray's the ***self learning guide to a successful dissertation***.

After reading that text, you will find that you will need to be able to;

- Plan and implement a research project; subsequently producing an independent and appropriately presented report of this work.
- Identify and define research questions, obtain data and identify appropriate techniques to analyse the questions.
- Make a realistic judgement of what is feasible within the time and resources available.
- Display the ability to evaluate previous research and conclusions.
- Devise an approach which has a sound methodology.
- Provide flexibility and determination in overcoming the problems which are inevitably encountered during data acquisition and analysis.

The dissertation counts for 30 credits of the overall assessment in the final year. Successful completion of your dissertation is a requirement of your honours degree. It may also have an important bearing on references prepared by lecturers for graduates applying for jobs or further study.

Dissertations will vary in length, but most should be around 50 pages for the main body of the report (Approx. 12,000 words) and should not normally exceed 65 pages. The dissertation must be submitted bound appropriately on the due date (2 copies; 1 formally presented , case bound in hard covers, the other comb-bound).

Any requests for submission of supplementary non-written materials or alternative formats (under Disability Discrimination Act 2005) should be made formally to the Module Leader (cc. Programme Manager) at the earliest opportunity.

The Module Leader for the dissertation module is Sue Turpin-Brooks, who is based in room 120, Reynolds Building, s-turpin-brooks@plymouth.ac.uk.

2.0 Importance of the Project

The dissertation is researched in modules pursued and within the Autumn and Spring terms of the final year (amounting to 30 credits in total). In the event a student gets less than 40% in the project, the programme regulations limit the award to an ordinary degree.

The dissertation affords students an opportunity for demonstrating competence, initiative and originality. Important skills should be developed. These can include familiarity with experimental techniques, literature searching, analysis of data, synthesis of ideas, and written communication of these ideas in a way which is intelligible to others. The student should learn important social and human skills when dealing with their supervisor, technicians and others who will help to bring the project to fruition. All of these skills will be valuable in the student's subsequent career.

3.0 Choosing a Dissertation Topic

Students will be encouraged to select a dissertation topic connected with the wide range of modules already studied or current "hot topics" in industry. In allocating the dissertations, personal preference will be taken into account, but the ability of the student concerned and the availability of staff and materials must also be considered. It must be emphasised that students who suggest their own project title which may be based on specific interests or hobbies or derived from their industrial contacts will be given prior consideration. Originality and analysis should be prime aims.

4.0 Dissertation supervision and guidance

Each student is allocated a supervisor. You will need to discuss the topic with the supervisor and sign a Dissertation Proposal Form. The Dissertation Proposal Form is to be submitted by October. The supervisor will usually be the member of academic staff most experienced in the field in which you have chosen to study. In most cases, notably where an external agency is involved, you may also have a second supervisor who need not be a member of the academic staff at the University of Plymouth. You can provide your own ideas for a dissertation but a supervisor must agree that it is appropriate and agree to supervise it.

The role of the supervisor is:

- To monitor progress via meetings and correspondence
- To discuss ideas for the design and development of your project
- To read and comment on your dissertation project proposal and draft (due just after Christmas)
- To ensure that you are aware of risk assessment and project budgeting procedures
- To assist in resolving problems which may occur during the course of the dissertation project
- To provide feedback and advice on the writing up and presentation of your thesis, which may include **general** comments on a draft or part of the thesis (but not on the final version)

Your dissertation supervisors are **NOT** responsible for:

- Organising fieldwork or laboratory experiments on your behalf
- Undertaking analysis of students' data
- Re-writing or proof-reading draft versions of your dissertation
- Chasing up students who do not make appointments to see their supervisor.

5.0 Stages in Dissertation Development

- After selecting a topic for the dissertation, contact the supervisor (NOTE: opportunity is provided for pursuit of this in the third term of the second year or during the placement year).

- Discuss the aims and objectives of the project with the supervisor. If the student and supervisor agree that the project will run both must sign the form enclosed (Appendix A) and return it to the dissertation co-ordinator (Sue Turpin-Brooks). **A Student is not registered for a dissertation without this signed form completed.**

- Present a research proposal to your tutor group (in written and oral form) early in the autumn term (dates to be confirmed each year by the dissertation tutors) (See Appendix D for details).

- Discuss with your supervisor a timetable of events for the dissertation. This should be done as early as possible in Term 1. **You will have to present a draft (acceptable to your Supervisor**), a completed record of meetings (Appendix C), a preliminary contents page and updated programme schedules (Appendix B) ready for inspection by the first week back after the Christmas break**.**

- Provide a preliminary draft to the supervisor indicating a structure for the dissertation and any laboratory testing or other primary research. The report should include a complete introduction to your topic including your hypothesis, extensive bibliographical details and as much information as is possible at this stage concerning your methodology. This is to be found on the sheet enclosed here as Appendix B.

THIS DRAFT SHOULD BE HANDED IN TO THE SUPERVISOR IN THE FIRST WEEK AFTER THE CHRISTMAS HOLIDAYS AT THE START OF TERM 2, FINAL YEAR. **A comprehensive literature review must form part of this draft.**

- Discuss progress with your supervisor. Regular contact should be kept with the supervisor, with meetings preferably every two weeks. A record must be kept of each meeting **(by the student)** and must be noted In Appendix C.

- Submit the dissertation in the form specified by the due dates.

6.0 How much effort should go into it?

For many students, the dissertation is the most satisfying part of their course and absorbs much time and effort. However, it is important that you do not work over-zealously on the dissertation if this means your other studies suffer. In particular, you should not spend so much time on the project that you do not have time to seek out and read material to complement your lectures, tutorials and coursework. Remember that you are allocated about half an hour a week contact with your supervisor, but you are expected to work about 7 hours per week on the dissertation, which is intended to include the literature survey, experimental work (if carried out) and preparation of the dissertation. So, enjoy your dissertation but keep the effort you put into it in proportion to that applied to your other studies.

7.0 Dissertation Style and Writing up.

You are supposed to submit a succinct dissertation which is intelligible to someone without direct knowledge of the field of investigation. It should be written in good English in a detached (Scientific) style, such as third person, past tense, and meet certain minimum standards of presentation which will be assessed in the marking scheme.

A suggested length, excluding abstract, contents page and appendices should be **about** 50 text pages maximum, (main body of the report Arial Font Pt 12). Marks may be deducted for overlong reports. The typing should be double or 1.5 spaced.

Do not leave writing-up to the very end. Begin writing while you are still carrying out research because this will often suggest new case studies or reveal gaps in your data.

Check your draft carefully for errors whilst typing it. Check again after typing and correct any typographical errors.

Dissertations should be typed on one side of A4 paper with left margins 25mm wide. Mathematical symbols may be hand-written in black ink provided they are neat, clear and consistent. Pages should be numbered consecutively throughout the text at the bottom centre of the page. The reports must be bound. You must provide one ‘case bound’ copy (see the notice board for the latest contacts for the service) and another using a velo binder and given thin card covers. These two copies of the dissertation must be submitted to the dissertation supervisor, via the Faculty of Technology office by the due date. Both copies are normally kept by the supervisor.

7.1 Units/Abbreviations

SI units, or derived units should be used. If other units are used the SI equivalent should be inserted in parenthesis.

Avoid non-standard abbreviations except where really justified to save space and improve readability. When first used, the full expression should be given with the abbreviation following parenthesis. Standard abbreviations need not be defined. Do not use full stops in the abbreviations. If you need to adopt several abbreviations or non-standard terms, then provide a glossary.

7.2 Dissertation Contents

Theses will vary considerably from project to project but a number of points are likely to be common to most projects. These "comments" are noted below though these will vary from project to project.

The report should contain details of everything done, successful or otherwise, in connection with the project. These are normally;

Title and Title Page

Standard covers are available and the title and author should appear on the outside front cover, together with the month and year and the names of the student and supervisor.

Every piece of scientific writing must have a title and the most important thing is that it is as specific and self-explanatory as possible. The reader should have a clear idea what the dissertation is about after reading the title. Avoid over-lengthy titles as these can be confusing – aim for simple clarity.

Abstract

This appears on a separate page, immediately after the title cover page and is one of the last things to be written. The abstract should be about 200-300 words in length on one side of A4 paper. The abstract is not simply a summary of conclusions but an abbreviated description of the whole investigation as reported.

Index/table of contents

To follow the abstract, there should be a clear contents page. This should indicate subheadings as well as main chapters, with page numbers. Do not provide headings entirely in upper case. A logical sequential numbering system is required (e.g.: 1.0, 1.1, 1.2, 1.2.1, 1.2.2 etc). Avoid progressing to 4 levels of sectioning (e.g.: 1.1.1.1).

Acknowledgements

A personal statement of thanks should be carefully worded by you and be on a separate page after the contents.

Introduction

You should begin writing this section because it will focus your attention on the main aims of the project and its relationship to previous work. This will help you to see your limited objective in a wider perspective. It will be good practice to submit a first draft of your introduction early, so that advice on omissions and suggestions for improvement can be made. Remember that you are writing not just for your supervisor, but for an examiner and other readers, whose interests you do not know. **Make sure you reference all material.**

Literature survey/problem analysis/theory

The extent to which this section is a literature survey, an analysis of the problem under study, or an exposition of the theory involved, will obviously depend on the nature and scope of the dissertation. The length will similarly be affected, but it is important not to get carried away on a literature survey. It is necessary to include

only those papers, books, theories etc which have a **direct** relevance to the particular problem being studied. The students should be very selective in picking out and summarising very briefly relevant pieces of work from the vast set of literature which is often available on any particular topic. However, avoid writing the review as blocks of text about each article/report – instead address each theme of your topic and pursue logical arguments, using referenced material to support these argument threads.

Choose the material carefully and express it in your own words to convey the impression that you understand it – do not transcribe text verbatim from papers or books, unless you use a short quotation (in inverted commas). See the later section on references. Also note the rules on **plagiarism** given to you at the start of your course (for a reminder, see the Student Portal).

Methodology

An important aspect of the academic rigour of your work is the approach or research method you have adopted. This is not simply a description of the data collection method you have chosen. It is important to justify your overall approach to your study. Consider the broad context of your study first (theoretical framework and research paradigm), then its primary focus (e.g.: qualitative/quantitative stance), with suitable justification and consideration of alternatives. Workshops and seminars in term 1 will assist your understanding of methodological choices.

Primary Research / Experimental Procedure / Own studies

If this section is relevant it should include a concise but accurate description of the apparatus and experimental work carried out. Your own work/studies should be clearly identified. This may require a separate chapter if complex arrangements/questions/processes need explanation.

Results

This section should provide a factual account of your observations/own studies supported by tables of data, graphs, diagrams or photographs where necessary. Results should be presented in a logical order, but this will often not be the order in which you did the work.

Link the various experiments, observations, studies together in a sequence which builds up understanding. You may choose not to describe some studies, but it is helpful to mention the wrong turning and successful studies which occur. Do not include discussion or make value judgements in this section.

(i) *Use of tables*

Use tables cautiously. They should be an aid to the interpretation of results, and should summarise the results. Long tables of raw data are not normally needed or desirable; if they are, they are best placed in an appendix. Each table should be numbered and have a clear and concise heading (at the top). The table should be understandable without referring to the text, but a narrative explanation must also appear in the text. For example:

"The results (Table 1) show that the variation in energy use of domestic house type number 1 ....."

(ii) *Use of graphs and diagrams*

All graphs and diagrams are referred to as figures and numbered consecutively (Figure 1, Figure 2 etc). Use graphs carefully – they should be used for facilitating comparison between numerical data or results. A graph shows how one thing varies (the dependent variable, plotted on the y – axis) relative to changes in another (the independent variable, plotted on the x – axis). A graph has more visual impact than a table, but it usually occupies more space and requires more preparation – it may not always be the most appropriate way of showing the data. Like tables, graphs should have a descriptive heading (at the top), and be further explained in the text. Take care in the choice of scales used for the axis. Label the scales parallel to the axes but put the numbers upright (with clear marks on the axes). Group together related graphs under a common heading and use the same scale. Make a note if logarithmic scales are used. Think about the points with a straight or curved line? Or, is a histogram or scatter diagram more appropriate? Computer printed graphs are preferable. If there is a large number of graphs put them in an Appendix with a typical one in the main text.

Diagrams can enhance clarity and save a lot of work but should also be used cautiously. All drawings should be made so that they can be photocopied. (See notes on plagiarism).

(iii) *Use of Photographs*

Use photographs for illustration purposes, if considered to be the best method, and where they are essential to show important points which cannot be shown in another way. If used, photographs are referred to as Plate or Figure 1, 2 etc and they should have self-explanatory titles and be referred to in the text. Fix photographs securely with mounts or suitable adhesive, or ideally provide digital images. Take care with scanned images that they are clear. (See notes on plagiarism).

Discussion

As you carry out the work, make a note of points which you think will be relevant to discuss. In this section you should try to say what you make of your results and how you think they fit in with the work of others. What can you conclude from your results – how valid are they, and what are their limitations? What patterns and correlations have emerged? Make reference to the work of others as appropriate.

For example:

"The observation that the energy cost was dependant on temperature is in agreement with that reported by Feeley (ref?) ...."

or

"This conclusion is contrary to that reached by Watson & Crick (ref?)"

In essence, you are stating a point of view and defending it.

Conclusions

Brief conclusions may be useful in a dissertation, especially if the discussion is complicated. Here you should summarise the principal important conclusions of your work. Don't introduce new concepts in the conclusions.

Suggestions for Future Work

It often occurs to researchers that certain avenues have not been explored when carrying out research. These may not be obvious to persons only vaguely acquainted with the work, or even to the supervisor. Since the time you have is limited, it is often helpful to your successor to briefly note ideas that have occurred to you for further work on the problem.

References: some guidelines

(a) *Introduction*

Virtually no piece of scientific writing occurs without reference to previously published material. There are accepted conventions for making these references, both within the text and in a list of references at the end of a piece of work. It is important that you are familiar with these systems so that you can refer correctly to other people's work in your own writing (essays, projects, etc).

There are two major systems of citation, the first is the Numeric System and the second is the Harvard System. As a user of scientific literature, you should be familiar with both systems. As a writer of scientific literature, you should decide which system to use and stick to it. **It is recommended that you use the Harvard System.** Neither system is more correct than the other, but in some subject areas one system is more widely used than the other. Whichever system you adopt, three points are important.

(b) *The Numeric System*

(i) In the text: Literature is referred to by the use of numbers, the first reference being number 1 and so on. The numbers may appear in brackets or be shown as a superscript.

Example 1 (Numeric System)

Good spelling may benefit construction professionals in their personal lives. Two thirds of British Builders felt that if they improved their spelling they would raise their standard of living[1]. A survey by Foster[2] has shown that 80% of engineers who cannot spell 'espousal' are divorced by the age of 35.

References (numeric systems)

1. James, H.H *Aspirations of the Engineer*. Longman, 1995
2. Foster, G.E. The spelling of life. *Journal of Engineering Communications*, 1996, 8, 207-215.

(ii) In the list of references: The items are listed numerically, though the information presented will vary for references to different types of materials.

The reference in the list must be precise and thorough. This is so that an interested reader can track down, from among all published material, the particular publication that is referred to. Academics tend to scrutinise references closely when they are assessing reports.

You must give the following information.

Journal Article

author(s)
title of article
name of journal (italic or underlined)
year of publication
volume number (bold)
issue number (in brackets), if needed
page number

Book

author(s)
title of book (italic or underlined)
edition (if appropriate)
publisher
year of publication

Contribution of Book

author(s) of contribution
title of contribution, followed by “In”
editor(s) of book
title of book (italic or underlined)
edition (if appropriate)
publisher
year of publication
page numbers

Report

author(s)
title (italic or underlined)
serial number
institution (name of institution, location)
year of publication

Thesis

author
title (italic or underlined)
degree for which submitted
institution (town and country are needed) and year

Other Examples:

Numeric System (in order: journal article, contribution in book, paper in conference proceedings, report, thesis)

1. Fickson D.F. and Long S.E. Effect of infiltration on quality modelling in sewer systems. Journal of Environmental Engineering 1999, 56(5), 421-429.

2. Chan C.L. *Developments in manufacturing systems*, 3rd edn. Macmillan 1997.

3. Nichols K.H. Computer monitoring of unsteady pipe flow. In: Khan D.ed *Computer control and monitoring of engineering processes*. Wiley 1998, 273-291.

4. Onof P. and Adenle J.B. Practical teaching of electronics systems design. In: *Proceedings of the 5th International Conference on Engineering Education*, 2, Naples 1998, 397-402.

5. Jones D. and Evans D. *Survey of small engineering enterprises in Wales,* Report R72. Welsh Council for Engineering, Cardiff, 1997.

6. Waltes P.R. Recycling of construction materials. PhD thesis, University of Devon, 1999

(c) *The Harvard System*

(i) In the text: Cited documents are referred to by inserting the author's surname and the year of publication in the text.

Examples "A reasonably full description is given by Gill (1972) and ..." or (Gill, 1972).

"... discussed in detail by Reynolds and Moreton (1980)."

(ii) Where several papers make the same point it may be noted:".... in review by Johnson (1971), Reynolds (1973) and Johnson (1980)."

In the above examples if Johnson's reviews had appeared in the same year they would be distinguished by writing Johnson (1971a) and Johnson (1971b).

(iii) In the list of references: the items are listed alphabetically by the author's name. If there is more than one item by the same author, these are listed chronologically.

Examples:

Gill, R.M. (1972). Carbon fibres in Composite Materials, Plastics Institute, London.

Johnson, D.J. (1971). Microstructure of various carbon fibre. Proceedings of the First International Conference on Carbon Fibres and their applications pp52-6. Plastic Institute, London.

Johnson, D.J. (1980). Recent advances in carbon fibres. In Walker. P.L. (ed) Chemistry and Physics of Carbon. Vol. 2 pp2-68. Marcel Dekker.

(d) *Further Information*

For the less common type of references and for further information, refer to British Standard BS5606, 1978. Remember that you have a duty to use citation to give credit to other people's work when you refer to it in your writings. Deliberate plagiarism will be marked down by your supervisor.

Other references:

1. Barras. R. (1978) Scientists must write. Chapman and Hall. Chapters 9 & 10 covering tables and illustrations are particularly useful. Copies are available in the Short Loan Collection.

2. Barras. R. (1982) Students must write. Methuen. A good, general introduction to the techniques of written communication.

3. Parsons, C.J. (1973). Theses and project work. Allen and Unwin. A Guide to the general principles involved in researching and writing up a project.

4. Turk, C.J. (1982) Effective writing. Spon. Chapter 9 is particularly useful. Copy available in short loan.

7.3 Assessment Scheme

The marking scheme for each Module is attached as Appendix B. Please note this is what your Supervisor and Moderator will mark to.

REFERENCES

Davies J.W. (1996) *Communication for Engineering Students*. Longman.

Complete and hand into your Supervisor for approval

APPENDIX A

BSc (Hons) Construction Management and the Environment
BSc (Hons) Building Surveying and the Environment
BSc (Hons) Environmental Construction Surveying

STAGE 3 OR STAGE 4

Student Name: .....

Short Title: .....

Supervisor Name: .....

Brief description, agreed by Supervisor and Student:

I clearly understand and agree with the terms of my project and that preliminary discussions (if necessary) have taken place with the relevant technician.

Student Signature: .....

Date: .....

I am satisfied that the student has been adequately briefed.

Supervisor Signature: .....

Date: .....

I shall/shall not be in industry for the year between Part II and Part III.

Student Signature: .....

RETURN TO S. TURPIN-BROOKS

Complete and hand into your Supervisor for approval

APPENDIX B

BSc (Hons) Building Degrees – Final Stage Dissertation Programme

Name: .....

Project: .....

RECORD BELOW IN BAR CHART FORM, YOUR PROJECT PROGRAMME AGREED WITH YOUR SUPERVISOR

RECORD EXPECTED MILESTONE EVENTS AND UPDATE IT AT REGULAR INTERVALS

RECORD ON REVERSE SIDE MEETINGS WITH SUPERVISOR

JUNE	JULY/AUG	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL
Project Selection	Equipment discussion with technicians (if required)	INDUCTION				FIRST DRAFT DUE		PROOF READ	PROJECT HAND-IN 1 COMB-BOUND 1 CASE BOUND

APPENDIX C

Record of Meetings with Supervisor

DATE	MAJOR ITEMS DISCUSSED	SUPERVISORS SIGNATURE

APPENDIX D**:** DISSERTATION ENBS331BSc (Hons) Construction Management and the Environment, BSc (Hons) Building Surveying and the Environment, BSc (Hons) Environmental Construction Surveying
ASSESSMENT OF FINAL STAGE DISSERTATION (30 CREDITS)
RESEARCH PROPOSAL:

This sheet is to be accompanied by a page by page critique of the dissertation to inform the marking shown on this sheet.	**Available Marks for each section**	**Totals for each Section**
1. **10 minute Oral Presentation and 2 sided A4 sheet, carried out in week 4/5 of term 1 to your fellow students and supervisor including an explanation of;** • The context of your work, including a theoretical basis for your work. • 'The problem' you are addressing. • Your methodology. • A discussion of predicted/anticipated outcomes. • An A4 single sheet, (both sides) summarising the above, to be provided to the audience. All of the above will be expected to be communicated at the highest of standards and the discussion will be expected to be an integral part of the exercise. Marks will be awarded for technical content, presentation skills and discussion.	**5**	
2. Rationale, hypothesis, methodology, literature search and presentation Marks will be given for a coherent and well-constructed introduction to your dissertation. Each of the above sections should be well defined, but appropriately linked to allow the reader to fully understand what you intend to research, why, how and the broad range of other research that exists that directly pertains to your subject. This element is required in complete draft form to your supervisor in the first week after the Christmas break. If you do not hand this in by the end of the 1st week after the Christmas break, you are in great danger of forfeiting 35 marks and you cannot expect feedback on these elements from that week onwards. The presentation of your dissertation should conform to the guidelines set out in the supporting documentation. One comb-bound copy and one case-bound copy with CD of the dissertation need to be handed in. (this is compulsory).	**35**	
3. Appropriate data and critical analysis Your dissertation should present the results of the application of the research methods that you have described in your methodology. This primary data may be in many forms, but it must address your hypothesis. Your data should be appropriately analysed, including links back to your secondary data, hypothesis and with rigorous discussion of potential and actual errors. Any implications beyond the immediate scope of your initial research should be discussed.	**60**	
	FINAL MARK	

STUDENT: .....SUPERVISOR: .....
DISSERTATION TITLE: .....MODERATOR: .....

For students with assessed disabilities, alternative arrangements for final and interim assessment may be possible, discuss this with your supervisor.

ADVICE FOR ASSESSORS

REPORT CHECKLIST

1. Abstract – correct length and content?..... Yes/No
2. Table of contents – correct? ..... Yes/No
3. Page numbered correctly? ..... Yes/No
4. Logical chapter headings? ..... Yes/No
5. Chapter subsections numbered correctly, 1.1, etc..... Yes/No
6. Logical sequence of chapters ..... Yes/No
7. Text well presented and laid out? ..... Yes/No
8. Figures well presented and laid out?..... Yes/No
9. Grammar – Good? ..... Yes/No
10. Spelling – Good? ..... Yes/No
11. Conclusion – correct content? ..... Yes/No
12. References – correctly quoted in text? e.g. Smith[1] or Smith (1997) Yes/No

    (Harvard) – full reference given at end? ..... Yes/No
13. Overall impression – good? ..... Yes/No
14. Content all relevant? ..... Yes/No
15. Are all Appendices relevant? ..... Yes/No
16. Recommended further studies ..... Yes/No

APPENDIX E
Dissertation Titles/Topics, provided by tutors

1. Building science subjects (see Steve Goodhew in the first instance)

1.1 Are Radon Gas Concentrations increased by the Installation of Sealed UPVC Window Units?

1.2 Thermography is an ideal Tool for the Rapid and Accurate Diagnosis of Dampness in the Structure of Buildings

1.3 An Exploration of the Effects of Straw Content upon the Structural and Thermal Properties of Cob

1.4 Can waste Materials be used in Cob to improve Structural and Thermal Properties?

1.5 An Examination of the Link between Density and Thermal Properties of Unbaked Earth Blocks.

1.6 An Investigation into the Variation of Moisture Content of Straw Bale Walling in a Dartmoor Barn.

1.7 Practical Measurements of Moisture Content Undertaken Upon Turf Roofs with Different Substrate Materials.

1.8 Domestic Scale Wind Generation, Myth or Workable Solution?

1.9 Practical Insitu Measurements of the Thermal Properties of Building Materials.

1.10 An Analysis of the Accuracy of Three Different Methods of Practical Materials Moisture Content Measurement.

2. Health & Safety issues (see Paul Murray or Sue Turpin-Brooks)

	Hypothesis/topic area	Explanation
2.1	The remedial timber treatment industry in the UK should be regulated on safety grounds.	Toxic Timber treatments in the UK are routinely applied to houses where people eat and sleep. There is no control at present on the training and supervision of treatment operators, which could lead to significant risks. This dissertation will be concerned with analysing the safety problem and determining whether controls as laid down for the use of agricultural pesticides should be applied to remedial timber treatment contractors.
2.2	Surveyors are meeting their statutory duties under the Construction (Design and Management) Regulations in relation to the specification of remedial timber treatments in buildings.	Surveyors routinely specify toxic timber treatments for use in buildings. Do they understand the potential dangers involved and the necessary controls needed? Are these issues specified and included in HSPs.
2.3	An analysis of the performance of Chartered Surveyors as Designers under the Construction (Design and Management) Regulations 1994.	The role of Designer is perhaps the most radical of those imposed by the CDM Regulations. How are surveyors equipped to serve this role?
2.4	The culture of the construction industry and its influence on health & safety on site.	Several theoretical areas could be employed here; motivational/management theory, social science, organisational trends, gender balance, fragmentation of the construction industry etc.
2.5	The influence of the Control of Asbestos at Work Regulations 2002 upon property management	Major changes in legislation (such as this) require investigating. What is going to happen in different sectors? How are different professional roles going to be affected? What will it cost the industry? Or what will the benefits be?
2.6	Historic buildings and their conflict in care/repair; - fire safety - health & safety - disabled access	Several different topics which could be explored in a number of ways. May suit those wishing to examine case studies or take an inter-regional or international perspective.

3. Technical issues (see Paul/Sue in the first instance)

3.1	Timber frame construction is best suited to become the standard form of house construction in the UK in 2001 and beyond.	The new Approved Document L will impose stringent new requirements for the conservation of fuel and power. This Dissertation will explore the impact of the new provisions on the Timber Frame housing market.
3.2	The UK's insulation grant scheme does not provide for sufficient safeguards to deal with the real technical risks involved in cavity wall insulation.	Grants are available from the Energy Savings Trust for cwi, yet cwi involves significant technical risks for many properties. Are controls in place to avoid damage to property from improperly researched cwi installations.
3.3	Termites will become the new Dry Rot in England and Wales.	A very specialist area, possibly helped with comparison/analysis with overseas research.
3.4	Chartered Building Surveyors are the UK's true experts in timber decay and its remediation.	Surveyors think they are expert – are they really?
3.5	Facilities Management can provide improved working environments through the use of POE (Post occupancy evaluation).	Several areas of POE still need investigating. This can be a technical or social subject or a combination of both (also see previous submissions in this area).
3.6	The accuracy of sustainability targets and measures.	Again – several different sectors/types of building could be explored. What measures are used? Are they successful or accurate? What else is needed to evaluate sustainability in projects/developments?
3.7	Innovative technologies and their suitability to the building re-use sector	Novel use of materials/new products could be analysed. Case studies could be pursued. Actual projects could be monitored.

4. Management/legal issues (see Steve Donohoe/Mike Riley/Peter Holgate /Sue)

4.1	Topical issues in construction law and procurement.	
4.2	Implications for industry of decided cares. Should adjudication be reformed and if so how?	
4.3	Systems Management and logistics.	
4.4	How can construction learn from other industries? Is partnering a permanent change or a passing fad?	
4.5	To Create a Unified systems theory of Projects	This project will first look at systems ideas and theory; we will also cover this topic in ENBS 334 “Process Management”. The research will then look at projects and define and explain how they work using these systems ideas. Better ways of managing projects will be proposed based on these ideas
4.6	To Look at the Influence of standard forms of contract on Sustainability	This project will look at the standard forms of contract used in construction and investigate the influence these have on sustainability. Do these contracts encourage or otherwise the use of sustainable technology or methods? Do they need slight or major amendments to make them do this?
4.7	To investigate the multiplier effect for construction within the South West	The funds for many projects comes from Central Government (say a new university building). The value of this influence of money within the region can be different depending on the structure or type of organisation that carries out the project. For example an overseas contractor winning work within the UK will inevitable take money out of the UK economy whereas a UK company would tend to re-spend the money within the UK. The later case would have a bigger “multiplier effect” than the former case,

		with respect to the UK economy. This project will explore this as it affects the South West.
4.8	To explore the theory of a firm of contractors without a “head office”	Within any organisation that operates over wider geographical area (like contracting companies) some tasks that have to be carried out by the organisation have to be carried out centrally – thus, a “head office” is established. However, over time it is perceived that the head office becomes larger and more ponderous but with no increase benefit. This project will investigate the potential that a contractor could sell the head office building and replace it with a new type of organisational structure. The project will propose what this new structure would look like.
4.9	To explore the relationship between increase in cost and/or time of construction project and the geographical location of the project	This research will be restricted to the UK and exclude overseas projects. The idea is to discover the variations that might occur across the different regions within the UK and then try to explain the reasons for any differences.
4.10	To explore the relationship between partnering and recruitment success	This project will look at the perception of graduates (and possibly others) when assessing potential employers. In particular the research will look at perceived culture of the employer and their success at recruitment.
4.11	To create a mathematical model of construction procurement	When a client procures the services of designers, contractors etc they have several factors that they will use to assess the alternatives. Consciously or sub-consciously they will give different priorities or weighting to the range of factors use and base their decision on this weighted decision. Very little is known about the affects of using different weights used in the outcome. This project will assess the sensitivity of the decision related to the factor weighting by developing a simple model.
4.12	A systemic approach to building re-use decisions	The process of building re-use can be disjointed or illogical. How can this be improved/measured? What existing knowledge of processes used elsewhere could this sector benefit from?

5. Planning and Environment (see Peter Holgate)

Ref No.	
5.1 (PRH)	Quality of Life in a Town/City How do we measure the quality of life in a town/city? It is envisaged that this project will be based on a case study of a town/city with a view to finding out what the residents perceive as being important to them in terms of providing a good quality of life.
5.2 (PRH)	Environmental Impact Assessment This was first introduced in the UK in 1988 with major revisions in 2000. How is it working in practice? Is it achieving what it was intended to do?
5.3 (PRH)	Environmental Audit Environmental audit is being developed to measure the effect on the environment of existing businesses. How does this work in practice for a type of business of the students choice?
5.4 (PRH)	Land use planning Changes to the Town and Country Planning legislation have been brought in. How do these changes compare with what developers (or any other group) want.
5.5 (PRH)	Land use planning An international comparison. Could be based on different countries and/or different aspects of land use planning.
5.6 (PRH)	Development Charges/ Planning Gain What is the most effective and fairest system for paying for the infrastructure improvements needed as a result of development? An international comparison could be carried out.
5.7 (PRH)	Contaminated Land How are the new Regulations working in practice? or topic of student's choice related to contaminated land.

Examples of past topics.....please note that the issues inferred by the titles may well have dated and these topics are supplied in an 'example basis' only.

Stage 3 Dissertations: Building Surveying & Construction Management and the Environment[1]....1998
Dissertation Title/ Topic Area
Is there a Shortage of Skilled Labour in the Construction Industry
Use of Passive Solar Heating in Refurbishment Projects
The Reuse of Redundant Church Buildings
The Implication of National Housing Policies at a Local Level.
A Comparative Study of the Potential of Solar Energy Collection in the UK.
Are Photovoltaic arrays on New-Build Dwellings in Devon Viable?
Improving the Efficiency of Construction Projects using Information Technology-The Egan Report.
An Appraisal of the Means of Escape in Conversion from Offices to Flats.
The use of Thermal Imaging for the Diagnosis of Moisture in Domestic Buildings.
Modern Steel Frame in House Construction.
An Analysis of the Performance of Planning Supervisors under the C.D.M. Regulations
A Study to Analyse the Construction Fairer Payment Provisions.
An Investigation of the impact on Radon Concentrations in Local Authority Housing as a Result of a Window Upgrading Programme.
Do the Thermal and other Environmental Attributes of Cob Justify its Modern use in Construction?
Application, Thermal and Environmental Characteristics of "Warmcell" Cellulose Fibre Insulation.
The Health & Safety Benefits when using Prefabricated Building Designs.
The application of Turf Roofs.
The Benefits of an Environmental Management System to the Contractor.
Do Town and Country Planning Policies Fulfil Public Requirements Whilst Conserving the Environment?
There are Tangible Benefits in Undertaking an Environmental Statement on Large Housing Developments.
Radon Protection in Existing Domestic Buildings.
How Enforceable is an Adjudicators Decision under the Housing Grants Construction and Regeneration Act 1996
The Effective use of Hand held Data Collection Systems to Improve Overall Survey Efficiencies

Stage 3 Construction Management and Building Surveying students... Draft Topics V3 15/9/99

-Leadership styles in construction site management - is there a dominant leadership style in contract site mgmt?

[1] Draft 4 26/5/99 VIVA89 D- Drive MSWORD

To be finalised
pesticides – structural effects, Natural v artificial
Energy Efficiency of Domestic Buildings, savings for owner
Is Radon gas effected by the installation of UPVCV windows?
Environmental Management Systems on Site. How effective are they?
- Breathable fabrics in building - Dehumidification does it work? - Defects in construction techniques
- Sick Building Syndrome - Mundic Concrete
The effect of the minimum wage … construction employment etc
Building performance and town planning
Building renovations and the current building regulations
'Lean construction'...Egan...Lathan...Environment
- Planning conservation - Timber preservation
Thermal insulation and heat transfer
An investigation into the Validity of Domestic Sprinkler Systems
Are wind turbine effective power generators for the UK Domestic Market?
Is water conservation effective in Commercial Buildings?

Stage 3 Construction Management and Building Surveying students..Draft Topics 14/2/00
Topic
The Partnering of Housing Associations and Main Contractors
Is there a predominant leadership style in Project Management?
How Does IT improve Construction Productivity?
pesticides- structural effects, Natural V artificial
Energy Efficiency in Commercial Buildings.
Do Listed Buildings have an impact on the vernacular evolution of towns in the Southwest?
BEMS in the Domestic Sector.
Grass roofs: Time bomb or effective economic waterproof protection?
Electron Microscopy and the Mundic Problem
Earthquake damage/Building Design.
Planning legislation is not designed to be efficient in historic towns.
Successful remediation of Contaminated land
Urban Regeneration and planning Policy
The relevance of the current building regulations to Building renovation projects
Communication Barriers and Lean Construction.
The significance of construction programming in the Pre-Tender stage of competitive tendering of medium sized contractors.
The practical implications of the CDM regulations with particular regard to on-site Heath and Safety.
Infrared Thermography and composites
Can performance indicators be used to assess the accessibility under section 21 of DDA?
Decent Welfare facilities on construction sites, are they a motivating factor for construction operatives?
The thermal and structural properties of cob binder fractions..
Benefits of employing consultants by housing Associations
Photovoltaics in the Domestic Sector.
An Investigation into the Validity of Domestic Sprinkler Systems.
Are Wind Turbine Effective Power Generators for individual domestic properties in the UK.
Has legislation in the past 5 yrs improved the disposal of contaminated waste?

Dissertation Project Titles 2004/05 (as submitted April 2005)

JCT Major Projects Form of Contract

An investigation into strategy & communication in construction partnering

The amount of people applying to construction courses at UK universities has declined in recent years and the industry does not appear to be doing enough to attract new school leavers

Sustainable development and its measurement in social housing

Assessing efficacy of prescribed design criteria through post occupancy evaluation of end user satisfaction: case study of sure start local programme centres

Are any British made forms of micro-chp currently available really suitable for domestic use?

Factors that affect construction delays can be prioritised. A study of the significance of factors causing delays in construction projects in the UK

With the rail industry under pressure to reduce project costs, are existing management techniques/procurement to blame for the current high costs

The relevance of Undergraduate health and safety education of Building Surveyors, in relation to design

The sources and implications of rework during the construction phase

The role of Building Surveyors in Remedial Timber Treatment

An investigation into the effectiveness of Integrated Management Systems in producing sustainable construction projects

Off-site manufacturing in the construction industry - opportunity or utopia?

Developing the RICS in China:- Identifying and assessing the barriers to forming an expeditious and widespread presence of the organisation in China

Rising damp in old buldings is prevented through a method of remediation known as electro osmosis

Is Aerogel window technology the primary solution to the problem of fuel efficient housing?

Construction & Demolition waste management: in order to reduce landfill

An investigation into the number of home inspectors available by January 2007

The use of off-site fabrication is a feasible solution for the growing need of affordable housing in London and the Southeast of England

Are flood barriers effective?

Thatching has a promising future as the most sustainable roofing material for residential buildings in rural Devon

Uncertainties in the current planning system are increasing the unwillingness of developer to accommodate for the provision of affordable homes in the south west of england

An investigation into the decline of construction management graduates

Protecting new homes near landfill from methane: the reliability and risk of passive gas protection

An analysis of SAP ratings' accuracy for measuring energy efficiency in ultra-low energy housing

Has the annually increasing Landfill Tax had a positive effect upon waste management schemes employed within large construction companies?

PCC 2000 is a contradiction to trust and cooperation

Is there a relationship between the numbers of arbitrations & adjudications in the construction industry in relation to the performance of the UK economy

An evaluation of insulating concrete formworks (ICFS) and its development in North America, UK and China