London South Bank University

UNIT GUIDE: 2004/2004

Major Project M

DEG-M-115

CENTRAL TO YOUR SUCCESS

Unit Title:	Major Project M
Unit Reference Number:	DEG M 115
Unit Level:	M
Credit Value:	4 Units, 60 CAT Points
Semester:	Both
Student Study Time:	600 hours total study time, which includes 15 hours contact time
Pre-requisites:	Under-graduate degree
Assessment Method:	100% Coursework
Unit Co-ordinator:	Dr Stephen Dance Room: G31; Tel: 02078157013 email: dances@lsbu.ac.uk website:www.whyverne.co.uk
Teaching Team:	Staff from the Engineering Systems
Courses:	MSc Building Services Engineering MSc Sustainable Energy Systems

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INTRODUCTION

For this unit the student selects an investigative project with the help of his tutor or unit co-ordinator. The work is self centred under the guidance of the allocated tutor and it culminates in the production of a written report. The assessment is based on the written report and verbal presentation of the findings.
Students are advised to read the guidance notes appended on the preparation and planning of their work, literature search and writing the thesis

AIMS

To assist the student in cultivating a deeper understanding of a particular aspect of building services engineering whilst developing their project and task management skills.

LEARNING OUTCOMES

- Manage effectively a complex project
- Apply a wide range of theory and engineering techniques to a design or investigative process
- Communicate in a concise and intelligible manner

KEY AND COGNITIVE SKILLS

Completing a project helps to develop a range of key skills while studying a topic of interest in some depth. Specific skills are likely to include:

- identifying a question worth investigating
- looking critically at previous work in an area
- integrating knowledge from a range of sources
- creating a suitable project design and implementing each stage

- collecting and analyzing and interpreting new information
- time management and task management skills
- cooperative working and negotiation with others
- using new information technology
- formulating a logical and persuasive argument
- writing a comprehensive, coherent and readable account of work done
- taking responsibility, making choices, being flexible, using initiative and
- working to a deadline

TEACHING AND LEARNING:

The student will be allocated a tutor from a member of the teaching staff, see www.whyverne.co.uk for tutor list under building services, and, as appropriate, a mentor from industry. The mentor would preferably be a Chartered Engineer. S/he will ideally work for the same employer as the student and possibly be the student's line manager.

The tutor will have overall responsibility for agreeing with both the student (and mentor) the suitability, scope, specific content and programme of the project with frequent meetings between tutor and student (and occasional meetings between tutor and mentor). The tutor will not necessarily have expert skills and knowledge specific to the particular project but will advise and steer the student to ensure the requirements of the unit are understood and complied with.

Where appropriate the mentor will provide advice and guidance regarding specific industry based knowledge and skills. Where additional advice is required, the student will be directed to other members of the teaching staff.

It will be the student's responsibility to make contact and agree meeting times with the appointed tutor and mentor. However, the student will be required to submit both a project proposal for acceptance and a number of interim progress reports by dates agreed by the tutor.

INDICATIVE SYLLABUS AND PROJECT REQUIREMENTS:

Typically the project will comprise of two main sections of work. The first (about one third of the work) will be based around the initial investigative work that effectively establishes the specific objectives for the project. The student will consider the different designs of project that are possible, and the different methodologies - in particular they will determine ways of working that will suit the student.
The second section will be the development of those specific ideas to formulate original assessment, review concepts and undertake appropriate development of the specific area of study.
For example the project may initially be to consider 'Energy efficient building services for domestic premises'. Part 1 will be a broad ranging review of literature around this subject, i.e. in its most general form that may spill into associated areas such as small industrial buildings, self sufficiency, small scale environmental assessment, micro power generation etc. From the information collected and reviewed in part 1 the specific scope of part 2 may be established. For example the information collected may excite both student (and tutor) to investigate, say, the application of combined heat and power to domestic properties. There may be some adjustment to the working title of the project and the overall project

submission will then reflect this emphasis. It is as important to show the route to the final project submission, as it is to properly conclude the subject itself.

The project report should be of the order of 20,000 words. It is important to remember that quality is of the essence rather than quantity.

ASSESSMENT:

The assessment will be based on the submission of a project report combined with a viva voce examination. Example of thesis can be found at www.whyverne.co.uk under acoustics then research. The report and viva voce will be assessed by the student's tutor, a further member of teaching staff and/or the industry-based mentor. The assessment will be made against the learning outcomes specified in this unit and the objectives set out in the project proposal and agreed by tutor and student. The mark
awarded will be reviewed later at an examiners meeting prior to the final exam board with the External Examiners. Normally the External Examiners will interview selected MSc students before the final examination board.

TARGET DATES

The key dates for student's **commencing their MSc in October 2004** are:

Part-time students

Stage 1 completed - June 2005
Stage 2 draft completed - June 2006
Project hand-in - October 3rd 2006

Full-time students

Stage 1 completed – April 2005
Stage 2 draft completed – August 2005
Project hand-in - October 4th 2005

SUBMISSION REQUIREMENTS

- Two copies of the report (spirally bound) must be submitted, by the deadline, to the faculty office J200, for the attention of your project supervisor.
- The faculty office will issue you with a stamped receipt upon receiving your project.
- The receipt must be kept in a safe place.

INDICATIVE READING:

Bell, J., *Doing your research project*, OU Press, 1987.
Blaxter, Hughes & Tight (1996) *How to Research* Oxford: Oxford University Press
Fairbairn & Winch (1993) *Reading, Writing & Reasoning: A Guide for Students.* SRHE and Open University Press..
Howard, K. and J. Sharp, *The management of a student research project*, Gower, 1989.
Jayaraman, S., *Computer-aided problem solving for scientists and engineers*, McGraw-Hill, Inc. 1991

Moore, P.G. and D.E. Edwards, *Standard statistical Calculations*, 2nd edition, 1965.
Northedge (1990) *The Good Study Guide*. Open University Press.
Pentz & Shoff (1994) *Handling Experimental Data.* Open University Press.
Phillips, E.M. and D.S. Pugh, *How to get a PhD - a handbook for students and their supervisors*, OU Press, 1987.
Ray, M.S., *Engineering Experimentation*, McGraw-Hill Book Co. (UK) Ltd, 1988.
(This book has an extensive bibliography in many topics related to experimentation.)
Study skills pack, South Bank University, Library Services, 2003.
The handling of experimental data, OU Press

MSc Building Services Engineering
MSc Environmental & Architectural Acoustics

Project Guidance Booklet
(Unit Guide)
DEN-M-115

Introduction

The topic for a project, chosen by you in consultation with the Course Director, will normally be related directly to the specialism being studied. For full-time students the project will usually be in college; it will be either research or design based depending on your potential, as well as your educational and industrial needs. For part-time students, the project will normally be related to the student's place of employment. Exceptionally a project may be one of research not directly related to the student's place of employment.

A list of project theses submitted in previous years is given in Appendix A.

Supervision

This will be by a member of the academic staff and, where appropriate, an industrial tutor. Your tutor is primarily there to monitor and advise on progress. Due to the wide range of projects that are undertaken on this program your tutor will not necessarily be an expert in the particular field of your project.
Projects will have been selected and tutor(s) allocated by the middle of the first semester. It is your responsibility to approach tutor(s) at an early date to discuss the general approach to the problem and the program of practical investigative work. You should meet regularly with tutor(s) and keep a record of the meetings; these records will be discussed as part of the assessment in a viva voce examination. If a tutor is unable to help with a particular problem, he/she will direct you to another member of the academic staff with particular expertise.
It is vital that you maintain regular contact with your tutor. This may be by email or in person but you should never allow more than two weeks to pass without having some dialogue with your tutor.

Seminars

Seminars are held at appropriate intervals to allow students to address their fellow students for about ten minutes each. On the first occasion, each student discusses her/his proposed programs of work. On subsequent occasions students present their progress and findings. The seminars allow you to develop your skills in presentation of material and will frequently take place as part of the Research Methods unit.

Literature Search

With all project work, almost without exception, it is necessary to conduct a literature search of relevant published information in the area of investigation. There are a number of ways of obtaining such information for a project, eg:

- personal communication with tutors, other lecturers or colleagues;
- text books;
- professional journals;
- papers published by learned societies;
- library computer literature search;
- Internet enquiries (eg WWW);
- journal abstracts.

References

For a complete description please refer to a copy of the South Bank University documents Referencing Using the Harvard System and Referencing Electronic Sources available from LRC or over the web at http://www.lisa.lsbu.ac.uk/helpsheets/hs30.pdf and http://www.lisa.sbu.ac.uk/helpsheets/hs31.pdf.

It is most important when listing references and/or compiling a bibliography to record the following, (either on a card index or on a computer file):

For Books

- author's name and initials;
- title;
- publisher;
- place of publication;
- year of publication;
- chapter and/or page to page numbers;
- ISBN number.

For Articles in journals

- author's name and initials;
- title of article;
- title of journal (most journals have a recognized abbreviation);
- volume, number, issue, page to page numbers;
- date.

Use a standard format for your references, typically as in the bibliography of these notes.

Libraries and other resources offered by the university.

The University has two libraries and other facilities which will be of use to you in your project work.

- Perry Library–as well as being your local library this is the site where you can initiate on-line computer searches by arrangement with the engineering librarian. There are also many data CD roms available for searching together with a large loan stock of books, photocopying facilities and general periodicals.

- LRC - The learning resource centre has a wide range of video and audio resources as well as extensive IT resources and British and International Standards.

- Media Services; you will find that this department can be of great assistance to you in the preparation and presentation of your project work.

You will need to use both printed and electronic sources. As well as the recommended readings and references in this guide, you should use the Web site LISA http://www.lisa.lsbu.ac.uk

Planning and organization

Draw up your own programme of activities necessary to meet target dates of seminars and submissions. Plan the work and then try to stick to it! A little bit of work each day is better than trying to complete the project in a rush.

In planning the research work, it is necessary to decide on your aims and objectives. There is often need for a preliminary study and preparatory work so that correct decisions can be made.

Use an A4 hardback book to record the experimental data, tabulating wherever possible. If you are going to run a computer program for analysis, then enter the measurements in such a way that they can go straight into the computer as a data file.

With case studies, it is important to keep a diary to record impressions and conversations; these can be dictated or word processed. Try to get into the habit of making your entries immediately after a visit.

Writing the Thesis

A technical report must communicate information in a logical and concise manner to any person reasonably acquainted with the subject. Three fundamental rules should be observed, namely **accuracy**, **brevity** and **clarity**. Do not invent data, or copy data from other reports - your initial measurements and subsequent analysis may be important in revealing some worthwhile point not previously reported.

The following notes are intended as a guide to report writing and are NOT a set of rigid rules.

Plagiarism

Avoid plagiarism like the plague! Reports must be in your own words, though occasional quotations from text books and technical papers are acceptable provided each is acknowledged with an appropriate reference. In general do not include photocopies of research papers, or manufacturers' catalogue data, unless they are germane to the main body of the report, in which case each inclusion should be clearly cross-referenced.

Writing technique

Almost without exception reports should be written in the 3rd person. Write from the general to the particular. Try to write objectively, not subjectively. Thus avoid expressions such as "The case study was successful...." rather "The studies showed that the flow rate could be measured with an accuracy better than ±2%."

When writing it is necessary to maintain momentum though it is important to get the right word (or phrase), sometimes this does not come immediately; so leave in the doubtful word, underline it and come back to it at a later date. This is where a draft copy of the report is so important.

It is usually better to draw/construct relevant drawings, graphs and tables before writing the text; your report will then be based on these "illustrations" which should be incorporated in the main body of the report, not as an appendix.

Do not write about your failures, or about equipment that was not operating correctly. Nevertheless, "negative" results should be reported, eg demonstrating/proving that a relationship is incorrect. Do not include words, statements or ideas about which you have no clear understanding.

Role play

Most engineers find technical writing difficult and hard work. Some problems can be overcome by knowing for whom the report is being written, eg. for your managing director, for a technical conference, for your partner, or perhaps for your mother or father. It is usually not a good idea just to write a report with no one in mind or just so that you can obtain a pass mark for the course. Try to write as though you were dealing with the real world, even if you invent a role-play situation for yourself.

Word Processing and Desk Top Publishing

The computer is of great assistance in helping to produce satisfactory reports, allowing relatively easy editing. Two or three drafts may be necessary before producing the final copy; get someone else to read your work and don't be afraid of criticism and incorporating the suggestions (in your own words) into the text. Don't forget to use the spell check and thesaurus facilities; generate your contents list with the WP or DTP package. Tuition in computer applications will be made available during the course. Unless you have exceptional scanning and printing facilities you are strongly advised **not** to scan line diagrams and charts from published material for inclusion into the report– you will be well advised to create these yourself (maybe with the aid of CAD or spreadsheets).

Presentation.

All reports should be reproduced, one-and-a-half spacing, on A4 size single sided sheets. If drawings have to be larger than A4 size they should be folded so that they open by pulling from the bottom right hand corner. The text should have adequate LHS and RHS margins, (usually 40mm and 25mm respectively). All sheets contained in the report should be readable in the normal open position or when the report is turned through 90 degrees clockwise.

All pages in the report (including tables, graphs, drawings and illustrations) must be numbered consecutively. It is sometimes simpler to number the pages relative to the chapter numbers. eg page 2-34 would be the thirty fourth page in chapter 2. This also enables the references to be related to a specific chapter eg ref 3.6 would be the sixth reference in the third chapter. This is normally simpler to organise.

Arrangement of contents

As a general rule a report should contain the following parts in the order given, although not all of the parts mentioned may be relevant in a particular case.

- **Title Page** In addition to the title of the project, the names of the University, department, course and author should be given, together with the date of the report. (See Appendix B.)

- **Summary** Although the summary precedes the main body of the report it is usually the last section to be written. It should give the object of the experiment and a precis of the procedure, results, discussion and conclusions. The summary should not exceed approximately 300 words.

- **Contents** A list of contents should be included, listing sections with page numbers.

- **Main Body of Report**
  - **Introduction** The introduction should give a brief explanation and relevant background information followed by a clear statement of the object of the research/investigation. This is

likely to be one of the last sections that you write.

- **Literature Survey** of the history and results of previous work on the subject

- **Description of specific study** eg systems studied; method of investigation; results and analysis of results obtained (this may be two or three chapters depending on subject being studied).

- **Discussion** A discussion of the results of the research with comments on such topics as suitability of procedure, accuracy of data, suspect data.

- **Conclusions** The final results should be summarised and commented upon.

- **Graphs** Graphs should be titled clearly and should show all experimental points. If a number of curves are drawn on the same sheet, suitable distinction should be made between the plotted points and curves. Take care in selecting axes and scales, which should be clearly identified. Gradients and intercepts to be used in calculations should be shown on the graphs. No calculations should be shown on any graph. Whenever packages to assist you; often these will have the facility to draw best-fit lines.

- **Drawing and Illustrations** Parts should be named, or referenced, to correspond with the text of the report; dimensions required in calculations should be clearly shown. “Thumbnail” sketches can be used to enhance the reader’s understanding; computers will allow such figures to be incorporated easily within the text.

- **References and Bibliography** Details of all sources of information used in compiling the report should be stated clearly in a list of references. A bibliography may be produced to indicate areas of general reading in the subject area but not specifically referred to in the text of the report. Use a standard format similar to those given in the bibliography of these notes. For guidance on methods of referencing see www.lisa.lsbu.ac.uk/helpsheets/hs30.pdf and www.lisa.lsbu.ac.uk/helpsheets/hs31.pdf

- **Symbols** Try to use the accepted symbols (with superscripts and subscripts) for your quantities - there are British and ISO standards on these. Where appropriate, symbols should be listed either after the contents page or at the end of the report.

- **Units** Check that your units are consistent with the SI system of units, using the correct upper and lower case letters. Where it is necessary to quote a British unit this should be bracketed after the corresponding SI unit.

- **Appendices** Use appendices with discretion. Data, original measurements, sample calculations, background information etc. may be included in the appendix.

Seminars, viva-voce examinations and displays of work

You will normally be required to attend an oral (viva voce) examination of your major project work by your tutor plus one or two other examiners, who will normally be academic staff.

The aim of the viva is to reassure the examiners that their assessment of the project is reasonable and that you understand what you have written! The viva will normally last for about an hour and will commence with your giving a brief resume of your work (approximately 10 mins) followed by specific questions from the examiners on your submission.

You will also be required to present your major project and other course work for the external examiners, and you may be called upon to discuss your work with them. The key to successful oral presentation is preparation and practice. Visual aids play an important part in a presentation, including video, 35mm slides and film strip, overhead projection (OHP), and flip charts. The last two are the quickest and cheapest to produce.

For OHP slides use pie-charts, histograms and simplified diagrams and tables. The information may be prepared using traditional manual methods or using computer presentation packages. If using the manual method draw up the information on plain white paper, with text and/or diagrams assembled using cut and paste methods. Use variable enlargement and reduction facilities to produce an

illustration more easily seen by the audience. Photocopy the final copy onto a transparency and use coloured OHP pens on the back of the film for high-lighting areas of particular interest.

Many of the techniques used to prepare OHP transparencies can be used for flip charts. Working in proportion on A4 paper, all preparatory work is done before enlargement to the flip chart sheet size. Again coloured markers can be used to draw attention to particular areas.

Bibliography

Burnett, W., *Drawing office practice: 3*, Building Services, p41, May 1987.

Bell, J., *Doing your research project*, OU Press, 1987.

Howard, K. and J. Sharp, *The management of a student research project*, Gower, 1989.

Jayaraman, S., *Computer-aided problem solving for scientists and engineers*, McGraw-Hill, Inc. 1991

Legg, R.C., *Notes on Experimentation*, South Bank University, 1995

Moore, P.G. and D.E. Edwards, *Standard statistical Calculations*, 2nd edition, 1965.

Phillips, E.M. and D.S. Pugh, *How to get a PhD - a handbook for students and their supervisors*, OU Press, 1987.

Ray, M.S., *Engineering Experimentation*, McGraw-Hill Book Co. (UK) Ltd, 1988. (This book has an extensive bibliography in many topics related to experimentation.)

Study skills pack, South Bank University, Library Services, 2001.

Whitehead, G. (Editor), *A handbook for mature and part-time students*, South Bank University, Students Services, 1995.

The handling of experimental data, OU Press

Appendix 2 Recent Project Titles

E.M. Abdelmageed	High Voltage DC Transmission 1996
D.C. Adams	Energy Efficiency 1998
G.M. Ahmed	Energy Production from Landfill Gas 1995
N. Akhtar	Intelligent electrical distribution systems 1998
A. Al Khayat	Commisioning 1998
A.R. Al-Hayki	Local air distribution 1995
M. Al-Khafaji	Toward Better Design in Building Services 1999
M.H. Al-Khafaji	Solar Energy for Houses 1996
A.K. Almazwagi	Heat Exchanger - Boiling Heat Transfer 1999
A. Asgari-Dehkordi	The future role of gas abs refrig in air conditioning 1997
M.I. Baulackey	Sick Building Syndrome 1998
N.S. Bell	Prospects for Renewable Energy Resources within the UK 1996
K. Boahene	Design and Management of B'ding Eng Services in Ghana 1998
B. Boddouhi	Lubricant effect on refrigeration systems 1994
B. Bolton	Thermal Storage/Heat Pump Apps 1999
G. Boustras	Fuel cells 1997
S.L. Brazil	Eco House-low energy housing 1995
T.D. Carnell	Displacement Ventilation 1999
D. Colenso	Energy Audits 1997
M. Conheady	Clean rooms 1997
J. Couret	Project Management 1997
A. Cousins	Synopsis handed in 1999
P. Curtis	Assessment of Cooling Requirements of Pleasure Craft 2000
D. Davies	UK Electricity Industry 1999
S.K. Deb	Solar Energy for Buildings 2000
R.E. Diamond	Solar Assisted Dessicant Cooling 2000
P. Downie	Building Integrated Photovoltaics 1998
S. Edwards	Designers Guide to Air Quality Legislation 2000
M. Elmahdi	Passive Systems in non-domestic buildings 1997
D. Erdel	Noise control in AC systems using active noise attenuators 1997
M. Ezzi	Air Conditioning in Underground Trains 2000
B. Fares	Not applicable - PGD only 1998
H.J. Farzam	Citrus Fruit Cold Store Design 2000
R. Gargaro	The Propects for Photovoltaic Power 1998
G. GARN	Open Systems Integration for Building Services 1999
A. Gbo	Oil Platform Decommissioning 1998
C. Giddings	The assessment and control of surface condensation 1997
S. Glaser	The Future Role of Fuel Cells 1999
S.A. Goffar	Thermal Comfort, Hybrid Cooling ..... in Bangladesh 1998
D. Gordon	Causes & Effects of Electrical Harmonics 1998
W.D. Gunawardana	Absorption Refrigeration 1996
H. Hadavi-Sirzi	Acoustics of fans & ducts 1994
G. Hamilton	CFD Applied to Buildings 2000
X. Hearnshaw	Industrial Refrigeration 1995
C. Holt	Chilled water system design and energv considerations. 1997
I. Ibeme	Design for maintenance 1997
A. Ibidapo-obe	Energy Efficiency in Domestic Sector (LB Croydon) 1996
I.B. Ibrahim	Design and Economic Evaluation of Ice Thermal Storage System 1997
R. Ijaz	COP Green Fridge 1995
S.E. Iyawe	Ice storage systems 1997
M. JOLLY	Refurbishment of Office Buildings - Case study 1996
A. Khudairi	Natural Vent'n and Thermal Mass in UK Modern Buildings 2000
J. Kontinakis	Refrigeration 1994
D. Koumanakos	Utilisation of Gas & Coal powered power stations 1995
A. Lagos	Refrigeration 1994
S. Leonard	Performance of a thermal storage facility using CFD 1997
D.J. Lockyer	Selection and Sizing of Fluid Dist Systems 1997
S. Luo	Chilled ceilings 1996
M. McKay	Efficiency of AC systems 1995
Z. Milicinski	Instrumentation for Commissioning 1994
D. Millward	Student centred learning in the building services industry 1996
K.T. Mitchell	Modelling of Human Convective Plumes 1996
N. Mohan Kumar	Efficiency of AC Systems 1998

F. Mohseni Case studies in AC energy consumption 1997
T. Mok Smoke control in shopping malls 1997
C. Mooney Natural Ventilation 1994
H. Moraitis Bioenergy using Poultry Litter 1997
I. Munro Underground Air Pipes: An Outline Guide for Designers 1999

H. Nalbantoglu Refrigeration 1999
G. Nane Clean Room Design 1997
J. O Brien Connection of Elec Supplies & LV Dist in Buildings 1995
V.O. Ogbekene Lighting 1999
B. Okuwa Energy Procurement & Ma in Westminster City Council 1997
T. Olaniyi European Energy Markets 1995
R.O. Onile-Ere Designing Photovoltaic power systems for use in Nigeria 1997
E. Onoyivbe Plastic radiators 1996
M.J. Ossoulian Oil Industry in Iran 1994
G. Parry Post occupancy en analysis of a modern office building 2000
J. Persaud Electrical 1998
D. Pickles Energy Management 1997
N.V. Pithadia Air conditioning - free cooling 1996
R. Puckering Energy Efficient Lighting in Schools & Colleges 1995
S. Purusothaman Chemical 1994
R. Rosa BEMS 1997
M. Rounagh Cap Con of Reciprocating Comp by Variable Speed Drives 1995
M. Rounagh HVAC Sensors Used for Control & Energy Management 1996
T. Ryan The Harmonic Monitoring of Electrical Services 1997
A. Saboohi CHP 1997
H. Sakhi Double Effect Direct-Fired Absorption Chiller Review 1997
D. Scott Behaviour Of Smoke in Buildings 2000
B. Seneviratne Domestic heat wheel 1997
M.E. Shamou Solar Cooker 1996
F. Sharif Zadeh Croydon CHP 1994
P. Stonehouse Renewable Energy 1995
K. Tang Solar energy for buildings 1997
A. Thann Rangoon Building Centre, Burma 1998
F. Ucer Investigation into Air Flow Measurements 1998
Y. Vatandoust Kohneh Shahri Energy conservation 1995
G. Vigneswaralingham Commissioning and controls of VAV systems 1995
P. Welsh Investigating Radon Variation and Radon Remedies 1996
T.C. William Condensation in Buildings 1999
D. Williams Commissioning/Balancing Procedures 1994
N.J. Wilson Chilled Water Systems 1998
G. Yasin Solar Water Heating for Curing Chamber of Brick Factory 1999

Appendix 3 Binding of Theses

The following firms have been used by students in the past. However the University does not imply any recommendation in the inclusion of a company on this list and strongly recommends that you should compare the quality, service and cost before ordering.

D J Bookbinders,
90 Culver Road
St Albans,
Herts AL1 4ED
01727 835369

Theses should be bound in black cloth with the front covers and first pages titled and laid out as shown overleaf.

AJB Bookbinding Co,
5 Athole Terrace
Bensham Grove, Thornton Heath
Surrey CR4 8DX
020 8653 5877

LOCAL Bookbinders (Cheap)
Press Binders Ltd
Unit 8 Newington Industrial Estate
Crampton St SE17