This Guide is for the attention of all fourth-year students taking Engineering Tripos Part IIB.

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## Project importance, overview & aims

#### Introduction

The Part IIB project is a major feature of the Engineering Tripos. It is intended to be demanding, to test your skills to the utmost and to give you the opportunity to prove that you are of MEng standard. You should, by the start of Michaelmas term, have determined what your project is, who your supervisor is and already spent some time during the long vacation preparing for the project.

Some students, with projects strongly linked to industry, may have already completed a substantial body of work, such as a programme of tests. For all students a guideline to the amount of effort expected in the coming academic year is that project work should occupy you for some 15 to 20 hours per week throughout the year.

Good time management is essential to ensure that your project grade does not suffer as a consequence of too much concentration on modules, or vice versa. If you find that your project work seems to be in the doldrums, do not let matters slide. Discuss the situation with your supervisor. If your project work continues to concern you after discussions with your supervisor, *contact your Director of Studies as a matter of urgency.* 

For more information on the IIB projects you can also see:

- Finding What You Need for your 4th year project(recording)
- Einding What You Need Fourth Year Projects Slides & Notes 202

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### Overview

Project work must be planned to take account of your other workload (e.g. module coursework). You may need to spend several weeks in each vacation on project work, catching up on experiments/design/computing and drafting your reports. Experimental work and any substantial computing should be completed before the beginning of the Easter term, leaving the Easter term for consolidation and writing up.

During weeks 7 or 8 of the Michaelmas term, you are required to give a short <u>oral presentation</u> to staff and other students working on projects in the same general subject area.

At the beginning of the Lent term, you are required to submit a brief technical milestone report.

A **technical abstract** and **final project report** are submitted at the end of week 5 of the Easter term. You make a **final presentation** of your project work in weeks 6 or 7 of the Easter term. These usually take the form of 'miniconferences' with all presentations in a subject group taking place on the same day, with all staff and students in that group in attendance, and in some cases external guests (e.g. from industry).

### **Aims**

There is considerable diversity among Part IIB projects and the learning experience will differ between projects. This does not necessarily mean that one project topic is better, another worse, but it does imply that each project is likely to fulfil only a selection of the general aims of project work, which are to enable students to:

- undertake a major piece of connected work of engineering significance;
- exercise initiative in a technical context;
- appreciate the problems of planning an investigative, experimental or computational task;
- develop skills in modelling and analysis in situations where the appropriate assumptions are not known a priori:
- learn how to search the literature efficiently for relevant information;
- develop further design skills, including application to the design of experimental apparatus;
- practise the reporting of a major piece of work and appreciate problems of appropriate selection of matter to be reported.

## Relationship with your supervisor

The working relationship with your supervisor is central to achieving these aims, and for this reason your College authorises up to one hour per week of formal supervision associated with the project. In practice, you and your supervisor may prefer a more flexible structure. In any case, your supervisor is expected to submit a termly report, which you can view on <a href="CAMCORS">CAMCORS</a>.

Should you have any concerns over supervision arrangements, try first to resolve them with your supervisor. If they persist, contact your Director of Studies.

## **Group centres**

Detailed guidance in your project work is primarily the responsibility of your supervisor. However, overall control within each group is in the hands of a Group Coordinator. Some of your day-to-day contact will be with the group centres, which provide a channel for communication and source of information for both students and staff. You should familiarise yourself with the details and routine practices of your group early in the year in order to maximise the support on offer and to avoid confusion over handing in times, etc.

Overall project coordinator: Prof A H Gee

# **Group A – Thermodynamics and fluid mechanics**

| Coordinator: Chief technician: Administrator: | Prof Stewart Cant Mr Luke Arnold Mrs Kate Graham        |
|---|---|
| Group centre:                                 | Hopkinson lab, Room ISO-22 (Inglis building)            |
| Noticeboard:                                  | Between rooms 203 and 208, second floor, Baker building |

# **Group B – Electrical engineering**

| Coordinator: Chief technician: Administrator: | Prof George Malliaras Mr Kevin Barney Mrs Susan Murkett |
|---|---|
| Group centre:                                 | EIETL, second floor, Inglis Building                    |
| Noticeboard:                                  | West end of the EIETL, to the left of the main aisle    |

# **Group C – Mechanics and materials**

| Coordinator: Chief technician: Administrator: | Prof Vikram Deshpande Mr S Savage Ms E Howard  |
|---|--|
| Group centre:                                 | room BE3-39 (Baker Building, third floor).     |
| Noticeboard:                                  | North corner of lab (i.e. by roadway entrance) |

## **Group D – Civil engineering**

| Coordinator: Chief technician: Administrator: | Prof D Liang (MT), Prof Abir Al-Tabbaa (LT/ET) Mr Martin Touhey Mrs Sue Stocks |
|---|--|
| Group centre:                                 | 2-41 at the Civil Engineering Building, West Cambridge Site.                   |
| Noticeboard:                                  | Mezzanine floor, Inglis building   |

## **Group F – Information engineering**

| Coordinator: Chief technician: Administrator: | Prof G Hennequin Mr Kevin Barney Mrs Kimberly Cole                      |
|---|---|
| Group centre:                                 | Red mailbox by BNO-37 or by email to div-f-teaching-admin@eng.cam.ac.uk |
| Noticeboard:                                  | West end of the EIETL, to the left of the main aisle                    |

# **Facilities & bursaries**

## **Computer facilities**

Those who are intending to do projects with major computational elements should be aware that, while the departmental teaching system can be used for project work, priority must be given to timetabled computer based teaching. Where substantial computer resources are required, these should normally be provided by the research group hosting the project. If this is not possible, the requirements should be discussed at an early stage with the teaching systems manager.

Students are advised to make their own backups of computer based project work, especially when using systems other than the departmental teaching system. Those using the departmental teaching system should be aware that although files can usually be recovered from the previous night's system backups, this takes time which you may not have as deadlines approach.

## Photocopying and printing

Part IIB students have a certain amount of access to departmental photocopying and printing facilities to assist them in their research and in preparing for presentations. You will need your University card and craid to do this, and should use your assigned divisional job number from your supervisor. Please contact the <a href="IT Helpdesk">IT Helpdesk</a> if you have any queries.

## Workshop facilities

Each project may be allocated up to five days of workshop time, covering both the main and divisional workshops, at the discretion of the appropriate Head of Division. Access to workshop time incurs a cost, and so you must discuss this with your supervisor in advance, and identify a source of funds.

#### **Bursaries**

The <u>James Dyson Foundation Undergraduate Bursaries</u> are targeted at projects that focus on problem solving and design, and which offer excellent opportunities for outreach work in schools. The intention is to award six or more bursaries per year. Each bursary includes funding for the project and a payment to the student.

# Health, safety & risk assessment

In any activity and at all times, you have a moral and legal responsibility for your safety and that of others that may be affected by your actions. It is particularly important in project work, e.g. while designing apparatus, which must be safe to use, or planning new uses for existing equipment.

### **Hazard assessment**

All students must discuss the safety implications of their project with their supervisors and complete a hazard assessment of their work. A <u>hazard assessment form</u> must be completed with the assistance of your supervisor. The form should then be sent to the Department Safety Office, even if 'no hazards' have been identified. The form must be received by the Safety Office before the end of week 1, Michaelmas term (i.e. by 4pm on the Wednesday). A penalty will be deducted from your project total for every week, or part week, the assessment form is late. Students must make every effort to have their hazard assessments counter-signed by supervisors, but if this proves difficult and the deadline may be missed, they should submit an unsigned version.

**NB:** all students are required to attend the talk given by the Safety Officer in Week 0 even if your project does not have an experimental component. No practical work may be undertaken before the <u>hazard assessment form</u> has been seen by the Safety Office. The deadline for this is 4pm on Wednesday of week one. A penalty will be applied for every week, or part week, the assessment form is late.

## **Note from the Safety Office**

One of the key roles of this Department is to develop students for a role within industry and/or academia. As this is likely to include positive engagement in health and safety procedures, you will be expected to demonstrate an awareness of the hazards presented by your work, both to yourself and others, understand the risks that these present and think of control measures that would minimise these.

Certain projects, such as those which are computer based, will have relatively simple risk assessments but consideration should still be given to ergonomic issues. Other projects may have a whole range of hazards, physical (e.g. electrical or lasers), chemical or biological, to be considered.

The principles of risk assessment will be explained in the Safety Officer's talk (see above).

Discuss the hazard assessment with your supervisor, and submit the completed <u>hazard assessment form</u> to the Safety Office before starting practical work on the project, and at the latest by the end of week 1. We will review them, countersign them if they adequately reflect the principles of risk management, and return them to your supervisor for inclusion in the project package.

You may be asked for more details about certain technical aspects of the project or for an enhanced risk assessment for particular hazards. We are happy to discuss any safety questions or reservations you may have with you.

#### **Gary Steele**

Department Safety Officer INO-18

## Logbooks

It is essential good practice to keep a day-to-day record or log book when undertaking a major investigative task, such as a programme of experiments. For some types of project, such as software projects, electronic records and documentation may be more appropriate. It is up to individual supervisors to agree with their students what form of log will be kept, and you are expected to adopt this good practice. Students will be expected to provide themselves with a lab notebook for their projects.

The log should be used for actual work purposes - it is **not** for writing up later. Thus, experimental readings, brief calculations, sketches of proposed designs, etc., should be entered directly into the log. The date of each entry must be recorded. Your supervisor will monitor your log book or electronic record, and it will form the basis for discussion at the Michaelmas and Lent term progress review meetings. Log books (or electronic equivalent) are submitted with <u>final reports</u>, and will be considered by the assessor.

## Assessment overview & submission dates

#### Assessment overview

Assessment of your project work is based on the following elements with approximate weightings:

| Element                                     | Weighting % | Timing/deadline                       |
|---|-------------|---------------------------------------|
| Michaelmas term presentation                | 5           | Michaelmas term, week 7 or 8          |
| Michaelmas term progress and industry       | 10          | Michaelmas term, Friday weeks 5 and 9 |
| Technical milestone report                  | 10          | Lent term, Thursday week 1            |
| Lent term progress and industry             | 10          | Lent term, Friday weeks 5 and 9       |
| Technical abstract and final project report | 55          | Easter term, Monday week 5            |
| Easter term presentation                    | 10          | Easter term, week 5 or 6              |

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The final assessment for the project will be a class (I, II.1, II.2, III), with no detailed mark breakdown.

It is important to maintain a steady work-rate throughout the year. **Progress and industry** marks are allocated on the basis of four half-termly meetings in Michaelmas and Lent. The half-termly assessments will typically be made during a normal project meeting. Feedback will be provided via e-mail, within 48 hours. It is **your responsibility** to ensure that the progress review meetings are arranged by the associated deadlines, giving your supervisor at least a week's notice. If you have good cause for postponing a meeting beyond its deadline (e.g. due to illness), you must request an extension from the Teaching Office using the <u>extension process</u>.

If you are working in **collaboration** with another student or as part of a team, you must nevertheless write your own reports. If there are results obtained jointly, it is acceptable for you to present copies of graphs and tables produced in collaboration, suitably referenced. The <u>text of the reports must be your own</u>. In summary, the golden rule is that "the Examiners must be in no doubt as to which parts of your work are your own original work and which are the rightful property of someone else".

Your **logbook** (or electronic equivalent) is not assessed as a separate item, but you must submit it together with your final report. It will be taken into account when a grade is allocated for the report by the assessor. Your **technical abstract** is to be submitted with your final report and this will be archived.

### **Submission dates**

- 1. 4pm on Thursday of week one in the Lent term for the technical milestone report;
- 2. 4pm on Monday of week five in the Easter term for the technical abstract, final project report and logbook (or electronic equivalent).

## **Technical milestone report**

## Style and content

It is common in academic and industrial research to produce an interim report about half way through a piece of project work. Such a document details the progress to date and outlines the strategy that will be adopted to ensure that the project is completed successfully and on time. Typically, a milestone report is read by both technical and business managers. It should therefore contain details of technical issues, but must also be well presented and clearly written. The reader will need to be convinced that the work is worthwhile and is likely to result in an interesting and/or useful outcome.

An important aspect of your TMR is to identify risks to your project achieving your intended outcomes. You should discuss what these risks are, discuss their likelihood and consider what mitigations you could take. This could include issues such as problems with supply of parts and availability of equipment.

You are required to write a technical milestone report (TMR) conforming to the following rules:

- the length of your TMR must not exceed 6 A4 pages, including diagrams, references, appendices and all other content elements. A penalty of up to 50% may be applied for exceeding the page limit;
- use 12-point font, single line spacing and 2.5 cm margins all round;
- the title, author's name and a summary should appear at the top of the first page, with the main text continuing. No special coversheets are required
- You may find the <u>CUED Guide to Report Writing</u> helpful. You may ask your supervisor to comment on an
  early draft, though make sure you allow plenty of time for this by preparing the draft well before the
  submission deadline.

#### **Assessment**

The technical milestone report will be assessed against the following criteria:

· professionalism of presentation;

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- motivation for work;
- clarity of explanation of the work that has been completed;
- achievement in the project so far;
- quality of structure and detail in the plan for future work, including the way in which project risk has been assessed.

#### **Feedback**

Students should take the opportunity to receive feedback from supervisors on technical writing in preparation for the final report. This should happen in a regular supervision or, at the latest, at the Lent mid-term progress review meeting. Students should take to this meeting a copy of their TMR and the feedback they received from the supervisor and assessor.

## **Final report**

#### **Technical abstract**

The final report must begin with a technical abstract of not more than two pages in length. This should be designed as a self-contained document and should provide a concise overview of the report structure and the key features of your work (e.g. the problem being addressed, techniques used, main results, and conclusions).

**NB.** as well as being submitted as part of your final report, you will be required to submit a separate copy of your technical abstract, which will be archived by the Department. Thus it is important that you include your name, College and project title in your abstract.

## Risk assessment retrospective

Your report should include a brief appendix (maximum one side of A4) commenting on the <u>risk assessment</u> you submitted to the Safety Office at the start of the Michaelmas term. How well did this reflect the hazards actually encountered during the course of the project? In retrospect, how might you go about assessing risk differently if starting the project again?

### **Style**

The final report should not exceed 53 A4 pages in total, comprising the title page, no more than two pages for the technical abstract and no more than 50 pages for everything else. The main text must be typeset in 12-point font, though ancillary material that does not form part of the central narrative (e.g. the bibliography, appendices with code listings) may be typest in a smaller font if necessary. Margins are to be approximately 25mm all round.

A copy of the standard departmental <u>coversheet</u> is available online as a word document. Students should make sure that they fill in all the information and sign/date the declaration at the foot of the coversheet.

## Planning the report

Leave plenty of time for writing-up. A good plan would be to produce a first draft before the module examinations commence at the start of the Easter Term. Your supervisor can then read the draft while you are doing the examinations and meet you to provide feedback immediately the examinations end.

Before you start writing, it is essential that, from the start, you have a clear view of the technical level at which the report should be pitched. Remember that you are writing for two readers:

- 1. your project supervisor, who should know the aims and the technical background of your project; and
- 2. an **assessor**, who will know something about the subject area (e.g. an information engineering report will not be examined by a lecturer in structures), but will not be familiar with details. i.e. **do not fill the report**

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with elementary theory and descriptions of standard processes.

There are no set rules for how a technical report should be structured and the pattern may depend on whether the work being reported is theoretical, experimental, computational or on design. What is certain is that you must have a technical abstract, an introduction and conclusions. Between the introduction and conclusions, the theme of the report should be developed in the manner which you judge to be most clear and logical.

You should, in your report, consider what potential environmental and social impact your project might have and what ethical issues the work you have carried out might raise. You should also reflect on how well you identified risks to the project at the TMR stage.

A typical plan for a report on an experimental project might be:

#### · Technical abstract

A self-contained summary in not more than 2 sides. Write this last.

#### Introduction

An important section in which you can point out what has been done before and put the project into context. Many students seem to confuse introduction and summary. In this section you explain why you are doing the work. If you don't know, ask your supervisor.

#### Theory and design of experiment

Explain the assumptions behind the theoretical development you are using and the application of the theory to your particular problem. Any heavy algebra or details of computing work should go into an appendix.

#### · Apparatus and experimental techniques

This section should describe the running of the experiment or experiments and what equipment was used, but should not be a blow by blow account of your work. Experimental accuracy could be discussed here.

#### · Results and discussion

This could be split into two separate sections but it may be easier to present the results and your discussion of them in the one section. This is the most difficult part of the report: you must present the results, interpret them and compare them with any theory or other published results.

#### Conclusions

This should contain the main findings and possibly ideas for future work. You should reflect on your work in the project considering what elements you think worked well, which did not and how you could have improved your work.

#### References

List the sources of information which you have quoted in your background material, theory, or experimental methods in sufficient detail for anyone else to find the sources in a library or online.

• All **figures and graphs** in the report should be clearly labelled with figure numbers and captions. Make sure that you show scales and label the axes on all your graphs.

You may find the CUED Guide to Report Writing helpful.

## **Code listings**

In the same way that it is a mistake to include in a report every detail of standard experimental procedures, it is inappropriate to reproduce an entire computer program, which will inevitably contain much which is of little intrinsic interest. If there are elements in a program which are novel, these should be selected for proper discussion in the text, perhaps with pseudo-code provided in a figure or appendix.

## Writing the final report

You should expect to make at least one and probably more revisions to your first draft. So, **make sure that you complete that draft well before the deadline**. Then leave it for a few days and read it through. Does it make sense? Make your revisions and prepare the next version.

If you are using <u>departmental facilities</u> for word processing, note that you may have to share with other users. In particular, the Part IIA Easter term projects start before the submission date of your report and at certain times the Part IIA projects have priority.

If you are using your own computer for word processing, be careful to **keep plenty of backup copies** of your work on an external drive and/or the cloud. Computer failure is **not** an acceptable excuse for handing in your report late, and if you fail to hand in your main report, you will fail the MEng.

## Assessment of the final report

The following criteria will be considered in the assessment:

#### A. Effort:

- Practical skill in experimental, computational, design or theoretical work.
- Diligence.
- · Persistence in overcoming difficulties and achieving objectives.

#### **B.** Achievement:

- · Appreciation of significance of project.
- Competence in planning attack on problems and managing risk.
- Initiative and generation of ideas.
- · Ingenuity and perspicacity.
- Deductive power and judgement.
- Appreciation of environmental, social and ethical issues.

#### C. Communication:

- Overall planning of the account the logic of its development.
- · Clarity of technical abstract.
- Clarity of main text and analysis.
- Quality of language, readability, freedom from errors.
- · Clarity of diagrams and graphs.

### **Feedback**

Feedback on the marking of the final report is provided by the project supervisor on request.

## **Archiving**

There is no central archive of final reports, although individual supervisors may keep a copy of their students' work. Copies of technical abstracts will be collected at the time of the submission of final reports and archived by the Department after the projects are finished.

# **Oral presentations**

### **Formalities**

The project coordinator of your group will arrange a session (or mini-conference) towards the end of the Michaelmas term and another towards the end of the Easter term. At each mini-conference, you are required to give a presentation of your project, speaking for ten minutes and answering questions for another five minutes. The audience will consist of: other students with projects in your group, supervisors and assessors of the students present, and other interested students and members of staff.

All lecture rooms are fitted with permanent LCD data projectors, with associated computers for Powerpoint or PDF presentations. Students are encouraged to bring slides/data on USB drives or memory sticks, to avoid any problems with laptops due to incompatibilities of various kinds. Note that you **cannot** rely on other programs (e.g.

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Matlab) being available on the lecture room PCs. It is essential to have a run-through on the relevant computer **well in advance**.

**NB.** each group makes its own arrangements for the oral presentations. Therefore any administrative queries or problems should be addressed to your Group Administrator and not to the Teaching Office.

## Some generalities

**Remember** that one or two well made points will be worth more to your audience than ten presented scrappily, however brilliant the underlying ideas are.

**Avoid** putting too much material in your slides. Six slides in ten minutes gives you an average of about one-and-a-half minutes to discuss each - all too short a time.

Both presentations need meticulous preparation, but this is particularly true of the Michaelmas term one, since it is the first major element in the assessment of your project work and it is important that you make a good impression. Discuss what you intend to say with your supervisor and, if possible, hold a rehearsal with him/her listening.

## Michaelmas term presentation

The Michaelmas term presentation is intended to give you an opportunity to describe work in progress to a peer group and to benefit from their criticisms and suggestions. In making the presentation you will be expected to give clear expression to:

- the aims of the project and their significance;
- the background and context:
- your plan of how to achieve the aims;
- the progress made so far towards fulfilling the plans.

You will receive copies of the comments made by your supervisor and assessor by the end of Michaelmas full term.

#### Easter term presentation

You should base the Easter term presentation on the most significant aspect of your project. It is not necessary, or indeed sensible, to try and include all the information from your final report.

- Define the problem addressed by the project
- Explain briefly the significance
- · Describe how the problem was tackled
- · Present the most important results and explain their significance
- Highlight the conclusions.

# Key dates & deadlines

Actions relating to projects running during the current academic year (2024-25) are shown here in bold text.

Actions relating to preparation of projects for the next academic year (2025-26) are shown in plain text.

#### Michaelmas term 2024

Tuesday, wk 8 October Start of full term. Teaching Office issues 'Second Notice about Part IIB Projects' to all IIB students. Teaching Office issues a 'Summary for Project Supervisors' to all Part IIB project supervisors, and the

|                    |             | Michaelmas 'progress & industry' mark forms (there are two per student – one for Michaelmas and one for Lent).  |  |
|--------------------|-------------|---|--|
| Wednesday,<br>wk 0 | 9 October   | Compulsory health and safety lecture - all Part IIB students must attend.   |  |
| Wednesday,<br>wk 1 | 16 October  | Hazard assessment forms to the Safety Office by 4pm. A penalty will be deducted per week, or part week, the assessment is late.   |  |
| Friday, wk 5       | 8 November  | Deadline for first progress & industry meeting with supervisor. Written feedback to student within 48 hours.  |  |
| Thursday, wk<br>7  | 21 November | Start of mini-conferences where students give oral presentations.  Supervisor and assessor mark independently. Feedback forms returned to Group Administrators immediately following the presentations. |  |
| Wednesday,<br>wk 8 | 4 December  | By this date, feedback should be given to students on their performance at mini-conference.   |  |
| Friday, wk 9       | 6 December  | Deadline for second progress & industry meeting with supervisor. Written feedback to student within 48 hours. Group Administrators check that supervisors' and assessors' markbooks are up to date.     |  |
| Lent term 2025     |             |   |  |
| Thursday, wk<br>1  | 23 January  | Submission of technical milestone report (by 4pm). The supervisor and assessor mark independently. Feedback forms returned to Group Administrators by Thursday week 3.                                  |  |
| Monday, wk 1       | 27 January  | Teaching Office issues 'First Notice about Part IIB Projects' to Part IIA students.   |  |
| Thursday, wk<br>3  | 6 February  | Deadline for submission of technical milestone report feedback forms to Group Administrators.   |  |
| Monday, wk 4       | 17 February | Administrators to have sent technical milestone report feedback forms to students.  |  |
| Friday, wk 5       | 21 February | Deadline for third progress & industry meeting with supervisor. Written feedback to student within 48 hours.  |  |
| Monday, wk 8       | 17 March    | Professor Gee will give a talk to IIA students about the IIB project selector process, at 1.30pm in the Constance Tipper Lecture Theatre.   |  |
| Friday, wk 9       | 21 March    | Deadline for fourth progress & industry meeting with supervisor. Written feedback to student within 48 hours. Group Administrators collect markbooks from supervisors and assessors.                    |  |

| Friday, wk 9 | 21 March | Coordinators to request type (a) project proposals from their groups.   |
|--------------|----------|---|
| Friday, wk 9 | 21 March | Students wishing to initiate a type (b) project should work on proposal. Ideally, proposal forms should be submitted to relevant Group Coordinators before the end of term. |

# Easter term 2025

| Laster term 2      | 023      |  |
|--------------------|----------|--|
| Tuesday, wk 0      | 29 April | Last possible date for type (b) projects to be proposed to coordinators. Viability to be determined as soon as possible thereafter.  |
| Monday, wk 1       | 5 May    | By this date type (a) proposals to be entered by staff online.   |
| Monday, wk 2       | 12 May   | Teaching Office emails students that project descriptions are available for viewing.   |
| Monday, wk 2       | 12 May   | Students may start entering project choices online.  |
| Friday, wk 4       | 23 May   | By midnight, all type (a) preferences and type (b) proposals to be entered online.   |
| Saturday, wk 4     | 24 May   | Lists of projects in each group with names of students choosing each and the order of preference available online. Where a student's preferences span more than one group, name is included on lists of all coordinators involved.   |
| Friday, wk 5       | 30 May   | First list of Part IIB project/student allocations posted on or by this date. Any student without a project to contact coordinator of group they wish to be in.  |
| Monday, wk 5       | 2 June   | Teaching Office and coordinators to have identified students failing to get a project at first selection and discuss alternatives.   |
| Monday, wk 5       | 2 June   | Last day for submitting final reports and technical abstracts (by 4pm). Each student also submits their log book or electronic equivalent (to go to the assessor). Supervisor and assessor mark independently. Each group passes a complete set of technical abstracts to the Teaching Office for archiving. |
| Tuesday, wk<br>5   | 3 June   | Start of mini-conference period. Presentations marked by supervisors and assessors independently.  |
| Wednesday,<br>wk 6 | 11 June  | Last day for return to Group Administrator of final report, presentation and synoptic mark forms. Group Coordinators moderate final grades.  |
| Friday, wk 7       | 13 June  | Project planning forms (signed by both student and supervisor) to be submitted to Group Administrators by this date. Supervisors and supervisees to hold planning meetings.  |

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| Monday, wk 7       | 16 June | Coordinators to supply a complete set of milestone reports, final reports, log books and relevant forms to the Teaching Office for submission to external examiners. |
|--------------------|---------|--|
| Wednesday,<br>wk 7 | 18 June | Last day for submission of project mark books and reports to Chairman of Examiners by Group Coordinators.  |

## **Part IIB Project and Coursework Extensions**

## **Module coursework**

Students are expected to make all reasonable efforts to complete any missed coursework, normally during the term in which the module is taught or the following vacation. Deadline extensions for coursework due to illness or other reason must be approved by the teaching office following the extensions policy detailed above.

Work for which an extension has been approved is due at the same time of day as the original deadline, usually 4pm.

## **Projects**

Students unable, for one of the reasons given in the rearrangements policy above, to give their presentations at the scheduled times should notify their project supervisor and group project coordinator as soon as possible. Students may be asked to join another group, or a one-off presentation may be arranged, if possible. Permission from the teaching office is not required for such re-arrangement if agreed by supervisor and group project coordinator. A student experiencing difficulties that cannot be resolved via their supervisor and/or group project coordinator should contact the teaching office for advice.

Notwithstanding the above, final project presentations must have occurred before Wednesday of week 6. It is not possible to delay final project presentations beyond this point due to the requirement to ensure that marks are available in time for examiners to class candidates.

Extensions to the technical milestone report deadline will be permitted in accordance with the policy on extensions detailed above.

Extensions to the final MEng project report deadline are very limited as deadlines for marking and assessment of this activity are very tight. Extensions under the department policy are not possible in relation to the IIB project final report deadline. Any application must be via the EAMC. The examiners are not able to accommodate a deadline extension of more than 3 days due to the need to mark and class candidates. As this project runs over the entire year it is expected that there will be very limited circumstances where a short deadline extension is relevant. Should a student obtain approval for an extension of more than 3 days from EAMC the examiners would not be able to class the candidate in time for General Admission.

It is expected that students will submit a full draft of their report to their supervisor for comment at least 2 weeks before the final deadline.

Failure to submit any project reports for assessment will be treated in the same way as a missed examination: zero marks awarded. Please note that the EAMC's guidelines suggest that they would be unlikely to propose classing a candidate who does not submit a final project report, given it amounts to 50% of the year's work.

**Penalties will be applied**, where no extension is granted, for each day that a report is late. The final report will not be accepted if more than three days late.

Penalties will be applied for infringement of the rules concerning report length.

# Plagiarism avoidance in projects

It is self-evident that research-based project work requires extensive discussion and cooperation with your supervisor and others. However, all reports and presentations must document the individual work of the author, with specific reference being made to any material taken from another source (including concepts, theories, equations, figures or computer code, whether published in the open literature or on websites, or unpublished work obtained by other means). Failure to reference the work of others is cheating and will be penalised.

You must read the Department's information about plagiarism, cooperation & cheating.

While <u>self-plagiarism is not permitted</u> under the University's guidance, you are specifically allowed to re-use your own work from one report or presentation within the IIB project in another report or presentation within the IIB project.

# Purchasing guide for Part II project students

## How does purchasing work in CUED?

Purchasing is done through a system called the Engineering Department Requisitioning System, or EDRS for short. It is accessible only to some staff and graduate students, with no exceptions. This system offers access to the university-wide purchasing system known as the Marketplace, as well as to a long list of other companies that are "on the system".

If you want to buy something, the first step is to decide what you want, and then find a supplier to sell it to you. This is done in the usual way, via a search engine of your choice. It's best to look for big, well known national suppliers, or suppliers local to Cambridge.

Once you have selected your product and supplier, you try them in the system. First try the marketplace route, which is by far the easier option if it is possible. If you are able to find the product on marketplace, then it doesn't matter which supplier it's from, and the order will go through without issue. Most marketplace suppliers deliver within the next two working days.

If you cannot find the product on marketplace, then search the list of companies that are "on the system" for your desired supplier. If yours is not on the list, try and find a different supplier that is. If you cannot find a supplier on the system for your desired product, you must choose a different product. Table 1 shows a list of commonly used suppliers that have well-indexed websites.

| Table 1: A list of commonly used suppliers. | Supplier    | Typical Items   |
|---|-------------|---|
|   | RS          | Hardware e.g. Screws,<br>Motors, Switches etc.                |
|   | Farnell     | Discrete electronic<br>components e.g. ICs,<br>Resistors etc. |
|   | Comar       | Low-Cost optics e.g.<br>Lenses, Filters, Gratings             |
|   | Thor        | High end optics   |
|   | Sigma       | Chemical supplies   |
|   | CUED Stores | Various metal stock e.g.<br>Sheet, Bar and Round              |

Once an appropriate supplier has been found, they must be contacted for a quote to supply the desired product. This can then be entered into the system and the order will be processed, though non-marketplace suppliers will

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often take longer to supply than marketplace ones. This lag, coupled with the delay that typically results from having to procure a quote, means that non-marketplace orders typically take as long as one working week to process.

## How do students purchase for their projects?

As undergraduates are not permitted to access EDRS, they must work with someone who does have access. Different people will have different preferences on how they want this to happen, but it is always best to have a list of the products you want to buy in advance of contacting them. If possible, have either a product code or directions to information from a supplier, as this will make the process much quicker. Once the order has been placed, the person that placed the order will be notified by email when it arrives. They may instruct you to collect it from Stores (next to the workshops), where you will need the Purchase Order number, and you will be asked to sign to show you have accepted the order.

## Are there any ways of getting things which aren't on EDRS?

In broad, yes, though they are not easy. It is usually better to find an alternative product than to try to purchase one that cannot be found on the system. Contact your project leader, supervisor or demonstrator if no alternatives can be found.

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