UNIVERSITY of GREENWICH

FACU\LTY OF ENGINEERING & SCIENCE

Individual Project Handbook

2024 - 2025

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This is the definitive guide to your final year project. This booklet contains information on how to go about working on your final year project. Please read this carefully and any errors or suggestions for improvements should be sent to M.I.Okereke@greenwich.ac.uk.

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1 Introduction

The individual project enables a student to study a topic in depth, to further develop experience in the retrieval and critical assessment of information and to plan, execute and report on an individual work programme. The preparation of an individual project enables students to use a range of skills that have been developed throughout their programme: for example, the skills of enterprise, initiative, design, and analysis required for thorough investigation and research into a particular engineering topic; the motivation and time management skills necessary to produce a substantive and organised piece of reported work and the ability to synthesise and integrate complex information.

The final year individual project provides the opportunity for you to develop and demonstrate your ability to carry out a design, development task or a research investigation like those met in industry. This is the chance for you to conduct an original engineering project in a topic that you are interested in, and to be judged on your abilities as an engineer and not your abilities to remember things or take exams. A good project is rewarding but also a good way to impress prospective employers.

Project topics come from a variety of sources such as industry, university schools and members of staff and occasionally yourself. There is no restriction on the type of project carried out provided it offers a satisfactory Honours opportunity and challenge to your initiative. It must also be directly related to your degree programme, with facilities and staff having the necessary expertise available to perform such work. In completing your project, you will learn about the practical problems of bringing a project to completion.

1.1 Project Aims

The main aim of the projects is to gain experience of planning and completing a major piece of work using the knowledge and understanding you have developed during your programme and your own initiative.

More broadly, this course objectives are to:

- Provide students with an opportunity to carry out a critical, in-depth study in an area of relevance to their chosen engineering specialism.
- Foster enhanced problem-solving, presentation and management skills.
- Encourage initiative and the investigative reading of background and source materials and apply this to the solution of a problem of some complexity.
- Encourage students to develop the ability to integrate data and knowledge to provide an appropriate critical analysis.
- Develop the ability to work on an individual basis, with limited direct supervision, to promote self-development skills.

Additionally, you will learn to:

I. Collaborate with other engineers, one of whom is your supervisor, and with technicians, computer staff and library staff.
II. Organise yourself and others to achieve a goal in each time.

1.2 Learning Outcomes

At the end of the project, the following learning outcomes will be assessed using different assessment instrument/items to judge if the student has met the learning outcomes. These learning outcomes are:

1. Undertake a substantial programme of engineering work on an individual basis that integrates various facets of their chosen engineering specialism
2. Use a wide range of skills to solve engineering and design problems
3. Conduct and report an appropriate literature and state-of-the-art survey
4. Design, conduct, analyse and report an engineering project
5. Disseminate the findings of the project by poster and oral presentations, and in a properly structured written report.
6. Also, students are to provide reflective account of the impact of their module of their employability outcomes.

1.3 Indicative content

Projects will generally fall into three categories: investigation, planning, design, construction, and evaluation of a topic relating to the student's chosen engineering specialism; planning, execution and analysis based on laboratory or field investigations; in-depth study and critical appraisal and analysis of an existing or proposed engineering scheme, system or sector of the engineering industry or field of research.

Topics for projects are provided by members of staff within the Department, by industrial organisations and, occasionally, by students themselves. The main criteria for the acceptability of a topic for an individual project are that it should offer a substantial challenge to the student's initiative, together with the development of engineering and management skills appropriate to the programme of study. The project will involve activities that are relevant to the formation of a professional practising engineer.

The student takes responsibility for their own decisions whilst executing the project knowing that often there is no one unique solution to most engineering problems. This means that the student plans and carries out the project with a fair degree of independence, under the general guidance of the academic supervisor.

1.4 Applicable Programmes

This handbook covers all engineering undergraduate programmes taking ELEC1036 in the School of Engineering.

1.5 Your Final Year Project and Accreditation

In accordance with the requirements of various accreditation bodies, students who do not pass their final year project at the first attempt cannot present their degree as meeting the full or partial academic requirements for Incorporated or Charter status respectively.

2 Project assessment structure and organization

2.1 Details of Summative (Main) Assessments

All the summative assessments that are given below. These are compulsory assessments and students must provide submission for every one of them. Note that the total credit units allocated to **ELEC1036** module is **30 units.**

Table 1: Details of summative assessments (where LO = learning outcome)

Method of assessment	Outcomes assessed	Grading Mode (%)	Weighting (%)	Pass Mark	Word Length	Outline Details
Project Specification and Literature Review Report	LO1,3-4	Numeric	10%	30%	2000 words	First report documenting aims/objectives and relevant literature surrounding the project. Also, includes project outline and Gantt chart.
Poster Presentation Viva	LO5	Numeric	20%	30%	NA	Assesses posters students prepare based on completed project. Also, this includes a viva session where student answers questions on the poster content.
Supervisor Mark/Logbook	LO2, LO6	Numeric	10%	30%	NA	Assesses quality of student's logbook/project portfolio as well as the student's engagement with the project.
Final Project Report	LO1-5	Numeric	60%	30%	8000 words	Final report documenting project findings and conclusions.

2.2 Project assessment deadlines

The following constitute the key assessment items that will make up the final year project. The deadline schedule and breakdown of marks are provided in the Table below. The breakdown of marks has changed from this year. This change has been implemented in new ELEC1036

course specification document. The new assessment items, their percentage weightings, and deadlines (in weeks and dates) are given Table 2.

Table 2: Project Assessment items, weightings, and deadlines

S/No	Assessment items	Weightings	Deadlines* Week(Date)
1	Project Specification and Literature Review Report	10%	07 (25.10.2024)
2	Final Project Report (Main Dissertation)	60%	29 (28.03.2025)
3	Supervisor Mark and Project Portfolio	10%	31 (11.04.2025)
4	Poster Presentation Viva with Employability Document	20 %	37 (20.05.2025)

*Students should note that these deadlines (weeks and dates) are advisory but definitive deadlines will be published on the course Moodle page and where there is a discrepancy between the deadlines here and that on the course Moodle Page, precedence will be given to the published deadlines on the Course Moodle page.

2.3 Restrictions on assessment submissions

There are five items of assessment that the students will submit for assessment in the ELEC1036 course. The following gives a breakdown of the page limits for the courses

Table 3: Description of assessment submissions

S/No	Assessment items	Restrictions on submissions
1	Project Specification and Literature Review Report	Word Report with 2000 words maximum
2	Final Project Report (Main Dissertation)	Word Report with max 8000 words (No restriction on Appendix)
3	Supervisor Mark and Project Portfolio	Collection of documents
4	Poster Presentation Viva	Printed Poster + Viva
	with Employability Document	Word Report with maximum 300 words

2.4 Project assessors

The assessment of all submissions under the Individual project will be carried out by at least one supervisor and one assessor (independent from the project). Table 4 shows a breakdown of the project assessors in relation to the different assessment items.

Table 4: Project assessors for different assessment items

Assessment item	Who assesses the work?	Description of responsibility
Project Specification and Literature Review Report	First assessor only	Only the **assigned first assessor** will mark this report. The supervisor **will not** grade this report.
Final Project Report (Main Dissertation)	Supervisor and first assessor	Both **the supervisor** and **first assessor** will independently mark the final year report and provide detailed feedbacks to students on the Turnitin submission link.
Supervisor mark and Project Portfolio	Supervisor only	For objective assessment of the project portfolio/logbook, **only the supervisor will assess** the online logbook/portfolio the student created for the project. The supervisor will provide detailed justifications for marks allocated to this item.
Poster Presentation Viva with Employability Document	First and second assessors only. There will be no supervisor involvement in this assessment item.	This document will be marked by two independent assessors: **the regular assessor** and **a second assessor** (not involved previously with the project). Note that the poster presentation activity is for assessing the student's ability to communicate their research to any audience (expert or non-expert). As a result, less emphasis for the poster session will be given to mastery of the technical content. Rather, all assessors will focus on poster quality, candidate presentation and communications about the project.

2.5 Dealing with discrepancy between assessor and supervisor marks

To ensure objectivity in agreement between assessor and supervisor marks, it is the policy that there should not be a difference in marks of more than 5% between the assessor and supervisor marks. Where this is the case, the two examiners need to agree on a new set of marks that is within the 5% marks-difference threshold. Where this is not possible, or the two examiners, in their academic judgements, are unable to agree, the Project Co-ordinator will intervene, and find ways of resolving the problem. This will mainly be by appointing a third assessor to grade the work and the third assessor's marks will be considered final for the work.

2.6 Project Supervision during the lifetime of the project

Your project will be supervised by at least one member of the staff, as indicated on the online system. This staff member will be your main project **Supervisor**.

Also, each project will also be allocated at least one **Assessor** who acts as a second, independent marker. Agreement between the marks allocated by the supervisor and assessor will ensure the appropriateness of the marks you receive for your work.

During your project, you are required to record your work in a project logbook, write an initial specification, attend an interim progress review, a project report and present your work in the form of a poster during which you will be subjected to an oral examination. It is your responsibility to ensure that your logbook is checked and signed by your supervisor on a regular basis and that you keep your supervisor informed of your progress, including updates to your project plan.

2.7 Recommendations to achieving an excellent project work

Whilst your supervisor and project co-ordinator will guide you as to what is expected of you and how you can achieve goods marks you should find the following key points useful.

To obtain an honours degree, you will need to demonstrate to the assessors your ability to:

I. Identify and formulate the main problems and organise appropriate approaches to their solutions
II. Understand any underlying theory and previous solutions found in the literature
III. Apply theory, or model the problem to arrive at a solution
IV. Design a test rig/experimental testing programme with full attention to the technical, manufacturing, cost, reliability, maintenance, and business aspects of the design
V. Undertake continual critical appraisal of the methods, tasks, and objectives of the project
VI. Carry out the practical aspects of the project with skill, competency, and care
VII. Critically analyse the outcome
VIII. Write a formal technical report

2.8 Managing Your Project

During this, your final year, you need to organise your time effectively, even more so than in previous years. Remember that you will be working on group projects and assignments for other course as well as your Project and attending lectures. Therefore, it is important to realise that project work should not be allowed to interfere with examinations and other general course performance. Consequently, you should regulate the time spent working on the Project accordingly. Similarly, you should not allow other academic work to take all your time; you must continue to work on your Project for the minimum amount of time, every week, all through the year. Therefore, the other deadlines from other courses must be included on your GANNT chart so that the other calls on your time are incorporated in your planning.

It is expected that you will spend *at least 8 hours per week* working on the project. Remember that this is a 30-credit course, which is 25% of your final year and hence is a major contributor to your final award.

It cannot be emphasised too strongly the importance of making a good start to your project. If you can make good progress early on you will be able to complete your project on time and avoid giving yourself an unnecessary large workload towards the end of the academic study period, leading up to your final exams. Your aim should be to complete any practical work early in term two. This will allow you more time to focus on writing the final project report.

The following are a typical breakdown of activities you need to undertake under your project:

1. Initially at the start of the project, you need to spend some time to familiarise yourself with the nature of the project by background reading. This will be the **Introduction and Literature review chapters.**
    - **Recommended duration for this activity: four weeks.**
2. Secondly, formulate your approach to undertaking the project, prepare drawings for construction of any experimental rigs, arranging for important components and sub-assemblies to be ordered, identifying worthwhile case studies, undertaking appropriate surveys to generate data for subsequent analyses. Contents from this work should form the **Research Methodology** chapter of your final report document.
    - **Recommended duration for this activity: five weeks.**
3. Thirdly, undertake the actual activities or tasks that you need to carry out under your project. This can include laboratory testing, computational simulation, manufacture of electronic device, questionnaire collation work and any other types of work that define your project. The activities carried out here should form the **Results chapter** of the project.
    - **Recommended duration for this activity: seven weeks.**
4. Fourthly, undertake analysis of test results obtained during the study. This will be where you apply basic or advanced engineering principles that underpin your project. This will form content for the **Discussions chapter** of the report.
    - **Recommended duration for this activity: three weeks.**
5. Finally, draw conclusions and address the research objectives. This will form content for the **Conclusions chapter** of the final report.
    - **Recommended duration for this activity: two weeks.**
6. It is recommended that you allow at least **six weeks** for the actual writing of the final year report.

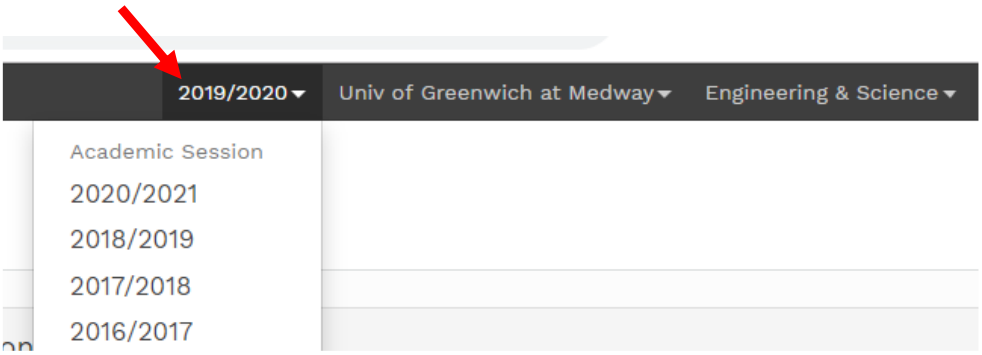
3 Arrangements for the allocation of projects

3.1 Projects proposed by Staff

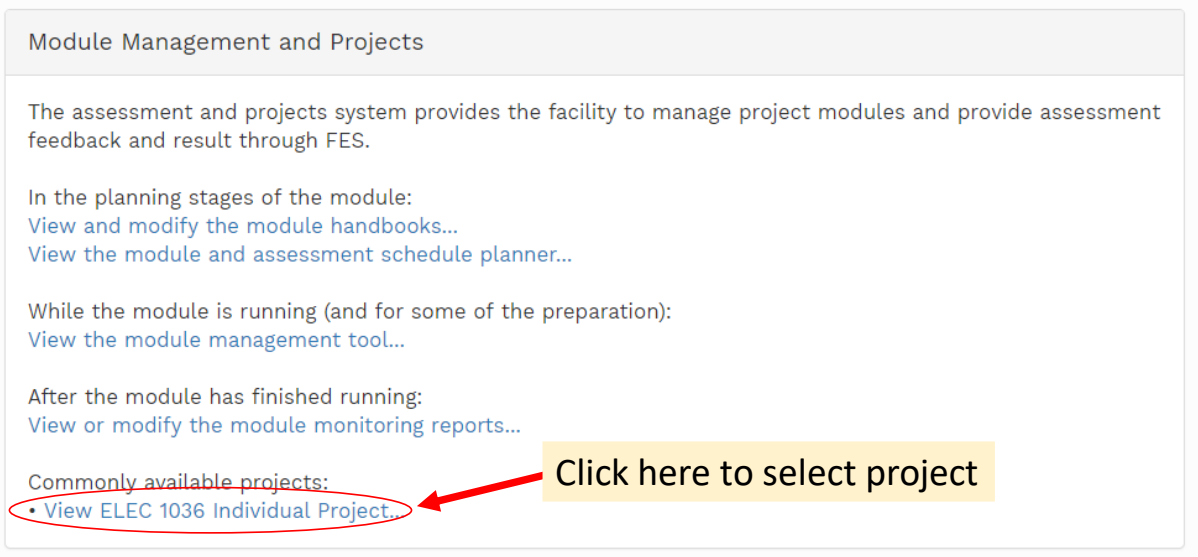
A list of projects proposed by staff, which will include some created from industrial contacts, will have already been provided. This is available on the School's web site (FesWeb) which you can access through the Portal.

3.1.1 Final Year Project Selection

To view and request a project go onto the Portal and the “My Faculty” tab. Make sure the academic session is set to the one within which the project will run.

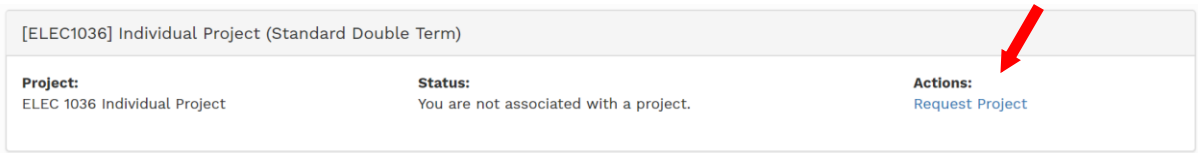


In the “**Module Management and Projects**” box you will see a link to your projects.

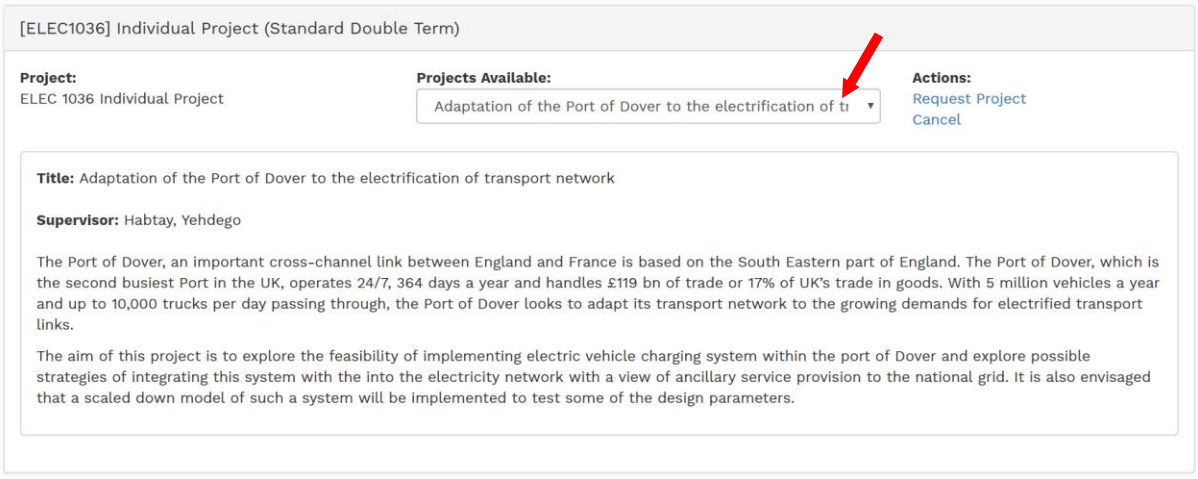


As you probably do not yet have a project the Title will show “**You are not associated with a project**”.

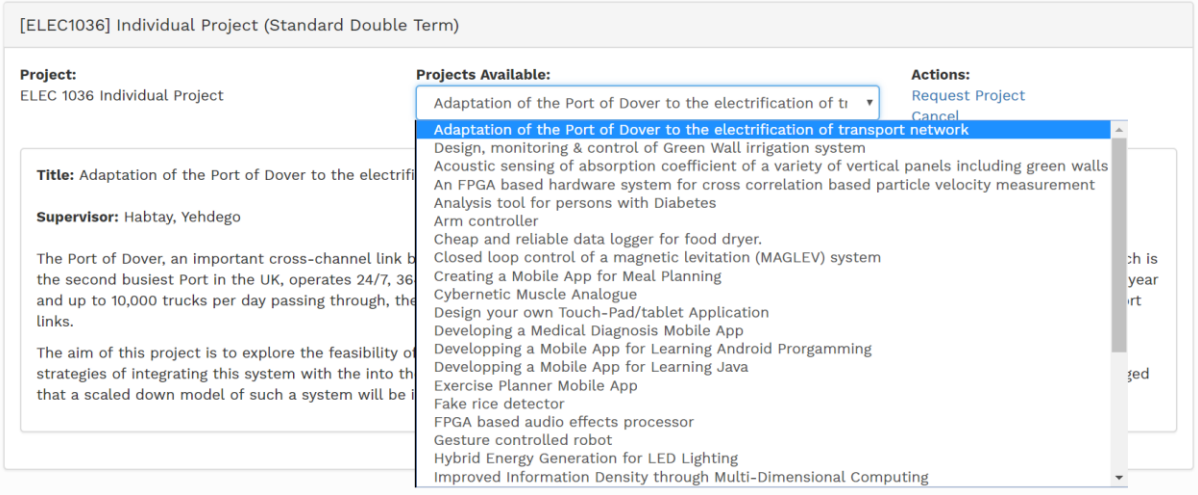
Click on “**Request Project**” under Actions.



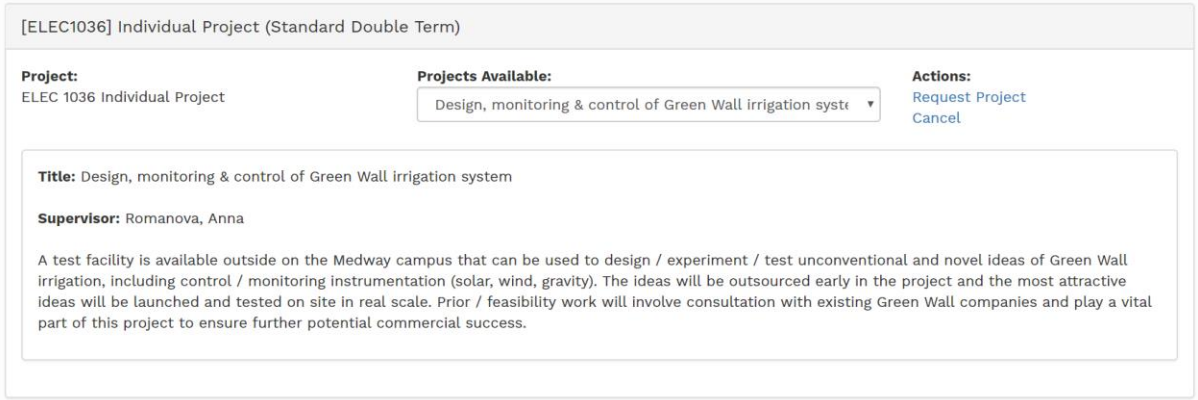
The following box will appear.



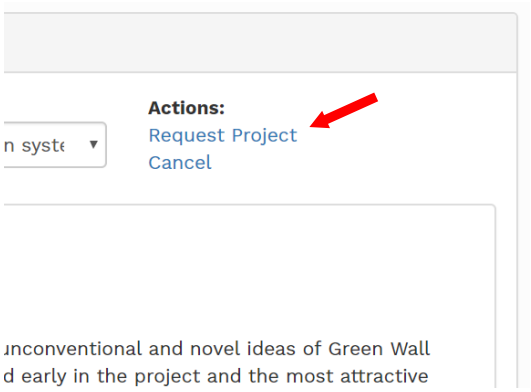
Click on the arrow button to display the list of available projects. The system only lists those projects that are applicable to your programme of study. If there are none available, please contact your programme leader.



Scroll to view and select projects which are of interest to you. Click on the one you wish to see further details of:



When you have chosen your project click on “Request Project”, in the top right-hand corner of this view.



Your request, along with all others will be forwarded automatically to the project supervisor. They will review the applications received (as it is possible a number will arrive together) and accept one. You will then be notified if you were successful or not by email and if unsuccessful you need to try another project. Supervisors have been requested to turn round applications in 5 working days.

Once you have your project, please get in contact with your supervisor so you can begin work as soon as possible. Your project is a key element of your final year, so it is important that you get yourself sorted with a project as soon as possible.

3.2 Projects proposed by Students

Projects proposed by students fall into one of two categories:

I. Work-based or initiated projects (typically from part time students)
II. Projects proposed by individual students

3.2.1 Work based or initiated projects.

Part time students who have proposals based on work related projects should:

- In the first instance, approach a member of staff who they consider best suited to supervising the work. If they are unsure of whom to approach, they can get guidance from their Programme Leader.
- Once they have identified a supervisor, they need to work together to produce a detailed proposal which will include a description of the project and a clear set of aims and objectives.
- When a project is initiated by the students work experience or company suggestion, the project can be submitted to the Programme Leader for approval and then proceed as normal with the project taking place and completed at the University, with no material involvement required of the company.
- If, however, the project or a significant element of the project will take place at the student's workplace and/or require the involvement of the company in terms of time and/or resources then the proposal must be presented to the student's line manager.

- They must provide a written acknowledgement of the proposal confirming the company's commitment to provide support for the project for the duration of the project.
- The proposal and a company letter of support are to be submitted to the Programme Leader for final approval.

3.2.2 Projects proposed by individual students.

Students may submit their own proposal for a project. In such instance:

1. Email the project to the Project Co-ordinator and the Programme Leader responsible for your degree programme.
2. The Co-ordinator and Programme Leader will evaluate the project, assessing suitability for a final year project.

The proposal must detail the following:

- Project aims and objectives of the project,
- What is new about the proposed project (provide evidence that it has not been done before).
- An outline what expertise is required of the supervisor to successfully supervise the project
- A description of the resources/equipment needed and an indication of whether this is available within the School and if not, who will provide it.
- A copy of the risk assessment of the use of the equipment and responsibility/liability in the event of damage to the equipment or third part.

Note: Before a new project is accepted, the student needs to satisfy to the School (through the Programme leaders and the Final Year Project Coordinator) that:

- The project is new.
- The project can be supervised by a member of staff of the School,
- Such project will be undertaken on-site, and
- The risk assessment and liability issues are fully addressed

Only when these issues are addressed will such a project be accepted. The student will them develop the project with guidance of a named academic supervisor. This project is then uploaded to the project management system on Portal and assigned directly to the student. Such a project will not be open to any other student but only the student and supervisor that created it in the first instance.

4 Detailed specification of project submissions

This section describes in detail the project submissions required at the different stages of the final year project. This is to provide students with details of what is required for each assessment item.

4.1 Project specification and Literature Review Report

This is the **first assessment item** the student will be required to submit for assessment.

- It is weighted at **10%**.
- The report is a short document with a maximum of **2000** words only.
- There is no page limit to the report.

4.1.1 Contents of Project specification and literature review report

The Project Specification and Literature Review Report should include the following:

1. Brief background of the work – e.g., state the importance for the study.
2. A list of projects aims and objectives that will help you complete the project successfully
3. A **detailed literature review** of the most up to date publications about the research area
4. Define the scope of the study
5. Provide a **detailed methodology** that should help you meet the research aims and objectives. In doing so, provide the **justification** of the proposed work; state the **resources needed** and provide evidence of a **risk assessment document**.
6. To help with mapping out the tasks and timelines for the document, develop a **Project GANNT Chart** for your project.

4.1.2 Submission of Project specification and literature review report

Only **ONE** copy of this report is required and should be submitted for the **First Assessor** only to mark the report. The report should be submitted electronically via the Portal on the 'Turnitin' link provided for this submission.

When submitting the electronic (either Word .doc/.docx or pdf) version of your report to the Portal, via 'Turnitin' you must use a file name and submission title arranged as follows:-

ProgrammeCode_BannerNumber_PSLR_FirstName_LastName.

Example ***P03406_000123456_PSLR_John_Smith.docx*** for a Mechanical Engineering programme student with banner number 000123456 and first name John and with family name Smith.

A brief outline of how to submit your file is provided in Section 4.6.

4.2 Progress Review Viva with Updated Gantt chart – NOT GRADED

This is an **informal assessment item** for this project. Your supervisor will inform you if he/she wants you to attend such an interview to monitor you progress. The review is about you demonstrating your understanding of the project, its purpose, objectives, so the supervisor will want to see evidence of your work, results obtained to-date, a clear plan for completion.

- This assessment is weighted at **0%.** It is a formative task which means it does not count towards your degree classification.
- There is no Word report that should be submitted. However, **you must submit to your supervisor an Updated Gantt chart**.
- Students must also **attend a Progress Review viva** where progress is assessed.

4.2.1 Requirements of the Progress Viva submission

There are two aspects to this assessment item:

- First an updated Gantt chart (updated based on Gantt chart developed at the Project specification and literature review report stage.
- Progress review viva/interview which the student must attend. The Gantt chart has to be submitted by the student directly to the supervisor ahead of the session.

4.2.2 Progress review viva/interview

- Your progress interview will be an oral examination of about approximately **15 minutes**.
- The student will give a brief verbal overview of the project aims and objectives, a description of the progress made, and difficulties faced, and what you are going to do to complete your project. The actual content of this section and how it is demonstrated will depend on the project.
- You need to discuss with your main supervisor on the exact form of the progress review and what you should provide as evidence.
- At the end of your oral exam, you will need to **review with your supervisor your *updated* GANNT chart**.
- You should place send a copy of the Gantt chart to the supervisor ahead of the session. Check well in advance that you can print it out ***in a readable form***.

4.2.3 Evidence of progress exemplars**

The student needs to provide evidence to show progress in the project. These are a non-exhaustive list of evidence exemplars, but this will vary from project to project.

- Problems identified and problems solved; and any Surveys made
- Models and simulations created; Programs/Codes/scrips; Assembly or detail drawings
- System drawings; Block diagrams; Flow charts
- Circuit schematic and PCB layouts drawn; Items ordered.
- Tests and experiments completed; Results and conclusions to-date.
- Key references identified to-date

** Note: Some supervisors may want you to prepare PowerPoint Presentation of your progress which can be a guide through your exemplars/review of your progress. This is not compulsory.

4.3 Final Project Report

This is the **second (summative) assessment item** that the student must provide for assessment under the ELEC1036 project. It is the most important documentation:

- The Final Project Report is weighted at **60%.**
- Report submission will be Word-processed with a **maximum word limit of 8000**.
- This words limit will comprise only the **body of the report** without counting the preliminary pages, references, and Appendix contents.
- There is no page limit to the report.
- There is no limit to the length of the Appendix content. You should just note that anything information provided in the Appendix **may not be assessed** as this is considered outside the 8000 words limit.
- There is available on the course Moodle page a **Final Year Report Template** that all students **must** adopt to ensure uniformity in presentation of research findings.

4.3.1 Contents of Final Project Report

The contents of the Final Year Report will vary from project to project. However, for uniformity of presentation and thus aiding assessment, the following contents are recommended for the projects. Note that a Final Year Report Template is provided and already includes these.

- **Cover** and **title** pages
- **Executive Summary** / Abstract
- **Preliminary pages**: Table of Contents, List of Figures, List of Tables, Symbols and Notations, Abbreviations, Dedication, Acknowledgement.
- **Chapter 1**: Introduction: Background, Aims and Objectives, Scope, Report outline.
- **Chapter 2**: Literature review
- **Chapter 3**: Research methodology: Problem statement; proposed solution; Description of methods to be used to tackle the problem (methodology); etc.
- **Chapter 4:** Results: This document all the results generated from the study.
- **Chapter 5:** Discussions: Interpretation of results obtain; discussion of implications of findings; how practically useful will the findings be; does findings agree with any theory.
- **Chapter 6:** Conclusions: Summary of findings; Discussion about the future work.
- **References:** This should be presented in Harvard referencing style.
- **Appendix/Appendices:** Put here any extra material that adds to the work.

4.3.2 Submission of Final Year Report

You will need to submit two copies of your report:

1. First copy: Supervisor's copy
2. Second copy: Assessor's copy

Note: Please, only submit the report using the appropriate Turnitin links created for each of the copies. When submitting the electronic (Word .doc/.docx or pdf) version your report to the Portal, via 'Turnitin' you must use a file name and submission title arranged as follows:- **ProgrammeCode_BannerNumber_FYR_FirstName_LastName**

Example: P03406_000123456_FYR_John_Smith

4.4 Project Portfolio and Supervisor's mark

This is the **third assessment item** that the student **must** submit as part of the ELEC1036 module. This submission will be graded by the **academic supervisor** only and subsequently a **supervisor's mark** will be awarded solely based on evidence provided in the portfolio**.**

- The Project Portfolio (ONLINE) submission is weighted at **10%.**
- The aim of the portfolio is to provide evidence of engagement with the project throughout the lifetime of the project.
- It is also an opportunity to reward students for soft skills that have been developed during the project but not explicitly assessed elsewhere.
- Whilst it is advisable to keep a physical logbook to document what you are doing daily in the project, however, **such physical logbook will not be graded**.

4.4.1 Project Portfolio (Online) - GRADED

The Project Portfolio is a compilation of different documents that the student will generate over the life of the project, with the guidance of their academic supervisor. Table 5 shows the breakdown of these documents:

Table 5: Mark distribution and typical contents of the Project Portfolio

S/No.	Contents of the Project Portfolio	Weighting
1	Log of meetings with supervisor with inked signatures	3/10
	Publication Portfolio: At least 6 published journal papers/articles related to the project (ONLY FRONT PAGE NEEDED)	1/10
2	Other project portfolio document comprising **TWO** of these: • **Project output**: Drawings/sketches/designs/prototypes, questionnaire/case studies/simulations/scripts/codes. • **Documentations**: Anonymized correspondences/Invoices • **Reflection** on new skills learned to help with the project.	4/10
3	Assessment (by supervisor) of student's engagement with project	2/10
	Total	**10%**

In the following, a detailed description of each of the assessment items, will be discussed.

- **Log of meetings** (See Appendix A): This is a record of meetings with the supervisor. The student should attend each meeting with the supervisor with this document and get the supervisor to sign it at the end of every meeting. You **must attend a minimum of 8** meetings with your supervisor during the project to get the full marks for this.

- **Publication portfolio:** The student should also collate a minimum of 6 (recent) journal publications, in the research topic. You need to work with your supervisor to identify the best journal papers. It is important that students understand how to identify publications in their research area and this activity assesses that.

- **Project Outputs:** Over the life of the project, students would have generated significant project outputs. You should therefore take images of these outputs and compile them to demonstrate evidence of what you achieved during the project. Typical project outputs include Drawings, sketches, designs, prototypes, questionnaire, case studies, simulations, scripts, programme codes, and so on.

- **Documentations:** During the project, the student might generate different documentations that relate to the project. For example, correspondences from project partners, companies; invoices of sales; in-depth risk assessments, etc. All these can be combined into a document for your project portfolio.

  Note: If you are including correspondences, please ensure you anonymize/redact them by cancelling any personal identification details to ensure you comply with information security.

- **Evidence of skills reflection:** In cases where the student has learned new skills to complete the project, the student should provide evidence of such skills. This can be in form of a short demonstration of how you used the skill to complete the project. For example, for a student doing product designs, you might reflect on how you learned SolidWorks and show what you can do with it. If you took a training, you could also include this under this. The aim is to reward students, who went over and beyond, to complete their projects.

4.4.2 Submission of Project Portfolio (ONLINE)

A Turnitin link is provided for submitting the Project Portfolio. You are required to submit only a copy of the portfolio which your **academic supervisor** will assess.

When submitting the portfolio, make sure you submit only a PDF (*.pdf) version of the report via '**Turnitin**' and you must use a file name and submission title arranged as follows: - **ProgrammeCode_BannerNumber_PF_FirstName_LastName**

Example: P03406_000123456_PF_John_Smith

Brief guide into combining all contents for the Project Portfolio (Online) submission

The contents of your portfolio will comprise of documents, which you must convert to PDF version.

- If your file is a Microsoft Word Document, to convert it to PDF, all you need do is save the file with a PDF file format by selecting PDF under the **Save as type** drop-down window of the **Save As** dialogue box.
- If your evidence is an image/picture, you just paste this picture in a Microsoft word document file and save the word file again as a PDF file type.
- After creating PDF versions of all documents needed for the portfolio, you will now have to combine the PDF files online using this link: https://smallpdf.com/merge-pdf or https://www.pdfmerge.com/ or https://www.ilovepdf.com/merge_pdf.
- After this, download the merge file and upload online as your Portfolio submission.

4.4.3 Project Logbook (Physical) – NOT GRADED

It is recommended that students also keep a physical (hard copy) logbook, since it helps them stay organized over the duration of the project. The physical (hard copy) project logbook is a sequential record of the work you have undertaken during your project. It should have pages that cannot be added or removed.

Each page of the logbook must be consecutively numbered starting with the first page and each new entry into the logbook should be dated. Loose leaf material should be kept in a separate folder or binder and referenced within your logbook and does not have to be submitted with the logbook for assessment. It is not necessary for your logbook to be neat and tidy (although this is helpful) but it must be legible. You should not leave any blank areas on any page as you are going along, so write on both sides of each page. Any blank areas should be crossed through to identify them as such.

Preliminary ideas, sketches, information, designs, results, thoughts, discussions, conclusions and so on should be entered into the logbook which will act as a reference when the final report is being written. Entries should generally consist of original notes, excessive use should not be made of cut and paste printouts, for example from Websites.

The logbook is useful to remind you what you did and why you made decisions, but it can even be a useful document to record that you had the idea first in a court of law (see Engineering Professional Skills 1).

4.5 Poster Presentation Viva and Employability Document

This is the **fifth assessment item** that the student **must** submit as part of the ELEC1036 module. This submission is made up of a **poster presentation viva** and **an employability document.**

- The total submission is weighted at 20**%** with mark distribution of: **poster viva (17.5%) and employability document (2.5%).**
- The viva will be the last piece of assessment that the student will submit.

4.5.1 Poster Presentation Viva

The aim of this activity is for the student to communicate their work to a non-expert audience. This is important as effective dissemination of research work is a vital employability skill that the student should develop. Two assessors (exclusion of academic supervisors) will assess the student on their communication, presentation, and brief technical description of the work. Students are to design a poster and details of this will be given in a Project Briefing within the term.

4.5.2 Employability Document

The essence of this document is for the student to reflect/articulate on how the final year project will help them in their future professional career. It is important that students begin to identify the set of employability skills the project has helped them develop, with a view to including same in their CV, to enhance their ability to gain employment on graduation. The maximum word limit for this document must not exceed **300** words.

5 Project Briefings

To help students, understand what is required at different stages of the project assessment rounds, several project briefings or lectures have been included into the student's timetable. There is opportunity for every student, enrolled on ELEC1036, to attend these briefings, whether they are part time or full-time students.

During the project, the project briefings will be organised to provide additional details about the requirements and assessment of specific aspects of the project, usually prior to a particular assessment deadline. Your attendance at these lectures is expected and a register will be taken. Please be alert to communications advising you of dates, times, and locations.

The following are the time-tabled project briefings for this academic year:

Table 6: Project briefings, dates, and venue

S/No.	Project Briefing and description	Date	Venue
1	Briefing 1 (Tuesday Cohort) – Focus on project specification/literature review	Week 3: 24.09.24	J223 4 - 5 pm
2	Briefing 1 (Friday Cohort) – Focus on project specification/literature review	Week 3: 27.09.24	P227 5 - 6 pm
3	Briefing 2 (Tuesday Cohort) - Focus on progress review viva (Informal assessment)	Week 6: 15.10.24	J223 4 - 5 pm
4	Briefing 2 (Friday Cohort) – Focus on progress review viva (Informal assessment)	Week 6: 18.10.24	P227 5 - 6 pm
5	Briefing 3 (Tuesday Cohort) – Focus on Final Year Report	Week 22: 4.02.25	J223 4 - 5 pm
6	Briefing 3 (Friday Cohort) – Focus on Final Year Report	Week 22: 7.02.25	P227 5 - 6 pm
7	Briefing 4 (Tuesday Cohort) – Focus on Poster presentation and employability document	Week 26: 4.03.25	J223 4 - 5 pm
8	Briefing 4 (Friday Cohort) – Focus on Poster presentation and employability document	Week 26: 7.03.25	P227 5 - 6 pm

6 Detailed marks distributions for the assessment of your Project

Your project will be assessed by your supervisor and at least **one** internal assessor. In addition to this it will also be assessed by an independent external examiner, an expert in your chosen programme from another university. Also, your project will also be scrutinised by other quality control mechanisms such as the Progress Assessment Board, your course coordinators, and other relevant authorities.

6.1 Obtaining an Honours Degree – What is expected of you?

Whenever your examiners examine you, they are following the guidelines set up by the QAA which sets the standards for all UK universities to follow. The following sub-sections are reproduced for you to act as a guide, and this will be used in all cases where you are assessed.

6.1.1 Bachelor's degrees with honours are awarded to students who have demonstrated:

- A systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline
- An ability to deploy accurately established techniques of analysis and enquiry within a discipline
- Conceptual understanding that enables the student:
    - to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline
    - to describe and comment upon aspects of current research, or equivalent advanced scholarship, in the discipline
- An appreciation of the uncertainty, ambiguity, and limits of knowledge
- The ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline).

6.1.2 Typically, holders of the qualification will be able to:

- Apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects
- Critically evaluate arguments, assumptions, abstract concepts, and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem
- Communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

6.1.3 And holders will have:

- The qualities and transferable skills necessary for employment requiring:
    - The exercise of initiative and personal responsibility
    - decision-making in complex and unpredictable contexts
    - The learning ability needed to undertake appropriate further training of a professional or equivalent nature.

6.2 Project Specification and Literature Review Assessment

Your work will be assessed for elements that are to be included for each of the relevant areas outlined in the specification form. Reports missing elements or containing irrelevant items will not score any marks

Criteria	Mark	What are the examiners looking for?
Introduction	10%	The preamble as to what the project entails in a concise manner
Literature Review	40%	Relevance Critique Structure
Research methodology	30%	Outline of work. What methods are used to investigate problem. Why are you doing it. What are the benefits. Provide any justification for work What resources do you need. Any risk assessment carried out?
Gantt Chart	10%	All key dates including hand in dates for all courses
Presentation	10%	Consistency, Format, Style, Language, correctly referenced.

6.3 Progress Review Assessment

The review will be assessed for the following criteria which you will have to demonstrate on your progress review presentation. You simply need to PASS it. It has no weighting.

Criteria	Mark	What are the examiners looking for?
Viva Voce	Pass	Student able to demonstrate through the Q&A session: • A clear understanding of the aims and objectives of the project • How much progress they have achieved • A perception of the problems encountered and their path to recovery • A structured plan
Communication	Pass	Student's ability to communicate the above in a clear and articulate manner

6.4 Project Report Assessment

To ensure a fair and consistent marking across the wide variety of projects, programmes, and supervisors a standardised marking scheme is used. This scheme is a framework around which the examiners will use as a template in marking your individual project.

This table shows the main aspects the examiners will be looking for in your project report.

Criteria	Mark	What are the examiners looking for?
Aims, Objectives and Background	10%	Clearly defined and expressed aims and achievable objectives. The background to your work including a comprehensive literature review. Does the background information explain the reason for working on the project?
Methodology (Problem Analysis and Solutions)	10%	What is the problem? What is the understanding of the problem, what needs to be done? What methods and systems will be needed to solve the problem? This will of course depend on the nature of your work. Is the analysis technically valid and logically well developed?
Results and Discussions	30%	What results did you get? Results can be numerical, graphical, theoretical, and formulaic or anything that is relevant for your project topic. Are the results presented in the most appropriate manner and do they validate the key objectives of the project? Tell how the results relate to the aims, objectives, and the problem at hand? What are the effects of your findings? Were there any issues, anything you learnt from these or did they leave you with more questions than answers? There must be a logical approach in the process.
Conclusion and Future Work	10%	Tell what extent and how the aims and objectives have been met. What were the key findings and your main thoughts? What more needs doing in the future? How will this help achieve the aims set forth?
General Standard	20%	Here the general standard of the report will be evaluated. Aspects such as the correct use of Harvard referencing, consistent and high standard of formatting and presentation. The effective use of language, images and the like to aid communication and the logical layout of your work.

6.5 Final Poster and Employability document Assessment

All posters will be assessed for the following.

Criteria	Mark	What are the examiners looking for?
Visual Impact (online)	30%	Marks for general appearance, clarity of information and value as a tool for communication
Communication/ Appearance	30%	Student's ability to communicate the above in a clear and articulate manner. Does the student answer questions clearly and show that he/she understand of the project area.
Technical Accuracy	20%	Have all the major technical points been met
General Standard of Viva	10%	Is this professionally delivered i.e., their dressing, engagement with examiners, typographical errors
Employability Statement	10%	How is this degree and project helping you to get your dream job? Evidence of how this project will help you in your engineering career.

It should be noted that you must be formally dressed and present yourself in a manner that is considered formal and up to your professional standard.

7 General Information

7.1 Project Artefacts and University Workshop Support

Many projects will involve the creation of some product or artefact that did not exist before your project began. The manufacture of items and the construction of rigs beyond your own ability and resources can be undertaken by the workshop staff. All requests for workshop assistance must come from your supervisor and passed to **Mr Van-De-peer <M.T.Van-De-Peer@greenwich.ac.uk>**, the **School's Support Services Manager**, who will organise all workshop requirements and activities.

He will endeavour to, *but cannot guarantee to*, meet all reasonable requirements if they are possible within the scope of the workshop, the skill and ingenuity of the technicians and staff and the school budget. You should recognise that the School workshop is not a production workshop and that working drawings should of an engineering standard and supported by as much explanation as possible so that the workshop staff can understand the function of the items they make and can use their knowledge and experience to speed manufacture. You must obtain the agreement of your supervisor on the suitability of your designs before asking for work to be undertaken in the workshop. Only drawings 'signed off' by your supervisor will be accepted by the workshop.

The cost of project materials, components and resources must also be borne in mind. For this year an **average project allowance of £70 per student** will be assumed. In some circumstances, where it is expected that a rig being built for a student project (or other components) is likely to be used for other work in the future, more expenditure may be approved.

The School is now finding that material and equipment delivery times are becoming increasingly long. Consequently, you are advised to identify as soon as possible, items which must be ordered in advance. Any item ordered from anywhere within the UK, except from RS, Farnell, or Maplin, will take at least six weeks. Items ordered from overseas, generally never arrived at all. It is, therefore, essential that you identify all your equipment purchase needs as soon as possible.

7.1.1 Ordering project materials

Project rig design invariably involves the buying of materials and components. You must not give verbal orders to outside suppliers for anything. All requests for materials or components must be detailed in writing, 'signed off' by your project Supervisor and submitted using the materials requisition form on FesWeb.

If you purchase any item or material personally you will not be able to recover the money from the University under any circumstances. However, that material or item will belong to you, and you will be able to take it away after the project has completed.

7.2 Project Rigs

If a project rig needs to be sited on the University Campus its location will be decided jointly by the supervising lecturer responsible and **Mr Van-De-peer**, the **School's Support Services Manager**.

Note that no equipment is to be brought onto the campus for use in projects, or other activities, without the express permission of **Mr Van-De-peer.**

7.3 Loan of Equipment

To reduce the loss of equipment, due to students failing to return equipment to the School at the end of the academic period, the following policy has been implemented:-

- The loan of equipment must be agreed by the Support Services Manager or nominee, in consultation with the Head of School where appropriate.
- Students are required to sign a 'Loan Agreement' form that includes the statement "failure to return the item would be a breach of the University's Principal Conditions of Registration and will result in the degree certificate being withheld".
- All equipment must be returned before the start of the examination week.
- At the end of Term 3 the School's Support Services Manager will provide a list of all defaulters to the School's Learning and Quality office. At the PAB, the Quality Officer will inform the Board about students in contravention and a decision noted if sanctions are to be applied. At the Graduation ceremony, or for those not attending, by post, students will receive a letter from the University's Conferment Office stating that unless the equipment was returned, the student would not receive their certificate.

7.4 Other Services

Remember that other services, such as the Library and the Media Services, are available to you. Remember the library is a key resource for obtaining your references and the librarians are there to show you how to search for them.

8 Intellectual Property Rights

When a student registers for a programme at the University they sign a form to the effect that all work carried out as part of the programme requirements becomes the property of the University, and this applies to all undergraduate projects. Even if the actual work undertaken does not involve University equipment or resources or is not performed on a University site, there is still the supervision of a member of staff to be considered.

In practice, the University does not wish to obstruct genuine attempts by students to produce and market commercially viable products and there is considerable opportunity to receive valuable help in bringing the product to a commercial standard. This is undertaken through the University's Commercial Development Unit and any student who wishes to market a product which is based on their project should contact them directly.

8.1 Copyright

In general, material that appears in other publications should not be photocopied and 'cut and pasted' onto pages of your project reports. This applies whether the copyright applying to the publication allows this or not, most do not. Likewise, scanned images of material from other publications, or Web pages or Web images, should not be included in your project report. Where necessary, and providing there is no breach of copyright, the required material may be represented, that is typed and formatted, in your report, provided that an appropriate acknowledgement to the source is given. The above does not apply to screen-captured images of software applications that you have written yourself which are not copyright protected and can be freely included.

Appendix A: Log of Meetings

Note: You are required to attend a **minimum of 10 meetings** with you supervisor (ONLINE and/or PHYSICAL). Please get your supervisor to sign this document for every date you meet. This will be submitted as part of your project portfolio document.

S/No.	Meeting Date	Supervisor Signature	Supervisor Comments
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
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