N. E. D. University of Engineering and Technology

Department of Electronic Engineering

A Guide to the Final Year Projects
For the academic year 2012-2013
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1. **What is the Final Year Project?**
The Final Year Project (FYP) is an assignment which involves (a) the application of knowledge that the student has gained in his course of studies leading to bachelors in electronic engineering and (b) gaining of advanced skill and practical knowledge in a sub domain of electronic engineering. The topic/subject of the FYP is of students’ own choosing provided that it is within the area of studies of Electronic Engineering broadly defined. The level of difficulty of the task is such that a student may complete it in two semesters while spending at least as much effort as required for studying one subject in a semester. Depending on the length and complexity of the project, group work is allowed up to a maximum of four students to a group.

2. **What is the purpose of FYP?**
Its main purpose is to SHOW that you are capable of "personally conducting and managing an engineering project to achieve a SUBSTANTIAL outcome to professional standards". This means that you need a project that satisfies two main criteria:
(a) It must allow you to provide assessors with EVIDENCE of your capabilities, and (b) It must be SUBSTANTIAL and challenging enough to allow you to demonstrate the professional capabilities required of a graduates electronic engineer.
In case you decide to work in a group, the project should demonstrate the team work and your leadership abilities as well.
Remember, if the project you choose involves a 'routine' design or involves unproblematic testing and analysis, your project will most likely not be approved. So think about how the scope of your project can be enhanced to allow you to best demonstrate your capabilities.
Discuss this with your teachers.

3. **Why is it important?**
Your Project indicates your abilities to select, study, analyze and then present a substantial piece of work that displays your intellectual abilities to the full. A challenging and a well-written project report is a useful document to display to a potential employer when you enter the job market. In any case, the skills that you will have deployed are particularly useful should you wish to undertake work for a higher degree at Masters or at PhD level. Moreover, the fact that you have deftly documented a substantial piece of work is a skill that you will be asked to deploy on many occasions in whichever career you choose to enter. You will have learnt to ‘manage a project’ and learnt the techniques associated with writing and assembling a large document. These skills will assist you when it comes to similar ventures in the future.

4. **What is a suitable project?**
As mentioned in para 2 above, the Project you choose should reflect the fact that you have acquired a particular knowledge base and academic skills and should be a showcase of the ways in which you can demonstrate such skills. The Project is an independent piece of work which allows student(s) the opportunity to apply all the engineering knowledge learned so far, build upon that knowledge further, and meet a particular engineering requirement of the industry, business, academia or the society. If you intend taking up one of the previous years’ departmental projects, you must first acknowledge the previous work done and then add substantial value to it. But never ever try to re-invent the wheel!

5. **How and when should you get started?**
The earlier the better!
Ideally your search for a project should begin immediately after the spring term exams of the third year. You should first approach the academic staff of ECE who are working in areas in which you might want to do a project. He/she may have some ready project ideas which may be of interest to you.

If you intend going for an industry sponsored project or for an idea of your own, a working title and a brief description of your intended project should be submitted to the concerned teacher. After your first consultation with him/her, you may need to refine or to redefine your chosen subject area to ensure that it is manageable and feasible for an undergraduate student. In all likelihood, the teacher you are talking to has already supervised many undergraduate projects before and is therefore in a good position to give you good general academic advice regarding the shape and general direction of your project. He/she may well know some of the specialist literature base that you intend to access and may be able to give you some advice and guidance along the way. However, it is not uncommon that students pick a subject area which accesses a wide range of literature with which the teacher is not familiar – but this does not mean that s/he is not able to offer sound, general advice on project planning and writing. However, it is better to work on a project which lies within the domain of interest of at least one of the faculty member, otherwise they will not be able to identify key persons and resource for a project. This is one of the most prevalent problems that students face during FYP.

Remember, having held discussions with a teacher does not necessarily mean that s/he has agreed to become your internal advisor. Make sure you have his/her explicit consent.

6. **What is the role of the internal / external advisor?**
Remember, the project is not like other courses where you have a teacher leading you through the work week by week. You will need to work out your own schedule, and make adjustments as problems arise to show your professional capacity to deliver a project on time. The role of these two advisors can be said to be ‘to advise, to encourage and to warn’. In the last analysis, the project is your own responsibility and you must be prepared to take ownership of it and be prepared to defend every word that you have written. An advisor is likely to have basic knowledge of the project area and will understand how to investigate and develop projects in general. Some of the times the advisors may not be as acquainted with the specialist literature base as you are, however, the advice that is given by them is not to be disregarded lightly. They may connect you with alumni who have worked on similar project or other concerned person in academia and industry, local and abroad. They may also facilitate for arranging other resources for you as well such as literature, funding from different agencies, sponsorships etc. The advisors may well suggest particular lines of enquiry that you should consider very carefully – but in the last analysis, what is offered is advice and not instructions as to how to undertake your project.

7. **How much tutorial support should you expect?**
Your Internal Advisor is available the whole week and you can consult him/her during the normal consultation hours. However, once the project is approved by the FYP Committee, a minimum of one a month meetings with the Internal Advisor should be held. Detailed minutes of the meetings, signed by the teacher as well as the student(s) are required to be maintained. In each of the meetings you will be required to tell your advisor the following:
What did you read? How did you relate or not relate the readings to your project?
What sources of information did you use? How reliable and useful were they?
What methods did you investigate? Why did you choose to use particular methods?
What theories guided your decisions? Why did you use them and not others?
What problems did you encounter? Why did they arise? How could they be avoided?
What failed, and what did you learn from that?
The minutes must record these points.

NOTE: In engineering workplace practice, the focus of a project is on the outcome, the design or the results of a test or an investigation. The thinking behind workplace project decisions may be discussed by the project team and may be recorded informally in notes and sketches. But this educational assessment project (FYP) is different. The way you think about your project is the richest indicator to your supervisor/assessor of what you have learned, so it is important that you record and explain your thinking about the project.

Failure on part of students to report for monthly meetings without any valid reason and without any prior intimation, will be communicated by the Advisor to the FYP Committee, which may assign one U to the concerned student for each such absence. It will be the responsibility of the students to submit a copy of the progress report to the FYP Committee every month.

8. **When does the formal process start?**

In week 1 of January 2013, T.E. students will be informed about the formal initiation of the FYP process. A two hour session will be held to explain how they should manage their projects. The faculty is also expected to make available their proposed project titles within the same week. Students will be required to submit a hard copy of their proposal complete in all respect latest by week 4 of January 2013. (Copy of the Proposal Form is available at the web page of the department.)

FYP Committee of the department will review these proposals and invite students to defend their proposals in the first week of February 2013. Students who are not able to get their projects approved at the first defence would be required to modify their proposals, as desired by the committee, and defend again until approved. Once the project is approved, Project Kickoff Document will be signed immediately by students to mark the project start date. This document will be held by their internal advisors and will be submitted along with the project final report. List of approved projects will be put up on the notice boards a day after each defence day.

A word of caution here! Before you start writing the proposal, make sure you have done enough literature review and you have good knowledge of the project you intend to proceed with. Once your project gets approved by the committee then throughout the year it will be evaluated on the claims you have made in your proposal. You should neither make over ambitious claims nor should you treat it like a term project.

9. **What are the criteria for approval?**

The committee will assess the proposals on the basis of the following:

(a) Relevance of the project to Industry/Academia/Business/Society
(b) Enhancement of knowledge base in general and of the project team in particular.
(c) Substantiality of the work involved.
(d) Objectives/Scope of Study of the project
(e) Problem Identification and Problem Statement.
(f) Suitability of the proposed solution/work methods.
(g) Application of managerial and entrepreneurial skills.

10. **Will someone be monitoring your progress?**
Yes, your Internal Advisor will be monitoring your progress on a regular basis. You will be required to submit a monthly progress report to the FYP Committee through your Internal Advisor. You will also be required to give an in-person overview of the work done by you thus far before the FYP Committee at least thrice during the year. These three presentations are in addition to the final presentation that you will give at the time of the final exams.

11. **What is expected of you during the three reviews by the FYP Committee?**
The FYP Committee would want to know the following in each of the FYP reviews:
(a) The amount of work done by each member of the team in the period between the last review and the day of the current review. You must specify the number of hours put in by each member on a per week basis.
(b) How much ahead/behind are you from the timeline proposed by you in your formal proposal and why? *(The Gantt Chart that you added to your proposal is a very important piece of paper!)* How do you intend to make-up for the losses or take advantage of the gains?
(c) The reasons for any problems or failures. What did you do to make sure the problem/failure does not recur?

Each team will be allowed five minutes for the presentation and a maximum of 10 slides. Question answer session would last between 10 to 20 minutes.

12. **What is the composition of the FYP Committee?**
The FYP Committee comprises of the entire faculty of the Electronic and the Telecom Dept. For review/assessment of each project presentation a minimum of three faculty members will be present which will include at least on expert faculty. Occasionally, experts from the industry would also be invited.

13. **What is a 5U Assessment Policy**
Results/performance of the project will be assessed by project advisors and reviewing committee under 5U assessment criteria. The 5U (U = unsatisfactory) criteria defines quality of project and group involvement/effort for the project. Every U is weighted as 20% marks classification window. For each U assigned, students will lose 20% of their project marks. For example, if chairman has to give 50 marks to the project then U’s given by reviewing committee/internal advisors will divide marks in following manner

- **1U assigned**
  - chairman will evaluate project only for 40 marks,
  - 10 marks will be lost due to 1U assigned

- **2U assigned**
  - chairman will evaluate project only for 30 marks,
  - 20 marks will be lost due to 2U assigned

- **3U assigned**
  - chairman will evaluate project only for 20 marks,
  - 30 marks will be lost due to 3U assigned

- **4U assigned**
  - chairman will evaluate project only for 10 marks,
  - 40 marks will be lost due to 4U assigned
5U assigned  All 50 marks will be lost due to 5U assigned

Project advisors and reviewing committee will assign Us to the project on the outcome of performance meetings

14. What is the Feedback Policy in case of FYPs?
Project/Performance feedback policy will be implemented in 360 style format to maintain quality of project. Students will fill feedback forms for their project advisors while Project advisors will fill feedback forms for the students. These feedback forms will be filled at the time of every performance meeting and will be submitted to class advisors. These forms will be presented to the FYP committee at the time of performance review meeting with them and at the time of project presentation.

Reason of failure in submission of these forms can be asked by reviewing committee.

Feedback forms would be available from class advisors.

15. When should I start writing my Final Report?
The monthly progress reports and the three progress review presentations are a good preparation for your final report. Writing the initial couple of chapters may be possible quite early during the year, however the rest of the chapters would require that you complete all the theoretical/practical work before attempting a write-up. It is mandatory that you submit a draft report to your Internal Advisor and only upon his/her approval should you prepare your final report. Format of the final report is given at Annexure B.

16. What is Plagiarism and how does it affect me?
Plagiarism is the act of lifting an extract from another source, word for word (or nearly word for word) without demonstrating that it is a quotation or citing its source. The effect of plagiarism is that the words are effectively ‘stolen’ and passed of as having been written by the dissertation author.

Any assessed work which is found to be plagiarised, deliberately or not, will fail. All Internal Advisors are required to check for any act of plagiarism in your report by using TURNITIN. The Turnitin report would be an integral part of your final project report.

(a) So what is legitimate?
(i). Short quotations i.e. a phrase
(ii). Longer quotations of a sentence or so, provided that they are duly attributed (to the author) and referenced (to the page)

(b) and what is not legitimate?
(i) Quotation of extended passages without proper attribution and referencing.
(ii) Even more reprehensibly, less evident copying such as passages in which a few words have been changed, making it appear that the ‘lifting’ is less blatant than it is.

(c) How to avoid plagiarism
If you see a paragraph, or a line of argument that exactly expresses what you intend to say then …
* Précis the line of argument i.e. put the sense of the paragraph or section in your own words
* Then, convey the essence or the kernel of the author with an attributed quotation

**(d) What are the consequences of plagiarism**
(i) Obviously the most severe is that the dissertation is failed, the degree is failed, and you leave without a degree.
(ii) Even one small instance of plagiarism (or suspicion of it) can cast doubt over the whole of the project.

NOTE: Other plagiarism check softwares, such Wiper, are available over the internet for free. You can check for plagiarism on your own as well before a formal Turnitin report is printed by your Internal Advisor

**17 Acknowledgements**
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<td>Results are complete, accurate and properly discussed</td>
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- **Objective – problem stated clearly, design constraints explained.**
  - Problem not stated, constraints not explained
  - Problem stated, perhaps poorly, no or limited discussion of constraints
  - Problem clearly stated, constraints clearly discussed.
  - So clear and complete as to enhance credibility of the project

- **Literature review**
  - **Building blocks of the project properly explained**
  - Results are complete, accurate and properly discussed
  - Conclusions – tied all concepts discussed, no new ideas
  - Project conforms to Electronic Engineering discipline
ANNEXURE B : FORMAT OF THE REPORT