

**GKM COLLEGE OF ENGINEERING AND TECHNOLOGY
FINAL YEAR PROJECT**

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AIM AND OBJECTIVE

As part of Anna University curriculum, a student is normally required to undertake a research oriented project in their final year of study.

Aim of the final year project to develop student's knowledge for solving technical problems through structure project research study in order to produce competent and sound engineers.

The project is very important component for students by the following ways.

It provides the students with the opportunity to design undertake or conduct an independent research or study related to their degree course.

Upon completion of Final year project, student should be able to

Identify and describe the problem and scope of project clearly, collect, analyze and present data into meaningful information using relevant tools, select, plan and execute a proper methodology in problem solving, work independently and ethically, present the results in written and oral format effectively and identify basic entrepreneurship skills in project management.

TYPES OF PROJECTS

Projects may be either one or a combination of the following categories of projects

Experimental Research, Case study, Industrial applications, Analytical and Simulation.

Here we will include the core area for different departments.

IDENTIFICATION AND ALLOTMENT OF PROJECTS AND SUPERVISORS

At the beginning of the eighth semester, the Project coordinator/HOD meets with the students and explains to them about the project. Students are given a week to identify their project titles and send project title approval form to project coordinator. Depending on the project title, the student is allotted a supervisor.

IMPLEMENTATION PROCEDURE FOR CONDUCTING FINAL YEAR PROJECT

The main objective of the Final Year Project is to learn and experience the process of conducting a good research project. The following points serve as a guideline of activities that take place in the process.

Problem Statement

A problem statement is a concise statement of the problems which initiate/spark the research questions or design ideas. Some of the points that could be highlighted are:

- a. What is the issue that we want to address (problem or question)?
- b. Why need to address the issues?
- c. How the project can solve the issues?
- d. Who get benefits from the project?

Objective sets a clear goal of what we want to accomplish by doing the research work. It SHOULD NOT INCLUDE the objective of doing the Final Year Project (e.g. to learn how to manage a project etc.). Student should only state the technical objective of the project (e.g. to evaluate the performance of the design, to test a hypotheses, to study the relationship between variable x and variable y etc.). Use measurable action verbs when defining an objective (e.g. define, design, identify, describe, analyze, evaluate etc).

Scope

Scope sets a clear boundary (time, geography, environment, function etc.) of our work to provide a common understanding of the project among stakeholders (in FYP the stakeholders are students, lecturer, panels etc.). Scope makes our project achievable and realistic by defining the limits and constrains of the study.

Literature review

A literature review discussed published information in a particular subject area. The purpose of a literature review is to summarize and synthesize the ideas of others. When we write a literature review, it usually consists of 3 main sections:

- a. Introduction section that describe the topic of the review.
- b. Body section which contains the discussion of sources.
- c. Conclusions from the discussion of sources and recommendations (if any). The main point in the conclusion of the literature review would be the clarification and emphasis of the gaps (unexplored/unsolved problem in the field) and the contribution of the student's project.

The discussion of the sources could be arranged chronologically, thematically or methodologically or in combination of any of them. In the discussion, students should:

- a. Be clear of the items that need to be discussed. It can be a variable or a technique or different design decisions.
- b. Make comparisons and give technical comments. Summary of the comparison could be tabulated or shown in graphs to clarify the differences.
- c. For engineering design, discuss on the tradeoff of a particular design decision

Methodology

Methodology is the part where we design and execute our research. We design our research methodology by asking the following questions:

- a. What is the objective of the study? (e.g. given a new design idea, we want to evaluate the performance of the new design in terms of its sensitivity, accuracy, processing time etc.)
- b. What do we want to measure? (e.g. time, storage size, current, cost, sensitivity, accuracy etc.)
- c. How do we perform the measurement? (e.g. built prototype then measure directly or indirectly the sensitivity of the system by following the equation suggested by person X in paper/book Y).

- d. What are the tools (e.g. simulation software) or equipment (e.g. oscilloscope, robot prototype etc.) required for the experiment?
- e. How are the measurements going to be recorded? What is the procedure of the experiment?
- f. What error, situations, or part of the procedure that we design that could interfere with the measurements and how we could overcome them?
- g. How do we analyze the result of the experiment? What kind of statistical tools/calculations/graphs/tables/figures could we use in order to make the data meaningful?

Research methodology describes how we conduct our experiment and NOT how we conduct our project. Its description should not include non technical activities such as discussion with supervisor, submission of proposal, report writing etc.

Result, Analysis and Discussion

By answering point (e) in methodology section, we should now have the results of the study/experiments in the forms of graphs or tables that summarize our measurements (data). At this stage of the research process, we are expected to discuss the results. Examples of points of discussion are:

- a. Statement of how the variable of interest changes with the change of another variable and whether the trend is expected.
- b. Academic interpretation of the result (i.e. with proof, comparison with other works, intelligent guess).
- c. Significance (its impact to the world) and implication of findings.
- d. Possible applications.

RESPONSIBILITIES

Responsibilities of the Student

- The student should take responsibility for the design, methodology and presentation of the project.
- It is the responsibility of the student to edit their work, and ensure all information is accurate and complete.
- The student is responsible for presenting their research proposal to the Faculty for approval before embarking on the data collection.
- Students are reminded that their research project must be their own work and all quotations from other sources, whether published or unpublished, must be properly acknowledged. Plagiarism is a very serious offence and, where proven against a student, may result in disqualification from the examination of the project.
- The student should submit material in sufficient time to allow for comment and discussion before proceeding to the next stage.
- The student takes responsibility for maintaining regular contact with the supervisor.

- The student should participate in the progress reports to demonstrate their commitment to completing the project in time.
- The student takes responsibility for incorporating supervisor's comments and feedback into their work, and seeking clarification where necessary.
- Students should keep track of their project to ensure it progresses according to the time frame. Where deviations are observed, they should be brought to the attention of the supervisor as soon as possible.
- Any problems encountered in conducting the project should be brought to the attention of the supervisor as soon as possible after they occur so that remedial action can be taken immediately.

Any problem encountered by the student during the project should be discussed with the supervisor(s). If the matter cannot be resolved, it should be reported to the project Coordinator and eventually to Head of Department.

Responsibility of the Supervisor

- Discuss and reach agreement with the student on details of the supervisory arrangements, including a regular meeting schedule. Ensure maintenance of the meeting schedule. Discuss what should be done if someone cannot attend a scheduled meeting. Also discuss access to the supervisor outside scheduled meetings.
- Ensure that the student is familiar with the policies relating to their studies.
- Assist the students to develop a realistic program of study to ensure they complete their project within the required time
- Monitor the student's Progress
- If you find the student frequently cancelling meetings, it could be an indication of problems they may be experiencing. Contact the student to indicate your concern and set a new meeting time. Insist on seeing the student and emphasize at this meeting that you need to communicate regularly. It is worthwhile to reiterate that the purpose of the meeting is to help the student to progress and that lack of progress is a cause for mutual concern which is not alleviated by avoiding discussion.
- Keep written documentation about decisions and follow-up activities that stem from each meeting.
- Take up the issue of unsatisfactory progress with the Faculty committee to determine what action should be taken.
- You and your student(s) could then discuss the following issues:
 - What does supervision mean?
 - What is involved in the development of a research proposal?
 - What sort of feedback will the supervisor give: how often, how much, what form?
 - What sort of feedback does the student prefer/benefit from, find helpful/unhelpful?
 - What research skills, statistical analysis or other technical skills are required for the research?
- Writing the Research Project
 - What is the appropriate length, structure, and presentation?

- Editing
- Ensure basic referencing skills are acquired early.
- Give detailed feedback by using one or more pages of students' work. Too much feedback becomes overpowering and discourages students from learning the principles which underpin the correction.
- Indicate to supervised students at the beginning at the beginning your approach to analysis and to feedback on their written work.

SUPERVISORY SYSTEM

Project Title Registration

Prior to the project registration, a list of project titles will be disclosed by the committee. Student may choose a project from the list or propose a new project. It is advised for student to discuss with the respective supervisor and obtain mutual agreement. Student must fill the Final Year Project Title Registration Form and to be signed by supervisor. The committee will allocate a supervisor for student who fails to reserve a title and supervisor.

Project Proposal

Project Proposal Form submitted by student to his/her supervisor prior to the commencement of the projects. The form must include a title, an abstract to the project, objectives /aim (or goal) and scope of the project, literature review and proposed methodology. The first proposal is submitted before the proposal presentation (seminar) for panel assessment. Then after presentation, student must resubmit the proposal after correction complying the panel comments. The final proposal will be evaluated by both supervisor and panel.

Student Declaration

By signing the Student Declaration Form, it is agreed that all result, design or patent from the student project is under the GKM College of Engineering copyright. However, GKM CET may consider sharing the right with third parties.

Logbook

Students use logbook to record all findings, data and factual information worthwhile to their project. In the logbook assessment, student is evaluated based on the effectiveness of meetings with supervisor and also the relevance of contents in logbook.

Preparation of Logbook

Student may used any appropriate book or file folder as working logbook. The front pages of your logbook MUST have i) Logbook Cover Page, ii) Guidelines for the Implementation of Final Year Project i.e. this guidelines, iii) Final Year Project Student Calendar and iv) Supervision Record. All the documents and forms can be printed from the GKM CET R&D Website.

First Seminar - Proposal Presentation

Students will be required to make a brief (10 minutes) presentation about the project proposal. However, to ensure that they are entitled to present their findings, they need approval from their supervisor by filling up Seminar Approval Form. The verified form must be submitted to the panels during the presentation.

The presentation slideshow should cover the following:

- a. Introduction and overview of the project.
- b. Problem statement.
- c. Project objectives and scope.
- d. Literature survey and theory.
- e. Methodology.
- f. References.

During the presentation, students are evaluated in various aspects of knowledge. These may include communication skill, presentation contents, ability to answer any question, readiness of facing critics and comment, as well as ability to interact with audience.

Third Seminar - Project Presentation

At the end of Final Year Project, students will be required to make a brief (15 minutes) presentation on their project. Once again, to ensure that they are entitled to present their findings, they need approval from their supervisor by filling up Seminar Approval Form. The verified form must be submitted to the panels during the presentation.

The presentation slideshow should cover the following:

- a. Introduction and overview of the project. This may include project objectives and scopes.
- b. Methodology.
- c. Result and discussion.
- d. Conclusion and recommendation.
- e. List of References.

During the presentation, students are evaluated in various aspects of knowledge. These may include communication skill, presentation contents, ability to answer any question, readiness of facing critic and comment, as well as ability to interact with audience.

The project demonstration (if any) takes place right after the presentation on the same day of presentation schedule. However, the panel may arrange suitable time for demonstration.

Final Draft Report

Upon completing the project, a draft report should be submitted to the panel and supervisor for evaluation. The report must contain an updated progress report, and all information as pre-determined by the faculty. As such, instructions for completing the project final report are contained in Guidelines for Preparation of Final Year Project Report.

ASSESSMENT METHODS

	MARKS					
	FIRST REVIEW			THIRD REVIEW		
Examination Panel	Presentation	Project Proposal	Total	Presentation	Draft Final Report	Total
	15	30	45	15	30	45
Supervisor	Log Book	Project proposal	Total	Log Book	Draft Final Report	Total
	20	35	55	20	35	55
Total	35	65	100	35	65	100

ASSESSMENT GUIDE FOR SUPERVISORS AND EXAMINATION PANELS

ASSESSMENT OF PRESENTATION	
Score	Description
5 (Very Good)	<ul style="list-style-type: none"> • Flawless presentation, exhibiting highly commendable skills. • Exceptionally well-prepared and attractive slides/poster that clearly covers the main aspects of the project. • Questions answered exceptionally well and with ease.
4 (Good)	<ul style="list-style-type: none"> • Impressive presentation, exhibiting commendable skills. • Well-prepared and attractive slides/poster that covers the main aspects of the project. • Questions answered well and rather convincingly.
3 (Fair)	<ul style="list-style-type: none"> • Mediocre presentation. Skills require improvement. • Adequately prepared slides/preparation of slides/poster with important aspects of the project being left out. • Some questions could not be answered convincingly.
2 (Poor)	<ul style="list-style-type: none"> • Unimpressive presentation due to lack of skills. • Very little thought given to the preparation of slides/poster with important aspects of the project being left out. • Failed to answer most of the questions convincingly.
1 (Very Poor)	<ul style="list-style-type: none"> • Seriously flawed presentation due to little or no skills. • No thought given to the preparation of slides /poster with most aspects of the project being left out. • Unable to answer the questions convincingly.

ASSESSMENT OF LOGBOOK

Score	Description
5 (Very good)	<ul style="list-style-type: none">• Have very frequent meetings with the supervisor.• Shows a genuine interest in the project and is exceptionally hard working. Inquisitive and independent.• Project plan is exceptionally well prepared, systematic and appropriate. Conducts work according to plan and adapts well to changes.
4 (Good)	<ul style="list-style-type: none">• Meets with the supervisor regularly.• Shows an interest in the project and is hardworking, inquisitive and independent.• Project plan is well prepared, systematic and appropriate.• Most work is conducted according to plan and can adapt to changes.
3 (Fair)	<ul style="list-style-type: none">• Meets with the supervisor once in a while, but not frequent enough.• Shows some interest in the project but is not fully committed. Moderately hardworking, lacks inquisitiveness and is dependent on the supervisor half of the time.• Project plan needs improvement and should be more systematic and appropriate.• Work is not completely conducted according to plan and has some difficulty adapting to changes.

<p>2 (poor)</p>	<ul style="list-style-type: none"> • Very seldom meets with the supervisor. • Shows little interest in the project and lacks commitment. Has issues with completing tasks, lacks inquisitiveness and is dependent on the supervisor most of the time. • Project plan is flawed and needs to be more systematic and appropriate. • Work is not conducted according to plan and has major difficulty adapting to changes.
<p>1 (Very Poor)</p>	<ul style="list-style-type: none"> • Hardly ever meets with the supervisor. • Shows no interest in the project has major issues with completing tasks, shows no signs of inquisitiveness and is highly dependent on the supervisor. • Project plan is seriously flawed. • Seldom does work and cannot adapt to changes.

WEBSITE/E-mail

www.gkmcet.net.in

All completed forms should be sent rd@gkmcet.net.in