Guidelines for Student Projects

Overview

Students seeking degrees in the programs shown below are expected to carry out a substantial (as per credits) individual or group project in their final years. Each project should be supervised by a member of the faculty and assessed via written reports and presentations.

Program	Course Code	Semester	Course Name	L:T:P	Hours/Week	Credits
B. Tech. **CSE**	PROJ-CS-302A	6	Project-I	0:0:6	6	3
	PROJ-CS-401A	7	Project-II	0:0:12	12	6
	PROJ-CS-402A	8	Project-III	0:0:12	12	6
B. Tech. **CSE** (AI&DS)	PC-CS-AIDS-409LA	7	Project-I	0:0:10	10	5
	PC-CS-AIDS-408LA	8	Project-II	0:0:12	12	6
B. Tech. **CSE** (AI&ML)	PC-CS-AIML-409LA	7	Project-I	0:0:6	6	3
	PC-CS-AIML-410LA	8	Project-II	0:0:8	8	4
B. Tech. **CSE** (CYS)	PC-CS-CYS-409LA	7	Project-I	0:0:10	10	5
	PC-CS- CYS-410LA	8	Project-II	0:0:10	10	5
B. Tech. **IT**	PROJ-IT-302A	6	Project-1	0:0:6	6	3
	PROJ-IT-401A	7	Project-II	0:0:12	12	6
	PROJ-IT-402A	8	Project-III	0:0:12	12	6
B. Tech. **ECE**	EC-401LA	7	Project Stage-I	0:0:6	6	3
	EC-402LA	8	Project Stage-II	0:0:14	14	7
B. Tech. **CE**	CE415LA	7	Minor Project	0:0:8	8	4
	CE414LA	8	Major Project	0:0:10	10	5
B. Tech. **ME**	MEC-313LA	6	Project-I	0:0:2	2	1
	MEC-310LA	7	Project-II	0:0:6	6	3
	MEC-405LA	8	Project-III	0:0:10	10	5
B. Tech. **TE**	PROJ-TEX-407A	7	Project-I	0:0:6	6	3
	PROJ-TEX-404A	8	Project-II	0:0:6	6	3
MBA	MBA-403	4	Research Report	-	5	4
MCA	MCA-20-47	4	Project Report	0:0:5	5	-

Introduction:

Education projects are developed for the students to gain specific knowledge and skills. The basic outcome of the student project activity is the useful development of Graduate Attributes. The attainment of Graduate Attributes is observed through the learning outcomes. Learning outcomes show how well an educational project was designed and implemented. A fair and effective mechanism for allocation, monitoring, and evaluation of the project work shall be in place in all programs for true estimation of the learning outcomes.

List of Graduate Attributes (Engineering Programs):

1. Ability to apply knowledge to the solution of complex problems.
2. Ability to identify, formulate, review research literature, and analyze complex problems.
3. Ability to design solutions for complex problems (with consideration for public health, safety, cultural, societal, and environmental considerations).
4. Ability to provide valid conclusions based on data analysis, synthesis, modelling, and research-based methods.

5. Ability to use modern engineering and IT tools in complex activities
6. Ability to assess societal, health, safety, legal, and cultural issues in professional practice.
7. Ability to create professional engineering solutions in societal, environmental, and sustainable development contexts.
8. Commitments to professional ethics and responsibilities.
9. Ability to function effectively as an individual or leader in diverse teams
10. Ability to comprehend and write effective reports, design documentation, and make effective presentations.
11. Ability to manage projects by applying engineering and management principles.
12. Ability to engage in independent learning.

Objectives and Learning Outcomes:

To direct the development of Graduate Attributes, each department must determine the project's goals (Learning Outcomes) based on its educational objectives. Before beginning the assignment, the students must also be informed of and given access to the Learning Outcomes (which must be measurable and worth measuring). After the project assignment is finished, student feedback may be helpful in estimating the influence of the real accomplishments.

Establishing correlation of learning outcomes with Graduate Attributes:

At the start of the project work, the project guide and the project group students must conduct a correlation mapping of the learning outcomes and the Graduate Attributes while keeping in mind the project title. Levels 0, 1, 2, and 3 are used to denote the absence, low, medium, and strong correlation levels, respectively. This task would ensure that the students are aware of what they need to accomplish.

Problem Identification:

The majority of project ideas arise from the enthusiasm of the individuals who are most intimately involved in a field (students and teachers). Collaborations with other work groups, industries, and even the social environment can sometimes lead to the creation of project ideas. Departmental project allocation processes should be flexible enough in the selection of topics and guides. Every idea must be evaluated for its viability before being taken up as a semester-long project activity. The problem identified must thoroughly address a few of the identified Graduate Attributes. A project topic just touching upon several attributes at a shallow level should be avoided. A real-life problem, if identified, must have relevant constraints, including a few mentioned in GA-3 and GA-7 (listed in Graduate Attributes).

Project Allocation, Monitoring and Evaluation:

The head of the department may form a committee or faculty in charge to smoothly conduct the project allocation, monitoring, and evaluation. A few of their responsibilities are listed below.

- Release the student notice(s) for the formation of student groups, availability of suggested titles, call for student interests, etc. to timely manage the project-title and project-guide allocations.
- Arrange a feasibility review of the proposed topics.
- At the outset of the project work, assist students in understanding the necessity for and methods of avoiding plagiarism.
- At the start of the project, provide the students the standard thesis format.
- Verify that the student groups have a clear understanding of the deliverables.

- Set up project monitoring milestones and evaluation guidelines, and notify all concerned.
- Arrange to design and adopt project evaluation rubrics precisely for the set learning outcomes.
- Plan and conduct the group and individual evaluations as per the schedule through the departmental committee, including the supervisor.
- Determine, during early evaluations, which groups require academic scaffolding and make arrangements for assistance.
- Assess the impact of project work during a semester and propose improvements for the next cycle to the head of the department.
- Maintain a record copy of the good and average thesis samples for each batch.

Project Supervision:

- The project guide's prime responsibility is to create students' interest by providing them with the required overview and technical inputs and further monitor their work progress.
- The project guide should encourage the students to maintain a logbook for project-related discussions and interactions with his or her remarks. These logbooks should also be reviewed from time to time by the Head of the Department.
- The project guide should make the students aware of the project deliverables.
- The project guide needs to ensure that the underlying principles related to the project area are well understood by the students.
- The project guide should identify the specific needs of the student groups and provide the necessary help for successful completion of the project.
- The project guide should instruct the student groups under his or her supervision to get ready for the prescribed evaluation schedule.
- The project guide should also be watchful against plagiarism and ask the students to incorporate specific methodologies so that the copying of previous work is naturally avoided.
- The draft report should be checked and approved by the guide. The project guide should ensure that the thesis or project report is in the standard format and contains relevant, meaningful, and conclusive information on the selected topic.
- The final report should be signed by the guide first (before the HOD) to reflect that the work on the project is satisfactory.
- The project guide should also witness a mock presentation of the students' group before the final departmental presentation to help them improve on their presentation's weaknesses.
- The guide should also motivate the students to publish their work on an appropriate platform (conference or journal).

The project and employment prospects:

The project work and employment prospects are closely related; therefore, the Heads should be extremely vigilant about the facts that
- The project titles are relevant to the industry's needs.
- Inter- or multi-disciplinary projects are also carried out.
- Thesis/Dissertation/Project reports the students will carry with them meet the quality norms without any major flaw.

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