



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

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STANDARD OPERATING PROCEDURE

for

Student Learning Assessment Models (SLAM)

(Selection – Conduction – Evaluation – Report)

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1. Introduction

Student Learning Assessment Models (SLAM) is a structured, outcome-based and project-driven learning framework designed to enhance experiential learning among students. It integrates theoretical knowledge with practical implementation and emphasizes continuous evaluation through multiple review stages. The SLAM framework ensures that students actively engage in identifying real-world problems, developing innovative solutions, and demonstrating measurable learning outcomes. SLAM includes research-oriented and application-based projects such as AI, Software Design, Community Projects, and Innovation Projects.

2. Objectives

The primary objective of SLAM is to:

- Create a student-centric learning environment that fosters innovation, research aptitude, and problem-solving ability.
- Bridge the gap between academic learning and industry requirements by encouraging students to work on real-time applications.
- Promotes teamwork, communication skills, and lifelong learning, while ensuring alignment with Outcome-Based Education (OBE).

3. High-Impact Learning Pathways for SLAM Projects

The following high-impact practices provide structured learning pathways for engineering students. Students may select one or more project categories from the list below based on their interests and academic requirements.

- Cornerstone Projects (CoPs)
- Side Project (SP)
- Technology Innovation and Product Support (TIPS)
- AI in Software Development Life Cycle (AI in SDLC)
- AI Agents
- Fundamental AI (FunAI)
- Software Engineering / Software Design Projects
- Vertically Integrated Projects (VIPs)
- Projects In Community Services (PICS)

4. Scope

This SOP applies to all B.Tech programs implementing SLAM. It governs the activities of students, faculty supervisors, and review committee involved in project selection, execution, evaluation, and reporting. The procedure ensures uniformity and quality in project-based learning across all departments.

5. Selection of SLAM Project

The selection of a SLAM project is a critical step that determines the effectiveness of the learning process. Students are required to identify a problem statement based on their area of interest, societal needs, or industry challenges. The proposed project should demonstrate innovation, feasibility, and relevance to the academic curriculum.

Students must prepare a detailed concept proposal outlining the objectives, methodology, expected outcomes, and scope of work. The White Paper / Concept proposal is submitted to the department for review and approval. Upon approval, a faculty supervisor is assigned to guide the project.

6. Conduction of SLAM Project

The conduction phase involves systematic planning and execution of the project. It begins with a comprehensive literature review to understand existing solutions and identify research gaps. Students then design an appropriate methodology and develop an implementation plan with defined milestones.

The project progresses through multiple phases including initiation, design, development, testing, and validation. Regular interactions with the supervisor ensure proper guidance and timely completion of tasks. Students are expected to maintain proper documentation of their work throughout the project lifecycle.

7. Evaluation Process

The evaluation of SLAM projects is carried out through a structured review mechanism to ensure continuous assessment. Each review focuses on specific aspects of the project and provides feedback for improvement.

Review I: Evaluates the clarity of the problem statement, literature survey, and proposed methodology.

Review II: Focuses on design aspects, innovation, and planning.

Review III: Assesses the implementation progress and technical correctness.

The final review includes project demonstration, report evaluation, and viva-voce examination.

8. Roles & Responsibilities

Student

- Take ownership of project
- Perform research and development
- Maintain documentation
- Present progress in reviews

Supervisor

- Guide and monitor progress
- Validate methodology
- Provide feedback

SLAM Committee

- Evaluate progress
- Conduct reviews
- Ensure quality standards

9. Report Preparation

Report preparation is an essential component of SLAM, reflecting the overall work carried out by the student. The report must be structured in a standard academic format, including introduction, literature review, methodology, implementation, results, and conclusion.

Proper citation of references and adherence to plagiarism guidelines are mandatory. The report should clearly present the findings and demonstrate the achievement of learning outcomes.

10. Quality Assurance

Quality assurance in SLAM is maintained through continuous monitoring, periodic reviews, and feedback mechanisms. The involvement of experienced faculty and review committees ensures adherence to academic standards and improvement in student performance.

11. Outcomes

The SLAM framework enhances students' technical competencies, research skills, and innovation capabilities. It prepares the students for industry challenges and encourages them to contribute to societal development through meaningful projects.

PRINCIPAL