CSE400 – Project Kickoff (Lecture 3)

Exam-Oriented Study Guide

Course Component: Project Kickoff

- **Project Component Weightage: 30%**

Project Team Formation

- **Deadline:** 17th January 2026, Saturday – End of Day (EOD)

Project Execution Guidelines

- **Total Weightage:** 30%
- **Major Milestones:** M1 – M6
- Total of **6 submissions** throughout the semester
- **One submission per group**

Defined Milestones

M1: Concept Evolution Maps

M2: Scribe: Process & Decision-Making

- Decision Logs (Why X over Y?)
- Constraints
- Alternatives considered
- Final decision
- Evidence used
- Trade-off matrices (Cost vs Performance vs Risk)

M3: Multimodal Artifacts (Video / Audio / Visual)

- Think-Aloud Videos
- One-Minute Insight Videos
- Project Demo

M4: Question-Driven Artifacts

M5: Collaboration & Team Dynamics Artifacts

Deliverables

- Codes, Reports, Videos, etc.
- Submitted as and when specified

Assessment Structure

- Team Assessment: Before Mid-Semester and After Mid-Semester
- Project Viva and Final Submission: Towards the end of the course

How to Kick Start Project Execution

M1: Kickstart

- Team Formation
- Area Identification
- Background
- Motivation
- Problem Formulation

M2: Mathematical Modeling

- Mathematical modelling of the selected problem in **any domain**
- Random Variables (RV)
- PMF / PDF
- CDF
- Multivariate Random Variables
- Joint PMF / PDF / CDF

M3: Coding

- Simulation
- Computation

M4: Inference

- Choose, understand, and code a **randomized algorithm**

M5: Randomized Algorithms

- Apply randomized algorithm to the domain problem
- Present results
- New inferences compared to deterministic algorithms

M6: Derive Bounds and Analysis

- Derive bounds
- Perform analysis
- Compile and submit final deliverables

Submission #1 – Concept Evolution Maps

- `https://miro.com/concept-map/`
- `https://app.diagrams.net/` (draw.io)

Submission #2 – Scribe: Learning Reflection Logs

Permitted Types (Strictly)

- Lecture Scribes
- Project Scribe

Lecture Scribes

- 2 groups assigned per lecture
- Reflect lecture content
- Include examples from foreign textbooks
- Minimum length: 8–10 pages

Project Scribe Content

- Process & Decision-Making
- Decision Logs (Why X over Y?)
- Constraints
- Alternatives considered

- Final decision
- Evidence used
- Trade-off matrices (Cost vs Performance vs Risk)

Submission Frequency

- Total submissions: 6
- Bi-weekly submissions
- Each focuses on specific project-related questions

Submission #3 – Multimodal Artifacts

- Editing skills not evaluated
- Focus strictly on content delivery

Video Requirements

- One video per milestone
- Duration: 10–15 minutes
- Explanation of milestone and simulations

Presentation Mode

- PPT / Google Slides allowed
- Any recording tool permitted

Accepted Formats

- Think-Aloud Videos
- One-Minute Insight Videos
- Project Demo

Introduction to Undergraduate Research Programme (UGRP-8: 2026–2027)

- Dr. BJ Fogg, Founder, Behavior Design Lab, Stanford University

Rationale for UGRP

- Tranquillo, Joe. *The T-shaped engineer*, Journal of Engineering Education Transformations

UGRP Philosophy

- Multidisciplinary
- Experiential Learning
- Research Driven
- 4D Model: Discover + Design + Develop + Deliver
- Breadth: CS and CSE
- Data Science: Applied AI
- Modern Computer System Design
- Networks: IoT / IoBNT / IoV

End of Lecture

- Q & A Session: Open Discussions
- Contact: dhaval.patel@ahduni.edu.in