

Project Timeline and Required Activities

This document outlines the timeline, milestones, and required activities for the team projects conducted in ECON485 – Fall 2025. It provides a week-by-week framework aligned with the course syllabus, guiding students on what to deliver, when to deliver it, and how progress will be evaluated. The goal is to ensure that all project teams move systematically through planning, design, implementation, and presentation stages — integrating both technical database skills and economic analysis throughout the process.

Purpose of the Projects

The purpose of these projects, is to ensure that all student teams progress systematically through three major phases — Initial Planning, Design & Prototype, and Final Presentation — while applying the database analysis methods, SQL techniques, and AI-assisted tools covered in class.

Projects are expected to demonstrate not only technical accuracy but also economic insight, connecting data-driven results to real-world economic behavior. **AI tools** such as ChatGPT, SQLAI (HuggingFace), dbdiagram.io, Perplexity AI, GitHub Copilot, and others introduced during the course **should be actively and critically used during each phase.**

Structure of the Timeline

The project timeline follows the same weekly rhythm as the course outline.

Each week builds on the corresponding lecture topics, AI demonstrations, and hands-on exercises. The timeline defines what each team must produce, submit, and present to maintain progress and meet the Key Performance Indicators (KPIs) described in the main project document.

Timeline on next pages

Week	Phase	Milestone / Focus	Activities & Tools	Deliverables / Evaluation
Week 3	Initial Planning	Team Formation & Topic Kickoff	<ul style="list-style-type: none"> Review assigned project topic Create team communication channel and invite instructor Explore course GitHub repository Discuss scope using AI tools (e.g. Perplexity AI for business context research) 	Confirmation of team structure & communication setup
Week 4		Project Definition & Entity Identification	<ul style="list-style-type: none"> Define business problem and main entities Use ChatGPT or Perplexity AI to refine entity relationships Draft initial ER model (dbdiagram.io) Set up GitHub repo folders (/design, /data, /queries, /docs) 	1-page project definition + initial AI-assisted schema draft

Week	Phase	Milestone / Focus	Activities & Tools	Deliverables / Evaluation
Week 5	Design & Prototype	Relational Design & Normalization	<ul style="list-style-type: none"> Improve schema and normalize up to 3NF Use SQLAI (HuggingFace) for text-to-SQL validation Apply feedback from instructor 	Updated ERD (.png/.pdf) + schema file (.sql)
Week 6		SQL Basics & CRUD Operations	<ul style="list-style-type: none"> Create test tables in MariaDB Execute simple INSERT, SELECT, UPDATE, DELETE queries Experiment with GitHub Copilot Chat for SQL code generation 	SQL script demonstrating CRUD operations
Week 7		Application Integration & Query Testing	<ul style="list-style-type: none"> Test queries across tables Discuss AI-generated SQL errors (fail-forward learning) 	3 working SQL queries with output evidence
Week 8		<i>(No project deliverables – exam week)</i>		
Week 9		Second Team Presentation	<ul style="list-style-type: none"> Present end-user use cases and table structures Discuss improvements and early analysis Validate progress with instructor 	In-class presentation + GitHub update

Week	Phase	Milestone / Focus	Activities & Tools	Deliverables / Evaluation
Week 10	Final Presentation Phase	Operators, Joins, and Advanced Queries	<ul style="list-style-type: none"> Add JOINS, subqueries, and operators Use DataMagic or similar AI demos to verify logic 	5 complete SQL queries demonstrating multi-table operations
Week 11		Views & Indexes	<ul style="list-style-type: none"> Implement and test views Use ExplainMySQL (online tool) for performance interpretation Record AI interactions in /docs folder 	SQL files with CREATE VIEW statements + short performance note
Week 12				
Week 13		Preparation & Integration	<ul style="list-style-type: none"> Consolidate queries, visuals, and analysis Prepare final slides and AI reflection text (150 words) Ensure GitHub repo organization (/design, /data, /queries, /docs) 	Complete repository + rehearsal checklist
Week 14		Final Presentation & Delivery	<ul style="list-style-type: none"> Present functional demo and economic analysis Submit final project through GitHub Participate in Q&A session 	Final demo, presentation slides, AI use reflection paragraph

Required Activities and Documentation Standards

The following activities and documentation requirements apply to all project teams throughout the semester. They are designed to ensure transparency, reproducibility, and continuous learning – especially regarding the use of AI tools and database management practices.

1. Team Operations and Communication
 - Each project team must maintain an active communication channel (Slack, WhatsApp, or Telegram) and invite the instructor.
 - One member should serve as Project Lead, coordinating submissions and communication.
 - Each week, the team should conduct at least one short internal meeting to review progress and plan next steps.
 - Meeting summaries must be stored in the GitHub /docs folder under filenames like meeting_notes_Week5.md (or pdf).
2. Repository and File Structure Standards
 - All work must be version-controlled and publicly visible (or shared privately) through GitHub.
 - Each repository must include the following structure:
 - /design → ER diagrams (.png/.pdf), SQL schema (.sql)
 - /data → Sample datasets used for query testing
 - /queries → SQL scripts and outputs (screenshots optional)
 - /docs → AI interaction logs, progress reports, meeting notes, and presentation files
 - Additional recommendations:
 - Commit messages must clearly describe the purpose of each update (e.g. “Added JOIN query for rent analysis”).
 - The final submission should tag a release titled: ECON485-F25-Group-1-Final (replace with your group number).
3. AI Usage and Reflection
 - Each team must use AI tools (ChatGPT, SQLAI, dbdiagram.io, Perplexity AI, GitHub Copilot, etc.) to assist but not replace their own reasoning.
 - Also log all AI interactions relevant to the project in /docs/ai_logs.md, including
 - The prompt used,
 - The AI response (summary or key output), and
 - The student reflection on how it was verified or corrected.
 - For the final submission, include a 150-word AI Use Reflection paragraph summarizing the team’s learning experience.
4. Presentation Deliverables
 - Each team delivers three formal presentations corresponding to the project phases
 - Presentation materials (slides, scripts, visuals) should be uploaded to the /docs folder of each team’s repository prior to presentation day.
 - Each presentation will be graded based on the Key Performance Indicators (KPIs) defined in the Project Topics and Team Assignments document.
5. Good Practice and Ethics
 - Students must cite any external datasets, tutorials, or third-party SQL snippets used in their work.

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- Copying AI-generated code without review or adaptation will be penalized — the goal is to demonstrate critical and corrective AI use, not blind reliance.
- Teams are encouraged to document any mistakes, corrections, or failed attempts as part of the fail-forward learning model.

Final Submission Checklist

Before submitting the final version, ensure the following items are completed:

- All required folders (/design, /data, /queries, /docs) exist and contain up-to-date files
- At least five tested SQL queries are included and produce correct results
- AI usage is documented in /docs/ai_logs.md
- Final slides and AI reflection paragraph uploaded
- GitHub release tagged as ECON485-F25-Group-X-Final
- Communication channel with instructor remains active until final grading