

## Student Innovation Showcase Guidelines

### 1. Purpose

*Note: Machine learning applications are optional. No prior coding knowledge is required. Projects may be theoretical, policy-focused, data-driven (Excel or coding), or mixed.*

The Student Innovation Showcase gives you an opportunity to apply concepts from money, banking, and financial markets to real-world challenges. You will work in teams to develop creative, research-driven projects that connect theory to practice, with the option to incorporate **machine learning**.

Participation is **optional**. Students who complete the Showcase will have their grade distributed as:

- Midterm Exam: 30%
- Final Exam: 60%
- Showcase Project: 10%

Students who do not participate will be graded as:

- Midterm Exam: 30%
- Final Exam: 70%

### 2. Team Formation

- Teams must consist of **5 students**.
- Teams must submit a **proposal** no later than **September 17, 5:00 PM** on MyCourses (Assignments).
- The proposal must include:
  1. Project Title
  2. Team Members (names and IDs)
  3. Division of Work (who is responsible for which part)

Once approved by Professor Zhang, **no changes** to team composition or project direction may be made without explicit permission.

### 3. Deliverables

*If coding is included, teams must provide clear explanations in plain language. Grades are based on clarity and application of economic concepts, not coding sophistication. Non-technical team members may focus on theory, literature, or communication, while others handle data/coding.*

Each team must submit:

#### 1. Video Presentation

- 3-5 minutes in length
- Clear, engaging summary of the project's question, approach, and findings

#### 2. Short Paper (Max 5 pages)

- Double-spaced, excluding references
- Structure:
  1. Title & Team Members
  2. Introduction (research question/problem)
  3. Methods/Approach (economic theory, data, ML tools if used)
  4. Findings & Discussion
  5. Conclusion & Implications
  6. References

#### 3. PowerPoint Slides (Max 10)

- Visual summary of the project
- Must align with the video content

#### 4. Peer Evaluation (Individual)

- Each team member submits a confidential evaluation of teammates' contributions
- Peer feedback may adjust individual grades

### 4. Showcase Format

- If more than 20 projects are approved: Poster session format during the last lecture.

- If **20 or fewer projects** are approved: Finalist teams present live during the last lecture.

## 5. Suggested Topics & Knowledge Requirements

*Reminder: The “Extra” components (such as coding or ML) are optional. All projects can be completed without Python. Teams are encouraged to divide work so that members contribute according to their strengths.*

Here are some possible project ideas, with knowledge requirements:

### 1. AI Central Banker

- Core: Role of central banks, interest rate decisions, monetary policy
- Extra: Basic sentiment analysis of central bank speeches

### 2. Crypto as Money?

- Core: Functions of money (medium of exchange, store of value, unit of account)
- Extra: Compare crypto price behavior vs. gold/fiat currency

### 3. Loan Default Prediction

- Core: Bonds market, Credit markets, credit risk, basics of risk management
- Extra: Simple ML model (decision tree/logistic regression, provided in demo code)

### 4. Predicting Inflation with Social Media

- Core: Inflation theory, expectations, policy transmission
- Extra: Simple sentiment-based measure of “inflation talk” from headlines

### 5. Robo-Advisor for Students

- Core: Basics of investment (stocks, bonds, diversification)
- Extra: Simple rule-based or data-driven allocation strategy

### 6. Fraud Detection in Banking

- Core: Bank operations, risk management
- Extra: Concept of anomaly detection (identifying unusual transactions)

### 7. Yield Curve Prediction

- Core: Term structure of interest rates, bond markets

- Extra: Basic time-series forecasting (expectations covered in class)

## 8. Financial Crisis Detector

- Core: Historical crises (2008, Asian Financial Crisis), systemic risk concepts
- Extra: Identifying early warning signals (credit spreads, leverage ratios)

## 6. Grading Criteria (10% of Course Grade)

| Category                             | Weight | Description  |
|--------------------------------------|--------|--|
| <b>Relevance &amp; Understanding</b> | 2 pts  | Project ties closely to course topics (money, banking, monetary policy, financial markets, ML in finance). |
| <b>Innovation &amp; Creativity</b>   | 2 pts  | Originality of the idea or novel application of course concepts.   |
| <b>Analysis &amp; Execution</b>      | 3 pts  | Sound reasoning, clear economic analysis, and logical use of data/ML (if included).                        |
| <b>Communication</b>                 | 2 pts  | Quality of the video, clarity of slides, and readability of paper.   |
| <b>Teamwork &amp; Accountability</b> | 1 pt   | Fair division of work demonstrated in proposal and peer evaluation.  |

## 7. Key Deadlines

- **Sep. 17 (5:00 PM):** Team proposal due (via MyCourses Assignments)
- **Final Week:** Showcase presentations (poster session or finalist live presentations)
- **Final Submission:** Video, short paper, slides, and peer evaluation due on Nov. 20<sup>th</sup>, 2025 at 5pm.