HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Economics

ECON 4334

(4 Units)

MONEY & BANKING

(Spring, 2026–27)

INSTRUCTOR

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COURSE DESCRIPTION

This course examines the structure of modern banking systems and the role of central banks in macroeconomic stabilization. It analyzes how money is created, how monetary policy is implemented, and how financial intermediation interacts with inflation, interest rates, and economic activity. The course combines institutional analysis of banking and policy practice with formal monetary theory. Foundational macroeconomic frameworks are used to study monetary transmission, after which the course develops micro-founded models of money and banking based on the Overlapping Generations (OLG) framework. Topics include inflation and seigniorage, liquidity, financial intermediation, and the interaction between monetary policy and financial stability. An introduction to modern New Keynesian DSGE analysis is provided to connect monetary theory to contemporary policy design. Students apply these frameworks to real-world monetary episodes using structured data analysis. AI tools are integrated into the analytical design of the course and must be used critically and transparently in applied assessment.

ASSUMED KNOWLEDGE

Pre-requisites for this course are ECON 3014 or ECON 3113 (Microeconomics) and ECON 2123 or ECON 3123 (Macroeconomics). Knowledge of multivariable calculus is assumed.

COURSE INTENDED LEARNING OUTCOMES (CILOs)

After completing this course, students should be able to:

(1) Analyze the institutional structure of modern banking systems and central banks and evaluate the design of contemporary monetary regimes. **(PILO 1, 3)**

(2) Apply formal monetary policy frameworks to assess inflation dynamics and short-run stabilization trade-offs. **(PILO 1)**

(3) Evaluate monetary transmission mechanisms and the interaction between banking systems, credit conditions, and real economic activity. **(PILO 3)**

(4) Assess central bank credibility, policy rules, and financial stability interventions in response to macroeconomic and financial shocks. **(PILO 1, 2, 3)**

(5) Integrate New Keynesian and Overlapping Generations (OLG) frameworks to explain the equilibrium role of money, liquidity, and seigniorage. **(PILO 1)**

(6) Conduct structured monetary policy analysis using algebraic and graphical modelling, supported by disciplined and critically supervised use of AI tools. **(PILO 1)**

ASSESSMENT SCHEME

Task	Description	Weight
Final Examination	Comprehensive examination covering all topics discussed during the term.	45%
Midterm Examination	Examination covering material up to Lecture 9.	25%
Monetary Policy & AI Project (Group)	An AI-supervised applied monetary policy analysis project.	20%
Peer Evaluation	Assessment of individual contribution to the Group Project.	5%
Class Participation	Engagement in structured in-class discussions and analytical exercises.	5%

RECOMMENDED LEARNING RESOURCES

Frederic S. Mishkin, *The Economics of Money, Banking, and Financial Markets*, 12th ed. (Global ed., 2019) or later editions.

Bruce Champ, Scott Freeman and Joseph Haslag, *Modeling Monetary Economies*, 3rd–5th eds., Cambridge University Press (2011, 2015, 2022).

AI-SUPPORTED LEARNING AND NOTEBOOKLM

Artificial intelligence tools form a structured component of the analytical design of this course. A course-specific NotebookLM resource will be provided on Canvas to support disciplined integration of monetary theory, banking structure, and policy analysis. Students are expected to use AI tools to synthesize monetary transmission mechanisms, clarify institutional features of central banking, and explore scenario-based policy analysis across the IS–LM, AD–AS, OLG, and introductory New Keynesian frameworks. AI-generated quizzes and structured prompts will be provided to reinforce model integration and preparation for the Midterm and Final Examinations. AI tools are intended to augment disciplined economic reasoning rather than replace it. Students must critically supervise, refine, and validate AI outputs to ensure theoretical coherence and internal consistency with the formal frameworks developed in class. Structured AI-assisted study materials will be available on Canvas for students who prefer guided resources.

MONETARY POLICY & AI PROJECT

The Monetary Policy & AI Project (20%) requires each group to conduct a structured monetary policy diagnosis of a selected economy.

Groups will evaluate recent macroeconomic data (inflation, output, interest rates, money growth, financial conditions) and diagnose monetary conditions using the analytical frameworks developed in class, including monetary transmission mechanisms, OLG-based intuition, and policy-rule analysis. The project requires assessment of policy credibility, inflation dynamics, and financial stability risks.

AI tools must be used to support data interpretation, scenario development, and structured policy assessment. All AI-generated outputs must be critically supervised and validated for theoretical coherence.

Deliverables include a professional PowerPoint presentation and a structured written monetary policy assessment. Evaluation is based on analytical rigor, clarity of monetary mechanisms, theoretical consistency, and disciplined AI integration. AI use is mandatory and must be disclosed.

GUIDELINES ON THE USE AND SUPERVISION OF AI TOOLS

AI tools (e.g., ChatGPT, Claude, NotebookLM and other platforms compliant with University policy) are a required component of structured learning and assessment in this course, except in the Midterm and Final Examinations. AI use is mandatory in the Monetary Policy & AI Project and prohibited in both the Midterm and Final Examination. All submitted work must reflect disciplined application of the monetary frameworks developed in class. AI-generated material must not be copied verbatim or presented as original analysis. Students must clearly disclose the platform used and the general nature of prompts employed. Students are expected to critically supervise, refine, and validate AI outputs to ensure the-

oretical coherence and internal consistency. Evaluation is based on analytical rigor and disciplined economic reasoning. Failure to appropriately supervise or disclose AI-generated content may result in loss of marks and may constitute a breach of academic integrity.

ACADEMIC INTEGRITY POLICY

Honesty and integrity are central values at HKUST. Please be aware of the importance of maintaining a high standard of honesty in assignments, group projects, and examinations in this course. Please familiarize yourself with the University rules and the HKUST Academic Honor Code by visiting the following website: `http://www.ust.hk/vpaao/integrity/`

CLASS PARTICIPATION

Class Participation (5%) reflects constructive analytical engagement during lectures and tutorials. Participation may include structured discussion, model-based reasoning, engagement in short interactive diagnostic polls (e.g., Mentimeter), and thoughtful critique of AI-assisted analytical insights. Evaluation focuses on quality of reasoning rather than frequency of contribution.

EXAMINATIONS

The midterm will be held after week 9 and will be arranged one evening. The exam duration is 2 hours. The final will be held during the centralized examination period with the exact details announced later in the semester in class. Examinations will consist of short-answer questions and multiple choice questions. There will NOT be make-up exams. If you miss the midterm exam for a valid, pre-approved reason, alternative assessment may be arranged. **Do not miss the final.** Any legitimate exam time conflicts must be documented in writing (can be sent by email) and submitted to me or the TA at least 4 weeks before the exam for approval. Only serious medical or personal emergencies may be accepted as legitimate excuses for a missed exam. If you fail to attend an exam for medical reasons, you must present a doctor's note. If you miss an exam without a valid reason, then you will receive a zero. The mid-term exam is worth 25% and the final exam is worth 45% of your final grade.

COURSE SCHEDULE

This is a tentative schedule subject to adjustment based on class progress.

PART I – Financial Structure & Monetary Institutions

Topic	Date	Topics	Ref
1	Feb 2	Central banks, mandates, independence, and institutional design. Motivation from recent inflation episodes and balance sheet expansion.	Ch. 14
2	Feb 4, 9	Bond markets, yield curves, inflation expectations, and the macro determination of interest rates.	Ch. 4–6
3	Feb 11	Banking balance sheets, maturity transformation, and credit creation.	Ch. 9
4	Feb 16	Regulation, financial crises, and lender-of-last-resort policy.	Ch. 10, 12

PART II – Money Creation & Policy Framework

Topic	Date	Topics	Ref
5	Feb 23, 25	Money supply, reserves, and the credit creation process. Textbook multiplier versus modern balance sheet mechanics.	Ch. 15
6	Mar 2	Central bank balance sheets and policy tools: open market operations, interest on reserves, quantitative easing, and forward guidance.	Ch. 16, 20
7	Mar 4, 5	Monetary policy strategy: Taylor rules, discretion versus rules, credibility, and expectations anchoring.	Ch. 16–17

PART III – Monetary Transmission & Stabilization

Topic	Date	Topics	Ref
8	Mar 9, 11	Transmission channels and the AD–AS framework for short-run stabilization.	Ch. 26
9	Mar 16, 18	Phillips Curve, inflation–unemployment trade-offs, expectations formation, and policy credibility.	Ch. 22–23

10	Mar 23	IS–LM as a reduced-form short-run framework; interpretation and limitations relative to forward-looking models.	Ch. 22

Mar 24 – Midterm Examination (Topics 1–10)

PART IV – Open Economy & New Keynesian Monetary Policy

Topic	Date	Topics	Ref
11	Mar 25	Exchange rates, interest rate parity, and monetary policy in open economies.	Ch. 18–19
12	Mar 30, Apr 1	Introduction to the New Keynesian DSGE framework: forward-looking IS curve, New Keynesian Phillips Curve, and monetary policy rule. Expectations and dynamic stabilization.	Course Notes

PART V – Microfoundations of Money & Banking (OLG)

Topic	Date	Topics	Ref
13	Apr 13, 15	Money in an OLG model: why fiat money has value in equilibrium.	Ch. 1*
14	Apr 20, 22	Inflation, seigniorage, and monetary equilibrium in OLG.	Ch. 3*
15	Apr 27, 29	Money, capital, banking, and liquidity in OLG; integration with financial stability.	Ch. 6–7*
–	May 4, 6	Review & Integration	
–	TBD	Final Exam	

ASSESSMENT TIMETABLE

This is a tentative timetable subject to adjustment based on class progress.

Date	Assessment Item	Coverage
Mar 24	Midterm Examination (7–9pm)	Topics 1–10
Apr 15	Monetary Policy & AI Project – Topic Selection Deadline	–
Apr 30	Monetary Policy & AI Project – Presentation	–
May 6	Monetary Policy & AI Project – Written Submission Deadline	–
May 6	Peer Evaluation Submission	–
TBD	Final Examination (Centralized Exam Period)	Topics 1–15

RUBRICS FOR FINAL GRADE

Excellent Performance (A range): Demonstrates a deep understanding of the economic and finance tools covered in the course. Exhibits excellent analytical ability in understanding monetary models. Excels in applying theory to real World events including current monetary policy questions. Performs very well in class participation and individual assignments, midterm and final exam.

Good Performance (B range): Shows a solid grasp of the economic and finance tools and monetary models covered in the course. Demonstrates a solid ability to apply theory to real World events. Performs well in the midterm, final exam, and assignments. Performs well in class participation.

Marginal Performance (C, D range): Has basic knowledge of the macro-finance skills in the course, together with practical application. Shows limited skills in utilizing them. Acceptable performance in assignments with limited class participation and has a solid performance in the exams.

Fail: Demonstrates insufficient understanding of the macro-finance techniques covered in the course. Lacks skills in utilizing them in real world examples. Unsuccessful in the assignments with little or no class participation