

## Learning Outcomes

LO	Description
LO1	1. Solve problems using foundational mathematics (such as calculus, and linear algebra) and specialized knowledge in areas relevant to financial mathematics (such as stochastic processes, optimization, data analysis and numerical analysis).
LO2	2. Describe and apply foundational financial theory, terminology, concepts and trends of finance to define financial problems and communicate in a financial context.
LO3	3. Apply mathematics to financial problems, including risk management, portfolio management, and pricing financial derivatives.
LO4	4. Apply mathematics to emergent computer-based financial applications.
LO5	5. Implement and develop financial models, emphasizing validation and recognition of a model's limitations.
LO6	6. Contribute to financial decision-making processes and discussions in professional contexts.
LO7	7. Communicate risks and limits of models to decision-makers.
LO8	8. Communicate math methods, risks and limits of models and conclusions to non-specialists.
LO9a	9a. Communicate analytical reasoning and problem solving in written formats
LO9b	9b. Communicate analytical reasoning and problem solving in oral formats
LO10	10. Test, evaluate, and identify the assumptions of the underlying financial models.
LO11	11. Contribute and cooperate confidently in teams, including with colleagues in finance and economic fields.
LO12	12. Program algorithms and numerical methods efficiently to solve problems in financial mathematics.
LO13	13. Maintain currency with new and changing computer languages and modelling software.
LO14	14. Summarize, interpret and implement existing models and algorithms from emergent and current research.
LO15	15. Identify limits of own knowledge to seek further information.
	16. Act with professional integrity to maintain data integrity, acknowledge sources, and transparently report all

LO16 results including negative conclusions to appropriate decision makers.

LO17 17. Describe the relationship between economic frameworks and financial mathematics.