

FINC 412 Data Driven Financial Analysis

This course is intended to give students the opportunity to widen and deepen their knowledge of financial theory and practice by explaining how financial models and techniques implemented. Students are expected to use Excel to model a number of common applications including the models used for valuation, construction of portfolios, estimation of risk measures, and performance measurement. By the end of the course students should have a critical understanding of finance concepts as well as an extended knowledge of the spreadsheet package. *(Prerequisite: FINC 231)* (3 credits)

Course Learning Outcomes:

By the end of the course, students will be able to:

1. Demonstrate critical knowledge and understanding of some specialist Finance theories and concepts, and advanced quantitative techniques used in financial decision making.
2. Apply main concepts and theories of Finance using in-depth financial techniques to make decisions related to financial modeling.
3. Critically analyse financial scenario using different sets of financial models.
4. Undertake advanced skills and techniques to resolve problems related to financial management.
5. Use special software to interpret and evaluate various financial data used in forecasting different financial measures.
6. Demonstrate effective oral and written communication skills, including the ability to develop sound and coherent arguments to present complex ideas relating to financial issues in a succinct and clear manner.
7. Operate at a special level to work individually or in a team to produce a financial modeling project.

Textbook & Course Materials:

- *Benninga, S. (2014). Financial modeling. MIT press.*

Course Content:

1. Database Analytics
2. Descriptive Statistics
3. Trendlines and Regression Analysis
4. Forecasting Techniques
5. Linear Optimization
6. Portfolio Models
7. Monte Carlo Simulations for Investments
8. Value at Risk (Analytical and Historical methods)
9. Value at Risk (Monte Carlo Simulations)