

**New Undergraduate
Programs Guide
Accounting & Finance
2026**

BS in Finance & Financial Engineering

Model the markets. Manage the risk. Engineer the outcome.



Overview



Prepares quantitatively skilled professionals to analyze **financial markets**, **value financial instruments**, and **support investment and risk management decisions**.



Integrates **finance theory**, **mathematics**, **statistics**, and **analytical methods** to **explain financial market behavior and theory**, **value financial instruments**, and **apply rigorous models in financial decision-making**, with mathematical content geared toward skills used in financial applications.



Equips graduates to **assess investment opportunities**, **evaluate financial products**, and **use quantitative tools** widely applied in **trading**, **portfolio management**, and **financial analysis**.

WHAT YOU WILL LEARN



Knowledge & Understanding

- Principles of financial markets and financial instruments
- Mathematical finance concepts, including the quantitative methods used in financial analysis and decision making



Skills

- Use financial software and technological tools to implement and test financial models
- Apply mathematical and statistical tools to analyze financial data and decisions
- Evaluate the adequacy of risk measurement models and analyze their results
- Communicate financial solutions effectively, both orally and in writing
- Work effectively in collaborative and inclusive teams, and lead teams working on financial problems



Values, Autonomy & Responsibility

- Demonstrate professional and ethical responsibility in global financial analysis and decision making through appropriate judgment and conduct
- Acquire and apply new knowledge as needed, using appropriate self-learning strategies



A new quantitative-finance engineering program for the next generation of financial talent — where markets, mathematics, and machine intelligence connect.



Degree Plan

BS in Finance & Financial Engineering

 Four years | 129 Credit Hours | Summer Training

Freshman Year

Semester 1

Course	Title	LT	LB	Cr
BUS 200	Business & Entrepreneurship	3	0	3
ENGL 101	Intro. to Academic Discourse	3	0	3
IAS 111	Belief and Consequences	2	0	2
ICS 104	Intro. to Programming in Python & C	2	3	3
MATH 101	Calculus I	4	0	4
PE 101	Health and Physical Education III	0	2	1
Total		14	5	16

Semester 2

Course	Title	LT	LB	Cr
ACCT 110	Intro. to Financial Accounting	3	0	3
ECON 101	Principles of Microeconomics	3	0	3
ENGL 102	Intro. to Argument Writing	3	0	3
IAS 121	Language Foundation	2	0	2
MATH 102	Calculus II	4	0	4
Total		15	0	15

Sophomore Year

Semester 1

Course	Title	LT	LB	Cr
ECON 102	Principles of Macroeconomics	3	0	3
STAT 214	Actuaries and Business Statistics	3	2	4
ISE 291	Intro. to Data Science	3	0	3
MATH 210	Discrete Mathematics	3	0	3
ENGL 214	Academic & Professional Comm.	3	0	3
Total		15	2	16

Semester 2

Course	Title	LT	LB	Cr
COE 292	Intro. to Artificial Intelligence	3	0	3
FIN 250	Financial Management	3	0	3
IAS 212	Professional Ethics and Governance	2	0	2
ECON 205	Foundations of Econometrics	3	0	3
Differential Equations and Linear Algebra		3	0	3
MATH 208		3	0	3
MGT 310	Organizational Behavior	3	0	3
Total		17	0	17

Junior Year

Semester 1

Course	Title	LT	LB	Cr
CGS 392	Career Essentials	0	2	1
CXX 3/ 4XX	Computing Elective	3	0	3
FIN 315	Corporate Finance	3	0	3
Decentralized Finance, Blockchain & Finance Tech Platforms		3	0	3
FNT 360		3	0	3
Security Analysis and Portfolio Optimization		3	0	3
FFE 335		3	0	3
ECON 3/4xx	Econ Elective	3	0	3
Total		15	2	16

Semester 2

Course	Title	LT	LB	Cr
Time Series Analysis & Statistical Arbitrage		3	2	4
FFE 320		3	2	4
Interest Rates and Credit Risk Modeling		3	0	3
FFE 336		3	0	3
Cases studies in Investment and Technical Analysis		3	0	3
FFE 337		3	0	3
Quantitative Risk Management		3	0	3
FFE 338		3	0	3
Islamic/Arabic Elective		2	0	2
IAS 3/4xx		2	0	2
Machine Learning in Finance		2	2	3
FFE 333		2	2	3
Total		16	4	18

FFE 399 - Summer Training (1 Cr)

Senior Year

Semester 1

Course	Title	LT	LB	Cr
xxx 3/ 4xxx	Free Elective I	3	0	3
FIN 3/4xx	FIN Elective I	3	0	3
FIN 460	Futures and Options Markets	3	0	3
FFE 411	Senior Project I	0	1	0
GS xxx	GS Elective	3	0	3
Stochastic Processes in Finance		3	0	3
MATH 416		3	0	3
Total		15	1	15

Semester 2

Course	Title	LT	LB	Cr
FIN Elective II		3	0	3
FIN 3/4xx		3	0	3
Market Microstructure and Algo Trading		3	0	3
FFE 440		3	0	3
Senior Project II		0	6	3
FFE 412		0	6	3
Computational Methods in Finance		3	0	3
MATH 476		3	0	3
Free Elective II		3	0	3
xxx 3/ 4xxx		3	0	3
Total		12	6	15



129 CR

Degree Plan

BS in Finance & Financial Engineering

 Four years | 128 Credit Hours | Internship

Freshman Year

Semester 1						Semester 2					
Course	Title	LT	LB	Cr		Course	Title	LT	LB	Cr	
BUS 200	Business & Entrepreneurship	3	0	3		ACCT 110	Intro. to Financial Accounting	3	0	3	
ECON 101	Principles of Microeconomics	3	0	3		ECON 102	Principles of Macroeconomics	3	0	3	
ENGL 101	Intro. to Academic Discourse	3	0	3		ENGL 102	Intro. to Argument Writing	3	0	3	
IAS 111	Belief and Consequences	2	0	2		IAS 121	Language Foundation	2	0	2	
MATH 101	Calculus I	4	0	4		ICS 104	Intro. to Programming in Python & C	2	3	3	
PE 101	Health and Physical Education III	0	2	1		MATH 102	Calculus II	4	0	4	
Total		15	2	16		Total		17	3	18	

Sophomore Year

Semester 1						Semester 2					
Course	Title	LT	LB	Cr		Course	Title	LT	LB	Cr	
ENGL 214	Academic & Professional Comm.	3	0	3		COE 292	Intro. to Artificial Intelligence	3	0	3	
FIN 250	Financial Management	3	0	3		ECON 205	Foundations of Econometrics	3	0	3	
IAS 212	Professional Ethics and Governance	2	0	2		FIN 315	Corporate Finance	3	0	3	
ISE 291	Intro. to Data Science	3	0	3		XXX /3/4 XX	Free Elective I	3	0	3	
MATH 210	Discrete Mathematics	3	0	3			Differential Equations and Linear Algebra	3	0	3	
STAT 214	Actuaries and Business Statistics	3	2	4		MATH 208		3	0	3	
Total		17	2	18		MGT 310	Organizational Behavior	3	0	3	
						Total		18	0	18	

Junior Year

Semester 1						Semester 2					
Course	Title	LT	LB	Cr		Course	Title	LT	LB	Cr	
CGS 392	Career Essentials	0	2	1		FFE 320	Time Series Analysis & Statistical Arbitrage	3	2	4	
ECON 3/4xx	Econ Elective	3	0	3			Decentralized Finance, Blockchain & Finance Tech Platforms	3	0	3	
FIN 3/4xx	FIN Elective I	3	0	3		FNT 360					
	Security Analysis and Portfolio Optimization	3	0	3		FFE 336	Interest Rates and Credit Risk Modeling	3	0	3	
FFE 335						FFE 338	Quantitative Risk Management	3	0	3	
MATH 416	Stochastic Processes in Finance	3	0	3		IAS 3/4xx	Islamic/Arabic Elective	2	0	2	
CXX 3/4XX	Computing Elective	3	0	3		FFE 333	Machine Learning in Finance	2	2	3	
Total		15	2	16		Total		16	4	18	

Senior Year

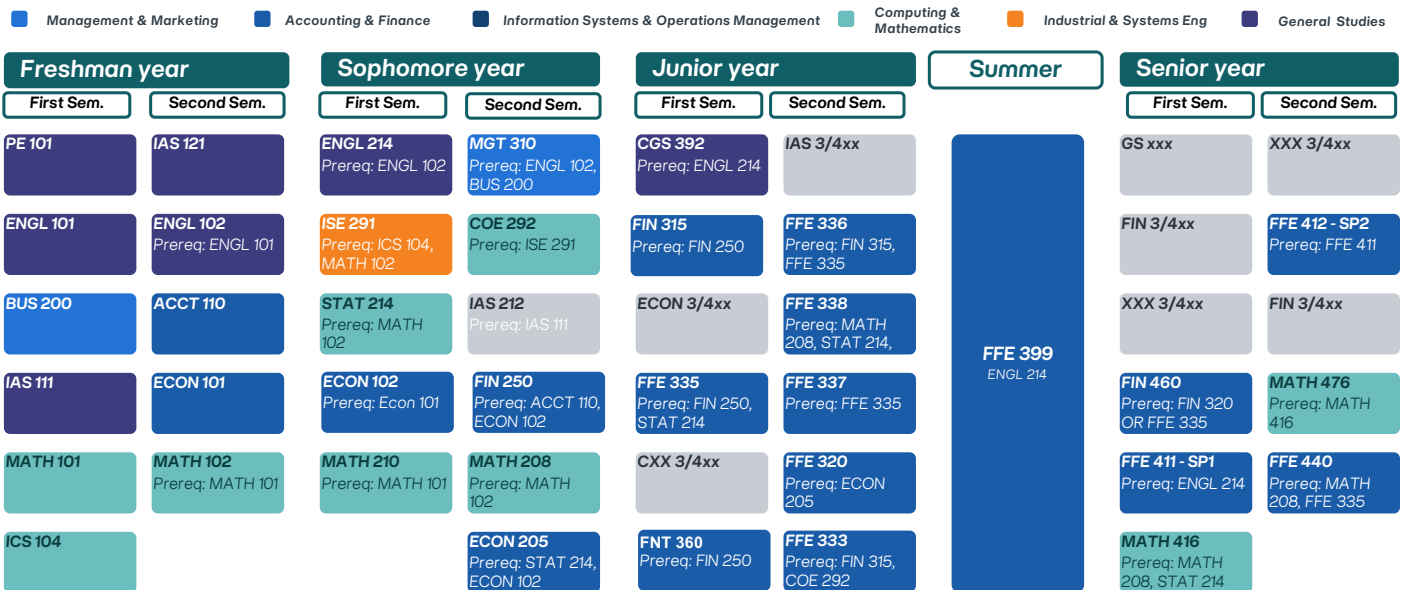
Semester 1						Semester 2					
Course	Title	LT	LB	Cr		Course	Title	LT	LB	Cr	
FFE 398	Internship	0	0	6		FIN 460	Futures and Options Markets	3	0	3	
FFE 411	Senior Project I	0	1	0		FFE 440	Market Microstructure and Algo Trading	3	0	3	
Total		0	1	6			Cases studies in Investment and Technical Analysis	3	0	3	
						FFE 412	Senior Project II	0	6	3	
						GS xxx	GS Elective	3	0	3	
						MATH 476	Computational Methods in Finance	3	0	3	
						Total		15	6	18	



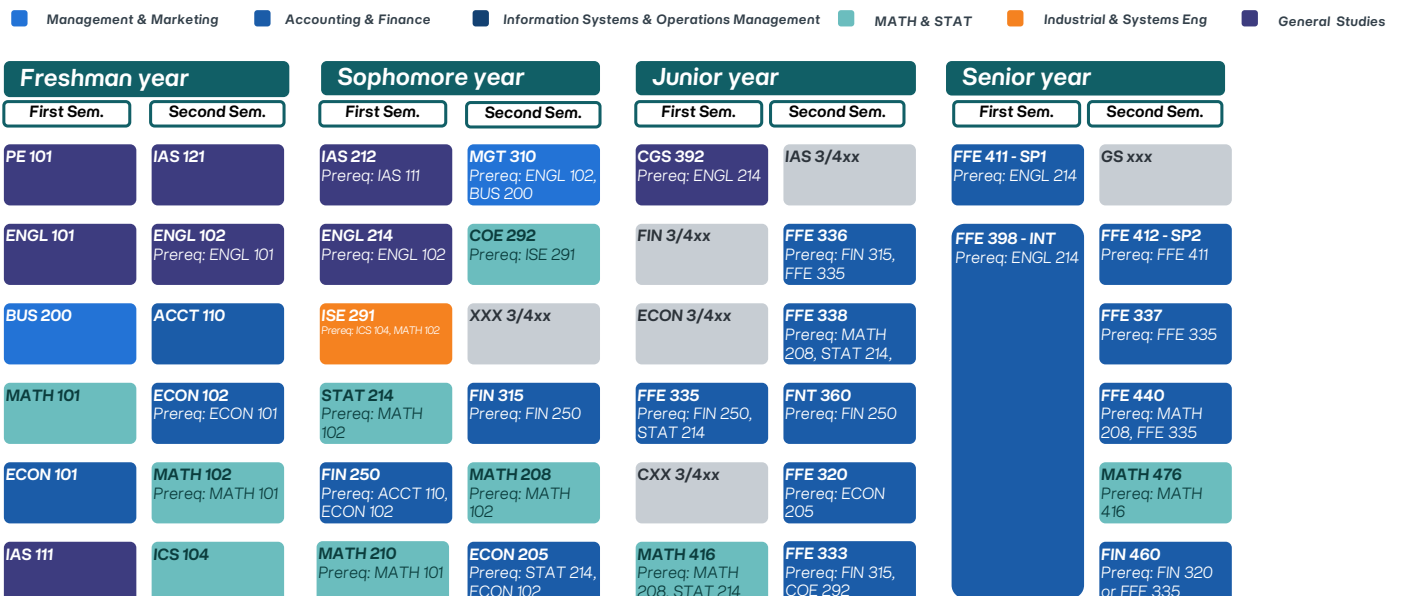
128 CR

Flow Chart

BS in Finance & Financial Engineering (Summer Training)



BS in Finance & Financial Engineering (Internship)



Course Description

BS in Finance & Financial Engineering

Course	FIN250: Financial Management	ECON 205: Foundations of Econometrics	FIN 315: Corporate Finance
Course Description	Basic concepts of finance, time value of money and conceptual framework of risk and return. Overview of financial markets and institutions, financial statements, ratio analysis, cash flow analysis, capital budgeting techniques, security valuation, the cost of capital, techniques of financial planning and analysis and working capital management.	Practical and conceptual issues involved in substantive applications of econometric techniques, analysis of estimation & inference procedures for simple econometric models, empirical case studies using real-life data, linear regression models and its diagnostics.	The theory and practice of financial decisions and their interaction to determine the firm's value. Capital investment decisions with certainty and under risk. Financing decision through capital structure theory, cost of capital. The dividends policy choices with implications. The management of working capital and short-term financing. Valuation of securities. Real options analysis, leasing, mergers and acquisitions, agency theory and corporate governance.
Pre-requisite	ACCT110, ECON 102	ECON102, STAT214	FIN 250
Course	FFE 335: Security Analysis and Portfolio Optimization	FFE 320: Time Series Analysis & Statistical Arbitrage	FFE 336: Interest Rates and Credit Risk Modeling
Course Description	Security analysis and portfolio optimization; valuation of equities, bonds, other financial assets using fundamental and quantitative approaches; application of modern portfolio theory to risk-return trade-offs; use of financial data, performance measures, optimization techniques; construction of efficient investment portfolios and support of practical investment decision-making.	Time series analysis and its application to statistical arbitrage in financial markets; statistical properties of financial data including trends, seasonality, and volatility; application of econometric and quantitative techniques for modeling and forecasting asset prices; design and evaluation of data-driven trading strategies based on mean reversion, cointegration, relative value; practical analysis of real financial time series.	Modeling and analysis of interest rates and credit risk; behavior of interest rates, term structure models, and yield curves; quantitative approaches to measuring and managing credit risk; application of mathematical and statistical techniques to real financial data; pricing of bonds and credit-sensitive instruments; assessment of default risk and support of risk management, investment decisions in financial institutions.
Pre-requisite	FIN 250, STAT 214	ECON 205	FIN 315, FFE 335

Course Description

BS in Finance & Financial Engineering

Course	FFE 337: Case Studies in Investment and Technical Analysis	FIN 460: Futures and Options Markets	FFE 333: Machine Learning in Finance
	Application of investment theory and technical analysis through real-world case studies; ethical decision-making in investment management; advising individual and institutional investors; long-term wealth management strategies; short-term tactical trading with emphasis on technical analysis; portfolio construction and evaluation; disciplined investment decision-making aligned with professional standards.	Derivative securities and their markets, the regulatory framework for financial derivatives and the operations of derivatives exchanges, the characteristics of futures and option contracts and their associated trading strategies for achieving risk-return objectives, arbitrage principles and pricing of derivative securities.	Machine learning techniques and their applications in financial analysis and decision making; Financial Data Sources, Data Cleaning, Feature Engineering; supervised learning; unsupervised learning; Classification Methods; Credit Scoring; Bankruptcy Prediction; Fraud Detection; Ensemble Methods, Bagging, Boosting, XGBoost; Dimensionality Reduction, Clustering, PCA; Predictive Analytics; Credit Risk Modeling, Loan Default Prediction.
	FFE 335	FIN 320 OR FFE 335	COE 292, FIN 315
Course	FFE 338: Quantitative Risk Management	FFE 440: Market Microstructure and Algo Trading	
	Quantitative methods for measuring, modeling, and managing financial risk; analysis of market, credit, and operational risks; application of statistical and mathematical techniques to real financial data; use of risk metrics, simulation methods, and stress testing; support of risk management practices and regulatory compliance in financial institutions.	Market microstructure and trading mechanisms; order-driven markets, price formation, and liquidity; design and evaluation of algorithmic trading strategies; analysis of transaction costs and execution risk; impact of trading algorithms on market quality; practical analysis of high-frequency and intraday market data.	
	MATH 208, STAT 214, FFE 335	MATH 208, FFE 335	

Career Prospects

BS in Finance & Financial Engineering



Investment / Risk Analyst

Evaluates financial market trends, assesses potential risks, and provides insights to help organizations make smart investment decisions.

Quantitative Analyst

Uses mathematical models and advanced data to predict market movements, test trading ideas, and develop systematic trading tools.

Algorithmic Trader / Broker

Executes automated trades and manages market transactions using computer-driven models to optimize speed and efficiency.

Portfolio Manager

Directs the buying and selling of investment assets, tracking performance to meet the financial and growth goals of clients or firms.

Stock Analyst/ Data Analyst in Finance

Gathers and interprets financial data to deliver clear insights that support smart business decisions and stock market investments.

Hedge Fund Strategy Analyst

Conducts deep market research to develop, test, and support specialized investment strategies for fund managers.

Investment, Risk or Credit Risk Analyst

Reviews financial health, measures potential lending or investment risks, and ensures safe financial practices across the organization.

Financial Engineer / Derivatives Analyst

Designs new financial products and risk-management tools to help companies protect against market shifts.



Thank you

