EFIN - Financial Engineering

EFIN 101 Introduction to Financial Engineering: 1 Credits (1 Lec)
A seminar course surveying the financial engineering profession. Topics
include an overview of career opportunities, problem solving processes, and
an introduction to the basic financial engineering processes, professionalism,
and ethics.

EFIN 301 Engineering & Economic Financial Management I: 3 Credits
(3 Lec)
PREREQUISITE: ECNS 301, EIND 354, and CSCI 127
COREQUISITE: EFIN 101. Introduction to financial engineering
principles and tools used to manage risk, lower costs, and access new
markets. Applications of arbitrage pricing are explored with emphasis on
derivatives and applications. Numerous numerical financial applications
using R and higher-level programming languages

EFIN 305 R Lab for Financial Engineering I: 1 Credits (1 Lab)
PREREQUISITE: None. This computer lab course will supplement topics
in EFIN 301 by introducing students to using R to analyze financial
engineering concepts. In addition to introducing students to basic
numerical and functional procedures in R, the lab will emphasize tools in
data analytics to import, visualize, simulate, estimate, and export data in
order to solve applied problems related to financial analytics

EFIN 401 Engineering & Economic Financial Management II: 3
Credits (3 Lec)
PREREQUISITE: EFIN 301
This is the second course in the financial engineering course sequence.
Financial engineering develops and manages financial strategies and tools
in financial management. Topics include optimization, depreciation, risk
management, asset value models, stress testing, credit derivatives, and
regulation.

EFIN 405 R Lab Class II: 1 Credits (1 Lab)
PREREQUISITES: EFIN 301 CO-REQUISITE: EFIN 401 This
course is the lab class for EFIN 401, Engineering & Economic Financial
Management II, the second course in the financial engineering sequence.
Financial engineering develops and manages financial strategies and tools
in financial/risk management. This course will utilize R to modelling and
implementing the asset pricing, risk assessment, and risk management
procedures discussed in EFIN 401

EFIN 499R Financial Engineering Design Capstone: 3 Credits (1 Lec, 2
Other)
PREREQUISITE: EFIN 401. (Sp) A comprehensive open-ended team
design project emphasizing the engineering and evaluation of financial
instruments and decision support models in order to manage risk, create
strategic business opportunities, lower costs and access new markets.
Teamwork and communication skills emphasized