

EFIN - Financial Engineering

EFIN 101 Introduction to Financial Engineering: 1 Credits (1 Lec)

(F) 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. (Sp) 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. (Sp) 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. (F) 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 498 Internship: 1-3 Credits (1-3 Other)

PREREQUISITE: EFIN 301 and consent of internship coordinator. (F, Sp, Su) An individualized assignment arranged with an agency, business, or other organization to provide guided experience in the field

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