



**FIN 6456 – Section 001
10104
Quantitative Methods in Finance
Spring 2016
OD 103
W 6:15-10:00 PM**

Professor Information

Antoine Giannetti
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561-297-3192

Office Hours

T R 1:00-3:00 PM

Other times by appointment

Required Text and Materials

Quantitative Investment Analysis, 2nd edition, by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, David E. Runkle **and its associated workbook.**

Students should always bring an electronic calculator in class. Familiarity with Microsoft Excel is required.

Course Description

Introduces financial applications of quantitative techniques covered in areas such as probability, Probability Distributions and Descriptive Statistics, Sampling and Estimation, Hypothesis Testing, Correlation Analysis and Regression, Optimization, Time-Series Analysis and Simulation Analysis. The course requires a project using statistical software.

Course Prerequisites and Credit Hours and Class Time Commitments

Prerequisites: SUCCESSFUL COMPLETION OF MARKET RATE MS FINANCE “BOOTCAMP.”

“According to Florida State Statute 6A-10.033, students must spend a minimum 2,250 minutes of in class time during a 3-credit course. Additionally, students enrolled in a 3-credit course are expected to spend a minimum of 4,500 minutes of out-of-class-time specifically working on

course-related activities (i.e., reading assigned pieces, completing homework, preparing for exams and other assessments, reviewing class notes, etc.) and fulfilling any other class activities or duties as required.” The course schedule for this course reflects this expectation of students.

Grading Scale

Letter grades will be assigned as follows:

A 90 % or above of possible points

B 80%-89.9% of possible points

C 70%-79.9% of possible points

D 60%-69.9% of possible points

F below 60% of possible points

Plus and Minus grades will be assigned with respect to the mid-point in each letter grade. The official university policy will be followed for grades of I, Incomplete. The official policy is “A student who is passing a course but has not completed all the required work because of exceptional circumstances may, with the approval of the instructor, receive a grade of Incomplete (I). It is not to be used to allow students to do extra-work, subsequently to raise the grade earned in the regular term”.

Course Evaluation Method

Exams and project will not be curved. There are 200 possible points, and grades will be determined as follows:

Exam : 100 points

Project: 100 points

Total: 200 points

Only the Total score may be curved, if needed. The project will involve the development of a statistical model to analyze the drivers of stock returns. Regression methods, hypothesis testing and simulations will be used.

Missing Exams

Make-up exams will only be given in extraordinary circumstances for a valid and documented reason. Conflicts with examinations dates or times need to be brought to the attention of the instructor at least one week before the exam so that arrangements can be made. The instructor reserves the right to give a make-up exam different from the one given at the regularly scheduled exam.

Attendance Policy

Students are expected to attend class.

Additional Course Policies

Missing Exams

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Attendance Policy

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Learning Outcomes

LO 1: Review fundamental statistical concepts (population vs sample, parameter vs sample statistics).

LO 2: Understand the fundamental estimation techniques (Least Squares vs Maximum Likelihood).

LO 3: Describe and interpret common descriptive statistics with applications to security returns, book-to-market ratio.

LO 4: Describe common probability distributions and their application to Finance.

LO 5: Define the process of hypothesis testing and discuss statistical vs. economic significance.

LO 6: Discuss the process and pitfalls of regression analysis applied to Finance.

LO 7: Formulate a multiple regression model in context like Asset Pricing and interpret the statistical and economic significance of the output.

LO 8: Understand the specificity of Time Series models for forecasting financial quantities like ratios and earnings.

LO 9: Understand the statistical concepts underlying portfolio analysis.

LO 10: Understand the importance of simulations to overcome data limitations in Finance.

Course Outline

Week 1: Time Value of Money- Discounted Cash-Flow Application.

Week 2: Statistical Concepts and Market Returns.

Week 3: Probability Concepts

Week 4: Common Probability Distributions.

Week 5: Sampling and Estimation,

Week 6: Hypothesis Testing.

Week7: Correlation and Regression.

Week 8: Multiple Regression and Issues in Regression Analysis.

Week 9: Time-Series Analysis.

Week 10: Portfolio Concepts.

Selected University and College Policies

Code of Academic Integrity Policy Statement

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Disability Policy Statement

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the Office for Student Assessability Services (SAS) – in Boca Raton, SU 133, (561) 297-3880; in

Davie, LA 131, (954) 236-1657; in Jupiter, SR 117, (561) 799-8585 – and follow all SAS procedures.

Religious Accommodation Policy Statement

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices **and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments.** For further information, please see [Academic Policies and Regulations](#).

University Approved Absence Policy Statement

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

College of Business Minimum Grade Policy Statement

The minimum grade for College of Business requirements is a "C". This includes all courses that are a part of the pre-business foundation, business core, and major program. In addition, courses that are used to satisfy the university's "Writing Across the Curriculum" and Gordon Rule math requirements also have a minimum grade requirement of a "C". Course syllabi give individualized information about grading as it pertains to the individual classes.

Incomplete Grade Policy Statement

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete ("I") grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing ("F") grade.

Withdrawals

Any student who decides to drop is responsible for completing the proper paper work required to withdraw from the course.

Grade Appeal Process

A student may request a review of the final course grade when s/he believes that one of the following conditions apply:

- There was a computational or recording error in the grading.

- Non-academic criteria were applied in the grading process.
- There was a gross violation of the instructor's own grading system.

The procedures for a grade appeal may be found in [Chapter 4 of the University Regulations](#).

Disruptive Behavior Policy Statement

Disruptive behavior is defined in the FAU Student Code of Conduct as “... *activities which interfere with the educational mission within classroom.*” Students who behave in the classroom such that the educational experiences of other students and/or the instructor's course objectives are disrupted are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct.

Faculty Rights and Responsibilities

Florida Atlantic University respects the right of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions which do not impede their exercise. To ensure these rights, faculty members have the prerogative:

- To establish and implement academic standards
- To establish and enforce reasonable behavior standards in each class
- To refer disciplinary action to those students whose behavior may be judged to be disruptive under the Student Code of Conduct.