Finance and Risk Management

Finance is a business discipline that prepares students for entry into a variety of corporate roles and financial professions. All of these areas of engaging and challenging work address present-time decision-making for uncertain future outcomes and the planning for uncertainty events. In the investment area, this activity involves the measurement of the risk and the return associated with investments and the decision making for the investment of savings. In the insurance area, this activity involves the measurement and value assessment of uncertain events and outcomes that effect the normal activity and experiences of individuals and organizations. The identification, analysis, assessment, control, avoidance, minimization, and/or the elimination of unacceptable risks is risk management.

Actuarial science and the role of actuaries is essential to effective risk management. The actuarial sciences combine mathematical and statistical methods with the theory, modeling, and instruments of finance to assess and manage risks. Actuaries work for companies in a range of fields, particularly insurance and pension funds, to analyze the potential for undesirable events to occur and helping to plan for those events. Actuaries are generously compensated and certified in their field through intense education and experience. To become certified, they must demonstrate their competence by passing a series of professional examinations.

The risk management concentration is heavily quantitative and includes a number of interrelated subjects, including mathematics, probability theory, statistics, finance, economics, and business analytics. These courses, as well as risk management concentration courses and the actuarial exam preparation, provide the knowledge to prepare students for actuarial success. The risk management program at COBA is built around a pedagogical strategy and tactical planning, employing lab-based data integration. Digital integration applies actuarial science and financial modeling through the use of computer software (Excel, SAS, Visual Basic or VBA, and R) to real-world data, so that students are prepared to perform on the job from day one. This approach encourages students to interact with each other to improve their understanding of the material, and to interact with insurance industry professionals to engage in internships, mentoring, and professional development activities. This apprentice-like format is implemented through the College’s Prudential Financial Services Academy for Risk Management Professionals.

In addition to a student’s preparation and excellence through academic coursework, the Prudential Academy will ensure professional readiness. There are three major objectives for students participating in the risk management program. First, the students will be prepared to take and pass two of the required exams to become an actuary: the P (Probability) and F/M (Financial Mathematics) exams, which are administered by the Society of Actuaries (SOA). Specific preparatory classes are part of the degree plan. Second, the students will develop strong computing skills applying common computer software that is widely used in the insurance industry. They will be able to build complex Excel spreadsheets, write VBA Excel macros, create statistical and forecast models in SAS and R, manipulate and organize large datasets in SAS and Excel, and develop actuarial models based on market data. Third, business and interpersonal skills will be developed through professional workshops, interactions with actuary students at other universities both domestic and international, and the integration of industry professionals in the program’s life.
## Risk Management Degree Plan

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**FIRST SEMESTER**
- MATH 1411 Calculus I  
  4
- SCI 1301 Inquiry in Mathematics & Science  
  3
- RWS 1301 Rhetoric and Composition I  
  3
- HIST 1301 History of the US to 1865  
  3
- BUSN 1301 Introduction to Global Business  
  3

**SECOND SEMESTER**
- MATH 1312 Calculus II  
  3
- ACCT 2301 Principles of Accounting I  
  3
- ECON 2303 Principles of Economics I  
  3
- RWS 1302 Rhetoric & Composition II  
  3
- HIST 1302 History of US since 1865  
  3

**THIRD SEMESTER**
- MATH 2313 Calculus III  
  3
- FIN 3310 Business Finance  
  3
- ACCT 2302 Principles of Accounting II  
  3
- ECON 2304 Principles of Economics  
  3
- CIS 3345 Management Information Systems  
  3

**FOURTH SEMESTER**
- GEOL 1211 Principles of Earth Sciences  
  2
- GEOL 1111 Principles of Earth Sciences Lab  
  1
- ACCT 3321 Intermediate Accounting  
  3
- FIN 4340 Actuarial Finance  
  3
- POLS 2310 Introduction to Politics  
  3
- QMB 3456 ACT Methods I  
  3

**FIFTH SEMESTER**
- FIN 3315 Investments  
  3
- *GEOL 1212 Principles of Earth Science  
  2
- *GEOL 1112 Laboratory for Geology 1212  
  1
- OSCM 3321 Operations Management  
  3
- QMB 3350 Business Analytics  
  3
- QMB 4456 ACT Methods II  
  3

**SIXTH SEMESTER**
- FIN 4315 Portfolio Analysis  
  3
- FIN 4315A Portfolio Analysis Laboratory  
  1.5
- MGMT 3303 Introduction to management  
  3
- QMB 4345 Financial Econometrics  
  3
- *PHIL 2306 Ethics  
  3

**SEVENTH SEMESTER**
- FIN 3317 Principles of Insurance  
  3
- MKT 3300 Principles of Marketing  
  3
- FIN 4316 Analysis of Derivatives  
  3
- ECON 3310 Managerial Economics  
  3
- FIN 4310 Managerial Finance  
  3
- FIN 4311A Managerial Finance Laboratory  
  1.5

**EIGHTH SEMESTER**
- POLS 2311 American Government & Politics  
  3
- *THEA 1313 Introduction to Theatre  
  3
- MGMT 4300 Strategic Management  
  3
- BLAW 3301 Legal Enviroment of Business  
  3
- BUSN 3304 Global Business Enviroment  
  3

**COBA Recommended course, other options available in University Core's Component Areas.**

**Students pursuing the actuarial certification will be prepared to take the Financial Mathematics (FM) Examination in the fourth semester and the Probability (P) Exam in the sixth semester.**

See Online Catalog for Course Description:

degreeplans.utep.edu

Every effort was made to provide accurate and up to date information.  
Terms and conditions are subject to change.