

# FINANCE, BACHELOR OF SCIENCE (B.S.)

The Bachelor of Sciences in Finance prepares students with the knowledge and skills to analyze information and data to support effective financial decision-making; apply the fundamentals of finance, planning and budgeting to support businesses; and communicate financial analysis and conclusions in a manner which informs and improves quality of organizational and individual decision-making. Graduates of the program will be prepared for productive careers in a wide range of financial occupations including corporate financial management, financial planning and analysis, financial sales, business lending, credit analysis and management, treasury operations, commercial and investment banking, risk management, insurance sales, underwriting and claims management, securities analysis, investment management, and financial advisory functions.

## Learning goals

The program is designed to help students develop skills in financial management and investments. Graduates will be able to analyze and communicate findings on complex financial issues.

## Student learning outcomes

Upon completing this program:

- Students will be able to identify and use relevant data to calculate appropriate quantitative measures that help in making informed financial decisions.
- Students will be able to describe and expound on several financial solutions in a structured, organized and deliberate manner with comparisons, anecdotal evidence and descriptive analysis.
- Students will be able to express the analytic, quantitative and ethical dimensions of a business problem and proposed solutions in a clear, well-organized manner that is free of bias or distortions.
- Students will be able to identify and analyze ethical dimensions of a business situation and relate those dimensions to general and professional ethical standards.

## Special requirements

The admission requirements for the School of Business (<http://bulletin.vcu.edu/undergraduate/business/undergraduate-information/academic-policies/>) detail the deadlines and other requirements for students to be admitted to one of these major programs of study. The following courses must be completed before the student may declare a specific business major: ACCT 203, ACCT 204, BUSN 201 or BUSN 205, BUSN 212 or MATH 200, BUSN 225, ECON 210, ECON 211, UNIV 111, UNIV 112 and UNIV 200.

The School of Business has special academic policies (<http://bulletin.vcu.edu/undergraduate/business/undergraduate-information/academic-policies/>), including policies on transfer credits, that apply to all undergraduate degrees.

All baccalaureate degree programs in the School of Business require successful completion of the business knowledge exam as administered in BUSN 499.

Students may need to take additional mathematics courses as prerequisites to BUSN 212 or MATH 200. These credits will count as open electives in the degree program.

No more than six credits from the INFO 16X Digital Literacy courses may be applied to the degree.

No more than four credits in physical education courses may be applied to the degree.

INTL 493 may not be counted toward a business degree.

Credit for SPCH 121 or SPCH 321 will substitute for BUSN 225, and no more than three credits of these courses may be applied toward a business degree. Students who earned a minimum grade of B in either ECON 203 or ECON 205 at VCU may substitute that credit for ECON 210.

The pass/fail grading policy may not be used for many course requirements. Students should check with their academic adviser before taking the pass/fail grading option.

Students must receive a minimum grade of C in FIRE 317, FIRE 321 and FIRE 461, and they must have a minimum GPA of 2.0 in the remainder of the finance major requirements. The minimum grade of C in FIRE 317, FIRE 321 and FIRE 461 must be obtained after two attempts (a withdrawal counts as an attempt) or the student is asked to change majors.

## Degree requirements for Finance, Bachelor of Science (B.S.)

| Course  | Title  | Hours |
|---|--|-------|
| General education ( <a href="http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/">http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/</a> ) |  |       |
| Select 12-13 credits from general education foundations and 17-18 credits from areas of inquiry.  |  | 30    |
| <b>Major requirements</b>   |  |       |
| • Major core requirements   |  |       |
| FIRE 312  | Financial Modeling   | 3     |
| FIRE 317  | Investments  | 3     |
| FIRE 321  | Intermediate Financial Management                              | 3     |
| • Additional major requirements   |  |       |
| FIRE 461  | Cases in Financial Management                                  | 3     |
| • Major electives   |  |       |
| Restricted FIRE electives (choose two)  |  | 6     |
| FIRE 417  | Security Analysis and Portfolio Management                     |       |
| FIRE 441  | Funds Management in Financial Institutions                     |       |
| FIRE 451  | Options, Futures and Swaps                                     |       |
| Approved finance electives (Choose four from approved list.) <sup>1</sup>   |  | 12    |
| <b>Ancillary requirements</b>   |  |       |
| • Ancillary core courses  |  |       |
| ACCT 203 & ACCT 204   | Introduction to Accounting I and Introduction to Accounting II | 6     |
| BUSN 225  | Winning Presentations  | 3     |
| BUSN 301  | Career and Professional Development                            | 1     |
| BUSN 323 or FIRE 459  | Legal Environment of Business Insurance Law                    | 3     |
| BUSN 499  | Business Knowledge Exam  | 0     |

|                                     |  |            |
|-------------------------------------|--|------------|
| ECON 210                            | Principles of Microeconomics (satisfies general education BOK for social/behavioral sciences and/or AOI for global perspectives)                       | 3          |
| ECON 211                            | Principles of Macroeconomics   | 3          |
| FIRE 311                            | Financial Management   | 3          |
| INFO 360                            | Business Information Systems   | 3          |
| MGMT 303                            | Creativity and Ideation  | 3          |
| MGMT 310                            | Managing People in Organizations   | 3          |
| MGMT 434                            | Strategic Management   | 3          |
| MKTG 301                            | Marketing Principles   | 3          |
| SCMA 301                            | Business Statistics I  | 3          |
| SCMA 320                            | Production/Operations Management   | 3          |
| • Additional ancillary requirements |  |            |
| BUSN 201<br>or BUSN 205             | Foundations of Business <sup>2</sup><br>Introduction to the World of Business  | 3          |
| BUSN 212<br><br>or MATH 200         | Differential Calculus and Optimization for Business (either satisfies general education quantitative foundations)<br>Calculus with Analytic Geometry I | 3-4        |
| <b>Open electives</b>               |  |            |
| Select any course. <sup>3</sup>     |  | 16-17      |
| <b>Total Hours</b>                  |  | <b>120</b> |

1

FIRE 417, FIRE 441 and FIRE 451 may count as a finance elective if not used as one of the restricted electives.

2

BUSN 205 satisfies general education AOI for global perspectives.

3

Students may choose electives to reach the minimum total of 120 credits.

**The minimum number of credit hours required for this degree is 120.**

### Approved finance electives

| Course                 | Title  | Hours |
|------------------------|--|-------|
| ACCT 303               | Intermediate Accounting I  | 3     |
| ACCT 306               | Cost Accounting  | 3     |
| BUSN 400<br>& BUSN 401 | Principles of Consulting and International Consulting Practicum (must get credit for both courses to count toward degree completion) | 6     |
| ECON 300               | Contemporary Economic Issues   | 3     |
| ECON 301               | Microeconomic Theory   | 3     |
| ECON 302               | Macroeconomic Theory   | 3     |
| ECON 303               | Managerial Economics   | 3     |
| ECON 305               | Public Finance   | 3     |
| ECON 307               | Money and Banking  | 3     |
| ECON 315               | Economic Development   | 3     |
| ECON 325               | Environmental Economics  | 3     |
| ECON 333               | Behavioral Economics   | 3     |

|          |   |     |
|----------|---|-----|
| ECON 338 | Game Theory   | 3   |
| ECON 402 | Business Cycles and Forecasting                         | 3   |
| ECON 403 | Introduction to Mathematical Economics                  | 3   |
| ECON 419 | History of Economic Thought                             | 3   |
| ECON 421 | Government and Business                                 | 3   |
| ECON 442 | Economic Growth   | 3   |
| FIRE 305 | Principles of Real Estate                               | 3   |
| FIRE 309 | Risk Management and Insurance                           | 3   |
| FIRE 315 | Real Property Management                                | 3   |
| FIRE 316 | International Financial Management                      | 3   |
| FIRE 319 | Financial Mathematics                                   | 3   |
| FIRE 320 | Actuarial Probability Concepts                          | 3   |
| FIRE 359 | Issues in Risk Management and Insurance                 | 3   |
| FIRE 417 | Security Analysis and Portfolio Management              | 3   |
| FIRE 419 | Advanced Risk and Insurance                             | 3   |
| FIRE 425 | Real Estate Appraisal                                   | 3   |
| FIRE 435 | Real Estate Finance and Capital Markets                 | 3   |
| FIRE 439 | Life Cycle Risk Management                              | 3   |
| FIRE 441 | Funds Management in Financial Institutions              | 3   |
| FIRE 445 | Real Estate Investment Analysis                         | 3   |
| FIRE 449 | Employee Benefit Planning                               | 3   |
| FIRE 451 | Options, Futures and Swaps                              | 3   |
| FIRE 479 | Managing Financial Risk                                 | 3   |
| FIRE 491 | Topics in Finance, Insurance and Real Estate            | 1-3 |
| FIRE 492 | Independent Study in Finance, Insurance and Real Estate | 1-3 |
| FIRE 493 | Internship in Finance, Insurance and Real Estate        | 3   |
| FIRE 540 | Financial Analytics                                     | 3   |
| MGMT 319 | Leadership  | 3   |
| SCMA 302 | Business Statistics II                                  | 3   |

### Freshman year

| Fall semester            | Hours  |           |
|--------------------------|--|-----------|
| MATH 151                 | Precalculus Mathematics (counts toward open electives)           | 4         |
| UNIV 111                 | Focused Inquiry I (satisfies general education UNIV foundations) | 3         |
| Play course              | video for Focused Inquiry I                                      | 3         |
| General education course |  | 3         |
| General education course |  | 3         |
| Open elective            |  | 3         |
| <b>Term Hours:</b>       |  | <b>16</b> |

### Spring semester

|          |                       |   |
|----------|-----------------------|---|
| BUSN 225 | Winning Presentations | 3 |
|----------|-----------------------|---|

|   |   |    |
|---|---|----|
| MATH 200<br>or<br>BUSN 212                                    | Calculus with Analytic Geometry I (satisfies general education quantitative foundations) or Differential Calculus and Optimization for Business | 4  |
| UNIV 112<br>Play course<br>video for<br>Focused<br>Inquiry II | Focused Inquiry II (satisfies general education UNIV foundations)   | 3  |
|   | General education course  | 3  |
|   | General education course  | 3  |
|   | Term Hours:   | 16 |
| <b>Sophomore year</b>   |   |    |
| <b>Fall semester</b>  |   |    |
| ACCT 203  | Introduction to Accounting I  | 3  |
| BUSN 201<br>or<br>BUSN 205                                    | Foundations of Business <sup>1</sup> or Introduction to the World of Business <sup>1</sup>  | 3  |
| ECON 210  | Principles of Microeconomics (satisfies general education BOK for social/behavioral sciences and/or AOI for global perspectives)                | 3  |
| UNIV 200  | Inquiry and the Craft of Argument (satisfies general education UNIV foundations)  | 3  |
|   | General education course  | 3  |
|   | Term Hours:   | 15 |
| <b>Spring semester</b>  |   |    |
| ACCT 204  | Introduction to Accounting II   | 3  |
| BUSN 301  | Career and Professional Development   | 1  |
| ECON 211  | Principles of Macroeconomics  | 3  |
| MKTG 301  | Marketing Principles  | 3  |
| SCMA 301  | Business Statistics I   | 3  |
|   | Open elective   | 3  |
|   | Term Hours:   | 16 |
| <b>Junior year</b>  |   |    |
| <b>Fall semester</b>  |   |    |
| FIRE 311  | Financial Management  | 3  |
| MGMT 310  | Managing People in Organizations  | 3  |
| SCMA 320  | Production/Operations Management  | 3  |
|   | Open electives  | 6  |
|   | Term Hours:   | 15 |
| <b>Spring semester</b>  |   |    |
| FIRE 312  | Financial Modeling  | 3  |
| FIRE 317  | Investments   | 3  |
| MGMT 303  | Creativity and Ideation   | 3  |
|   | Approved finance electives  | 6  |
|   | Term Hours:   | 15 |
| <b>Senior year</b>  |   |    |
| <b>Fall semester</b>  |   |    |
| FIRE 321  | Intermediate Financial Management   | 3  |
| INFO 360  | Business Information Systems  | 3  |

|                            |  |     |
|----------------------------|--|-----|
| BUSN 323<br>or<br>FIRE 459 | Legal Environment of Business or Insurance Law | 3   |
|                            | Approved finance electives                     | 3   |
|                            | Restricted FIRE elective                       | 3   |
|                            | Term Hours:                                    | 15  |
| <b>Spring semester</b>     |  |     |
| BUSN 499                   | Business Knowledge Exam                        | 0   |
| FIRE 461                   | Cases in Financial Management                  | 3   |
| MGMT 434                   | Strategic Management                           | 3   |
|                            | Approved finance elective                      | 3   |
|                            | Restricted FIRE elective                       | 3   |
|                            | Term Hours:                                    | 12  |
|                            | Total Hours:                                   | 120 |

The minimum number of credit hours required for this degree is 120.

## Accelerated B.S. and M.S.

The accelerated B.S. and M.S. program allows qualified students to earn both the B.S. in Finance and M.S. in Business with a concentration in finance in a minimum of five years by completing approved graduate courses during the senior year of their undergraduate program. Students in the program may count up to 12 hours of graduate courses toward both the B.S. and M.S. degrees. Thus, the two degrees may be earned with a minimum of 138 credits rather than the 150 credits necessary if the two degrees are pursued separately.

Students holding these degrees would have a more in-depth understanding of the complex world of finance. The analytical and communication skills gained through these accelerated degrees will make graduates more marketable for the jobs in the corporate finance and investment management industry.

## Admission to the program

Minimum qualifications for admittance to the program include completion of 85 undergraduate credit hours including FIRE 311, FIRE 312 and FIRE 317; an overall GPA of 3.25; and a GPA of 3.25 in finance and quantitative course work. Successful applicants would enter the program in the fall semester of their senior year.

Undergraduate students must have departmental approval to participate in an accelerated program. Students may be admitted after completing all courses listed as recommended for the junior year in the course sequence below; applications must be received no later than Nov. 1 for spring semester admission and no later than July 1 for fall semester admission.

Three reference letters (at least one from a finance faculty member) must accompany the application. Students who are interested in the accelerated program should consult with the faculty adviser to the master's program before they have completed 85 credits.

Once admitted into the accelerated program, students must meet the standards of performance applicable to graduate students as described in the "Satisfactory academic progress" section of the Graduate Bulletin, including maintaining a 3.0 GPA. Guidance to students admitted to the accelerated program is provided by both the undergraduate finance adviser and the faculty adviser to the graduate program.

## Degree requirements

The Bachelor of Science in Finance degree will be awarded upon completion of a minimum of 120 of credits in the undergraduate program and the satisfactory completion of all undergraduate degree requirements as stated in the Undergraduate Bulletin.

A maximum of 12 graduate credits may be taken prior to completion of the baccalaureate degree. These graduate credits substitute for required finance restricted elective, approved finance elective or an open elective for the undergraduate degree. These courses are shared credits with the graduate program, meaning that they will be applied to both undergraduate and graduate degree requirements.

The graduate finance courses that may be taken as an undergraduate, once a student is admitted to the program, are:

| Course   | Title  | Hours |
|----------|--|-------|
| FIRE 610 | Financial Modeling and Analysis                | 3     |
| FIRE 622 | Financial Management of Financial Institutions | 3     |
| FIRE 623 | Financial Management                           | 3     |
| FIRE 635 | Investments and Security Analysis              | 3     |

## Recommended course sequence/plan of study

What follows is the recommended plan of study for students interested in the accelerated program beginning in the fall of the junior year prior to admission to the accelerated program in the senior year.

| Course                  | Title   | Hours |
|-------------------------|---|-------|
| <b>Junior year</b>      |   |       |
| Fall semester           |   |       |
| FIRE 311                | Financial Management  | 3     |
| MGMT 310                | Managing People in Organizations                                  | 3     |
| SCMA 302                | Business Statistics II  | 3     |
| Open electives          |   | 6     |
| Term Hours:             |   | 15    |
| Spring semester         |   |       |
| FIRE 312                | Financial Modeling  | 3     |
| FIRE 317                | Investments   | 3     |
| MGMT 303                | Creativity and Ideation   | 3     |
| Finance electives       |   | 6     |
| Term Hours:             |   | 15    |
| <b>Senior year</b>      |   |       |
| Fall semester           |   |       |
| BUSN 323<br>or FIRE 429 | Legal Environment of Business<br>Property and Liability Insurance | 3     |
| FIRE 321                | Intermediate Financial Management                                 | 3     |
| FIRE 610                | Financial Modeling and Analysis                                   | 3     |
| FIRE 635                | Investments and Security Analysis                                 | 3     |
| INFO 360                | Business Information Systems                                      | 3     |
| Term Hours:             |   | 15    |
| Spring semester         |   |       |
| BUSN 499                | Business Knowledge Exam   | 0     |
| FIRE 461                | Cases in Financial Management                                     | 3     |
| FIRE 622                | Financial Management of Financial Institutions                    | 3     |

|                            |                               |    |
|----------------------------|-------------------------------|----|
| FIRE 623                   | Financial Management          | 3  |
| MGMT 434                   | Strategic Management          | 3  |
| Term Hours:                |                               | 15 |
| <b>Fifth year</b>          |                               |    |
| Fall semester              |                               |    |
| FIRE 621                   | Cases in Financial Management | 3  |
| Graduate program electives |                               | 6  |
| Term Hours:                |                               | 9  |
| Spring semester            |                               |    |
| Graduate program electives |                               | 9  |
| Term Hours:                |                               | 9  |

### FIRE 291. Topics in Finance, Insurance and Real Estate. 1-3 Hours.

Variable hours. Variable credit. Maximum of 3 credits per topic. Prerequisite: permission of instructor. An in-depth study of selected business topics. Graded as pass/fail at the option of the department.

### FIRE 301. Personal Financial Planning. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Designed to assist individuals and households in understanding and making common financial decisions. Units include income and expenditure, credit, borrowing, banking, savings, insurance, home buying, investment, and estate planning.

### FIRE 305. Principles of Real Estate. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Focuses on the language, principles, practices and laws that govern the real estate enterprise, including property rights, legal elements, physical aspects of location and production, brokerage, valuation, ethical dimensions, development, financing and land use.

### FIRE 306. Regulatory Aspects of Safety and Risk Control. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Examines political, scientific and social concepts of risk that influence the regulation of certain societal hazards and threats. Includes a survey of federal and state laws, regulations and standards that impact upon employment, the environment, industrial security, consumer protection and occupational safety and health.

### FIRE 307. System Safety. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Addresses the concepts and practices of system safety; included are basic system concepts, application of system safety techniques, qualitative and quantitative applications such as fault-free, failure-mode-and-effects, MORT and cost-benefit analyses.

### FIRE 308. Incident Investigation and Analysis. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Reviews various conceptual and analytical models used in accident/incident investigation strategies and reporting systems, report formats, data collection methods, causal inferences, problem identification and data analysis; in-depth case studies and epidemiological reviews of recent events will be emphasized.

### FIRE 309. Risk and Insurance. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Nature of risk; insurance and other risk-handling methods; examination of basic life, health, property and liability principles and coverages.

**FIRE 311. Financial Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisites: MATH 200 or BUSN 212\*; ACCT 203 or ACCT 202 (for non-business majors); and ECON 210, or ECON 203 or ECON 205 with a minimum grade of B. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing) or 24 credits with minimum cumulative GPA of 2.5. Principles of optimal financial policy in the procurement and management of wealth by profit-seeking enterprises; the application of theory to financial decisions involving cash flow, capital structure and capital budgeting. \*Formerly MGMT 212, SCMA 212.

**FIRE 312. Financial Modeling. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisites: FIRE 311 with a minimum grade of C; and SCMA 301, STAT 210, STAT 212 or STAT 541. Enrollment is restricted to students with majors or concentrations offered by the Department of Finance, Insurance and Real Estate who have completed at least 54 credit hours (junior standing). This course is designed to introduce students to a wide array of primarily Excel techniques used in financial model building. Students will be introduced to techniques such as data tables, solver, matrix manipulation, array formulas, pivot tables, etc., to create financial models that are common in the areas of finance, risk management and real estate finance.

**FIRE 313. Financial Management for Small Business. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 311. This course is restricted to students who have completed at least 54 credit hours (junior standing). This course emphasizes financial management needs for entrepreneurs or persons who expect to be employed in closely held corporations.

**FIRE 315. Real Property Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Real property economics, planning, construction, marketing and management of leased properties.

**FIRE 316. International Financial Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 311. This course is restricted to students who have completed at least 54 credit hours (junior standing). Financial management of business in an international environment. Emphasis on tools and techniques to prepare financial managers of multinational firms to effectively respond to the challenges of the international environment. Crosslisted as: INTL 416.

**FIRE 317. Investments. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisites: FIRE 311; and SCMA 301, STAT 210, STAT 212, STAT 312 or STAT 541. This course is restricted to students who have completed at least 54 credit hours (junior standing). An analysis of the market for long-term corporate securities. Emphasis is given to the valuation of bonds, common stocks, options and convertible securities, and portfolio concepts. Designed to provide an understanding of the functioning of an efficient market.

**FIRE 319. Financial Mathematics. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: MATH 200 or MATH 201, either with a minimum grade of B. The course provides an understanding of the fundamental concepts of financial mathematics, and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows.

**FIRE 320. Actuarial Probability Concepts. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: MATH 200 with a minimum grade of B. Probability models, random variables, expectation, special distributions and the central limit theorem. The theory is illustrated by numerous examples from actuarial and financial fields. This class covers parts of CAS Exam 1 and SOA Exam P, which are required for the designation of associate of the Society of Actuaries and Casualty Actuarial Society.

**FIRE 321. Intermediate Financial Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 312 with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Advanced topics in financial management with emphasis on the theoretical bases for the valuation of the firm.

**FIRE 325. Real Estate Law. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Legal fundamentals of real estate including contracts, risk management, environmental and ethical issues, concepts of title, title examination, easements, conveyances, liens and recording statutes affecting real estate.

**FIRE 329. E-business Risk Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 202. This course is restricted to students who have completed at least 54 credit hours (junior standing). An analysis of the risks associated with e-business and the practice of e-commerce.

**FIRE 359. Issues in Risk Management and Insurance. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. The course focuses on timely issues in the field of risk management and insurance. Students will consider the role of government and the insurance industry as well as the use of other financial solutions in handling risks faced by businesses and individuals. The topics covered change to reflect current societal and industry issues and to explore new risk management innovations.

**FIRE 417. Security Analysis and Portfolio Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 317 with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). A detailed analysis of stocks and bonds as well as options and futures. Emphasis is on models for portfolio selection, revision and performance evaluation.

**FIRE 419. Advanced Risk and Insurance. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 311. This course is restricted to students who have completed at least 54 credit hours (junior standing). It is a risk and insurance course with emphasis on more mathematical computations and analysis. Market, credit and operational risks are covered, along with legal and catastrophic risk assessments. Sustainability is important to this course. Topics covered include (but not limited to) forecasting of losses – loss triangles and computations of reserves; risk mapping and the risk management matrix; cost/benefit and risk/award analyses; pricing; capital structure, risk-based capital and economic capital; financial statements using audit techniques (accounting); insurance regulation; life cycle financial risks; insurance solutions to property/casualty and life/health risks.

**FIRE 424. Property and Liability Insurance. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 309. This course is restricted to students who have completed at least 54 credit hours (junior standing). Property and liability risk identification and measurement. Major commercial line coverages including fire, marine, automobile, general liability, worker's compensation, fidelity and surety bonds.

**FIRE 425. Real Estate Appraisal. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 305 or FIRE 316. This course is restricted to students who have completed at least 54 credit hours (junior standing). Theory and practice of real property valuation from fundamental concepts to complex income-producing properties and partial-interest valuations. Technology-related tools are employed in the course, including financial modeling with various software programs.

**FIRE 429. Property and Liability Insurance. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 309. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Regulated property and liability risks with emphasis on regulated and non-regulated markets and products. The course includes major commercial line coverages including fire, marine, automobile, general liability, worker's compensation, fidelity and surety bonds and unusual new risks, including catastrophic risks covered by alternative, less-regulated insurance solutions. The course includes sustainability issues and the way to mitigate natural and man-made catastrophes and InsurTech.

**FIRE 435. Real Estate Finance and Capital Markets. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 305. This course is restricted to students who have completed at least 54 credit hours (junior standing). Instruments, techniques and institutions of real estate finance; the mortgage market; financing process; mortgage risk analysis; creative financing; emphasis on policies and procedures used in financing residential and commercial properties and their interaction with the capital markets. Technology-related tools are employed in the course, including financial modeling with various software programs.

**FIRE 439. Life Cycle Risk Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 309. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). The function, nature and uses of life and health insurance and annuities; operational aspects of life and health insurance companies. Management of group life, health, disability and retirement plans. Governmental and employers' solutions to life cycle risks – sustainability through social insurance programs, group insurance and innovations. The course reflects the dynamic nature of this field and covers cost/benefits analysis, best solutions to risks and a complete portfolio project of plan design, cost considerations, funding, regulation and tax considerations. Full-time students who pass this course can receive credit for the CLU HS323 examination from the American College. See instructor for details.

**FIRE 441. Funds Management in Financial Institutions. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 312 with a minimum grade of C. This course is restricted to students who have completed at least 54 credit hours (junior standing). Funds management techniques for selected financial institutions including investment companies (mutual funds), life and casualty insurers, savings and loans, mutual savings banks, commercial banks, and pension funds.

**FIRE 444. Occupational Safety, Health and Security. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Covers the principles and practices, and regulatory dimensions of occupational safety, health and security. Causes of workplace health hazard exposures, accidents and domestic and international industrial violence are studied with an emphasis on prevention. Characteristics of effective occupational safety, health and workplace security programs are studied to facilitate understanding and application in the workplace.

**FIRE 445. Real Estate Investment Analysis. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisites: FIRE 425 and FIRE 435. This course is restricted to students who have completed at least 54 credit hours (junior standing). This is the capstone course for real estate majors and covers the analytical methods and tools useful for analyzing commercial real estate investments, including a multidisciplinary approach to financial, spatial and social economics, which builds a cohesive framework for analyzing complex investment decisions emphasizing fundamentals of property and financial markets.

**FIRE 449. Employee Benefit Planning. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Management of group life, health, disability and retirement plans. Governmental and employers' solutions to life cycle risks – sustainability through social insurance programs, group insurance and innovations. The course reflects the dynamic nature of this field and requires cost/benefits analysis, best solutions to risks and a complete portfolio project of plan design, cost considerations, funding, regulation and tax considerations.

**FIRE 451. Options, Futures and Swaps. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 321 with a minimum grade of C or FIRE 317 with a minimum grade of C. This course is restricted to students who have completed at least 54 credit hours (junior standing). Analysis and valuation of speculative securities and markets, including options, futures and swaps, with emphasis on their use for hedging and speculative purposes. Major valuation models and term structure models are discussed with applications to problems in finance considered.

**FIRE 459. Insurance Law. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. The course covers the legal concepts and doctrines applicable to insurance. Fundamental legal aspects of all risks and aspects of sustainability. The course provides legislative issues for all solutions to life cycles risks: life and health insurance, pensions, catastrophes (natural and man-made such as terrorism) and property and liability insurance.

**FIRE 461. Cases in Financial Management. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 321 with a minimum grade of C. This course is restricted to students who have completed at least 54 credit hours (junior standing). Cases involving financial decisions for various forms of business enterprises.

**FIRE 469. Advanced Property/Casualty Insurance: Alternative Markets. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 309 or FIRE 419. This course is restricted to students who have completed at least 54 credit hours (junior standing). Property and liability risk with emphasis on alternative, less-regulated insurance solutions to all types of risks. The course includes sustainability issues and the way to mitigate natural and man-made catastrophes including sophisticated modeling and techniques. The course covers Lloyds of London; excess and surplus lines carriers; risk retention group, self-insurance, captives and shadow insurance; reinsurance; multilayers of coverage; catastrophe bonds; terrorism; regulation; liability issues globally; social responsibility.

**FIRE 479. Managing Financial Risk. 3 Hours.**

Semester course; 3 lecture hours. 3 credits. Prerequisite: FIRE 309. Pre- or corequisite: FIRE 317. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Sources of financial risk. Measurement and uses of enterprisewide financial risk techniques. A variety of analytical tools will be used to learn about value at risk, credit risk, stress testing, financial risk management and actuarial models, and how to manage financial risk.

**FIRE 491. Topics in Finance, Insurance and Real Estate. 1-3 Hours.**

Semester course; variable hours. Variable credit. Maximum of 3 credits per course; maximum total of 6 credits for all topic courses. Prerequisite: junior standing. An in-depth study of a selected business topic, to be announced in advance.

**FIRE 492. Independent Study in Finance, Insurance and Real Estate. 1-3 Hours.**

Semester course; 1-3 credits. Maximum total of 3 credits. Prerequisites: junior or senior standing as a major in a business curriculum and approval of adviser and department chair prior to course registration. Intensive study under supervision of a faculty member in an area not covered in-depth or contained in the regular curriculum.

**FIRE 493. Internship in Finance, Insurance and Real Estate. 3 Hours.**

Semester course; 3 credits. Course restricted to students with junior standing and a concentration in finance or risk management and insurance or a declared major in financial technology or real estate, a minimum GPA of 2.5, and permission of the Department of Finance, Insurance and Real Estate chair or the director of the insurance or real estate programs. Involves students in a meaningful experience in finance, insurance or real estate. Intention to enroll must be indicated to the chair or appropriate program director.

**FIRE 496. Practicum in Portfolio Management. 3 Hours.**

Semester course; 3 practicum hours. 3 credits. Enrollment is restricted to students with senior standing and two prior semesters of active participation in the VCU Student Managed Investment Portfolio. Registration for this course requires permission of the Department of Finance, Insurance and Real Estate chair or the director of the Capital Markets Center. This course is an experiential learning project in applied portfolio management. Students will perform fundamental security analysis, security selection and risk management for a real money portfolio funded by the VCU School of Business Foundation. They will also build a mock portfolio, create a detailed company valuation model and write a reflection paper.