FDSC 4030* Food Chemistry and Analysis 2 (1) Principles of analytical procedures and techniques used to quantitatively and qualitatively determine chemical composition of foods, and elucidate the physio-chemical properties of food materials. Laboratories provide experience in critical thinking, performing food analysis, and analyzing data. Preq: BCHM 3050 and BIOL 4340 and FDSC 2140; and Food Science major or minor. Conq: FDSC 4031.

FDSC 4031* Food Chemistry and Analysis Laboratory 0 (3) Non-credit laboratory to accompany FDSC 4030. Conq: FDSC 4030.

FDSC 4040* Food Preservation and Processing 3 (3) Principles of food preservation applied to flow processes, ingredient functions, and importance of composition and physical characteristics of foods related to their processing; product recalls and product development concepts. Preq: Food Science major or minor or Packaging Science major or minor; and BCHM 3050; and either FDSC 2140 or FDSC 3010; and one of PHYS 1220 or PHYS 2000 or PHYS 2070.

FDSC 4060* Food Preservation and Processing Laboratory I II (3) Laboratory exercises on preservation methods, equipment utilized, and processes followed in food manufacture. Preq: FDSC 4040.

FDSC 4070* Quantity Food Production 2 (1) Principles of the production of food in quantity for use in food service systems. Emphasizes functions of components of foods and of ingredients in food, and focuses on the quality of the final product, on safe production of food, and on proper use of equipment. Preq: Food Science major or minor, or Packaging Science major or minor. Conq: FDSC 4071.

FDSC 4071* Quantity Food Production Laboratory 0 (3) Non-credit laboratory to accompany FDSC 4070. Conq: FDSC 4070.

FDSC 4080* Food Process Engineering 4 (3) Study of basic engineering principles and their application in food processing operations. Emphasizes the relation between engineering principles and fundamentals of food processing. Preq: Food Science major or minor; and CH 1020 and FDSC 2140; and one of MATH 1020 or MATH 1060; and one of PHYS 1220 or PHYS 2000 or PHYS 2070. Conq: FDSC 4081.

FDSC 4081* Food Process Engineering Laboratory 0 (3) Non-credit laboratory to accompany FDSC 4080. Conq: FDSC 4080.

FDSC (PKSC) 4090* Total Quality Management for the Food and Packaging Industries 3 (3) Introduction to the principles of modern quality management emphasizing quality standards and issues and the practices necessary for food processing and packaging companies to survive in a customer-driven marketplace. May also be offered as PKSC 4090.

FDSC 4100* Food Product Development 4 (3) A strategic and systems approach to integrated product development practices for developing new food products within a team setting. Focuses on the StageGate process for moving from product idea to launch and application of sensory analysis techniques. Preq: Food Science major or minor; and Junior standing. Preq or concurrent enrollment: FDSC 4030. Conq: FDSC 4101.

FDSC 4101* Food Product Development Laboratory 0 (3) Non-credit laboratory to accompany FDSC 4100. Conq: FDSC 4100.

FDSC 4170 Seminar 1 (1) Literature research and oral presentation of a current food science topic. Preq: Food Science major.

FDSC 4180 Seminar 1 (1) Literature research and oral presentation of a current food science topic.

FDSC 4200 Special Topics in Food Science 1-3 (1-3) Special topics in food science not covered in other courses. May be repeated for a maximum of 12 credits, but only if different topics are covered. Includes Honors sections. Preq: Consent of instructor.

FDSC 4210 Special Problems in Food Science 1-4 (1-4) Independent research investigation in food science areas not conducted in other courses. May be repeated for a maximum of 12 credits. Includes Honors sections. Preq: Consent of instructor.

FDSC 4300* Dairy Processing and Sanitation 3 (3) Principles of the production of food in quantity and in a processing plant environment, chemical and microbiological aspects, processing procedures, equipment operation, ingredient applications, formulation and functional properties. Preq: BIOL 1040 and BIOL 1060 and CH 1020. Coreq: FDSC 4301.

FDSC 4301* Dairy Processing and Sanitation Laboratory 0 (3) Non-credit laboratory to accompany FDSC 4300. Conq: FDSC 4300.

FDSC 4500 Creative Inquiry—Food Science 1-6 (1-6) Individual or small team research experience in close collaboration with a faculty member. Expands undergraduate learning by application of the scientific method. Research is selected by the student with approval of faculty. May be repeated for a maximum of ten credits.

FDSC 4910 Practicum 1-4 (1-4) Supervised experiential opportunities in the food industry. May be repeated for a maximum of 12 credits. Preq: Food Science major and Junior standing and consent of department chair.

FINANCE


FIN 2010 Introduction to Personal Finance 1 (1) Provides an introductory overview of personal finance with an emphasis on budgeting; consumer credit, including student loans, credit cards, and basic bank loans; personal bank services; and purchasing an automobile and property insurance.

FIN 3010 Personal Finance 3 (3) Analysis of the preparations of personal financial plans. Topics include savings and budgeting, personal taxes, housing and automobile decisions, loans, insurance needs, investments, and retirement needs. May not be counted toward a major or minor in Financial Management.

FIN 3040 Risk and Insurance 3 (3) Studies the nature of risk and the role of insurance in risk management from individual and business viewpoints. Topics include probability, theory of the firm under uncertainty, insurance carriers and contracts, underwriting, and regulation. Preq: FIN 3260 or FIN 3110.

FIN 3050 Investment Analysis 3 (3) Study of techniques useful in analyzing alternative investment opportunities with emphasis on corporate securities. Investment planning and portfolio management are considered. Preq: FIN 3060 or FIN 3110, each with a C or better.

FIN 3060 Corporation Finance 3 (3) Introduction to financial management of nonfinancial firms. Includes such topics as analysis of financial statements, financial forecasting, capital budgeting, working capital management, and long-term financing decisions. Credit may not be received for both FIN 3060 and FIN 3110. Preq: ACCT 2201 and one of the following courses: IE 3610 or MATH 3020 or PSYC 3090 or STAT 2300 or STAT 3090.

FIN 3070 Principles of Real Estate 3 (3) Acquaints students with the theories, practices, and principles that govern real estate markets. Major emphasis is on specifics of real estate brokerage, property rights, and ownership; making real estate investment decisions; and financing real estate investments. Preq: FIN 3060 or FIN 3110, each with a C or better.

FIN 3080 Financial Institutions and Markets 3 (3) Study of the various types of financial institutions and of topics critical to the financial institutions practitioner. Topics include financial regulations, financial security types and their yields, interest rate risk management, foreign currency risks management, and stock index futures. Preq: FIN 3060 or FIN 3110, each with a C or better.

FIN 3110 Financial Management I 3 (3) First in a two-course sequence to provide in-depth exposure to the theory and practice of corporate financial management and to demonstrate how financial management techniques are applied in decision making. Credit may not be received for both FIN 3060 and FIN 3110. Includes Honors sections. Preq: ACCT 2201 with a C or better; and one of the following: IE 3610 or MATH 3020 or PSYC 3090 or STAT 2300 or STAT 3090.

FIN 3120 Financial Management II 3 (3) Continuation of the two-course sequence that begins with FIN 3110. Includes Honors sections. Preq: FIN 3060 or FIN 3110, each with a C or better.

FIN 3980 Creative Inquiry—Finance 1-4 (1-4) In consultation with and under the direction of a faculty member, students pursue scholarly activities individually or in teams. These creative inquiry projects may be interdisciplinary. Arrangements with mentors must be established prior to registration. May be repeated for a maximum of six credits. Preq: Consent of faculty member/mentor.

FIN 3990 Finance Internship 1-3 (1-3) Pre-planned, pre-approved, faculty-supervised internships to give students on-the-job learning in support of classroom education. Internships must be no fewer than six full-time, consecutive weeks with the same internship provider. Restricted to students with a major or minor in Financial Management. To be taken Pass/No Pass only. Preq: Consent of instructor.
FIN 4010 Corporate Financial Analysis 3 (3) In this course, students explore the potential needs of financial statement end users (managers, investors, creditors) so different perspectives can be considered when decisions are made. Students also learn to interpret and convert raw numerical data into information about profitability and risk in order to assess the value of a firm. Prereq: ACCT 3110 and FIN 3120, each with a C or better; and Financial Management major.

FIN 4020 Corporate Valuation 3 (3) Study of the decision process and analytical techniques used in evaluating corporate investment and financing decisions. Topics include capital budgeting, capital structure and bankruptcy, valuation, corporate governance, executive compensation, mergers and acquisitions, and restructuring. Includes Honors sections. Prereq: FIN 3120 with a C or better.

FIN 4030 Spreadsheet Applications in Finance 3 (3) Using a combination of lectures and assignments emphasizing small-scale applications, this course focuses on the development of spreadsheet skills in corporate finance. Beginning with the theoretical base established in previous courses, students work through problems related to the time value of money, capital budgeting, and valuation using spreadsheet analysis. Credit toward a degree will be given for only one of FIN 4030 or 4040. Prereq: FIN 3120 with a C or better; and CPSC 2200 or MGT 2180.

FIN 4040 Financial Modeling 3 (3) Helps students develop the practical skills that combine theory, business planning, and forecasting needed to make financial decisions. Emphasizes the use of spreadsheet software used to set up and solve these models. Topics include financial statement analysis, valuation, and cost of capital. Includes Honors sections. Credit toward a degree will be given for only one of FIN 4030 or 4040. Prereq: FIN 3120 with a C or better; and CPSC 2200 or MGT 2180; and consent of instructor.

FIN 4050 Portfolio Management and Theory 3 (3) Advanced course in commercial real estate valuation. Topics include income capitalization, cash equivalency, highest and best use analysis, the cost approach, the direct sales comparison approach, and DCF analysis. Prereq: FIN 3070 with a C or better.

FIN 4100 Research in Finance 1-3 (1-3) Directed research for students interested in careers in finance. Research topic is selected by student and approved by instructor. A formal research paper is required. Includes Honors sections. Prereq: FIN 3060 or FIN 3120; and consent of instructor.

FIN 4110 International Financial Management 3 (3) Extension of the principles of finance to the international context. Focuses on implications of the existence of multiple currencies and the operations across borders of sovereign nation-states for the multinational corporation. Prereq: FIN 3060 or 3120 with a C or better.

FIN 4150 Real Estate Investment 3 (3) Focuses on the structure and analysis of real estate investment emphasizing financial theory and analysis technique. Case study and project-oriented homework assignments facilitate the understanding of real estate investments. Prereq: FIN 3070 with a C or better.

FIN 4160 Real Estate Valuation 3 (3) Advanced course in commercial real estate valuation. Topics include income capitalization, cash equivalency, highest and best use analysis, the cost approach, the direct sales comparison approach, and DCF analysis. Prereq: FIN 3070 with a C or better.

FIN 4170 Real Estate Finance 3 (3) Advanced course applying financial analysis and theory to real estate. Emphasizes mortgage credit analysis and current financing techniques for residential and commercial properties. Topics include financial institutions, syndications, and construction financing. Prereq: FIN 3070 with a C or better.

FIN 4980 Creative Inquiry—Finance 1-4 (1-4) In consultation with and under the direction of a faculty member, students pursue scholarly activities individually or in teams. These creative inquiry projects may be interdisciplinary. Arrangements with mentors must be established prior to registration. May be repeated for a maximum of six credits. Prereq: Consent of faculty member/mentor.

FIN 4990 Special Topics in Finance 3 (3) In-depth examination of specialized topics in finance. Topics vary depending on developments in the profession and interests of faculty. May be repeated for a maximum of six credits if different topics are covered. Prereq: FIN 3120 with a C or better.

FIN 4990 Professional Financial Planning 3 (3) Concepts and practical implementation of professional financial planning focusing on essentials of budgeting and saving, risk management, tax planning, investment planning, and retirement and estate planning. Emphasizes integrating these elements into a comprehensive personal financial plan. Prereq: ACCT 4040 and ACCT 4080 and FIN 3040 and FIN 3050.

FIN 4100 Research in Finance 1-3 (1-3) Directed research for students interested in careers in finance. Research topic is selected by student and approved by instructor. A formal research paper is required. Includes Honors sections. Prereq: FIN 3060 or FIN 3120; and consent of instructor.

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FORESTRY AND NATURAL RESOURCES
Professors: J.D. Lanham, P.A. Layton, G.K. Yarrow, Chair; Associate Professors: R.F. Baldwin, E. Mikhailo- va, C.J. Post; Assistant Professors: D. Jachowski, Y. Kanno, Extension Associate: R.D. Willey

FNR 1020 Forestry and Natural Resources Freshman Portfolio 1 (1) Informative sketch of forestry, wildlife biology, and natural resources; education and career opportunities for natural resource professionals. Students initiate their Web-based student portfolios, which showcase their skills and experiences (e.g., resumes, accomplishments, and work samples) during their undergraduate degree. To be taken Pass/No Pass only. Restricted to students enrolled in one of the following majors: Environmental and Natural Resources; or Forest Resource Management; or Wildlife and Fisheries Biology.

FNR 2040 Soil Information Systems 4 (3) Includes input, storage, analysis, and output of soil information through the use of global positioning systems, direct/remote sensing, geographic information systems, and web soil survey. Provides fundamental knowledge of the role of soils in forest and wildlife management. Prereq: One of the following combinations: CH 1010 and CH 1020; or CH 1050 and CH 1060. Coreq: FNR 2041.

FNR 2041 Soil Information Systems Laboratory 0 (3) Noncredit laboratory to accompany FNR 2040. Coreq: FNR 2040.

FNR 4660 Stream Ecology 3 (2) Covers the ecology of flowing water systems. Topics include geomorphology, physical and chemical factors of streams, biology of stream-dwelling organisms, trophic relationships, competition, colonization, drift, community structure, disturbance, and human impacts. Prereq: Junior standing. Coreq: FNR 4661.

FNR 4661 Stream Ecology Laboratory 0 (3) Noncredit laboratory to accompany FNR 4660. Coreq: FNR 4660.

FNR 4700 Creative Inquiry 1-3 (1-3) Multi-semester commitment to participate in forestry and natural resources research with a group of peers, mentored by a faculty member or advanced graduate student. Students learn to collect, analyze, evaluate, and present information. May be repeated for a maximum of six credits. Prereq: Consent of instructor.

FNR 4900 Field Training in Natural Resources 3 (9) Four to eight week internship in which students work in natural resources. Students have supervised management responsibility. Total of 135 hours required. Must be arranged at least two months in advance. Prereq: Senior standing in one of the following majors: Environmental and Natural Resources; or Forestry; or Wildlife and Fisheries Biology.

FNR 4910 Senior Honors Thesis 1 3 (3) Individual research for students in the Forestry and Natural Resources Honors Program. Focuses on developing a plan of research under the direction of a faculty advisory committee. Prereq: Senior standing, membership in Calhoun Honors College, and consent of instructor.