UNDERGRADUATE BUSINESS MAJOR COURSE DESCRIPTIONS

PREREQUISITE: One full calculus sequence -- MTH 141-143, or MTH 161-162, or MTH 171-172, or equivalent.

MTH 161 – Calculus IA
This is an introductory calculus course, intended for students whose interests lie in the physical sciences and engineering. The course requires a thorough command of high school algebra and some knowledge of trigonometry. Topics include: analysis of the elementary real functions: algebraic, trigonometric, exponentials and their inverses and composites; their graphs, derivatives and integrals; limits, l'Hopital's rules, Mean value theorem, maxima and minima, curve plotting. The fundamental theorem of calculus, with geometric and physical applications.

MTH 162 – Calculus IIA
Prerequisite: MTH 161. This course is a continuation of MTH 161. It covers techniques of integration, improper integrals, applications of integration, parametric and polar equations, infinite series, Taylor's series, vectors in two and three dimensions, lines and planes, vector-valued functions, velocity and acceleration, arc length, curvature.

CORE COURSES: Nine required core courses.

OPTIONAL STATISTICS COURSES (ECO 230/STT 213/MTH 203 preferred):

ECO 230 – Economic Statistics
Students should have taken or currently be taking Math 141 or higher. This course is an introduction to the probability and statistical theory underlying the estimation of parameters and testing of hypotheses in economics. Linear correlation and simple regression analysis are also introduced. Students will use computers to analyze economic data.
or
STT 213 – Elements of Probability & Mathematical Statistics
MTH 141 or equivalent. Descriptive statistics; probability; binomial, Poisson, normal distributions; estimation of means, proportions, and their differences; confidence limits; tests of hypotheses; chi-square tests of association; introduction to regression analysis.
or
MTH 203/STT 203 – Intro to Math Statistics
STT 201 for familiarity with the elementary principles of probability, expected value, variance and covariance. Discrete and continuous probability distributions and their properties. Principle of statistical estimation and inference. Point and interval estimation. Maximum likelihood method for estimation and inference. Tests of hypotheses and confidence intervals, contingency tables, and related topics.
or
STT 211 – Applied Stats for Social Sciences I
Descriptive statistics, statistical analysis, and statistical inference as used in the social sciences; including elements of correlation, regression, and analysis of variance. Excel, Minitab and similar programs. Please note that, because of the significant overlap between them, students may earn degree credit for only one of these courses: BCS 200, CSP/PSI 211, STT 211 and STT 212.
or
STT 212 – Applied Stats for Bio/Physical Science I
Descriptive statistics, statistical analysis, and statistical inference as used in the biological and physical sciences; including elements of correlation, regression, and analysis of variance. Excel, Minitab and similar programs. Please note that, because of the significant overlap between them, students may earn degree credit for only one of these courses: BCS 200, CSP/PSI 211, STT 211 and STT 212.
or
STT 216 – Applied Statistics II
Prerequisite: STT 211 or 212, Excel, Minitab, and similar programs. Continuation of 211 or 212. Analysis of variance, regression, correlation contingency table analysis, and associated topics.
CSP/PSY 211 Intro to Statistical Methods in Psychology

UNDERGRADUATE BUSINESS MAJOR COURSE DESCRIPTIONS

Introduction to the use of statistics in psychological research. Topics include descriptive statistics, correlation and regression, and inferential statistics. Examples are drawn from social and personality psychology. Logic of statistical inference and proper interpretation of research findings are emphasized. (Fall & Spring) Please note that, because of the significant overlap between them, students may earn degree credit for only one of these courses: BCS 200, CSP/PSY 211, STT211 and STT212.
or
PSC 200 – Applied Data Analysis
Introduces the study of politics through data analysis, including instruction in the use of computers and basic statistical software.
or
PSC 201 – Political Inquiry
This course introduces students to data analysis in political science. We begin by learning how to describe political data, and then move on to making inferences about political phenomena. Along the way, we address the "science" in political science and the development of hypotheses about political behavior. We will read published research from political science journals that use the techniques we discuss in class. No mathematical knowledge beyond high school algebra is assumed. PSC 201 satisfies the Techniques of Analysis requirement for undergraduate majors and minors in Political Science.

ECO 108 – Principles of Economics (FALL/SPRING/SUMMER)
Eco 108 is preparation for subsequent economics courses. Completion of (or concurrent enrollment in) a calculus course is recommended. Individuals act with purpose. In a world where there is not enough "stuff" to go around, individuals face tradeoffs. We model how individuals make economic choices: how much to work, when to marry, how much to clean, etc. We also examine (and measure) the consequences, intended and unintended, of these choices and the government policies crafted to influence them - such as the impact of rent controls, taxing cigarettes, or outlawing drugs. In particular, how does order emerge in a large, impersonal commercial society when market institutions are permitted to flourish? The course explains how supply and demand determine the prices of goods and services, and how prices guide production and consumption decisions. We examine the incentive structure in market systems as compared to alternative economic arrangements and the important role played by profits and losses. We also examine the sources of wealth, the role of trade and the economic analysis of undesirable social outcomes such as pollution.

ECO 207 – Intermediate Microeconomics (FALL/SPRING/SUMMER)
Prerequisite: ECO 108 highly recommended. This course develops the basic tools of microeconomics: supply and demand, in difference curves and budget lines of the consumer, and firm cost curves.

ACC 201 – Financial Accounting (FALL/SPRING)
This course is an introduction to the principles and procedures used by organizations to record economic transactions that affect them, and to report the net effect of these transactions to interested external parties. The course will cover the judgment inherent in certain aspects of the recording and reporting process, the acceptable alternatives for recording given transactions, and the effect these judgments and alternatives have on comparisons of the financial reports for different organizations, and on the usefulness of financial reports in general. In conjunction with this, consideration will be given to the failure of financial reports to fully incorporate the economic condition of an organization, and the reason for this.

ACC 221 – Managerial Accounting (SPRING)
Not open to freshman. Prerequisites: ACC 201. A study of the accounting problems involved in determining, analyzing, and controlling production and distribution costs, and income determination for financial statements. Budgetary control, standard costs, and other topics are discussed from the viewpoint of management use in planning and control.

FIN 205 – Financial Management (FALL/SPRING)
Prerequisites: ACC 201; ECO 207 or equivalent. This course centers on how a firm is funded, and on how financial management can help maximize the financial rewards to those who own the firm, while meeting the obligations of the firm to other stakeholders. The effect of timing on the value of cash flows is developed at length, and is applied

to the valuation of bonds and stocks. Various facets of stocks and bonds are also introduced, and a brief overview of the stock market is presented. Cash flow concepts are then incorporated into a development of how investment opportunities are analyzed, which includes a discussion of the strengths and weaknesses associated with different analytical methods. The topics of capital market efficiency and portfolio theory are then discussed and tied in to the concept of what investors have sacrificed in order to invest in a firm. This, in turn, is tied in to which investments are worthwhile to a firm's owners. Students may not receive credit for both FIN 204 and FIN 205.

MKT 203 – Principles of Marketing (FALL/SPRING)
Prerequisites: ACC 201; ECO 207 or equivalent. Understanding customer's wants and needs and how the Marketing function goes about developing products and services to meet those needs on a continuous basis and optimize customer satisfaction as an end result. A detailed analysis and knowledge with regard to the basic marketing functions and the various marketing functions performed by marketing intermediaries - manufacturers, retailers, wholesalers, agents and others in the channel of distribution. Evaluation and discussion on key marketing topics: pricing, branding, promotion, channels of distribution, new products and services development and the creation of advertising and sales promotion programs to create consumer awareness with regard to those products and services. Culminating in a basic fundamental understanding and working knowledge of the marketing function within the firm.

OMG 201 – Operations & Technology Management (SPRING)
Students should have a working knowledge of Excel. This course intends to provide undergraduate business students with an understanding of Information Technology and Operations Management. Topics include: Enterprise resource planning, data management and databases, communications, supply chain organization, interorganizational systems, the internet and e-commerce, business and capacity planning, business process reengineering and systems development. The instructor will use a combination of lectures, assigned case discussions and exercises to convey the material to the students. Lecture emphasis will be on the concept that IT and Operations Management are not represented by any one of their component fields (e.g. commerce, economics, science and technology, etc.) but that these are a delicate blend of them all; that these topics embrace integrated systems as a whole, not segments of a system. This course will be taken by undergraduate students with a business major or minor.

STR 203/ECO 218 - The Economic Theory of Organization (SPRING)
Prerequisite: ECO 207. This course combines basic economic principles with agency theory and the concept of specific knowledge to develop a framework for addressing and solving important organizational problems. Key elements include the assignment of the performance-evaluation system and the compensation/incentive system. The framework is applied to a variety of contemporary managerial topics.

[TRACK COURSES FOLLOW ON NEXT PAGE]…

TRACK A: ORGANIZATIONS AND MARKETS

- **ECO 288 / ECO 288W / PSC 288 – Game Theory (FALL/SPRING)**
  Prerequisite: ECO 207. An introduction to game theory with numerous applications to economic and political settings.
- **ECO 217 / ECO 217W – Contracts, Organizations & Markets (FALL/SPRING)**

Prerequisites: ECO 207 and Calculus. This course examines how markets can engineer trades that maintain incentives in the face of transactions costs and information problems--problems of moral hazard and adverse selection. Emphasis will be placed on applications to insurance and employment markets, but with extensions to firm pricing, corporate finance, and public policies.

- **ECO 274 / ECO 274W – Market Design (SPRING)**
  Prerequisites: ECO 207 and Calculus. Economic issues in consumer and producer theory treated in a formal, mathematical manner.
- **ECO 251 /ECO 251W – Industrial Organization (Also part of Track B) (SPRING)**
  Prerequisite: ECO 207. An examination of the market structure, conduct, and performance of contemporary American industry. Assessment of industry concentration, market control, and associated pricing and innovative behavior is emphasized.
- **STR 241 / STR 241W / ECO 241 – Pricing Strategy (Also part of Track B) (FALL)**
  Prerequisites: ECO 207 and MKT 203. This course prepares future managers to analyze the environment in which their firm/organization operates and to arrive at an appropriate pricing policy for the product or services. There are several components: cost definition and measurement; measurement of price sensitivity and the implied market segmentation; strategic analysis vis-à-vis competitors and distributors; and the legal aspects of pricing. Topics include: quantity discounts, bundling and tie-in sales, product-line pricing, pricing via distribution channels, cooperative versus opportunistic pricing and competitive bidding.

TRACK B: MARKETING

- **MKT 213 – Marketing Projects and Cases (SPRING)**
  Restrictions: Not open to freshmen and sophomores. This is a course that provides the student with an opportunity to focus on the practical application, in a real world business (profit or not-for-profit) environment of sound marketing principles and concepts. Students will be assigned to work with a local organization in terms of addressing a specific marketing opportunity or issue in the form of the development of a marketing plan for the organization. The typical marketing plan would include recommendations in the areas of: product, price, promotion and distribution, and overall marketing strategy. Student support in terms of problem analysis and marketing plan creation will be provided in the form of: case studies, guest speakers, and selected readings and lectures. Upon completion of the course, the student should be able to effectively develop and deploy a sound marketing plan.

OR

STR 241 / STR 241W / ECO 241 – Pricing Strategy (see description above in Track A) (FALL)

- **STT 221W – Sampling Design (FALL)**
  Prerequisites: STT 211, STT 212 or STT 213, and STT/MTH 203 or equivalent. Simple random, stratified, systematic, and cluster sampling; estimation of the means, proportions, vaiance, and ratios of a finite population. Ratio and regession methods of estimation and the use of auxiliary information. The nonresponse problem. Prerequisite: familiarity with the concepts of expectation, variance, covariance and correlation.
- **ECO 231W – Econometrics (FALL/SPRING)**
  Prerequisites: ECO 207, ECO 230 or equivalent. This course covers the single and multiple linear regression model, the associated distribution theory, and testing procedures; specification errors; multicollinearity; corrections for heteroscedasticity and serial correlation; simultaneous equations; measurement error, dummy variables, discrete choice models; and other extensions as time permits. Students also apply techniques to a variety of data sets using computers. Applications of these techniques to various economic fields are emphasized.
- **ECO 251 /ECO 251W – Industrial Organization (see description above in Track A) (SPRING)**