

Course Descriptions

BA511 Financial Accounting 3:0:3(3)

This course introduces the fundamentals of financial accounting to graduate students.

BA512 Accounting Information and Capital Market 3:0:3(3)

The objective of this course is to introduce the usefulness of accounting information in capital markets to students.

BA521 Microeconomic Analysis 3:0:3(3)

This course aims to study various modern microeconomic models to understand complex market phenomena. It will provide students, especially those in economics related majors such as economics, finance, marketing and strategy with basic tools to think and analyze for their future research. Non-economics students will also benefit, not only from acquiring some basic knowledge of the market mechanism, but also from learning useful methods to tackle and analyze real-world problems. Although some basic mathematical tools will be taught during the lecture, students are required to have basic knowledge of calculus.

BA522 Econometrics 3:1:3(3)

The goal of this course is to introduce econometric methods commonly used in economic research, as well as in related areas such as finance and marketing. Students will be introduced to widely used tools of analysis, and will be prepared to conduct their own empirical investigations.

BA523 Law and Economics 3:1:3(4)

This course aims to provide the students with the economic tools for analyzing the effects of various legal rules and making policy recommendation.

BA524 Mathematics for Management and Economics 3:0:3(3)

This course aims to provide students with mathematical tools for management and economic analysis. Both theoretical background and applications of theories are emphasized.

BA525 Macroeconomic Analysis 3:0:3(3)

This course introduces some of the advanced modeling techniques used in research in macroeconomics, monetary economics and financial economics over the past few decades. The central focus of the course will be on the role of "expectations" in economics dynamics.

BA531 Financial Mathematics I 3:0:3(3)

This course provides mathematics essential to study the modern finance theory. It will examine the basic concepts in mathematical analysis, measure theory, probability measure theory, optimization theory, etc.

BA532 Financial Mathematics II 3:0:3(4)

This course is a continuation of Financial Mathematics I, and provides mathematics essential to study the modern finance theory. It will deal with the topics such as the Brownian motion, stochastic calculus, partial differential equations, etc.

BA533 Derivatives 3:0:3(3)

This course deals with issues on derivatives such as forward, futures, options, and swap contracts. Pricing derivatives and risk management with derivatives will be the main focus of the course. Pricing models including the cost-of-carry model, binomial tree model, and Black-Scholes model will be carefully examined.

BA534 Advanced Derivative Securities **3:0:3(3)**

This course deals with various derivatives and their pricing issues. Pricing of exotic options, interest-rate derivatives, and other options will be investigated.

BA535 Advanced Fixed Income Security Analysis **3:0:3(3)**

This course deals with issues related with fixed income securities. The theory of the term structure of interest rates, interest-rate derivatives, pricing defaultable bonds, and credit derivatives will be covered in this course.

BA536 Real Estate Economics **3:0:3(3)**

This courses will provide students with basic knowledge to understand the fundamentals of the real estate economics, and deal with the real estate capital market and various real estate securities.

BA537 Theory of International Finance **3:0:3(3)**

This course deals with issues on derivatives such as forward, futures, options, and swap contracts. Pricing derivatives and risk management with derivatives will be the main focus of the course. Pricing models including the cost-of-carry model, binomial tree model, and Black-Scholes model will be carefully examined.

BA538 Numerical methods in finance **3:0:3(3)**

This course deals with numerical methods in solving financial problems. The binomial tree methods, finite difference methods, and simulation methods will be covered.

BA539 Market Microstructure Theory **3:0:3(3)**

This course deals with trading venues, order placements, and market microstructure. In addition, the effect of the market microstructure on trading and financing behavior will be examined.

BA541 Research Methods in Behavioral Science **3:1:3(4)**

This course will serve as the basis for the understanding of a broad overview and state-of-the-art research methodology in management. The course provides students with the capabilities needed to write master or doctoral theses and to understand research papers. Students are expected to learn how to apply research methodology to perform actual research projects.

BA542 Organizational Behavior **3:0:3(3)**

The goal of this seminar is to give students an initial grounding in the literature on organizational psychology and micro organizational behavior. The seminar will focus on the diversity of perspectives in this field and examine individuals' affect, cognition, behavior, and relationships in organizations.

BA543 Strategic Management **3:0:3(3)**

Based on the theoretical foundations of the pre-requisite theory seminar, this seminar examines the formulation and implementation of corporate strategy such as diversification and restructuring and various strategy process issues.

BA544 R&D Innovation and Entrepreneurship **3:1:3(6)**

This course is designed to introduce the theories of technological innovation and entrepreneurship from the economics, sociology and organization perspectives with an emphasis on the discovery, creation, and commercialization of science- and technology-based innovations. The objective of the course is to compare and contrast theoretical approaches in the field and examine different methodologies that advance our understanding of innovation and entrepreneurship phenomena. A mix of theoretical papers and empirical studies will be included in the reading.

BA545 Organization Theory **3:0:3(3)**

The goal of this seminar is to give students an initial grounding in the literature on organizational psychology and micro organizational behavior. The seminar will focus on the diversity of perspectives in this field and examine individuals' affect, cognition, behavior, and relationships in organizations.

BA546 Theoretical Foundation of Strategic Management **3:0:3(3)**

This seminar explores theoretical foundations of the strategy field. The major purpose of this seminar is to expose students to samples of the contemporary strategy research and to point out some access points to the broader universe of thought on these topics.

BA551 Marketing Theory **3:0:3(3)**

This course introduces main research areas in Marketing. The students will deal with basic research issues and representative academic studies on the issues for each of the areas. They will also discuss fundamental theories studied in Marketing as well as their applications.

BA552 Quantitative Models for Marketing Decisions **3:1:3(3)**

This course introduces how marketing models are developed and applied for improving various marketing decisions. Current, available models are analyzed to show how OR and statistical methods are applied for advertising, pricing, sales force, promotion, new product, and distribution decisions. Also, opportunities to develop and use models will be offered by analysing case studies and completing of term projects.

BA553 Promotion Management **3:0:3(3)**

Among various marketing activities, Marketing Communications (or Promotions) directly connect consumers and firms. Among promotion activities of a company, budgets for advertising and sales promotions amount to 60-70% of the total promotion budgets. This course will deal with concepts, roles, and effects of advertising and sales promotions. Also, it will deal with major theories explaining how consumers respond to the advertising and sales promotions.

BA554 Marketing Channels Management **3:0:3(3)**

Distribution is to deliver products and services to end-users. In this course students learn what functions are needed for effective and efficient distribution, who channel participants are to undertake the functions, and how the participants are organized and governed. This course also offers opportunities to acquire the knowledge and skills to manage a firm's distribution channels so as to reach its marketing objectives. Any student with a background of organizational behavior and industry organization will particularly benefit from this course.

BA561 IT Management **3:0:3(3)**

As an introductory course of IT management, this course covers fundamental concepts of IT management, how to create business values through those concepts, how to manage IT assets, adoption and distribution of IT goods and services by individuals or organizations. The issues will be discussed from managerial perspectives and more from theoretical point of views so that students can be exposed to research topics in IT management.

BA562 Business System Analysis and Design **3:1:3(4)**

The objective of this course is to provide ME students with the fundamental and practical knowledge about data and business process modeling. Students who have little knowledge about data management and business processes will benefit by learning well-structured issues in data modeling and process modeling theories and practices.

BA563 Business Media and Communication**3:0:3(4)**

This class aims to achieve two objectives to improve the efficiency of management system. First one is to teach the principles of business data communications and networks. Second one is to teach the model and empirical evidences of telecommunications and media services based on the understanding of the IT infrastructure. Special topics include converged media industry, resource based view of the media industry, diversification and M&A in the media industries, etc.

BA571 Mathematical Programming**3:1:3(5)**

The primary objective of this course is to teach the students basic principles of mathematical programming for analyzing managerial theories and practical issues. The subjects covered in this course include basic linear algebra, advanced calculus, linear programming (LP), nonlinear programming (Non-LP), network optimization, dynamic optimization, and applications.

BA572 Operations Management**3:1:3(5)**

This course deals with the basic theory of operations management, which enable the students to analyze the operations process scientifically. The principles linking the environment, control and performance variables of operations process are covered. The application of the principles in practice will also be discussed.

BA581 Probability and Statistics**2:3:3(6)**

Balanced treatment of modern probability theory and statistical inference with a view toward industrial applications are taught in this course. Topics include: random variables and their distributions; sufficiency and completeness; unbiased, maximum likelihood and Bayes estimation; MP, UMP and unbiased tests; sequential tests; confidence estimation, etc.

BA582 Statistical Decision Analysis and Forecasting**3:1:3(6)**

Various statistical analysis methods related to management decisions and decisions for government and public polices are introduced and studied with statistical experiments. Linear regression models, time series models, analysis of variance, multivariate analysis, principal component analysis, clustering and factor analysis are included.

BA583 Statistical Analysis for Behavioral Science**3:1:3(6)**

Various statistical analysis methods related to management decisions and decisions for government and public polices are introduced and studied with statistical experiments. Probability & statistical theory, linear regression models, discrete choice analysis are included.

BA621 Microeconomic Theory**3:0:3(3)**

This course analyzes microeconomic theories using mathematical tools and thereby discusses the behavior of economic agents and market performance. Knowledge of basic mathematical concepts and optimization theory are prerequisite

BA622 Game Theory and Applications**3:1:3(6)**

This course presents a formal treatment of game theory, particularly noncooperative game theory, developed during the 50s and 60s that concerns cooperative game theory. Recently, however, the emphasis has shifted toward noncooperative game theory to the point where noncooperative game theory has become a very important tool for microeconomics, industrial organizations, marketing, environmental regulations, international negotiations and others, The game theory is not a theory of fame itself, rather it is the multi-person decision theory, theory of competition, or theory of conflicts.

BA623 Economics of Innovation**3:0:3(3)**

As a research-oriented survey of theories and empirical studies on R&D, the main goal of this course is to understand and evaluate existing theories and economic models explaining important aspects of R&D and technological innovation and thereby to develop future research opportunities. This course may be helpful for students in the area of marketing (e.g., marketing of high tech products) and business strategy (e.g., core technological competence).

BA624 Industrial Organization**3:0:3(3)**

The purpose of this course is to introduce various recently developed theories of industrial organization. These theories heavily use game theory that has advanced at a remarkable pace during the last decades. Although this lies in the realm of economics, this course will benefit students from other related areas such as production, finance, marketing, organization, and R&D for their future research.

BA625 Behavioral Economics Theory & Applications**3:0:3(4)**

This course aims at introducing behavioral economics as an advanced treatment of methods in microeconomics. The course topics cover reference-dependent preferences, decisions under uncertainty, inter-temporal preferences, other regarding preferences and the emergence of social norms and conventions.

BA626 Mathematics for Management and Economics**3:0:3(3)**

This course aims to provide students with mathematical tools for management and economic analysis. Both theoretical background and applications of theories are emphasized.

BA627 Advanced Industrial Organization**3:0:3(3)**

The purpose of this course is to introduce advanced theories of industrial organization. These theories include contract theories; asymmetric information games such as signaling and screening; auctions; and mechanism design. Although this lies in the realm of economics, this course will benefit students from other related areas such as finance, marketing, organization, strategy and R&D for their future research.

BA628 Macroeconomic Theory**3:0:3(3)**

The main objective is to get students familiar with the recursive modeling approach to macroeconomic analysis. In particular, we will consider the effects of financial market incompleteness on capital accumulation, the business cycle and financial asset pricing.

BA631 Theory of Finance I**3:0:3(5)**

This course will offer the foundation for finance studies. The topics dealt with in this course will include the utility theory, risk, state-preference theory, various asset pricing models, and information problems in financial markets.

BA632 Theory of Finance II**3:0:3(5)**

This is a thorough class on corporate finance, covering both theory and empirical work. Topics include agency- and information-based theories, behavioral finance, and static trade-off arguments (taxes and financial distress) in financial decision making.

BA635 Empirical Studies in Finance**3:0:3(5)**

This course aims to provide the basic methods and framework to do empirical research in finance and examines the empirical literature developed in finance. Time-series, cross-sectional, and panel data analysis techniques will be applied to empirical research in corporate finance, capital markets, and derivatives.

BA641 Special Topics in Strategic Management**3:0:3(3)**

This course explores the special topics in strategy management. The main objective of this course is to expose students to the advanced contemporary strategy research. By discussing the assigned readings. Students should be prepared to address the advanced issues in strategic management in a more analytical and theoretically well-grounded way.

BA642 Organizational Change and Innovation**3:1:3(3)**

In an ever increasing turbulent environment, management of organizational change and innovation becomes a mandatory for survival and prosperity of the organization. This course is designed to provide in-depth understanding of change and the innovation process in an organization. Theoretical models, practical tools, and business cases are discussed in the class and a special research project will be assigned to students, reflecting their research interests on a group basis. Basically, it emphasizes a theoretical foundation to understand organizational change and innovation and practical approaches to improve knowledge and skills for successful organizational change performance.

BA651 Theories in Consumer Behavior**3:0:3(4)**

The purpose of this seminar is to provide PhD-level coverage of the major research work carried out in consumer behavior. For each topic considered, a range of articles from early "classics" to recent state-of-the art research will be given.

BA652 Marketing Data Analysis**3:1:3(3)**

For those who are familiar with Research Methods and Marketing Research courses, this course offers an in-depth opportunity to understand and apply data analysis techniques in Marketing. After briefly reviewing issues regarding causality, validity, reliability, experimental design, measurements, and sampling, quantitative and qualitative data analysis methods will be dealt with in depth with their theoretical background. The data analysis techniques to be dealt with include parametric and nonparametric statistical testing techniques, exploratory data analysis techniques, cross tabulation, multidimensional scaling, regression, analysis of variance, discriminant analysis, factor analysis, cluster analysis, conjoint analysis, canonical analysis, Logit, and LISREL.

BA653 Special Topics in Marketing**3:1:3(3)**

The goal of this course is to develop students' ability to research in marketing. The course topics may cover research methods, marketing trends, consumer psychology, modeling, and market analysis. Interdisciplinary topics may be covered as well. Students are required to participate actively.

BA661 IT and Strategy**3:1:3(4)**

This course deals with IT and strategy as core capabilities for creating and growing values. The emphasis is on strategic alignment of IT and innovation. The students will learn theories and applications from the four perspectives such as IT in business, IT and innovation, IT as business and IT business.

BA662 Advanced Topic in eBusiness**3:1:3(4)**

The course explores the research framework of enhancing the business strategy, sales, procurement and creating new businesses using EC. To attain these goals, this course reviews and investigates the business models of EC and e-business, e-business strategies, and key trends in e-commerce from the managerial point of view.

BA681 Multivariate Statistical Analysis**3:1:3(4)**

This course covers the use of multivariate normal sampling theory, linear transformations of random variables, one-, two-, and multi-sample tests, profile analysis, partial and multiple correlation,

multivariate ANOVA and least squares, discriminant analysis, principal components, factor analysis, Cluster analysis, data mining, and some special topics. Some statistical packages, SAS, SPSS, and MATLAB, are also included.

BA682 Data Mining **3:1:3(4)**

This course presents techniques for identifying valid, novel, useful and understandable patterns in data. It introduces predictive models from data: classification, regression, and probability estimation, and it discusses the discovery of clusters and association rules.

BA683 Time series analysis and forecasting **3:1:3(4)**

Various time series and forecasting models are introduced including general ARIMA model, ARCH/GARCH, VAR, VECM, State-Space Model, and forecasting issues related with structural changes in Bayesian framework.

BA684 Probability Models with Applications **3:1:3(6)**

This course is designed to provide graduate students in Management Science / Industrial Engineering and related areas with advanced-level probability models with various applications required for the graduate level research.

BA721 Applied Econometrics **3:0:3(3)**

The purpose of this course is to provide students with a solid theoretical and practical foundation for the interpretation of empirical evidence in economics and related areas in business.

BA731 Advanced Corporate Finance Theory **3:0:3(6)**

This is an advanced class on corporate finance, in which we will go deeper in understanding how to research on concrete topics that are central to corporate finance, such as capital structure, mergers and acquisitions, the limits of the firm, investment, and much more.

BA732 Empirical Corporate Finance **3:0:3(6)**

This is an advanced class on corporate finance, in which we introduce new approaches to modeling in corporate research and new approaches to testing design.

BA733 Asset Pricing Theory **3:0:3(6)**

In this course, students will learn about the asset pricing models from the perspectives of 'no arbitrage condition as well as equilibrium model. All th models are examined in the discrete-time framework and continuous-time framework. The theory of the term structure of interest rates, option pricing theory, and portfolio selection theories are also covered in this course.

BA734 Empirical Asset Pricing **3:0:3(6)**

In this course, students will learn about the various empirical methods and empirical results on asset pricing. Issues in empirical pricing literature in the stock market, bond market, and derivatives market will be discussed.

BA735 Capital Market Theory **3:0:3(6)**

This course will provide the theoretical foundation for the capital market research. Topics will include the investor behavior, information problems, liquidity issues, and market microstructure theory. The future capital market research topics will be also explored in this course

BA736 Empirical Research in Capital Markets **3:0:3(6)**

This course will review the empirical methods and results in the capital market literature, and provide the foundation for future research in this area. It will deal with the empirical topics such as efficient

market hypothesis, portfolio selection, investor behavior, and market microstructure.

BA737 Financial Econometrics **3:0:3(6)**

This course deals with various econometric methods in finance. The modern econometric techniques and empirical research using them will be examined.

BA741 Advanced Research Methods **3:1:3(3)**

The objective of this seminar is to provide students with understanding on state-of-the-art methods and hands-on experiences. This seminar will focus on advanced regression analysis, structural equation modelling (SEM), experiment, social network analysis, and nonparametric statistics. Students are requested to carry out research projects.

BA744 Advanced Technology and Innovation Management **3:0:3(3)**

This course will discuss recent issues and theories of technology & innovation management (TIM). The detailed issues to be discussed can vary along the semester. In general, how to manage technology fusion, open innovations, networking & alliances, disruptive innovations, green technologies, service technologies, and modularity will be addressed throughout the seminar.

BA751 Advanced Issues in Marketing **3:0:3(3)**

The course deals with recent theoretical and practical issues in Marketing for Ph.D. students. The goal of this course is not only to discuss a recent body of literature but also give students a strong foundation in critical thinking and to help them develop their own research interests.

BA763 Social Network Analysis for Business **3:1:3(4)**

This course is to have students to learn the basic concepts and practical applications of social network analysis. Students will acquire the knowledge and capability to apply SNA to the diverse areas of management.

BA764 Classical Reading in Information System Research **3:1:3(4)**

The doctoral course examines the major streams of theory and research in information management and information systems. The course will explore the major issues, theories, and research methods in information systems, research through classic readings, information management, and reference disciplines. Key area in information systems research will be covered, such as strategic and economic perspectives of information management, adoption and diffusion theory, information technology and organizational design, and how research methods are employed in information systems research. Students will gain an understanding of what theory is and how to develop and evaluate theory in the area of information management and information systems.

BA771 Operations Strategy **3:0:3(3)**

This course deals with the theoretical and empirical research results in the operations strategy area, such as content and process of operations strategy, relationships among quality, lead time, operational flexibility and competitive performances. Also covered are strategic decision-making problems related to the physical, organizational, and external resources of manufacturing and service operations, performance measurement systems, supply chain strategies, and environmentally conscious design and manufacturing issues.

BA782 Statistical Decision Theory **3:0:3(4)**

A Bayesian approach related to statistical decision theory is introduced. It includes subjective probability, utility, loss, risk, prior and posterior probability, conjugate families of distributions, hypothesis test, and Bayesian forecasting

BA811 Seminar in Financial Accounting **3:0:3(9)**

Seminar in Financial Accounting deals with fundamental academic papers in financial accounting. This course will cover data replication, hypothesis development, econometrics and etc. to understand prior literature and to foster one's ability to engage in research..

BA812 Analytical Research in Accounting **3:0:3(9)**

The objective of this course is to familiarize students with the literature in analytic accounting. This course deals with the literature which focuses on the use of accounting information in and outside the firm.

BA813 Empirical Methods in Financial Accounting **3:0:3(9)**

Empirical Methods in Financial Accounting deals with statistics, math and econometrics needed in empirical studies in financial accounting. This course covers numerous academic papers in financial accounting related to empirical methods.

BA814 Special Topics in Accounting Research **3:0:3(9)**

The objective of this course is to introduce the recent empirical research in auditing, tax, managerial accounting, and international accounting to students.

BA831 Financial Intermediation **3:0:3(6)**

Using the micro-economics and industrial organization framework, this course explores the existing theories which document the rationale for the existence of financial intermediaries and other important issues in banking. Empirical evidence related to the predictions in extant theories is also discussed in the course.

BA832 Topics in Investment Companies **3:1:3(6)**

This course is designed to familiarize students with various issues on investment companies including mutual funds, hedge funds, and private equity funds. Specifically, students are expected to obtain a deeper understanding of the structures and the compensation schemes together with potential conflicts of interest. Students are also expected to acquire skills to evaluate the performance of investment companies.

BA833 Real Estate Finance Theory **3:0:3(6)**

This course will provide the underlying framework for the real estate finance research, and review the existing literature in the real estate finance area. Students will be encouraged to find research topics and do independent research in the real estate finance.

BA834 Theory of Insurance **3:0:3(6)**

This course deals with issues in insurance, risk management, and risk transfer in the framework of economics. The empirical issues will be also examined.

BA835 Behavioral Finance **3:0:3(6)**

Students will learn about the research in behavioral finance in this course. The issues on behavioral biases in financial markets and companies and how those biases might affect the financial world will be extensively examined.

BA836 Financial Models **3:0:3(6)**

This course will introduce the recent finance theory. The models such as information theory, asset pricing theory, and portfolio selection theory will be analyzed quantitatively.

BA837 Advance Special Topics in Finance **3:0:3(6)**

This course deals with theoretical as well as empirical advanced topics. The content can be anything that draws interest from Ph.D. students.

BA838 Special Topics in Finance **3:0:3(4)**

In this course, students will learn about the recent topics in finance. Possible topics will include various topics in corporate finance, investments, international finance, insurance, and real estate finance. Interdisciplinary topics may be covered in this course. Students' active participation will be required.

BA839 Special Topics in Finance II **3:0:3(4)**

In this course, students will learn about the recent topics in finance as in Finance Research Seminar I. Possible topics will include various topics in corporate finance, investments, international finance, insurance, and real estate finance. Interdisciplinary topics may be covered in this course. Students' active participation will be required.

BA863 Research Methodology for Management **3:1:3(4)**

This course is intended to help students apply the knowledge and skills gained from the introductory course to the analysis of the methods utilized in top journal articles. The students are expected to criticise and improve the methodological aspects of top journal articles published in the field of information systems.

BA871 Advanced Issues in SCM **3:0:3(5)**

This is a PhD Seminar course in Supply Chain Management. It consists of lectures and class discussions based on fundamental readings and contemporary research papers in the SCM literature.

BA881 Computational Approach for Statistics and Finance **3:1:3(5)**

This course emphasizes the applications of statistics and probability to finance. The basics of these subjects are reviewed and more advanced topics in statistics, such as regression, ARMA and GARCH models, the bootstrap, and nonparametric regression using splines, are introduced as needed. The course covers the classical methods of finance and it introduces the newer area of behavioral finance. Applications and use of MATLAB and SAS software are stressed.

BA882 Advanced Topics in Business and Economic Forecasts **3:1:3(5)**

The advanced theories related to special topics are introduced and applied to the real problems.

BA897 Special Topics in Management Engineering **3:0:3(4)**

The goal of this course is to develop students' research ability in management Engineering, and subject matter is diverse with the new research trends in each field of management engineering. Students are encouraged to participate actively.

BA960 Thesis Graduate Students

BA965 Independent Study for Graduate Students

BA966 Seminar for Graduate Students **1:0:0**

BA980 Thesis for Doctoral Students

BA985 Individual Study

BA986 Seminar for Doctoral Students **1:0:0**