Course Descriptions

BME500 Research Methods for Business Research **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.

BME501 Statistical Analysis Methods **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.

BME508 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.

BME509 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.

BME511 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.

BME512 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.

BME513 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.

BME514 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.

BME515 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.

BME516 Social Networks and Platform 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 acqure the knowledge and capability to apply SNA to the diverse areas of management.

BME531 Financial Mathematics **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.

BME533 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.

BME534 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.

BME535 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.

BME536 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.

BME537 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.

BME538 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.

BME539 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 microsructure on trading and financing behavior will be examined.

BME540 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.

BME550 Operations Management **3:1:3(5)**

The key objective of this course is to provide students an overview of operations management literature and help them develop their own tastes in research, in particular, in the field of operations management.

BME551 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.

BME552 Optimization **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.

BME560 Principles of Accounting **3:0:3(3)**

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

BME572 Organization Behavior **3:0:3(5)**

This course is designed to provide an intermediate level of knowledge in organizational behavior and theory. The topics covered in this course include both micro organizational behavior such as personality, perception, attitude and value system, learning, motivation, and work groups and teams, and macro organizational behavior such as organizational analysis and design, culture, international organization, and organizational change. It also presents recent research trends in each topic in organizational behavior. Basically, it emphasizes a theoretical foundation for understanding organizational phenomena and methodological approaches to organizational analysis.

BME573 Seminar on Strategy Implementation **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.

BME574 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.

BME575 Organization Theory **3:0:3(5)**

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.

BME576 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.

BME585 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.

BME587 Business Modeling Analysis **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.

BME589 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.

BME600 Data Mining Theory **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.

BME601 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.

BME611 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 prerequisit

BME612 Game Theory and Applications **3:1:3(6)**

In this course we discuss basic equilibrium concepts such as Nash equilibrium, subgame-perfect equilibrium, Bayesian equilibrium, and perfect Bayesian equilibrium for various classes of non-cooperative games, I.e. static and dynamic games under complete and incomplete information, emphasizing applications of game theory tn economics and management, including duopolies, auctions, and bargaining.

BME613 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).

BME614 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.

BME615 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.

BME616 Advanced Mathematics for Management and Economics **3:0:3(3)**

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

BME617 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.

BME618 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.

BME631 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.

BME632 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.

BME635 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.

BME640 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.

BME641 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.

BME642 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.

BME660 Accounting Information and Capital Market **3:0:3(4)**

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

BME711 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.

BME731 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.

BME732 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.

BME733 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.

BME734 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.

BME735 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

BME736 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.

BME737 Financial Econometrics **3:0:3(6)**

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

BME740 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.

BME750 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.

BME785 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.

BME809 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.

BME831 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.

BME833 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.

BME834 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.

BME835 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.

BME836 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.

BME837 Advance 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.

BME838 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.

BME850 Behavioral Operations Management **3:0:3(5)**

This is a PhD Seminar course in Behavioral Operations Management. The course will cover theories and methodologies that are used in Behavioral Operations Management. It consists of lectures and class discussions based on seminal readings and recent papers. Students will also learn the ZTree software to design and conduct behavioral experiments.

BME851 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.

BME860 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.

BME861 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.

BME862 Empirical Accounting Research **3:0:3(9)**

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

BME863 Advanced Topics in Accounting Research **3:0:3(9)**

The objective of this course is to familiarize students with the literature in recent accounting theory and empirical research.

BME885 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.

BME910 Basic Fluency I **3:1:0**

This class is designed to help students develop basic communicative skills in terms of ease, speed and smoothness of speech.

BME911 Basic Fluency II **3:1:0**

This class is designed to help students develop basic communicative skills in terms of ease, speed and smoothness of speech.

BME912 Newspapers-Reading and Discussion **3:1:0**

Newspaper discussions deal not only with culture as it pertains to current events, but also technology, politics, and an array of other topics as well. There are four major styles:
1) The Timed Presentation, 2) Presentation-Discussion, 3) The Seminar, 4) Speed Mill.

BME913 Case Studies in Business **3:1:0**

This class is designed for students who want to discuss issues in business while improving their communicative skills. This course focuses on case studies and background information in the areas of management, marketing, negotiations, and conflict resolution.

BME914 English For Management and Technology **3:1:0**

This course is based on a series of short-readings taken from many sources, intended to expose students to well-known English-language terms and concepts in the fields of contemporary management and technology.

BME915 Business English-Blended **3:1:0**

Business English Blended is designed for students who are interested in developing a wide-array of business and social communication skills suitable for western/global contexts. This course addresses practical skills for effective discussion, information exchange, public speaking, and presentaion skills for professionals of today.

BME916 Real Life English **3:1:0**

This course is designed to improve basic English conversation ability for students.

BME917 Job Search English Skills **3:1:0**

This course aims to help student search their jobs in global companies and practice job interview to learn and improve English business manners and develop global mindset.

BME918 Business English Writing-Blended **3:1:0**

This course is intended to develop a core competency in organizing your ideas into generally accepted forms of business writing.

BME919 Academic English Writing II **3:1:0**

Academic English Writing II focuses on sentence, paragraph and essay structures. This course will help students improve control over rhetorical forms and add greater complexity and style to their writing.

BME920 Listening Skills I **3:1:0**

This course helps to determine what type of listener you are, provides basic skills of listening, barriers to listening, listening habits, body language, and activities to improve listening habits.

BME921 Listening Skills II **3:1:0**

This course is designed for students who are relatively comfortable with the complex grammatical structures of English and with casual conversation.

BME922 American Immersion I **3:1:0**

American Immersion exposes students to a wide-range of cross-cultural issues using North America as a “text“. The course relies on the exchange of information through media presentations, conversation and discussion.

BME923 American Immersion II **3:1:0**

American Immersion exposes students to a wide-range of cross-cultural issues using North America as a “text“. The course relies on the exchange of information through media presentations, conversation and discussion.

BME924 American Classic Films **3:1:0**

Learn how American classic films have developed during last years. Analyze and search for specific themes that are presented within the movie and learn American culture and history in general.

BME925 English Debate and Critical Communication Skills **3:1:0**

During this course, you will discuss contemporary issues, and develop arguments on those Issues. You will also have the opportunity to practice group facilitation and job interview skills.

BME926 English for Financial Issues **3:1:0**

This course focuses on developing the specific skills required for discussing topics related to financial and business issues. By offering guidance in key study areas and providing practice, students will gain confidence as well as learn how to express themselves regarding financial.

BME927 Business Presentation **3:1:0**

This course is designed for students who are interested in developing a professional approach to public speaking. This course addresses practical skills for effective public speaking and presentation skills for global managers.

BME928 Teaching Effectiveness in English **3:1:0**

This course is designed for students who want to gain new perspectives on course design that will help them effectively plan and deliver a course that meets the needs of theirs.

BME929 Academic Writing in English **3:1:0**

This course is designed to help students improve their academic writing skills. Students will read, analyze and discuss selected writing examples in small groups and as a class.

BME930 Elementary Business Chinese **3:0:0**

This course is designed for beginners learning necessary Chinese expressions for daily commercial communication and skills for polite social intercourse.

BME931 Intermediate Business Chinese I **3:0:0**

This course is designed for those who have completed the Elementary Business Chinese. This class will help them to learn the terms, conversation, and grammar.

BME932 Intermediate Business Chinese II **3:0:0**

This course is designed for those who have completed the Intermediate Business Chinese I. This class will help them to learn the terms, conversation, and grammar.

BME933 Advanced Business Chinese I **3:0:0**

This course is designed for those who have completed the Intermediate Business Chinese II. This class will help them to learn the terms, conversation, and grammar.

BME934 Advanced Business Chinese II **3:0:0**

Ability to use appropriate to design to the teaching of advanced business Chinese in three-in-one training pattern that combines the language as a carrier with commercial activities and cross-cultural knowledge. Designed for the training of intermediate learners in language skills for business information exchange.

BME960 Thesis for Graduate Students

A student selects an M.S. thesis topic with an advisor, and carries on independent research. The student is required to submit an M.S. thesis as an end product.

BME965 Independent Study for Graduate Students

Students are given an individual project in which they can bring the material learned in other courses into practice. They experience the experimental side of problems, and improve their analytic abilities. Before registering for this course, students must discuss their project with the responsible professor.

BME966 Seminar for Graduate Students **1:0:0**

Domestic and international researchers are invited to give talks on various topics and future directions in business administration and to get involved in discussion with students.

BME980 Thesis for Doctoral Students

A student selects a Ph.D. thesis topic approved by an advisor, and carries on independent research. The student is required to submit a Ph.D. thesis as an end product.

BME985 Independent Study for Doctoral Students

Students are given an individual project in which they can bring the material learned in other courses into practice. They experience the experimental side of problems, and improve their analytic abilities. Before registering for this course, students must discuss their project with the responsible professor.

BME986 Seminar for Doctoral Students **1:0:0**

Domestic and international researchers are invited to give talks on various topics and future directions in business administration and to get involved in discussion with students.