# Course Requirements for BTM Graduate Program

| Course | Academic Year | Mandatory General | Major | | Research | Total |
|---|---|---|---|---|---|---|
| | | | Mandatory | Elective | | |
| Master's Program | 2023 and thereafter | 3 | 3 | at least 18 credits | at least 9 credits (Seminar 1↑) | at least 33 credits |
| | 2020~2022 | 3 | 3 | at least 18 credits | at least 9 credits (Seminar 2↑) | at least 33 credits |
| | 2018~2019 | 3 | 6 | at least 15 credits | at least 9 credits (Seminar 2↑) | at least 33 credits |
| | 2015~2017 | 3+1AU | 6 | at least 15 credits | at least 9 credits (Seminar 2↑) | at least 33 credits |
| | admitted in 2014 | 3+1AU | 6 | at least 15 credits | at least 9 credits | at least 33 credits |
| | admitted in 2013 or before | 3+1AU | 3 | at least 18 credits | at least 9 credits | at least 33 credits |
| Doctoral Program (MS-PhD Integrated Degree Program) | 2023 and thereafter | 3 | 3 | at least 30 credits | at least 30 credits (Seminar 2↑) | at least 66 credits |
| | 2020~2022 | 3 | 3 | at least 30 credits | at least 30 credits (Seminar 4↑) | at least 66 credits |
| | 2018~2019 | 3 | 6 | at least 27 credits | at least 30 credits (Seminar 4↑) | at least 66 credits |
| | 2015~2017 | 3+1AU | 6 | at least 27 credits | at least 30 credits (Seminar 4↑) | at least 66 credits |
| | admitted in 2014 | 3+1AU | 6 | at least 27 credits | 30 credits | at least 66 credits |
| | admitted in 2013 or before | 3+1AU | 3 | at least 30 credits | at least 30 credits | at least 66 credits |

| Admission Year | Master's Program | Doctoral Program (MS-PhD Integrated Degree Program |
|---|---|---|
| 2023 and thereafter | ❑ **Master's Program (at least 33 credits)**<br>○ Mandatory General : 3 credits<br> - CC010 Special Lecture on Leadership/ non-credit, this applies to students entering KAIST in 2002 and later; general scholarship students and international students are excluded)<br> - CC020 Ethics and Safety I<br> - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, | ❑ **Doctoral Program (at least 66 credits)**<br>○ Mandatory General : 3 credits<br> - CC020 Ethics and Safety I<br> - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure |

| Admission Year | Master's Program | Doctoral Program (MS-PhD Integrated Degree Program |
|---|---|---|
| | CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br><br>○ Mandatory Major : 3 credits<br> - BTM510 Innovation Management and Strategy<br>○ Elective : at least 18 credits<br> (Select at least 15 credits from BTM graduate courses, BTM500 level or above)<br> - It is mandatory to take at least 1 course from the following courses: BTM500 Advanced Statistics for Management, BTM601 Research Methodology in Business and Technology Management, BTM701 Advanced Econometrics, BTM702 Research Methodologies II, BTM703 Data Analytics for Innovation Management, BTM736 Advanced Quantitative Analysis.<br><br>○ Research : at least 9 credits<br> - 1 seminar credits are required | ○ Mandatory Major : 3 credits<br> - BTM510 Innovation Management and Strategy<br>○ Elective : at least 30 credits<br> (Select at least 24 credits from BTM graduate courses, BTM500 level or above)<br> - It is mandatory to take at least 3 courses from the following courses: BTM500 Advanced Statistics for Management, BTM601 Research Methodology in Business and Technology Management, BTM701 Advanced Econometrics, BTM702 Research Methodologies II, BTM703 Data Analytics for Innovation Management, BTM736 Advanced Quantitative Analysis.<br><br>○ Research : at least 30 credits<br> - 2 seminar credits are required |
| 2020 ~2022 | ❑ **Master's Program (at least 33 credits)**<br>○ Mandatory General : 3 credits<br> - CC010 Special Lecture on Leadership/ non-credit, this applies to students entering KAIST in 2002 and later; general scholarship students and international students are excluded)<br> - CC020 Ethics and Safety I<br> - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br><br>○ Mandatory Major : 3 credits<br> - MSB510 Innovation Management and Strategy<br>○ Elective : at least 18 credits<br> (Select at least 15 credits from MSB graduate courses, MSB500 level or above)<br> - It is mandatory to take at least 1 | ❑ **Doctoral Program (at least 66 credits)**<br>○ Mandatory General : 3 credits<br> - CC020 Ethics and Safety I<br> - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br><br>○ Mandatory Major : 3 credits<br> - MSB510 Innovation Management and Strategy<br>○ Elective : at least 30 credits<br> (Select at least 24 credits from MSB graduate courses, MSB500 level or above)<br> - It is mandatory to take at least 3 courses |

| Admission Year | Master's Program | Doctoral Program (MS-PhD Integrated Degree Program |
|---|---|---|
| | course from the following courses: MSB500 Advanced Statistics for Management, MSB601 Research Methodology in Business and Technology Management, MSB701 Advanced Econometrics, MSB702 Research Methodologies Ⅱ, MSB703 Data Analytics for Innovation Management, MSB736 Advanced Quantitative Analysis.<br><br>○ Research : at least 9 credits<br> - 2 seminar credits are required (International students and general scholarship students are exempt from seminar requirements) | from the following courses: MSB500 Advanced Statistics for Management, MSB601 Research Methodology in Business and Technology Management, MSB701 Advanced Econometrics, MSB702 Research Methodologies Ⅱ, MSB703 Data Analytics for Innovation Management, MSB736 Advanced Quantitative Analysis.<br><br>○ Research : at least 30 credits<br> - 4 seminar credits are required (International students and general scholarship students are exempt from seminar requirements) |
| 2018~ 2019 | ❑ **Master's Program (at least 33 credits)**<br>○ Mandatory General : 3 credits and 1AU<br> - CC010 Special Lecture on Leadership/ non-credit, this applies to students entering KAIST in 2002 and later; general scholarship students and international students are excluded)<br> - CC020 Ethics and Safety I<br> - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br>○ Mandatory Major : 6 credits<br> - MSB500 Advanced Statistics for Management<br> - MSB510 Innovation Management and Strategy<br>○ Elective : at least 15 credits (Select at least 12 credits from MSB graduate courses, MSB500 level or above)<br>○ Research : at least 9 credits<br> - 2 seminar credits are required (International students and general scholarship students are exempt from seminar requirements) | ❑ **Doctoral Program (at least 66 credits)**<br>○ Mandatory General : 3 credits and 1AU<br> - CC020 Ethics and Safety I(1AU)<br> - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br>○ Mandatory Major : 6 credits<br> - MSB500 Advanced Statistics for Management<br> - MSB510 Innovation Management and Strategy<br>○ Elective : at least 27 credits (Select at least 21 credits from MSB graduate courses, MSB500 level or above)<br> - It is mandatory to take at least one course from the following courses: MSB601 Research Methodologies I, MSB701 Advanced Econometrics, MSB702 Research Methdologies II.<br>○ Research : at least 30 credits<br> - 4 seminar credits are required (International students and general scholarship students are exempt from seminar requirements) |
| 2015~ 2017 | ❑ **Master's Program (at least 33 credits)**<br>○ Mandatory General : 3 credits and 1AU<br> - CC010 Special Lecture on Leadership/ | ❑ **Doctoral Program (at least 66 credits)**<br>○ Mandatory General : 3 credits and 1AU<br> - CC020 Ethics and Safety I(1AU) |

| Admission Year | Master's Program | Doctoral Program (MS-PhD Integrated Degree Program |
|---|---|---|
| | non-credit, this applies to students entering KAIST in 2002 and later; general scholarship students and international students are excluded)<br>- CC020 Ethics and Safety I(1AU)<br>- One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br>○ Mandatory Major : 6 credits<br>- MSB500 Advanced Statistics for Management<br>- MSB510 Innovation Management and Strategy<br>○ Elective : at least 15 credits<br>(Select at least 12 credits from MSB graduate courses, MSB500 level or above)<br>○ Research : at least 9 credits<br>- 2 seminar credits are required (International students and general scholarship students are exempt from seminar requirements) | - One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br>○ Mandatory Major : 6 credits<br>- MSB500 Advanced Statistics for Management<br>- MSB510 Innovation Management and Strategy<br>○ Elective : at least 27 credits<br>(Select at least 21 credits from MSB graduate courses, MSB500 level or above)<br>- It is mandatory to take at least one course from the following courses: MSB601 Research Methodologies I, MSB701 Advanced Econometrics, MSB702 Research Methdologies II.<br>○ Research : at least 30 credits<br>- 4 seminar credits are required (International students and general scholarship students are exempt from seminar requirements) |
| 2014 | ❑ **Master's Program (at least 33 credits)**<br>○ Mandatory General : 3 credits and 1AU<br>- CC010 Special Lecture on Leadership/ non-credit, this applies to students entering KAIST in 2002 and later; general scholarship students and international students are excluded)<br>- CC020 Ethics and Safety I(1AU)<br>- One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br>○ Mandatory Major : 6 credits<br>- MSB500 Advanced Statistics for Management<br>- MSB510 Innovation Management and Strategy | ❑ **Doctoral Program (at least 66 credits)**<br>○ Mandatory General : 3 credits and 1AU<br>- CC020 Ethics and Safety I(1AU)<br>- One course (3 credits) from CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics, CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC531 Patent Analysis and Invention Disclosure<br>○ Mandatory Major : 6 credits<br>- MSB500 Advanced Statistics for Management<br>- MSB510 Innovation Management and Strategy<br>○ Elective : at least 27 credits<br>(Select at least 21 credits from MSB graduate courses, MSB500 level or above)<br>- It is mandatory to take at least one course from the following courses: MSB601 |

| Admission Year | Master's Program | Doctoral Program (MS-PhD Integrated Degree Program |
|---|---|---|
| | ○ Elective : at least 15 credits<br>(Select at least 12 credits from MSB graduate courses, MSB500 level or above)<br>○ Research : at least 9 credits | Research Methodologies I, MSB701 Advanced Econometrics, MSB702 Research Methdologies II.<br>○ Research : at least 30 credits |
| 2013 or before | ❑ **Master's Program (at least 33 credits)**<br>○ Mandatory General : 3 credits and 1AU<br>○ Mandatory Major : 3 credits<br> - MSB500 Advanced Statistics for Management<br>○ Elective : at least 18 credits<br>(Select at least 12 credits from MSB graduate courses, MSB500 level or above)<br>○ Research : at least 9 credits | ❑ **Doctoral Program (at least 66 credits)**<br>○ Mandatory General : 3 credits and 1AU<br>○ Mandatory Major : 3 credits<br> - MSB500 Advanced Statistics for Management<br>○ Elective : at least 30 credits<br> - It is mandatory to take at least one course from the following courses :<br> MSB601 , MSB701, MSB702<br>○ Research : at least 30 credits |

※ Credits (for general courses and major courses) earned in the Master's Program can be included in the Doctoral Program (except research credits).

※ In the case of MS-PhD integrated students, they must take CC010 Special Lecture on Leadership.

※ Graduate Students must take and complete the three core courses (Principles of Accounting, Financial Management, Marketing).

 - Students who have completed core courses above in the undergraduate or the graduate programs, can either get an exemption from completion of the courses or take other courses instead, by getting the approval from the Undergraduate Head Professor beforehand.

 - The Exempted core course credits taken in the undergraduate program cannot be recognized as graduate credits.

# ❏ Table of Curriculum for BTM Graduate Program

| Classification | Course No. | Course Title | Lecture:Lab: Credit (Assignment) | Semester | Remarks |
|---|---|---|---|---|---|
| Mandatory General Course | CC010 | Special Lecture on Leadership | 1:0:0 | Spring.Fall | choose 1 |
| | CC020 | Ethics and Safety I | - | Spring.Fall | |
| | CC500 | Scientific Writing | 3:0:3 | Spring.Fall | |
| | CC510 | Introduction to Computer Application | 2:3:3 | Spring.Fall | |
| | CC511 | Probability and Statistics | 2:3:3 | Spring.Fall | |
| | CC512 | Introduction to Materials Science and Engineering | 3:0:3 | Spring.Fall | |
| | CC513 | Engineering Economy and Cost Analysis | 3:0:3 | Spring.Fall | |
| | CC522 | Introduction to Instruments | 2:3:3 | Fall | |
| | CC531 | Patent Analysis and Invention Disclosure | 3:0:3 | Spring.Fall | |
| Mandatory Major | BTM510 | Innovation Management and Strategy | 3:0:3(6) | Fall | |
| Elective | BTM500 | Advanced Statistics for Management | 3:0:3(6) | Spring | |
| | BTM504 | Microeconomics | 3:0:3(6) | Fall | |
| | BTM530 | Accounting Principles | 3:0:3(6) | Fall | |
| | BTM535 | Technology Management and Corporate Finance | 3:0:3(6) | Spring | |
| | BTM536 | Marketing for High-Tech Companies | 3:0:3(6) | Fall | |
| | BTM537 | Digital Innovation and IT Management | 3:0:3(6) | Spring | |
| | BTM538 | Managing Innovative Organization | 3:0:3(6) | Fall | |
| | BTM539 | AI for Business Management | 3:0:3(6) | Fall | |
| | BTM542 | Management Science | 3:0:3(6) | Fall | |
| | BTM601 | Research Methodology in Business and Technology Management | 3:0:3(6) | Fall | |
| | BTM613 | Complex System Network Economics | 3:0:3(6) | Fall | |
| | BTM615 | Game Theory with Applications | 3:0:3(6) | Fall | |
| | BTM630 | Managerial Accounting in Business and Technology Management | 3:0:3(6) | Fall | |
| | BTM635 | Investments Theory | 3:0:3(6) | Fall | |
| | BTM637 | Theory of Consumer Behavior and Decision Making | 3:0:3(6) | Spring | |
| | BTM638 | Strategic Management Theory of Technology Innovation | 3:0:3(6) | Spring | |
| | BTM644 | Supply Chain Innovation | 3:0:3(6) | Spring | |
| | BTM656 | Theory of Information Policy | 3:0:3(6) | Fall | |
| | BTM701 | Advanced Econometrics | 3:0:3(6) | Spring | |
| | BTM702 | Research Methodologies II | 3:0:3(6) | Spring | |
| | BTM703 | Business Analytics for Innovation Management | 3:0:3(6) | Fall | |
| | BTM716 | Innovation & Global Financial Markets | 3:0:3(6) | Spring | |
| | BTM736 | Advanced Quantitative Analysis | 3:0:3(6) | Spring | |
| | BTM813 | Telecommunications Economics | 3:0:3(6) | Fall | |
| | BTM830 | Research on Performance Management | 3:0:3(6) | Fall | |
| | BTM835 | Technology Innovation and Corporate Finance Research | 3:0:3(6) | Fall | |
| | BTM836 | Marketing Science Seminar | 3:0:3(6) | Spring | |
| | BTM837 | Doctoral Seminar in Digital Innovation and IT | 3:0:3(6) | Spring | |

| Classification | Course No. | Course Title | Lecture:Lab: Credit (Assignment) | Semester | Remarks |
|---|---|---|---|---|---|
| | | Management | | | |
| | BTM838 | Advanced Seminar on Theories of Innovative Organization | 3:0:3(6) | Fall | |
| | BTM881 | Advanced Special Topics Ⅰ in Business and Technology Management | 3:0:3(6) | Spring, Fall | |
| | BTM882 | Advanced Special Topics Ⅱ in Business and Technology Management | 2:0:2(4) | Spring, Fall | |
| | BTM883 | Advanced Special Topics Ⅲ in Business and Technology Management | 1:0:1(2) | Spring, Fall | |
| Research | BTM960 | MS Thesis Research | | | |
| | BTM965 | Individual Study in Master's | | | |
| | BTM966 | Seminar in MS | 1:0:1 | Spring, Fall | |
| | BTM980 | Ph.D Dissertation Research | | | |
| | BTM985 | Individual Study in Ph.D | | | |
| | BTM986 | Seminar in Ph.D | 1:0:1 | Spring, Fall | |

※ 500 level courses are not opened to undergraduate students

❏ Description of Courses for BTM Graduate Program

**BTM500   Advanced Statistics for Management**
The course emphasizes formulating models and using them for decision-making prediction. Topics include probability theory, sampling, estimation, hypothesis testing, regression analysis, analysis of variance, and some more techniques such as factor analysis, cluster analysis, if time permits. For all the issues, both theoretical and practical aspects through case studies will be emphasized.

**BTM504   Microeconomics**
Microeconomics is a field of economics that studies consumer and firm behaviors scientifically. Consumers and firms make decisions to accomplish their goals under constraints. More specifically, microeconomics studies the ways to make better decisions  choices) when resources such as budget, time, information, clean water, etc. are limited. This course is composed of three parts: consumer theory, firm theory, and externality. Students will study various topics intuitively rather than mathematically.

**BTM510   Innovation Management and Strategy**
Management of innovation is defined as the set of activities associated with bringing high technology products to the marketplace. Innovation management strategy is aims to integrate management of market, industry, technological, organizational change to improve the competitiveness of firms and effective organization. In doing so, this course will examine on the basis of the dynamic firms capability framework- position in the competitive and national environment, Path for developing and exploiting technological trajectories, Process for strategic integration and learning.

**BTM530   Accounting Principles**
The objectives of this course are for graduate students to comprehend "accounting procedures" with which accounting information is gathered, processed and presented; to understand contents in companies' financial statements; and to apply to management functions with accounting numbers.

**BTM535   Technology Management and Corporate Finance**
The objective of this course is to study the basic concepts, theories, and current issues of corporate finance and apply the materials to technology management. Students are required to write individual research proposals related to technology management and corporate finance including literature reviews, research hypothesis development, data collection, empirical analysis, interpretation of empirical results, and conclusion. In addition, as a group project, students conduct technology valuation using the currently developed technology. Students are required to make presentations of both academic papers and technology valuation project at the end of semester.

**BTM536   Marketing for High-Tech Companies**
This course is concerned with the development, evaluation, and implementation of marketing management in complex environments for Hi-tech companies. The course deals primarily with an in-depth analysis of a variety of concepts, theories, facts, analytical procedures, techniques, and models. The course addresses strategic issues such as:
· What business should we be in?
· What are our long-term objectives?
· What is our sustainable marketing competitive advantage?
· Should we diversify?
· How should marketing resources be allocated?
· What marketing opportunities and threats do we face?
· What are our marketing organizational strengths and weaknesses?
· What are our marketing strategic alternatives?

**BTM537   Digital Innovation and IT Management**
This course is designed to provide a clear understanding of the various advanced management, organizational, and ethical issues of digital innovation for graduate students. Effective management of digital innovation and IT resources are becoming even more compelling and significant in light of Internet business. To achieve these objectives, a combination of various approaches including class lectures, case discussions, group projects and assignments will be offered.

**BTM538   Managing Innovative Organization**
We will focus on the skills and tools managers need to be successful in innovative organizations. The

objectives of this course are to understand multiple theoretical and conceptual foundations of managing innovative organizations and apply scientific knowledge to lead and manage real-world innovative organizations.

## BTM539 AI for Business Management

This course has two objectives. One is to offer business school students, who have some or no experience in machine learning programming, an opportunity to acquire hands-on machine learning and deep learning programming skills with Python and TensorFlow; the other is to teach recent trends in global AI research and application development, business applications of AIs, and ethical issues in AI development and use. Those who want to take this course are required to take a KOOC course, "Practical Python for AI Coding," before a semester begins.

## BTM542   Management Science

Main purpose of this course is to provide fundamentals in management science. The course will cover introductory levels of linear programing, network theory, game theory, decision analysis, queueing theory and inventory analysis.

## BTM601   Research Methodology in Business and Technology Management

This is an introductory graduate level seminar on research methods in business, science, and technology. It deals with a variety of issues on research methods including research design, experiments, quasi-experiments, survey development, qualitative research methods, and others. This is to be explorative and thought-provoking mutual learning experiences by active engagements of all members of the class.

## BTM613 Complex System Network Economics

This course aims to understand basic principles of network economics and study applications of the principles to real economies and business issues. We introduce network concept, structure, and principles including network externalities, excess inertia and excess momentum, positive feedback, path dependent process, and so on. We apply those principles to various economic, business, and policy issues; technology adoption, standardization, spatial pattern, network trade, discrepancy and instability, synchronization, self-organizing, complexity, etc.

## BTM615   Game Theory with Applications

You make your decisions sometimes without worrying about the decisions of others, but in many cases the results of your decisions depend on others' decisions. This course is a course in which you learn a systematic and analytic approaches and frameworks for a better strategic decision making in interactive circumstances. In addition, this course fosters students' ability to analyze and handle the complexity involved in strategic decision-making process.

## BTM630   Managerial Accounting in Business and Technology Management

This course aims to understand cost flows, costing systems, and the use of cost information in managerial issues; and to get fundamental research ideas, topics, and methodologies regrading managerial accounting area. This course also provide how to apply cost information to practices, management functions, and managerial decision makings with mini cases.

## BTM635   Investments Theory

The main purpose of this course is to analyze portfolio theory and the pricing model of securities in the financial markets.  In addition to the valuation model such as Capital Asset Pricing Model, Arbitrage Pricing Model, bond valuation model, financial derivatives such as options and futures are introduced. Focussing on information and telecommunications industry, issues related to market efficiency, M&A, venture capital, and IPO are also covered in the class.

## BTM637 Theory of Consumer Behavior and Decision Making

This course is designed to familiarize students with the current major theoretical streams of research in consumer behavior and decision making. It is expected that students will develop and refine the ability both to critically evaluate the theoretical contribution of articles in consumer behavior and decision making and to formulate theory-based hypotheses capable of advancing the discipline's understanding of consumer behavior and decision making.

## BTM638   Strategic Management Theory of Technology Innovation

Strategic management research deals with explaining and predicting firm-differential performance. Strategic

management research is motivated by a particular set of phenomena expressed in fundamental questions like "why do some firms succeed, while others fail?, "what determines firm performance?," and to a lesser, normative extent, "what, if anything, can managers do about it?" We will study the questions using the lens of firm technological innovation. We will be focused on the implications of behavioral, institutional, and organizational perspectives, particularly as they apply to technology innovation.

**BTM644   Supply Chain Innovation**
One of the core process of 'Industry 4.0' is implementing smart technology into all the manufacturing and service processes, such as procurement, assembly, production, distribution, and retailing. Theories and cases related technological and managerial issues will be covered.

**BTM656   Theory of Information Policy**
This course provides the overview of the governments policies aimed at changing the nation and society by means of informatization. This course is designed to help students understand how the relation between globalization and informatization transform the world and its economic structure.  This lecture also aims to help students equip the knowledge and perspective required to be a CEO in the near future.  Related studies are political economics, theory of policy, theory of information society, and theory of information industry.

**BTM701   Advanced Econometrics**
Topics to be studied include specification, estimation, and inference in the context of models that include then extend beyond the standard linear multiple regression framework. After a review of the linear model, we will develop the asymptotic distribution theory necessary for analysis of generalized linear and nonlinear models. We will then turn to instrumental variables, maximum likelihood, GMM, and two step estimation methods. Inference techniques will be extended to include Wald, Lagrange multiplier and likelihood ratio tests. Modelling frameworks will include the linear regression model and extensions to models for panel data, multiple equation models.

**BTM702   Research Methodology II**
This class try to achieve in-depth understanding of the high level research methodologies which should be essential in writing empirical dissertation paper and conducting various researches in the field of business. The class covers empirical design focussing validities, and multivariate data analyses including ANOVA, Factor Analysis, Regression, Discriminant Analysis, Conjoint Analysis, Multidimensional Scaling, Structural Equation. etc.

**BTM703   Business Analytics for Innovation Management**
This course provides master level and Ph.D. level students with knowledge to empirically analyze commonly used econometrics and machine learning techniques, and to interpret its outcome. The topics to be discussed are mainly intended for technology marketing, Information Systems, and technology strategy areas. The computer packages to be mainly lectured in class will be STATA and Python.  etc.

**BTM716   Innovation & Global Financial Markets**
The course covers the fundamentals of the macroeconomic environment of international financial management, discusses the financial environment in which the multinational firm and its managers must function, and covers foreign exchange management and financial management in a multinational firm.

**BTM736   Advanced Quantitative Analysis**
This course in intended for first year Ph.D. students and M.S students who will eventually pursue a Ph.D degree in quantitative marketing. We will cover topics relating to the analysis of data such as household scanner panel and physician level data (individual) and store data (aggregate). All topics are empirical in nature and very strong background and motivation for quantitative modeling are required.  I will also strongly encourage students to conduct interdisciplinary research throughout the course. Once we have covered a topic in class, I will provide readings. There are 2 types of assignments for the class. The first is to implement each of the models discussed using the data I provide. Ph.D. students can use any software package such as R, SAS, Gauss, Matlab etc. as long as no canned routines are used. The other assignment for this class is a final paper-individual. This is intended only for Ph.D students registered for the class. Papers are due at the end of summer. It has to involve some piece of empirical research that uses the quantitative methods discussed in class

**BTM813   Telecommunications Economics**
This course is designed to understand basic principles of telecommunications industry and study applications of

Microeconomics and Industrial Organization to telecommunications industry: market structure, demand structure, interconnection, pricing, competition and regulation, etc. It is also to discuss current policy issues and future of telecommunications industry such as network neutrality, facility and service-based competition, MVNO, bundling service, market foreclosure, DRM, convergence service, telecommunication expenditure, regulation and market growth, etc.

**BTM830   Research on Performance Management**
This course is designed for graduate students to understand various issues concerning the enterprise performance management. Students study successful factors for not only implementing performance management systems but also operating them continuously throughout papers and cases.

**BTM835   Technology Innovation and Corporate Finance Research**
The objective of this course is to study the basic concepts, theories, and current issues of corporate finance and apply the materials to technology management. The topics cover the areas related to corporate finance decisions including capital budgeting, capital structure, dividend policy, IPO, M&A, corporate divestitures, corporate valuation, technology valuation and other related issues. Students are required to write individual research proposals related to technology management and corporate finance including literature reviews, research hypothesis development, data collection, empirical analysis, interpretation of empirical results, and conclusion. In addition, as a group project, students conduct technology valuation using the currently developed technology. Students are required to make presentations of both academic papers and technology valuation project at the end of semester.

**BTM836   Marketing Science Seminar**
This course consists of supervised study and investigation of specific topics and problems in the field of marketing such as consumer behavior, business to business marketing, structural equation modeling, hi-tech marketing, and marketing models. In addition, students examine the philosohphy, concepts and methods of marketing research design. The focus of seminar is on the application of advanced scientific research methodology to marketing issues.

**BTM837   Doctoral Seminar in Digital Innovation and IT Management**
This seminar is designed to provide doctoral students with contemporary theories of digital innovation and IT management. Students will understand the phenomena related to the introduction, adoption, use, effects, and exploitation of digital innovation and IT management. Students will present a research proposal based on the provided theories.

**BTM838   Advanced Seminar on Theories of Innovative Organization**
This course analyzes the structural and behavioral aspects of innovative organizations. Macro issues covers organizational communication, organizational culture, and organizational change for innovation, whereas micro issues include group dynamics, business ethics, power, work motivation, and decision making for innovation. Emphasis will be placed on understanding the conceptual and methodological strengths and weaknesses of the perspectives presented. This course is a student-centered seminar class.

**BTM881   Advanced Special Topics Ⅰ in Business and Technology Management**
This course provides studies of recent academic research papers and the research methodology on each industry and business areas of technology management to graduate students of Business and Technology Management major. This course is offered to cover additional business and technology management area which is not covered by regular courses. It will be opened flexibly.

**BTM882   Advanced Special Topics Ⅱ in Business and Technology Management**
This course provides studies of recent academic research papers and the research methodology on specific industry and business areas of technology management to graduate students of Business and Technology Management major. This course is offered to cover additional business and technology management area which is not covered by regular courses. It will be opened flexibly.

**BTM883   Advanced Special Topics Ⅲ in Business and Technology Management**
This course provides selected studies of recent academic research papers and the research methodology on specific industry and business areas of technology management to graduate students of Business and Technology Management major. This course is offered to cover additional business and technology management area which is not covered by regular courses. It will be opened flexibly.

**BTM960   MS Thesis Research**

**BTM965   Individual study in Master's**

**BTM966   Seminar (MS)**

**BTM980   Ph.D Thesis Research**

**BTM985   Individual Study in Ph.D**

**BTM986   Seminar (Ph.D)**