

PCM Minor Program Course Requirements

Program	Mandatory Major	Elective	Total
Minor	3	6 or more	9 or more

- A. Eligibility : Students in KAIST master's program
 ※ College of Business students are not eligible to apply for the PCM Minor Program.
- B. Required Credits : At least 9 credits
- C. Mandatory Major Course : 3 credits
 - ITM504 Finance and Accounting
- D. Elective Course: At least 6 credits
 ※ Students are required to fulfill 6 credits or more by selecting one module among the 3 modules below: Management, Entrepreneurship, and Data Analysis

Module	Contents	Course List
Management	Basic knowledge on business & management	MSB536 Marketing Management, MSB537 Management Information Systems, MSB538 Organization Management, MSB635 Investments Theory, ITM503 Managerial Economics
Entrepreneurship	Management of startups & innovative enterprises	MSB510 Innovation Management and Strategy, ITM502 Entrepreneurship, ITM540 Strategy for Innovative Business, ITM560 Leadership for Innovative Organization, ITM620 Technology Commercialization Practice, ITM634 Innovation Ecosystem
Data Analysis	Data analysis of business and economic phenomena	MSB500 Advanced Statistics for Management, MSB601 Research Methodologies I, MSB701 Advanced Econometrics, MSB702 Research Methodologies II, ITM512 Econometrics

○ Table of Curriculum

Classification		Subject No.	Subject Name	Lecture: Lab: Credit	Semester	Remark
Mandatory Major		ITM504	Finance and Accounting	3:0:3	Spring	
Elective	Management Module	MSB536	Marketing Management	3:0:3	Fall	
		MSB537	Management Information System	3:0:3	Spring	
		MSB538	Organization Management	3:0:3	Spring	
		MSB635	Investment Theory	3:0:3	Fall	
		ITM503	Managerial Economics	3:0:3	Spring, Fall	
	Entrepreneurship Module	MSB510	Innovation Management and Strategy	3:0:3	Fall	
		ITM502	Entrepreneurship	3:0:3	Spring	
		ITM540	Strategy for Innovative Business	3:0:3	Fall	
		ITM560	Leadership for Innovative Organization	3:0:3	Spring	
		ITM620	Technology Commercialization Practice	3:0:3	Spring	
		ITM634	Innovation Ecosystem	3:0:3	Fall	
	Data Analysis Module	MSB500	Advanced Statistics for Management	3:0:3	Spring	
		MSB601	Research Methodologies I	3:0:3	Fall	
		MSB701	Advanced Econometrics	3:0:3	Spring	
		MSB702	Research Methodologies II	3:0:3	Spring	
ITM512		Econometrics	3:0:3	Fall		

※ 500 level courses are not opened to undergraduate students.

○ Descriptions of Courses

1. ITM504 Finance and Accounting

This course is to provide the basic knowledge of the accounting and the finance for managing a firm efficiently and effectively. It teaches the accounting principles and procedures, and the ways of the interpreting financial accounting information and utilizing it. It deals with the costing systems based on information in the book and various decision making problems based on the cost behaviour. It deals with fundamental concepts and financial management. It teaches the rational financial decisions and the strategic investment decisions for maximize the value of a firm.

2. MSE536 Marketing Management

This course is concerned with the development, evaluation, and implementation of marketing management in complex environments. 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?

3. MSE537 Management Information Systems

This course is designed to provide a clear understanding of the various advanced management, organizational, and ethical issues of IS for master students. Effective management of IT functions and IT resources is becoming even more compelling and significant in light on electronic Internet business. To achieve these objectives, a combination of various approaches including class lectures, case discussions, group projects and assignments will be offered.

4. MSE538 Organization Management

This course will address a variety of issues in Organizational Behavior and Organizational Theory. Thus, subjects to be covered will include motivation theories, individual differences, leadership, organization structure, strategy, inter-organizational relationships, organizational culture and others. It is a seminar class where students are expected to read academic journal articles

beforehand and discuss their opinions in the class.

5. MSE635 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.

6. ITM503 Managerial Economics

This course is concerned with the understanding of basic principles in business economics. Business economics considers how individuals, firms, the government, and other organizations make choices. In addition, economic forces are a fundamental determinant of firms' profitability and growth, and economic thinking should be a fundamental influence in nearly every managerial decision. In this course, we will examine the principles of microeconomics, and illustrate how they apply to managerial decision-making. By the end of semester, students should understand the main logical arguments in business economics and be able to use these tools to analyze business and public policy problems.

7. MSE510 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.

8. ITM502 Entrepreneurship

This course aims to prepare students to develop the knowledge, skills, and mind-set that will support and enhance their entrepreneurial activities in a startup or a corporate setting, by exposing them to a diverse group of entrepreneurs, their real life stories, and their genuine motivation.

9. ITM540 Strategy for Innovative Business

This class introduces the students to the core concepts of strategic management for technology-intensive industries. The topics covered in the class include:

external and internal analysis, value chain, different levels of strategies, acquisitions, outsourcing, organic growth strategy through innovation, platform strategy, and pricing strategy. There will be both group projects and individual assignments. By doing projects and assignments, the students will be able to internalize the understanding of the strategic frameworks by applying to key technology-intensive industries of the future. The instructors will challenge the students to participate in the class discussions and to share ideas through case studies and group discussion exercises.

10. ITM560 Leadership for Innovation Organization

Ultimately, the goal of managers and leaders is to get things done in organizations. Most of that work is accomplished by effectively managing human and social capital. Using cases, exercises, and readings, we will focus on the skills and tools managers need to be successful in today's rapidly changing, dynamic, and innovative organizations.

11. ITM620 Technology Commercialization Practice

This course is designed to provide students with theoretical and practical knowledge of technology commercialization within companies, universities, spin-offs, and standalone start-ups through a case-based approach, guest speaker's experiences, and a term-length project, will enhance their understanding of various business approaches and experiences related, so they have an opportunity to adopt the perspective of a CEO/founder or decision maker.

12. ITM634 Innovation Ecosystem

This course will provide special concepts, methods and issues on innovation ecosystem at national as well as regional level. Students can foster their capability of managing innovation ecosystem through some examples which have developed in venture business, IT industry and Daedeok Innopolis.

13. MSB500 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.

14. MSB601 Research Methodologies I

This course provides basic knowledge of academic research for graduate

students. This course covers diverse topics associated with academic research, including conceptualizing a research design, literature review, identifying variables, constructing hypotheses, data collection, instrument development, sampling, empirical analysis, etc. At the end of this semester, each student will complete a piece of his/her own international-conference- level paper in his/her field.

15. MSB701 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.

16. MSB702 Research Methodologies 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.

17. ITM512 Econometrics

This course introduces students to various statistical techniques that economists use for estimating, testing, and forecasting economic relationships. The objective of this course is to provide students with the tools required to evaluate and to carry out empirical research. The course starts with introducing some basic regression models, and then moves on to cover more advanced topics in panel data and time series analysis. Frontier research papers with various economic data sets will be covered, which will help the course practical and useful.