

Outline of Curriculum

■ Master & Ph.D. Program

Major Requirements	
GDI630	Global Technology Commercialization
<p>This course provides theory and practice on technology commercialization methodology related to digital technology focusing on the 4th industrial revolution technology. The goal is to learn the entire process of technology commercialization, including the derivation and development of ideas using digital technology and market entry plans, targeting the global market.</p>	
GDI640	Sustainable Digital Technology Innovation
<p>This course provides comprehensive and systematic investigation on the recent phenomenon of technological innovation following the acceleration of the 4th Industrial Revolution. In particular, the course provides positive and negative effects of the 4th Industrial Revolution technology such as AI, blockchain, and IoT on sustainable growth based on case study. Students also learn the technology innovation strategies and methodologies for sustainable growth.</p>	
Elective Major Courses (Engineering Major Field)	
GDI610	Introduction to Digital Technology R&D in Korea
<p>Twelve professors in the School of Engineering of KAIST will introduce the basic concept and the R&D trends of state-of-the-art IT technology in Korea. This course will provide the students with broad knowledge on the latest IT technology development in Korea and understanding other countries' situations and problems in IT industry through the presentation of term project results.</p>	
GDI700	Telecommunication Technology in Korea
<p>This course is aimed at understanding 1) Basics of Digital Communications, 2) Basics of Data Communications and Networks, and 3) Applications of Wireless Communications in Korea.</p>	
GDI701	Next-generation Computing Technology in Korea
<p>This course is intended for graduate students. This course covers the fundamentals of ubiquitous computing and its deployment in Korea. The first part of the course focuses on the main components of the ubiquitous computing infrastructure such as location sensing, context management, service discovery, and dynamic service reconfiguration. The second part of the course is an analysis of and discussion of several successful cases of ubiquitous computing in Korea.</p>	
GDI702	Software Engineering in Korea
<p>This is an introductory course to software engineering. In this course, students will learn the major software engineering issues such as software requirements, design, process, and management. Students will also conduct team projects to practice how to apply major software engineering concepts and methods to software development problems.</p>	
GDI703	BcN Technology in Korea
<p>This course covers an overview of broadband networking technologies including Broadband convergence Network (BcN), wireless mobile network and IPTV, and integrated network environments of fixed and wireless network. Also this course introduces network computing Grid clustering concept to provide distributed network computing as well as new trends of wireless and mobile network</p>	
GDI705	Research Methodology I
<p>This course is a seminar course designed to provide an overview of academic research for ITTP 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. SPSS as a statistics analysis tool will be used to understand diverse quantitative research methods. Student will have a capability of absorbing the knowledge from diverse academic research articles and of applying the implication from the articles to the real business field.</p>	
GDI810	Special Topics in Global Digital Technology (Engineering)
<p>This course covers the newest IT-related policies and trends or timely topics in the field of Engineering.</p>	
Elective Major Courses (Management Major Field)	

GDI620	Introduction to Digital Technology Management and Policy in Korea
<p>Eleven professors in the School of Business and Technology Management of KAIST will introduce the basic concept and recent trends of IT technology management and policy issues in Korea. This course will provide the students with broad knowledge on the latest technology management and business/policy issues in the Korean IT industry. Also, understandings other countries' situations and problems in IT industry through the presentation of term project results.</p>	
GDI750	ICT Economics and Management
<p>This course is designed to understand economic principles behind IT Industry and policies and their applications in practical industry. Specially, telecommunications market is focused and several critical issues are discussed in the light of industrial organization theory in which 'market structure-market behavior-market performance' and 'network externalities' are considered as main analytical framework. Also, we review the past and current IT development strategies and policies and furthermore competition paradigm across socio-economic system in the network era.</p>	
GDI751	Digital Business and Management
<p>This course will focus on opportunities as well as strategies, platforms, and limitations of business over the Internet. The concept of electronic business (e-Business) and a number of alternative business models will be discussed. Business-oriented issues related to security of transactions will be discussed. Specifically, the course will address the technological foundations of the Internet and the macro environments of e-Business as determinants of profitability and influencers for business models. The students working in teams of 2-3 members each will be required to work on a project to develop a business plan for an e-Business initiative.</p>	
GDI752	Financial and Accounting Management in Digital Business
<p>In financial accounting class, students will study how to understand and how to use accounting information for financial analysis. Students will learn useful tools for financial statement analysis and use of accounting information for managerial decisions. Also, students will learn how to read companies' annual reports and analyze the accounting information in the reports. Finance studies about financial decision making, and it is important to make wise financial decisions in real world. Whether seeking a career in finance or not, a well-educated industry leader will be expected to have a broad understanding of finance. Therefore, the objective of the course is to provide an overview of how financial management may be practically applied to financially phrased decisions. The course will cover how to make these decisions based on financial analysis and planning, valuation of securities, capital budgeting, risk and return relationship, and opportunity cost of capital, alternative corporate financing and capital structure.</p>	
GDI753	Digital Technology Management and Policy
<p>This course is directly concerned with the management & policy issues surrounding IT /IS (information technology and information systems). To posit the ingredients of knowledge for the successful IT/IS management, this course is designed within a single framework in accordance with 5-layer model of EA (Enterprise Architecture) which covers five dimensions - Technology, Data, Organization & Process, Service, and Performance in hierarchy.</p> <p>Starting from introducing the basic schematics of 5-layer model of EA, this course covers first three dimensions &#8211; Technology, Data, and Organization & Process. The essence and the key issues for each dimension will be investigated and discussed with more emphasis on the socio-managerial implications of technical concerns.</p>	
GDI755	Digital Transformation
<p>The age of digital convergence – in which the computer, the telephone, and the television are no longer distinct products with separate functions – is upon us. Whether at home, at the office, or in the classroom, we increasingly communicate, learn, and enjoy entertainment using video-on-demand, interactive television, the Internet, personal digital assistants. This course covers technologies, business strategies, and case studies regarding digital convergence. In the first section of this course, we cover the digital convergence technologies. Differences between conventional and emerging digital convergence technologies are discussed. At the second part, we discuss the business strategies of digital convergence, which includes service development, service bundling, co-marketing, and alliance strategies. At the final part, we will discuss future pictures in the digital economy through discussion on business cases of digital convergence, such as convergence of broadcasting and telecom, e-banking, u-city, IT ecosystem.</p>	
GDI756	Research Methodology II
<p>This course is a seminar course designed to provide an overview of academic research for ITTP 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. SPSS as a statistics analysis tool will be used to understand diverse quantitative research methods. Student will have a capability of absorbing the knowledge from diverse academic research articles and of applying the implication from the articles to the real business field.</p>	

GDI757	Digital Transformation in Government
The first part of the course will teach the theories and concepts, and new trends which required for implementing e-gov projects, and in the second part, students will learn project planning, making RFP, auditing, performance management, and etc. through a workshop.	
GDI760	Global Entrepreneurship
Students learn the nature of entrepreneurship and entrepreneurial management methods that capture opportunities for global growth and new value creation. In particular, the course deals with theories and cases specialized in digital business models with the aim of value creation based on digital technology and cases in line with the era of the 4th Industrial Revolution.	
GDI761	Global Convergence Capstone Design
This course aims to develop problem definition, solution ability, and creative and logical thinking. Students will understand real-world problems and derive digital-based creative solutions based on the academic knowledge and experience in their major in this course.	
GDI762	Leadership in Innovative Organization
This is a course for graduate students who are interested in learning leadership competencies for innovative organizations. Major subjects may organizational behavior, human resources management, and/or organizational development in technology organizations. Even though no prior knowledge on business and economics is required, some business management courses (e.g., introduction to business management, organizational behavior, and/or high-tech human resources management) could be beneficial.	
GDI800	Special Topics in Global Digital Technology (Management)
This course covers the newest IT-related policies and trends or timely topics in the field of IT Management.	
Elective Major Courses (Liberal Arts Field)	
GDI500	Korean Conversation
This course is designed for students who have no previous exposure to Korean language. The main objective of the course is to help students to cope with general or emergency situations through practicing basic survival expressions. The emphasis will be on mastery of 150 basic sentences prepared by ITTP.	
GDI505	Korean Reading
This course will help students build basic Korean sentence reading skills. Students will learn how to use a Korean dictionary for understanding simple sentences and how to comprehend Korean reading material needed for their majors.	
GDI510	Korean Grammar
This course is designed for students to learn the constituents of a Korean sentence. Studying each component of a sentence will help students to improve their Korean speaking, reading, and writing skills. This course will focus on the methodology of understanding and learning Korean language within a short period of time. Functions and usages of subject, predicate, object, negative sentence, number, interrogative, imperative mood, etc. will be discussed.	
GDI511	Intermediate Korean
This course is intended to educate students to read and understand articles or textbooks about Korean culture and history. The main objective of the course is to improve students' reading ability by utilizing Korean newspapers and magazines as class reading materials. Advanced reading skills including how to look up words in a dictionary and how to utilize a dictionary are also covered.	
GDI512	Intermediate Korean II
This course is designed for students to learn Korean conversation skills needed to acquire specialized knowledge. Students learn and practice upper-intermediate level Korean conversation in order to have a good command of IT learning and questions.	
GDI515	Advanced Korean

This course is purposed to help foreign students acquire advanced Korean, especially focusing on IT-related research papers reading and practical discussion.	
GDI525	Advanced English Conversation and Presentation Skills
This course will focus on further improving students' conversational skills in an academic setting and developing presentation skills. Theoretical and practical considerations will be discussed and developed in class to assist students in groups and individually prepare, develop and present a series of in-class presentations. Particular emphasis will be placed on assisting students develop skills directly relevant to their concurrent academic work. Classes will discuss and practice pronunciation, posture, styles of presentations, eye contact, audience interaction, intonation, anxiety control, the use of graphics, Power Point issues, transitions, etc. Techniques and materials used by Toastmasters might also be incorporated into the class and students might concurrently attend Toastmaster presentations and programs.	
GDI540	Korean Culture and History I
The purpose of this course is to introduce Korean history and culture from Gojoseon to Joseon Dynasty. Historical backgrounds of Korea are discussed to encourage students to have various points of view and to promote them to have Korean-friendly minds. Information about Korean historical figures and philosophy are also introduced. Foundation of Korean IT industry is reviewed by tracing Korean history.	
GDI541	Korean Culture and History II
This course is taught to explore and focus on the image of Koreans who take a strong leap forward with the liberation of Korea in 1945. The research and presentation will focus on Korea's potential, industry, and economy, which have developed over the ruins of Korean War. Interest and understanding are promoted in connection with industrial inspections. Educate them to present a survey on cultural areas, including the Saemaul Movement in Korea and the IMF's overcoming and sports. The development of urban culture in Korea, centered on the eight major metropolitan cities, is also examined to enhance understanding.	
GDI550 ~ GDI554	Taekwondo I, II, III, IV, V
his course is aimed at delivering Taekwondo spirits such as humanitarianism, pacifism, integrity, and responsibility so that students can understand Korean traditional culture and can cultivate Korean spirits. The course will give a systematic lessons, dividing Taekwondo performances into three parts --Basics, Poomsae, Fighting-- to provide students with opportunities to advance to the next higher level and to the highest level. It is based on Korea's traditional martial arts and offers the understandings of Korea's spiritual culture. Furture, students can learn excellency of Teakwondo and build a state of "A sound mind in a sound body."	
Research	
GDI960	Research for M.S. Thesis
Basis of the thesis plan authorized by advisor and though the individual study and experiments, Master dissertation will be written.	
GDI965	Individual Study (for M.S. Non-Thesis)
One of the graduation requirement of the Non-Thesis Master. With the advisor's guidance and instruct, Country Report will be written through out the semester	
GDI980	Research for Ph.D. Dissertation
Basis of the thesis plan authorized by advisor and though the individual study and experiments, Ph.D dissertation will be written.	
GDI966	M.S. Seminar
Seminars which belong to Research Course will be held by famous speakers invited from IT companies, government or research institutes to share and learn the ICT technology and the case studies.	
GDI986	Ph.D. Seminar

Seminars which belong to Research Course will be held by famous speakers invited from IT companies, government or research institutes to share and learn the ICT technology and the case studies.