Course Requirements

□ **Undergraduate**

A. Graduation Credits
  ◦ Students who entered in or before 2005 : at least 144 credits.
  ◦ Students who entered in 2006~2009 : at least 134 credits.
   * GPA of all completed subjects must be 2.0/4.3 or better

B. General Course Requirements(☞ Refer to completion requirements by student numbers)
  ◦ Students who entered in or before 2008 : at least 24 credits
    - Completion of graduation requirements for English courses is counted as completing minimum credits depending on students entering year.
    - As for the AU earned from 2 physical education courses is counted as 1 credit per 1 subject.
    - Among the physical education courses, 2AU can be replaced by Sports sports club activities
  ◦ Students who entered in 2009 : at least 24 credits & 4AU
    ◇ Mandatory General Courses : 6credits, 4AU
      - English Communication(1), Critical Thinking in English(2), Writing(3), Community Service(2AU), Humanity/Leadership(2AU)
    ◇ Elective General Courses : at least 18 credits.
        For Elective General Courses, completion of at least one subject of Physical Education is recommended)

C. Common courses (☞ Refer to completion requirements by student numbers)
  ◦ Students who entered in 2004~2005 : at least 27 credits.
  ◦ Students who entered in 2006~2009 : at least 24 credits.

D. Major Courses (☞ Refer to completion requirements by student numbers)
  ◦ Students who entered in 2004~2005 : Mandatory Courses 12 credits, Elective Courses at least 57 credits.
  ◦ Students who entered in 2006~2009 : Mandatory Courses 12 credits, Elective Courses at least 54 credits.

E. Interdisciplinary Course (☞ Refer to completion requirement by student numbers)
  ◦ Students who entered in or before 2009 : at least 12 credits.
  ※ There's no Mandatory Interdisciplinary Course.
  ※ Programming Fundamentals(C++ and JAVA) can be recognized as interdisciplinary or elective major.
  ※ For undergraduate Students of IT Business, not only the courses form ICC but also all the Major courses of the college of Engineering(with the exception of courses related to economics/ management) can be recognized.
    And if, the recognition of a certain course of other department as an Interdisciplinary course is not clear, the undergraduate head professor of the department examines and gives his/her approval.

F. Research Course Requirements
  ◦ Students who entered in or before 2005
    - Each 3 credits of ISUP A/B, 6 credits of UP, at least 12 credits of Internship
  ◦ Students who entered in 2006~2009
    - Each 3 credits of ISUP A/B, 6 credits of UP,
      at least 8 credits from Internship or ISUP/UP)

G. English Language Requirements for Graduation(☞ Students who entered in ~~and~~ or after 2005)
  ° One of the following should be satisfied
    - IBT TOEFL score: at least 88 or TOEIC score : at least 840 or TEPS score : at least 743 or IELTS score : at least 6.5
    - IBT TOEFL score: at least 79 or TOEIC score : at least 800 or TEPS score : at least 695 or IELTS score : at least 6.0 & at least 3.0 of English subject G.P.A.
    ※The students who graduate after November 2013 can be applied to English Language Requirements of KAIST.
    - TOEIC score : at least720, TOEFL(CBT) score : at least220, TOEFL(IBT) score : at least 83, TOEFL(PBT) score : at least560, IELTS score : at least 6.5 , TEPS score : at least 599

I. Requirements for a minor in IT Business : Must complete at least 21 credits
  at least GPA 2.0/4.3 of minor subjects.)
  ° This applies only to those who applied for a minor in IT Business in or before Spring term 2009

Classification	Credits	Subjects	
		Subject course	Substitute course
Mandatory	12	BAT113 Principles of Business Administration (I)	MSB200 Introduction to Business Management
		BAT115 Fundamentals of Economics	HSS159 Introduction to Economics
		BAT130 Principle of Accounting	MSB230 Principles of Accounting
		BAT235 Financial Management	MSB235 Financial Management
		BAT236 Marketing Management	MSB236 Marketing
Elective	9	BAT200~400 level	MSB200~400 level

K. Requirements for a double major : completion of at least 42 credits
  at least G.P.A 2.0 of double major subjects.)
  ° This applies only to those who applied for a double major in IT Business in or before Spring term 2009

Classification	Credits	Subjects	
		Subject course	Substitute course
Mandatory	15	BAT113 Principles of Business Administration (I)	MSB200 Introduction to Business Management
		BAT115 Fundamentals of Economics	HSS159 Introduction to Economics
		BAT130 Principle of Accounting	MSB230 Principles of Accounting
		BAT235 Financial Management	MSB235 Financial Management
		BAT236 Marketing Management	MSB236 Marketing
Elective	27	BAT200~400 level	MSB200~400 level

L. Progress arrangement and the others
  ° Refer to each completion requirements, since the completion requirements of general and common courses are different according to entering year.

    - Enterer of each year can choose conditions for graduation excep fort 2009 requirement. If one entered before 2005 and graduates with enterers of the year 2006, one can choose either the course of entering or 2006 course requirement.

    - When a student who entered before 2009 choose the graduation condition of after his entering year,
    . when it comes to the graduation requirement of general course(including English course requirement),

each student except for 2009 student can choose either the requirement of his/her entering year or that of after his/her entering year except for 2009 requirement.

Division	Requirement for Graduation		
	2004-2005	2006-2008	2009
2004~2005	○	○	
2006-2008		○	
2009			○

◦ Course related facts are based on entering year except for specially appointed things.
  If certain subject is not available anymore (closed or changed) one must take the substitute course.

◦ If there's extra case other than manual or guideline concerning course completion, follow the policy of the department first. In the case of objection or mediation, it can be decided through deliberation of related committee.

◦ If there's change on school register due to change of major, classification of the completed subject is recognized like before the change. In this case two subjects of the same name that have different course numbers can be recognized as the same in relation to graduation requirement classification

ex) In case a student of Informations and Communications Engineering change his major to IT Business department, Already completed ICE0103 Probability and Statistics (Mandatory common of Communication Engineering) can be recognized as taking BAT 103 Probability and Statistics (Mandatory common of IT Business)

* Note : checking and meeting every requirements for graduation is basically student's responsibility.

General Course - Completion Requirements by student number & Substitute Course

1. Completion requirements by student numbers

Student No.	Requirements
2009	◦ Mandatory Basic Course: 6 credits, 4AU - English Communication(1) , Critical Thinking in English(2) - Writing(3) - Community Service 2AU, Humanity/Leadership 2AU ◦ Elective Basic Course: 18 credits (completion of at least one subject of physical education(1) is recommended)
2004 ~ 2008	◦ Mandatory English Course(8) - Listening and Pronunciation Ⅳ(1), Conversation Ⅳ(1), Reading Ⅳ(1), Writing Ⅳ(1), Listening and Pronunciation Ⅴ(1), Conversation and Presentation Ⅴ(1), Reading Ⅴ(1), Writing Ⅴ(1) - The Art of Technical Writing(1) - Colloquium(1) 　※ For foreign student, substitution is possible when Korean Language Ⅱ is 3.0/4.3 or more - University Hour(0) 　※ For foreign student, can be substituted by Korean Culture and History ◦ Elective Basic Course: 14credits(completition of at least one subject of Physical Education Subejct is recommended)

※ Requirement regarding English mandatory courses can be satisfied by completing at least minimum credits of English course requirement according to the graduation requirement based on the student number, regardless of the number of English substitute course at KAIST completed.

※ Double recognition of the same English course is not possible.

※ If the substitute course of an uncompleted English mandatory course of the (former) ICU is not open until the last semester before graduation, the student can replace the English subject with other similar course open in that semester with the approval of the undergraduate head professor.

※ Regarding at most 2 subjects of Physical Education whose completion is recognized as AU, 1 subject can be recognized as 1 credit.

※ Physical activity club, once recognized by the related division , can be recognized as 2AU.
Student should apply for the recognition.

※ For foreign students, writing or writing related course among General Mandatory courses can be exempted by completing a Korean course that is of at least the credits required according to the student number.

※ Those who haven't completed University Hour yet should meet the requirement by attending as many times of seminar as he/she missed regarding University hour

2. Completion of substitute subject

Substitute subject for closed or changed subject

① COM0110 Philosophy of Science → COM0164 Science and Technology, COM0133 Western Philosophy

② The Art of Technical Writing in Korean → 1 course of The Art of Technical Writing, Philosophy of Science, Oriental Philosophy, Korean History, Modern World History, Introduction to Sociology, Introduction to Psychology, Introduction to Communications

③ Art Ⅰ(Understanding Music) → Understanding Music

④ Art Ⅱ(Understanding Arts) → Understanding Arts

⑤ Physical Education Ⅰ → Physical Education Ⅰ(Golf)

⑥ Physical Education Ⅱ → Physical Education Ⅱ(Swimming)

⑦ Physical Education Ⅳ → Physical Education Ⅲ(Skiing)

⑧ Practical Sino-Korean(COM0109) → Practical Sino-Korean(COM0140)

⑨ Practical Sino-Korean(COM0140) → Classics of The East and West(COM0163)

⑩ Logic → Philosophy of Science, Oriental Philosophy, Western Philosophy, Modern World History, Introduction to Sociology, Introduction to Psychology, Introduction to Communications

⑪ IT Leadership→Philosophy of Science, Oriental Philosophy, Korean History, Modern World History, Introduction to Sociology, Introduction to Psychology, Introduction to Communications

⑫ Understanding Philosophy → more than 1 credit of Philosophy of Science, Oriental Philosophy, Western Philosophy and other liberal course

⑬ For foreign student, Writing can be substituted when Korean Language I is 3.0/4.3 or more

⑭ For foreign student, University Hour can be substituted when Korean Language Ⅱ is 3.0/4.3 or more.

⑮ UCR Language Program 10 Credits → Current English subject 8 Credits

※ Credit recognition standard is to absolve the duty of taking class through authorized test (TEPS/TOEFL/IELTS) and give the score as "S"

Classification	Exemption list of English course		English Score	Remark
	Course Name (Course No.)	Credit		
Advanced	Reading (COM1503)	1	TOEFL iBT Reading 25 TOEIC RC 450	
	Writing (COM1504)	1	TOEFL (PBT/CBT) 6.0 LOEP 6/6 or 8/8 TOEFL iBT Writing 25	
	Listening (COM1501)	1	TOEFL iBT Listening 25 TOEIC LC 450	
	Conversation/Presentation (COM1502)	1	Phone Pass-Overall 70 TOEFL IBT Speaking 25	
High Intermediate	Reading (COM1403)	1	TOEFL iBT Reading 22 TOEIC RC 400	
	Writing (COM1404)	1	TOEFL (PBT/CBT) 5.0 LOEP 5/6 or 7/8 TOEFL iBT Writing 22	
	Listening (COM1401)	1	TOEFL iBT Listening 22 TOEIC LC 400	
	Conversation (COM1402)	1	Phone Pass-Overall 60/ TOEFL iBT Speaking 22	

○ Substitution of Mandatory English course of (former) ICU

※ HSS394 Internet English completed in or before the 2011 fall semester is recognized as the completion of

COM1401 Listening and Pronunciation IV

Requirement	Course Title of ICU(Credits)	Course Title of KAIST(Credits)_Substitute course	
		2013 Fall semester before	2014 Spring semester thereafter
Mandatory English Course (8credits)	COM1401 Listening & Pronunciations IV (1)	HSS393 English Presentation(3)	HSS010 Intermediate English Speaking & Listening (2) HSS395 Current Event in English (enforce from 2014.Fall semester)
		HSS390 Advanced English Conversation(3)	
		HSS479 English Debate(3)	
		HS364 Internet English (3)	
		COM401 Listening IV(1)	
	COM1402 Conversation IV (1)	HSS398 English Conversation (2)	HSS010 Intermediate English Speaking & Listening (2)
		HS372 English Conversation (2)	
		COM402 Conversation IV(1)	
	COM1403 Reading IV (1)	HSS021 Critical Thinking in English (2)	HSS011 Intermediate English Reading and Writing (2)
		HS201 Critical Thinking in English (2)	
		COM403 Reading IV(1)	
	COM1404 Writing IV (1)	HSS391 Advanced English Writing (3)	HSS011 Intermediate English Reading and Writing (2) HSS392 English Science Writing(3) (enforce from 2014.Fall semester)
		HS361 Advanced English Writing (3)	
		COM404 Writing IV(1)	
	COM1501 Listening & Pronunciations V (1)	HSS393 English Presentation (3)	HSS023 Advanced English Listening(1)
		HS363 English Presentation (3)	
		COM405 Listening V(1)	
	COM1502 Conversation & Presentation V (1)	HSS020 English Communication(1)	HSS022 English Presentation & Discussion(1)
		HS106 English Communication (1)	
		COM406 Conversation & Presentation V (1)	
	COM1503 Reading V (1)	HSS397 Advanced English Reading (3)	HSS025 Advanced English Reading(1)
		HS371 Advanced English Reading (3)	
		COM407 Reading V (1)	
	COM1504 Writing V (1)	HSS392 English Science Writing	HSS024 Advanced English Writing(1)
		HSS399 Creative English Writing(3)	
		HS362 English Science Writing (3)	
		COM408 Writing V(1)	

entered 2009 students

Requirement	Course Title of KAIST(Credits)	
	2013 Fall semester before	2014 Spring semester thereafter
Mandatory English Course (3credits)	HSS020 English Communication(1)	HSS010 Intermediate English Speaking & Listening (2)
	HSS021 Critical Thinking in English(2)	HSS011 Intermediate English Reading and Writing (2)

Common Course - Completion Requirements by student number & Substitute Course

1. Completion requirements by student numbers

Student No.	Requirements
2006~2009	◦ Mandatory Common **: Must complete total 24 credits** MAS101 Calculus 1, MAS105 Elective general, MAS102 Calculus II, MAS109 Introduction to Linear Algebra, IE241 Engineering Statistics I, IE341 Engineering Statistics II, ITB0115 Fundamentals of Economics, ITB0113 Principles of Business Administration I, ITB0238 Organizational Behavior, ITB0130 Principle of Accounting, ITB0237 Introduction to MIS
2005	◦ Mandatory Common **: Must complete total 27 credits** ITB0100 Calculus, ITB0101 Mathematics for Business and Economics, ITB0103 Probability and Statistics, ITB0115 Fundamentals of Economics, ITB0113 Principles of Administration I, ITB0238 Organizational Behavior, ITB0121 Programming Fundamentals I-JAVA, ITB0130 Principle of Accounting, ITB0237 Introduction to MIS
2004	◦ Mandatory Common **: Must complete total 27 credits** ITB0100 Calculus, ITB0101 Mathematics for Business and Economics, ITB0103 Probability and Statistics, ITB0112 Principles of Microeconomics, ITB0113 Principles of Business Administration I, ITB0114 Principles of Business Administration II, ITB0121 Programming Fundamentals I-JAVA, ITB0130 Principle of Accounting, ITB0212 Economics of Money, Banking, and Financial Market

2. Substitute course

① ITB0105 Programming Fundamentals(C,C++)→ITB0122 Programming Fundamentals Ⅰ ('03)→ICE0125 Programming Fundamentals('04)

② ITB0106 Programming Fundamentals(JAVA)→ITB0121 Programming Fundamentals Ⅱ ('04)→ICE0124 Programming Fundamentals Ⅰ ('06)→ CS101 Programming Fundamentals(Dept. of CS, '09)

③ BA101 Calculus→ITB0100 University Mathematics('03)→ITB0100 Calculus('04년)→BAT0100 Calculus('09)→MAS101 Calculus I/MAS105 College Mathematics(Dept. of Mathematical Science, '09)→MAS101 Calculus I('10)

④ BA201 Mathematics for Business and Economics→ITB0101 Mathematics for Business and Economics('03)→BAT0101 Mathematics for Business and Economics('09)→MAS102 Calculus II/MAS109 Introduction to Linear Algebra(Dept.of Mathematical Science, '09)

⑤ ITB0202 Principles of Microeconomics→ITB0112 Principles of Microeconomics('04)→ITB0115 Fundamentals of Economics('05)→BAT0115 Fundamentals of Economics→HSS0159 Introduction to Economics('09)

⑥ BA0203 Principle of Accounting→ITB0231 Principle of Finance('03)→ITB0130 Principle of Accounting('05)→BAT0130 Principle of Accounting('09)→MSB0230 Principle of Accounting('09)

⑦ ITB0204 Principle of Internet Economics→ITB0110 Principles of Business Administration('03)→ITB0113 Principles of Business Administration I('04)→BAT0113 Principles of Business Administration I('09)→MSB0200 Introduction to Business Management('09)

⑧ BA307 Economics Money, Banking, and Financial Market→ITB0212 Economics Money, Banking, and Financial Market('04)→ITB0316 Macroeconomics('05)→BAT316 Macroeconomics('09)→MSB316 Macroeconomics('09)

⑨ ITB0114 Principles of Business Administration II→ITB 0238 Organizational Behavior('05)→BAT238 Organizational Behavior('09)→MSB0238 Organizational Behavior('09)

⑩ ITB0103 Probability and Statistics→IE241 Engineering Statistics I/IE341 Engineering Statistics II(Dept. of Industrial and Systems Engineering,'09) → **MAS250(Probability and Statistics) ('13)**

⑪ ITB0237 Introduction to MIS→BAT0237 Introduction to MIS('09)→MSB0237 Introduction to MIS('09)

Major Course - Completion Requirements by student number &
Substitute Course

1. Completion requirements by student numbers

Student No.	Requirements
2009	◦ Mandatory Major **: 12** credits ITB0235 Financial Management, ITB0236 Marketing Management, ITB0338 Strategic Management, ITB0354 Operations Management ◦ Elective Major : 54 credits ◦ Interdisciplinary **:** 12 credits ◦ Research credit : 8 credits(ISUP A(2~~2~~ 3), ISUP B(~~2~~ 3), UP(~~4~~ 6), Internship)
2006~2008	◦ Mandatory Major **: 12** credits ITB0235 Financial Management, ITB0236 Marketing Management, ITB0338 Strategic Management, ITB354 Operations Management ◦ Elective Major : 54 credits ◦ Interdisciplinary **:** 12 credits ◦ Research credit : 8 credits(ISUP A(~~2~~ 3), ISUP B(~~2~~ 3), UP(~~4~~ 6), Internship)
2005	◦ Mandatory Major **: 12** credits ITB0235 Financial Management, ITB0236 Marketing Management, ITB0338 Strategic Management, ITB0354 Operations Management ◦ Elective Major : 54 credits ◦ Interdisciplinary **:** 12 credits ◦ Research credit : 12 credits(ISUP A(3), ISUP B(3), UP(6), Internship)
2004	◦ Mandatory Major **: 12** credits ITB231 Financial Management, ITB0233 Marketing Management, ITB0338 Strategic Management, BAT344 Management Information System ◦ Elective Major : 54 credits ◦ Interdisciplinary **:** 12 credits ◦ Research credit : 12 credits (ISUP A(3), ISUP B(3), UP(6), Internship)

2. Substitute course

① TB0231 Financial Management(->Principles of Finance), ITB0235 Financial Management('05)→BAT235 Financial Management('09)→MSB235 Financial Management('09)

② ITB0233 Introduction to Marketing→ ITB0236 Marketing Management('05)→BAT236 Marketing Management('09)→MSB236 Marketing('09)

③ ITB0250 Development Strategy for E-Business-> ITB0315 Development Strategy for E-Business('05)-> BAT315 Development Strategy for E-Business-> MSB416 E-Biz Strategy for Korea('09)

④ ITB0338 Strategic Management('05)-> BAT338 Strategic Management('09)-> MSB343 Business Strategy('09)

⑤ ITB0105 Programming Fundamentals(C,C++)→ ITB0122 Programming Fundamentals Ⅰ('03)→ ICE0125 Programming Fundamentals('04)

⑥ ICE0124 Programming Fundamentals I-JAVA → CS101 Introduction to Programming('09)

⑦ ICE0120 Introduction to Computer Science → CS202 Problem Solving/ CS220 Programming Principles('10)

❏ Master's Program

A. Graduation Credits
   ◦ Students who entered before 2005 : at least 45 credits.
   ◦ Students who entered in 2005~2010 : at least 46 credits.

B. Mandatory Common
   ◦ Students who entered in 2005 ~ 2009 : 1 credit(COM0505,COM0506 Thesis Writing Skills or Scientific Writing)

C. Major Course Requirements : at least 24 credits.
   ◦ Mandatory Major Courses : 3 credits
      - BAT605 Research Methodology I, BAT895 Research Methodology Ⅱ
   ◇ Elective Major Courses : 21 credits.

D. Interdisciplinary Course Requirements : 6 credits.
   - Only Courses from ICC, from college of engineering or from college of Culture Technology can be recognized as an Interdisciplinary course
   - The recognition of Interdisciplinary course requires the approval from the Advior.

E. Research Course Requirements : at least 15 credits.
   ◦ Internship 6 credits, Thesis research credit 9 credits
      - The Internship course can be exempted by the approval of the Chairman of department Management Science in which case completion of additional 6 credits of Thesis research(to the 12 credits) is required.

F. English Language Requirements for Graduation
   ◦ Students who entered in or before 2005 : at least TOEFL(CBT) 213(PBT 550)/TOEIC 800
   ◦ Students who entered in 2006~2009 : at least TOEFL(CBT) 230(PBT 570)/TOEIC 840
   ◦ One of the following should be satisfied
      - IBT TOEFL score: at least 88 or TOEIC score : at least 840 or TEPS score : at least 743 or IELTS score : at least 6.5
      - IBT TOEFL score: at least 79 or TOEIC score : at least 800 or TEPS score : at least 695 or IELTS score : at least 6.0 & if he/she published one more paper at international conference than basically required by each major department. (if he/she published more papers at international conferences than required by the department)
      ※The students who graduate after November 2013 can be applied to English Language Requirements of KAIST.
      - TOEIC score : at least720, TOEFL(CBT) score : at least220, TOEFL(IBT) score : at least 83, TOEFL(PBT) score : at least560, IELTS score : at least 6.5 , TEPS score : at least 599

G. Either submission of paper to a domestic or international journal
    or Presentation of Paper at International conference where at least 5 country participate.

❒ Doctoral Program

  A. Graduation Credits

    ◦ Students who entered before 2005 : at least 69 credits.

    ◦ Students who entered in 2006~2009 : at least 70 credits.

  B. Mandatory Common : 1 credit(COM0505,COM0506 Thesis Writing Skills(1) or Scientific Writing(3))

  C. Major Course Requirements : at least 42 credits.

  D. Interdisciplinary Course Requirements : 9 credits(☞Students who entered in 2006 ~ 2009)

    - Only Courses from ICC, from college of engineering or from college of Culture Technology can be recognized as an Interdisciplinary course

    - The recognition of Interdisciplinary course requires the approval from the Advisor.

  E. Research Course Requirements : at least 18 credits.

    - Internship 6 credits, Thesis research credit 12 credits

    - The Internship course can be exempted by the approval of the Chairman of the Department of Management Science in which case completion of additional 6 credits of Thesis research(to the 12 credits) is required.

  F. English Language Requirements for Graduation

    ◦ at least TOEFL(CBT) 230(PBT 570)

    ◦ One of the following should be satisfied

     - IBT TOEFL score: at least 88 or TOEIC score : at least 840 or TEPS score : at least 743 or IELTS score : at least 6.5

     - IBT TOEFL score: at least 79 or TOEIC score : at least 800 or TEPS score : at least 695 or IELTS score : at least 6.0 & if he/she published one more paper in a SCI/SSCI-rank journal than basically required by each major department (if he/she published more papers at SCI/SSCI-rank journals than required by the department)

      ※The students who graduate after November 2013 can be applied to English Language Requirements of KAIST.

     - TOEIC score : at least720, TOEFL(CBT) score : at least220, TOEFL(IBT) score : at least 83, TOEFL(PBT) score : at least560, IELTS score : at least 6.5 , TEPS score : at least 599

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  G. published at least 1 paper (SCI/SSCI-rank journal)(Published or Acceptance letter)

❑ **Substitute subjects**

The courses below are substituted each other because the contents are very similar to those open in the department of Business and Technology Management.

※ **Undergraduate Program (25 courses)**

Course in IT Business	Substitutive Subject
BAT113	MSB200
BAT201	MSB201
BAT130	MSB230
BAT235	MSB235
BAT236	MSB236
BAT237	MSB237
BAT238	MSB238
BAT314	MSB301
BAT316	MSB316
BAT321	MSB445
BAT345	MSB337
BAT338	MSB343
BAT342	MSB341
BAT354	MSB354
BAT356	MSB356
BAT315	MSB416
BAT311	MSB412
BAT313	MSB413
BAT415	MSB415
BAT457	MSB402
BAT420	MSB421
BAT430	MSB431
BAT331	MSB411
BAT433	MSB436
BAT444	MSB446
BAT310	HSS199
BAT459	HSS253

※ **Graduate Program (22 courses)**

Course in IT Business	Substitutive Subject
BAT500	MSB500
BAT504	MSB504
BAT664	MSB530
BAT676	MSB535
BAT651	MSB536
BAT556	MSB537
BAT604	MSB538
BAT605	MSB601
BAT600	MSB613
BAT614	MSB614
BAT511	MSB615
BAT673	MSB635
BAT661	MSB638
BAT671	MSB644
BAT650	MSB650
BAT617	MSB656
BAT701	MSB701
BAT895	MSB702
BAT665	MSB730
BAT810	MSB810
BAT602	MSB813
BAT803	MSB838