

Guidelines for the Doctoral Program of the Department of Management Information Systems, National Chengchi University

Revised and passed in the department affairs meeting on June 11, 1996
Revised and passed in the department affairs meeting on September 23, 1996
Revised and passed in the department affairs meeting on November 13, 1996
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Approved for reference and passed in the department affairs meeting on April 25, 2019
Approved for reference and passed in the department affairs meeting on September 16, 2019

Article 1: Duration of study and requirements for full-time study

- I. The duration of study shall be in accordance with rules of the Ministry of Education (MOE) and National Chengchi University (NCCU).
- II. Requirements for full-time study:
 - (I) Doctoral students enrolled before academic year 1998 (inclusive): No requirements for full-time study.
 - (II) Doctoral students enrolled between academic years 1999 and 2005: Must be a full-time student for at least two semesters before the duration of study expires, or receive at least five points from the following:
 1. 10 points for one SSCI/SCI journal paper.

2. 8 points for one EI journal paper.
3. 5 points for one TSSCI journal paper.
4. 5 points for an international academic journal paper with an anonymous external review system.
5. 3 points for a domestic journal paper with an anonymous external review system, the limit for this item is 6 points.
6. 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must present the full text in English, and the conference must have an international program committee)
7. 1 point for a paper presented in a domestic academic conference, the limit for this item is 3 points.

When calculating the score for papers in items 1-7, the number of points received by the student should be calculated using the total number of authors excluding teachers as the denominator (not rounded).

- (III) Doctoral students enrolled from academic year 2006 (inclusive): No requirements for full-time study.

Article 2: Course Requirements

- I. The minimum graduation credits of the doctoral program is 48 credits; the minimum graduation credits for students enrolled from academic year 2008 is 34 credits, including:
 - (I) Required courses (12 credits, four courses with three credits each)
 1. For students enrolled before academic year 2011 (inclusive):
 - (1) Information Management Research
 - (2) Advanced Research Methodology
 - (3) Information Technology Research
 - (4) Advanced Quantitative Methods
 2. Students enrolled in the Business Division and Industry Division from academic year 2012 and students enrolled in the Information Management Division and Industry Division from academic year 2013 (inclusive):
 - (1) Information Management Research
 - (2) Advanced Research Methodology
 - (3) Information Technology Research
 - (4) Advanced Quantitative Methods
 3. Students enrolled in the Technology Division from academic year 2012 (inclusive):
 - (1) Information Management Research
 - (2) Advanced Innovative Technology
 - (3) Advanced Information System Development
 - (4) Advanced Quantitative Methods
 - (II) Primary elective courses
 1. Students enrolled before academic year 2004:
Doctoral students must take at least 21 credits of required courses offered by the Department's doctoral program.
 2. For students enrolled from academic year 2004 (inclusive):
Doctoral students must take at least 18 credits of required courses offered by the Department's doctoral program.
 3. For students enrolled from academic year 2008 (inclusive):
Doctoral students must take at least 9 credits of required courses offered by the Department's doctoral program.
 - (III) Secondary elective courses (9 credits)
(Students enrolled before academic year 2007 (inclusive) are restricted from

taking courses offered by other departments (universities); students enrolled from academic year 2008 do not have this restriction)

Due to the extensive knowledge required for information management, doctoral students must select a secondary field to strengthen their knowledge required for integrated information management. If students take and pass 9 credits of doctoral program courses in a field, that field can become a secondary field; secondary courses are determined by the student's dissertation advisor.

(IV) Seminar courses

1. Implemented for students enrolled from academic year (2002) (6 credits)

Doctoral students must take six semesters of seminar courses during their period of study. Of these six seminar courses, doctoral students enrolled from academic year 2003 must select two courses that are offered to both master's and doctoral students, and four courses are courses offered to only doctoral students.

2. Implemented for students enrolled from academic year (2006) (4 credits)

Doctoral students must take four semesters of seminar courses for doctoral students during their period of study.

(V) Academic ethics course

1. Students enrolled from academic year 2004 (inclusive) must take the 0 credit required course "Academic Ethics." This course is offered in the form of a summer workshop, and students must select any summer before graduation to take the course.

2. Students enrolled from academic year 2008 (inclusive) must take the 1 credit required course "Academic Ethics." This course is offered by Sinyi School every year. The course requires full attendance and must be completed before graduation.

II. [This provision is applicable to students enrolled from academic year 2004 (inclusive)] Students may only take 6 credits of required and elective courses offered by the same teacher of the Department.

III. Doctoral students must submit a course selection proposal each semester that is signed by their dissertation advisor or class advisor and submitted to the Academic Committee for approval.

IV. [This provision is applicable to students enrolled from academic year 2019 (inclusive)] Students must participate and publish a paper in the College of Commerce's "Research Publication Camp" within three years after enrollment (suspension of study and retention of accepted student status is not calculated).

Article 2-1: Transferring Divisions

Students enrolled in the Business Division and Technology Division from academic year 2012, and students enrolled in the Information Management Division and Technology Division from academic year 2013 (inclusive) may provide a reason and apply to the department office for transfer of division after completing two semesters. Transfer procedures are completed after the application form is signed by the department chair. After transferring divisions, students must meet the requirements of the new division to graduate.

Article 3: Prerequisite Course

I. General Division

(I) [This provision is applicable to students enrolled before academic year 2009 (inclusive)]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Economics, (2) Accounting (I), (3) Statistics, (4) System Analysis and Design, (5) Business Data Communications, (6) Advanced Information Management, (7)

Advanced Database Management, (8) Quantitative Methods, and (9) Research Methodology, in which (6)(7)(8)(9) are master's program courses and prerequisite courses or must be taken at the same time as Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects is not limited by undergraduate program prerequisites.

- (II) [This provision is applicable to students enrolled between academic years 2010 and 2011]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Economics, (2) Accounting (I), (3) System Analysis and Design, (4) Business Data Communications, (5) Advanced Information Management, (6) Advanced Database Management, (7) Quantitative Methods, and (8) Research Methodology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses or must be taken at the same time as Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects is not limited by undergraduate program prerequisites.

- (III) [This provision is applicable to students enrolled in the Business Division in academic year 2012, and students in the Information Management Division between academic years 2013 and 2015]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Economics, (2) Accounting (I), (3) System Analysis and Design, (4) Business Data Communications, (5) Advanced Information Management or IT Strategy and Management, (6) Advanced Database Management or Data Models, (7) Quantitative Methods or Decision Science, and (8) Research Methodology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses or must be taken at the same time as Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects is not limited by undergraduate program prerequisites.

- (IV) [This provision is applicable to students enrolled in the Technology Division between academic years 2012 and 2015]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Data Structure, (2) Algorithms, (3) Operating Systems, (4) Business Data Communications, (5) Advanced Information Management or IT Strategy and Management, (6) Information System Development, (7) Quantitative Methods or Decision Science, and (8) Innovative Technology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses or must be taken at the same time as Information Management Research, Advanced Information System Development, Advanced Quantitative Methods, and Advanced Innovative Technology, taking the four subjects is not limited by undergraduate program prerequisites.

- (V) [This provision is applicable to students enrolled in the Information Management Division in academic year 2016]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes:

(1) Economics, (2) Accounting (I), (3) System Analysis and Design, (4) Business Data Communications, (5) IT Strategy and Management, (6) Data Models, (7) Decision Science, and (8) Research Methodology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses or must be taken at the same time as Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects is not limited by undergraduate program prerequisites.

(VI) [This provision is applicable to students enrolled in the Technology Division in academic year 2016]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Data Structure, (2) Algorithms, (3) Operating Systems, (4) Business Data Communications, (5) IT Strategy and Management, (6) Information System Development, (7) Decision Science, and (8) Innovative Technology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses or must be taken at the same time as Information Management Research, Advanced Information System Development, Advanced Quantitative Methods, and Advanced Innovative Technology, taking the four subjects is not limited by undergraduate program prerequisites.

(VII) [This provision is applicable to students enrolled in the Information Management Division from academic year 2017 (inclusive)]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Economics, (2) Accounting (I), (3) System Analysis and Design, (4) Business Data Communications, (5) IT Strategy and Management, (6) Data Models, (7) Decision Science, and (8) Research Methodology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses for Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects are limited by undergraduate program prerequisites and, in principle, may not be taken at the same time.

(VIII) [This provision is applicable to students enrolled in the Technology Division from academic year 2017 (inclusive)]

Doctoral students must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes: (1) Data Structure, (2) Algorithms, (3) Operating Systems, (4) Business Data Communications, (5) IT Strategy and Management, (6) Information System Development, (7) Decision Science, and (8) Innovative Technology, in which (1)(2)(3)(4) are undergraduate program courses and students may choose to take two of the four courses; (5)(6)(7)(8) are master's program courses and prerequisite courses for Information Management Research, Advanced Information System Development, Advanced Quantitative Methods, and Advanced Innovative Technology, taking the four subjects are limited by undergraduate program prerequisites and, in principle, may not be taken at the same time. However, this does not apply to (6) and (8).

(IX) Credit transfer for prerequisite courses shall be handled in accordance with the Guidelines for Master's Students and approved by the Academic Committee. If a newly enrolled student has not taken a particular prerequisite course, but has taught

the course in a high (vocational) school or above (inclusive) for two times or more (inclusive), or obtained credits from a credit program recognized by the MOE, the student may provide documentary proof to transfer credits for the prerequisite course.

II. Industry Division

- (I) [This provision is applicable to students enrolled before academic year 2016 (inclusive)]

Doctoral students in the Industry Division must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes four master's program courses: (1) Advanced Information Management or IT Strategy and Management, (2) Advanced Database Management or Data Models, (3) Quantitative Methods or Decision Science, and (4) Research Methodology are prerequisite courses or must be taken at the same time as Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects is not limited by undergraduate program prerequisites.

- (II) [This provision is applicable to students enrolled from academic year 2017 (inclusive)]

Doctoral students in the Industry Division must take the following courses (credits are not counted) if they did not take the courses in an undergraduate program or master's program. Includes four master's program courses: (1) Advanced Information Management or IT Strategy and Management, (2) Advanced Database Management or Data Models, (3) Quantitative Methods or Decision Science, and (4) Research Methodology are prerequisite courses for Information Management Research, Information Technology Research, Advanced Quantitative Methods, and Advanced Research Methodology, taking the four subjects are limited by undergraduate program prerequisites and, in principle, may not be taken at the same time.

- (III) Credit transfer for prerequisite courses shall be handled in accordance with the Guidelines for Master's Students and approved by the Academic Committee. If a newly enrolled student has not taken a particular prerequisite course, but has taught the course in a high (vocational) school or above (inclusive) for two times or more (inclusive), or obtained credits from a credit program recognized by the MOE, the student may provide documentary proof to transfer credits for the prerequisite course.

Article 4: Qualifying Exam

- I. If students apply to take the qualifying exam, it shall be handled in accordance with NCCU Regulations.

- II. Doctoral program qualifying exam subjects are divided into two groups. Doctoral students must complete the subjects of the qualifying exam before applying to take the qualifying exam for the subject.

- (I) For students enrolled before academic year 2011 (inclusive):

1. Select one of "Information Management Research" and "Information Technology Research"
2. Select one of "Advanced Research Methodology" and "Advanced Quantitative Methods"

- (II) Students enrolled in the Business Division and Industry Division from academic year 2012 and students enrolled in the Information Management Division and Industry Division from academic year 2013 (inclusive):

1. Select one of "Information Management Research" and "Information Technology Research"
2. Select one of "Advanced Research Methodology" and "Advanced Quantitative Methods"

- (III) Students enrolled in the Technology Division from academic year 2012 (inclusive):
 - 1. Select one of “Information Management Methodology” and “Advanced Quantitative Methods”
 - 2. Select one of “Advanced Innovative Technology” and “Advanced Information System Development”
- (IV) Students enrolled in the Technology Division from academic year 2013 (inclusive): Must at least take one of “Advanced Innovative Technology” and “Advanced Information System Development”
- III. Qualifying exams are held once a semester, and the registration deadline is announced by the department office at the beginning of each semester.
- IV. Doctoral students may choose one or two subjects for the exam for each time, and may only take the qualifying exam for each group of subjects two times. When a student is taking the exam for a group of subjects the second time, the student may choose to take the other subject.
- V. There are two drafters for each subject in the qualifying exam. The list of drafters is not announced, but the Department may request the drafters provide and announce the scope of questions. The full score from each drafter is 100 points, and the passing grade for a subject is an average score of 70 points or above.
- VI. The exam is held in-class. Students have two hours to complete each exam, which may be open book or closed book. If a subject has both open book and closed book questions, the closed book questions are administered first, and then the open book questions are administered.

Article 5: Ph.D. Candidates

- I. [This provision is applicable to students enrolled before academic year 2009 (inclusive)] Besides completing required courses (excluding seminars and English proficiency test graduation standards), doctoral students of the Department must calculate if they meet Ph.D. candidate qualifications three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
 - (I) 5 points for each subject that students pass the written qualifying exam for.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 8 points for one EI journal paper.
 - (IV) 5 points for one TSSCI journal paper.
 - (V) 5 points for an international academic journal paper with an anonymous external review system.
 - (VI) 3 points for a domestic journal paper with an anonymous external review system, the limit for this item is 6 points.
 - (VII) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must present the full text in English, and the conference must have an international program committee)
 - (VIII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 3 points.

When calculating the score for papers in items (II)-(VIII), the number of points received by the student should be calculated using the total number of authors excluding teachers as the denominator (not rounded).

Remarks: If a doctoral student already published a paper in LNCS/LNAI, the student must provide proof that the journal was still listed on the Science Citation Index Expanded at the time the paper was accepted, otherwise the number of points for a paper published in LNCS/LNAI is calculated as a general international journal, which was passed during the department affairs meeting at the beginning of semester 952 (March 12, 2007). For students enrolled

from academic year 2012 (inclusive), points for a paper published in LNCS, LNAI, and other Lecture Notes are calculated as an international academic conference paper.

- II. [This provision is applicable to students enrolled in the Business/Information Management Division between academic years 2010 and 2014; and students enrolled in the Technology Division between academic years 2010 and 2012]
Besides completing required courses (excluding workshops and English proficiency test graduation standards), doctoral students of the Department must calculate if they meet Ph.D. candidate qualifications three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
- (I) 5 points for each subject that students pass the written qualifying exam for.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 3 points for one EI journal paper.
 - (IV) 5 points for one TSSCI journal paper.
 - (V) 3 points for an international academic journal paper with an anonymous external review system.
 - (VI) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must present the full text in English, and the conference must have an international program committee)
 - (VII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 2 points.
 - (VIII) 4 points for a paper published in MIS Review, the limit for this item is 4 points.
- When calculating the score for papers in items (II)-(VIII), the number of points received by the student should be calculated using the total number of authors excluding NCCU teachers as the denominator (not rounded).
- III. [This provision is applicable to students enrolled in the Technology Division between academic years 2013 and 2014]
Besides completing required courses (excluding seminars and English proficiency test graduation standards), doctoral students of the Department must calculate if they meet Ph.D. candidate qualifications three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
- (I) Pass the written qualifying exam for at least one subject, 5 points per subject.
* The examination subject is “Advanced Information System Development” or “Advanced Information System Development”; details of the qualifying exam are determined by the qualifying panel.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 5 points for one TSSCI journal paper.
 - (IV) 3 points for one EI journal paper.
 - (V) 3 points for an international academic journal paper with an anonymous external review system.
 - (VI) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must present the full text in English, and the conference must have an international program committee)
 - (VII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 2 points.
 - (VIII) 4 points for a paper published in MIS Review, the limit for this item is 4 points.
- When calculating the score for papers in items (II)-(VIII), the number of points received by the student should be calculated using the total number of authors excluding NCCU

teachers as the denominator (rounded to the nearest whole number).

- IV. [This provision is applicable to students enrolled in the Information Management Division and Industry Division from academic year 2015]
Besides completing required courses (excluding seminars and English proficiency test graduation standard), doctoral students of the Department must meet Ph.D. candidate qualifications within three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
- (I) 5 points for each subject that students pass the written qualifying exam for.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 3 points for one EI journal paper.
 - (IV) 5 points for one TSSCI journal paper.
 - (V) 3 points for an international academic journal paper with an anonymous external review system.
 - (VI) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must have an international program committee, the full text of the English paper published, and oral presentation, in which the student must be the presenter for one paper.)
 - (VII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 2 points.
 - (VIII) 4 points for a paper published in MIS Review, the limit for this item is 4 points.
- The papers in (II)-(VIII) must be published in the name of the Department of Management Information Systems, NCCU to be counted. When calculating the points, the number of points received by the student should be calculated using the total number of authors excluding NCCU teachers as the denominator (not rounded).
- V. [This provision is applicable to students enrolled in the Technology Division from academic year 2015]
Besides completing required courses (excluding seminars and English proficiency test graduation standard), doctoral students of the Department must meet Ph.D. candidate qualifications within three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
- (I) Pass the written qualifying exam for at least one subject, 5 points per subject.
* The examination subject is “Advanced Information System Development” or “Advanced Information System Development”; details of the qualifying exam are determined by the qualifying panel.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 5 points for one TSSCI journal paper.
 - (IV) 3 points for one EI journal paper.
 - (V) 3 points for an international academic journal paper with an anonymous external review system.
 - (VI) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must have an international program committee, the full text of the English paper published, and oral presentation, in which the student must be the presenter for one paper.)
 - (VII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 2 points.
 - (VIII) 4 points for a paper published in MIS Review, the limit for this item is 4 points.
- The papers in (II)-(VIII) must be published in the name of the Department of Management Information Systems, NCCU to be counted. When calculating the

points, the number of points received by the student should be calculated using the total number of authors excluding NCCU teachers as the denominator (not rounded).

- VI. [This provision is applicable to students enrolled in the Information Management Division and Industry Division from academic year 2016 (inclusive)]
Besides completing required courses (excluding seminars and English proficiency test graduation standard), doctoral students of the Department must meet Ph.D. candidate qualifications within three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
- (I) 5 points for each subject that students pass the written qualifying exam for.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 3 points for one EI journal paper.
 - (IV) 5 points for one TSSCI journal paper.
 - (V) 3 points for an international academic journal paper with an anonymous external review system.
 - (VI) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.
(Must have an international program committee, the full text of the English paper published, and oral presentation, in which the student must be the presenter for one paper.)
 - (VII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 2 points.
 - (VIII) 4 points for a paper published in MIS Review, the limit for this item is 4 points.
- The papers in (II)-(VIII) must be published in the name of the Department of Management Information Systems, NCCU to be counted. When calculating the points, the number of points received by the student should be calculated using the total number of authors excluding NCCU teachers as the denominator (not rounded).
Ministry of Science and Technology's definition of international attendance: The entire conference is conducted in English, scholars from at least three countries participate in the presentation, and the student must personally give a presentation.
The organizer of an international conference must be one of the following institutions: AIS, DSI, HICSS, IEEE, ACM, ICEB, INFORMS, ICEC, AOM, POMS, AMA, IFIP, EAI, DEXA.
- VII. [This provision is applicable to students enrolled in the Technology Division from academic year 2016 (inclusive)]
Besides completing required courses (excluding seminars and English proficiency test graduation standard), doctoral students of the Department must meet Ph.D. candidate qualifications within three years after enrollment (suspension of study is not calculated), and shall be withdrawn from the University if they do not meet qualifications. The calculation method is as follows; a passing score is 10 total points:
- (I) Pass the written qualifying exam for at least one subject, 5 points per subject.
* The examination subject is "Advanced Information System Development" or "Advanced Information System Development"; details of the qualifying exam are determined by the qualifying panel.
 - (II) 10 points for one SSCI/SCI journal paper.
 - (III) 5 points for one TSSCI journal paper.
 - (IV) 3 points for one EI journal paper.
 - (V) 3 points for an international academic journal paper with an anonymous external review system.
 - (VI) 2 points for an English paper presented at an international academic conference, the limit for this item is 4 points.

(Must have an international program committee, the full text of the English paper published, and oral presentation, in which the student must be the presenter for one paper.)

(VII) 1 point for a paper presented in a domestic academic conference, the limit for this item is 2 points.

(VIII) 4 points for a paper published in MIS Review, the limit for this item is 4 points. The papers in (II)-(VIII) must be published in the name of the Department of Management Information Systems, NCCU to be counted. When calculating the points, the number of points received by the student should be calculated using the total number of authors excluding NCCU teachers as the denominator (not rounded).

Ministry of Science and Technology's definition of international attendance: The entire conference is conducted in English, scholars from at least three countries participate in the presentation, and the student must personally give a presentation.

The organizer of an international conference must be one of the following institutions: AIS, DSI, HICSS, IEEE, ACM, ICEB, INFORMS, ICEC, AOM, POMS, AMA, IFIP, EAI, DEXA.

- VIII. The department office will hold a Ph.D. candidate qualification each semester, and doctoral students taking the exam must provide evidence within the period specified by the Department for review by the Academic Committee to determine their number of points. Journal papers used for exemption from qualifying exam subjects may not be double counted in the papers used to calculate the number of points required for graduation.
- IX. If doctoral students have already met Ph.D. candidate requirements before three full years of study, they may also submit a request for Ph.D. candidate qualification during the time-frame specified by the Department.
- X. The calculation of points for journal papers is based on the journal citation index (SCI, SSCI, TSSCI, EI) at the time the paper was accepted or published.

Article 6: Dissertation advising professor

- I. After a doctoral student qualifies as a Ph.D. candidate, they may apply for one to two dissertation advisors, in which at least one advisor must be a full-time associate professor or higher of the Department.
- II. [This provision is applicable to students enrolled from academic year 2012 (inclusive)] At least one dissertation advisor of doctoral students in each division must be a full-time teacher of the division in the Department.

Article 7: Dissertation Proposal and Oral Defense

- I. Doctoral students may submit a dissertation proposal after gaining approval from their dissertation advisor.
- II. Contents of the dissertation proposal must include the research motive and purpose, research methodology, outline, expected research results, expected contributions, and references.
- III. The oral defense for the dissertation proposal shall be openly carried out and announced at the department office and website one week in advance. There shall be five defense jury members, at least two of the members must be from NCCU and at least two members must be from outside NCCU. Defense jury members are jointly recommended by the dissertation advisor and department chair.
- IV. Defense jury members from outside the university shall recuse themselves to avoid conflicts of interest, such as: working in the same company as the doctoral student, or the doctoral student's spouse or a third-degree relative or closer by blood or marriage.

Article 8: Publication of Academic Conference Papers [Implemented for students enrolled from academic year 2002 (inclusive)]

- I. [This provision is applicable to students enrolled before academic year 2009 (inclusive)] During their period of study, doctoral students must jointly publish three papers in domestic or overseas conferences with a full-time teacher of the Department, and must identify themselves as being from the Department of Management Information Systems, NCCU.
- II. [This provision is applicable to students enrolled between academic years 2010 and 2014] During their period of study, doctoral students must jointly publish one paper in an overseas conference with a teacher (cannot be the student's advisor) of the Department, and must identify themselves as being from the Department of Management Information Systems, NCCU. The organizer of an overseas conference must be one of the following institutions: AIS, DSI, HICSS, IEEE, ACM, ICEB, INFORMS, ICEC, AOM, POMS, AMA.
- III. [This provision is applicable to students enrolled from academic year 2015] During their period of study, doctoral students must jointly publish one paper in an overseas conference with a full-time teacher (cannot be the student's advisor) of the Department, and must be the presenter of the paper and be specified as being from the Department of Management Information Systems, NCCU. The organizer of an overseas conference must be one of the following institutions: AIS, DSI, HICSS, IEEE, ACM, ICEB, INFORMS, ICEC, AOM, POMS, AMA.
- IV. [This provision is applicable to students enrolled from academic year 2016 (inclusive)] During their period of study, doctoral students must jointly publish one paper in an overseas conference with a full-time teacher (cannot be the student's advisor) of the Department, and must be the presenter of the paper and be specified as being from the Department of Management Information Systems, NCCU. The organizer of an overseas conference must be one of the following institutions: AIS, DSI, HICSS, IEEE, ACM, ICEB, INFORMS, ICEC, AOM, POMS, AMA, IFIP, EAI, DEXA.
- V. When calculating the number of points from conference papers, the number of points received by the student for each paper should be calculated using the total number of authors excluding teachers as the denominator and then added together (not rounded).

Article 9: Dissertation publication

- I. General Division
 - (I) [This provision is applicable to students enrolled before academic year 2009 (inclusive)]

The total number of points from all or part of the academic papers required for doctoral students to graduate include 10 points for the qualifying exam and another 10 points calculated using the following method:

 1. 10 points for one SSCI/SCI journal paper.
 2. 8 points for one EI journal paper.
 3. 5 points for one TSSCI journal paper.
 4. 5 points for an international academic journal paper with an anonymous external review system.

If the academic papers published by the doctoral student for graduation are not all co-authored with their dissertation advisor, at least one paper must be jointly published with their dissertation advisor in a TSSCI (including TSSCI, SSCI, SCI Expanded, EI) or above journal. If a paper is not jointly published with the student's dissertation advisor, it must be published in the name of the Department of Management Information Systems to be included in the papers used for graduation.

When calculating the papers published by a doctoral student, the number of points received by the student for each paper should be calculated using the total number

of authors excluding teachers as the denominator (rounded to the nearest point), and then the number of points is added together.

- (II) [This provision is applicable to students enrolled between academic years 2010 and 2014]

The total number of points from all or part of the academic papers required for doctoral students to graduate include 10 points for the qualifying exam and another 10 points calculated using the following method:

1. 10 points for one SSCI/SCI journal paper.
2. 5 points for one TSSCI journal paper.
3. Doctoral students in the Technology Division implement an information system under the supervision of their dissertation advisor, and will receive 5 points for passing the system implementation review; the limit for this item is 5 points. Before doctoral students apply for review, they must publish the system implementation in a journal or international conference as the first author, and the full text must be reviewed for the conference. System implementation review procedures are as follows:

- (1) Students submit a system implementation review proposal, which must list the background, research methodology, specific goals, and items actually completed, and the proposal will be reviewed by the Technology Division.
- (2) After passing the review, the Technology Division will invite five to seven teachers or experts in related fields from inside and outside the University to form a System Implementation Review Committee (the student's advisor is an ex-officio member, and the number of members from outside the university may not be less than the number of members from the university).

Key points of review include:

- a. The importance and practicality of the system topic.
 - b. The originality of the system implemented.
 - c. The complexity of the system implemented.
 - d. Related system documents.
 - e. System presentation.
- (3) Review Committee members cast a vote to decide the review result. The review result is:
 - a. Approved: However, system improvements required by the committee must be completed.
 - b. Failed: The student may not re-apply for system implementation review within six months.
 - (4) 5 points for students in the Technology Division and their dissertation advisor who jointly receive a domestic or foreign information technology related invention patent. The number of points for joint invention patents is calculated the same way as journals.

If the academic papers published by the doctoral student for graduation are not all co-authored with their dissertation advisor, at least one paper must be jointly published with their dissertation advisor in a TSSCI (including TSSCI, SSCI, and SCI Expanded) or above journal. If a paper is not jointly published with the student's dissertation advisor, it must be published in the name of the Department of Management Information Systems to be included in the papers used for graduation.

When calculating the papers published by a doctoral student, the number of points received by the student for each paper should be calculated using the total number of authors excluding teachers as the denominator (rounded to the nearest point), and then the number of points is added together.

- (III) [This provision is applicable to students enrolled from academic year 2015 (inclusive). This provision may also be applied to students enrolled before academic year 2014 (inclusive), but may not be selectively applied.]
 The total number of points from all or part of the academic papers required for doctoral students to graduate include 10 points for the qualifying exam and another 10 points calculated using the following method:
1. 10 points for one SSCI/SCI journal paper.
 2. 5 points for one TSSCI journal paper.
 3. Doctoral students in the Technology Division implement an information system under the supervision of their dissertation advisor, and will receive 5 points for passing the system implementation review; the limit for this item is 5 points. Before doctoral students apply for review, they must publish the system implementation in a journal or international conference as the first author, and the full text must be reviewed for the conference. System implementation review procedures are as follows:
 - (1) Students submit a system implementation review proposal, which must list the background, research methodology, specific goals, and items actually completed, and the proposal will be reviewed by the Technology Division.
 - (2) After passing the review, the Technology Division will invite five to seven teachers or experts in related fields from inside and outside the University to form a System Implementation Review Committee (the student's advisor is an ex-officio member, and the number of members from outside the university may not be less than the number of members from the university). Key points of review include:
 - a. The importance and practicality of the system topic.
 - b. The originality of the system implemented.
 - c. The complexity of the system implemented.
 - d. Related system documents.
 - e. System presentation.
 - (3) Review Committee members cast a vote to decide the review result. The review result is:
 - a. Approved: However, system improvements required by the committee must be completed.
 - b. Failed: The student may not re-apply for system implementation review within six months.
 4. 5 points for students in the Technology Division and their dissertation advisor who jointly receive a domestic or foreign information technology related invention patent. The number of points for joint invention patents is calculated the same way as journals.
- (IV) Graduation requirements for academic paper publications by doctoral students are as follows:
1. Must be published in the name of the Department of Management Information Systems to be included in the papers used for graduation.
 2. Must jointly publish at least one paper in a TSSIC or above journal (including TSSCI, SSCI, and SCI Expanded) with the dissertation advisor, and the doctoral student must be the first author other than the dissertation advisor.
 3. If a doctoral student changes his/her dissertation advisor, whether or not the paper jointly published with the original dissertation advisor is recognized must be decided by the new dissertation advisor.
- (V) When calculating the papers published by a doctoral student, the number of points received by the student for each paper should be calculated using the total number of authors excluding the dissertation advisor and full-time teachers at the

Department as the denominator, and then the number of points is added together (not rounded).

- II. Industry Division [Only application to students enrolled in academic year 2008. Students enrolled in the Industry Division from academic year 2009 (inclusive) have the same graduation requirements for academic paper publication as the General Division]
 - (I) The total number of points from all or part of the academic papers required for doctoral students to graduate include 10 points for the qualifying exam, and must also meet one of the following requirements to graduate:
 - 1. Publish one paper in a TSSCI or international academic journal.
 - 2. Publish one paper in an academic journal with a review system, studied for six full years, and took at least one course each semester.
 - (II) If the academic papers published by the doctoral student for graduation are not all co-authored with their dissertation advisor, at least one paper must be jointly published with their dissertation advisor in a TSSCI (including TSSCI, SSCI, and SCI Expanded) or above journal. If a paper is not jointly published with the student's dissertation advisor, it must be published in the name of the Department of Management Information Systems to be included in the papers used for graduation.
 - (III) When calculating the papers published by a doctoral student, the number of points received by the student for each paper should be calculated using the total number of authors excluding teachers as the denominator (rounded to the nearest point), and then the number of points is added together.

Article 10: Ph.D. Candidate (All but Dissertation [ABD])

After doctoral students obtain Ph.D. candidate qualifications and meet the requirements for academic papers in Article 9, they are referred to as an all-but-dissertation Ph.D. candidate (ABD).

Article 11: Public Speech

- I. After a doctoral student submits a dissertation proposal, the student must give a speech to all teachers and students in the Department before the oral defense.
- II. [This provision was implemented for students enrolled from academic year 2002 (inclusive)]
If this public speech is given during the semester, it must be given during a seminar course of the doctoral program.

Article 12: Degree Examination [Paragraph 1 implemented for students enrolled from academic year 2002 (inclusive)]

- I. Students may request to take the degree examination six months after passing the oral defense for their dissertation proposal.
- II. Students must meet the academic paper publication requirements in Article 9 before requesting to take the degree examination.
- III. Oral defense for the degree examination of doctoral students must be announced at the department office and website two weeks in advance. The student's dissertation advisor and department chair shall jointly recommend five to nine defense jury members (at least one third must be individuals from outside NCCU). Degree Examination Committee member qualifications shall be in accordance with MOE and NCCU Regulations. Defense jury members from outside the university shall recuse themselves to avoid conflicts of interest, such as: working in the same company as the doctoral student, or the doctoral student's spouse or a third-degree relative or closer by blood or marriage.
- IV. A passing grade is approval from more than two thirds of committee members with an average above 70 points. Any doctoral student who fails the candidacy review can apply for re-examination in the next semester and after, but re-examination is limited to one time.

- V. The doctoral dissertation should be written in traditional Chinese. If the dissertation is written in English, the title and abstract must still be written in traditional Chinese. Approval must be obtained from a department affairs meeting to write the dissertation in any language other than Chinese and English.

Article 13: English Proficiency Requirements [Implemented for students enrolled from academic year 2004 (inclusive)]

Doctoral students must meet one of the following criteria to be deemed as having passed the Department's graduation standard, and may take the degree examination. The test scores are only valid for two years after the date of test.

- I. For students enrolled between academic years 2004 and 2007:
- (I) TOEFL PBT 500 points or higher (inclusive).
 - (II) TOEFL CBT 173 points or higher (inclusive).
 - (III) TOEFL iBT 61 points or higher (inclusive).
 - (IV) IELTS 5.5 or higher (inclusive).
 - (V) GEPT high-intermediate preliminary test or higher.
 - (VI) TOEIC 600 points or higher (inclusive).
 - (VII) Cambridge Certificate PET or higher (inclusive).
 - (VIII) Take 108 hours of English courses at the language center of a public or private university registered with the MOE, receive a score of at least 70 points for each course, and at least 1/3 must be writing classes and 1/3 must be conversation classes. Courses are only valid for two years after they are completed.
- II. For students enrolled between academic years 2008 and 2010:
- (I) TOEFL PBT 550 points or higher (inclusive).
 - (II) TOEFL CBT 213 points or higher (inclusive).
 - (III) TOEFL iBT 79 points or higher (inclusive).
 - (IV) IELTS 6.0 or higher (inclusive).
 - (V) GEPT high-intermediate preliminary test or higher.
 - (VI) TOEIC 750 points or higher (inclusive).
 - (VII) Cambridge Certificate FCE or higher (inclusive).
 - (VIII) Same as Item (8) of the same subparagraph.
- III. For students enrolled from academic year 2011 (inclusive):
- (I) TOEFL PBT 550 points or higher (inclusive).
 - (II) TOEFL CBT 213 points or higher (inclusive).
 - (III) TOEFL iBT 79 points or higher (inclusive).
 - (IV) IELTS 6.0 or higher (inclusive).
 - (V) GEPT high-intermediate second stage or higher.
 - (VI) TOEIC 750 points or higher (inclusive).
 - (VII) Cambridge Certificate FCE or higher (inclusive).
 - (VIII) Same as Item (8) of the same subparagraph.
- IV. Doctoral students who received their bachelor or master's degree in a foreign English speaking country must be verified by the department office to be deemed as having passed the Department's graduation standard.
- V. The English proficiency test score of doctoral students enrolled from 2008 must at least reach iBT 79 points (or the equivalent in other English proficiency tests). Students who score between 61 and 79 points on the iBT must choose one of the following remedies, and must receive a score of 70 points (the passing grade for master's and doctoral programs) or higher for each course:
- (I) "English Thesis Writing 1" and "English Thesis Writing 2" offered by the Foreign Language Center, NCCU.
 - (II) "English Reading and Writing Techniques" and "Advanced English Writing" offered by the English Language Training Center, National Taiwan Normal University.

- (III) “English Writing Training” and “Basic Thesis Writing” offered by the Language Center, National Taiwan University.
- (IV) Writing courses offered by foreign teachers at the Department for the doctoral program.

Article 13: These guidelines have been implemented with approval from a department affairs meeting. The same applies to all subsequent amendments.

Full name of organizers of international conferences

AIS---Association for Information Systems

DSI---Decision Sciences Institute

HICSS---Hawaii International Conference on System Sciences

IEEE---Institute of Electrical and Electronics Engineers

ACM---Association for Computing Machinery

ICEB---International Consortium for Electronic Business

INFORMS---The Institute for Operations Research and the Management Sciences

ICEC---International Center for Electronic Commerce

AOM---Academy of Management

POMS---Production and Operation Management Society

AMA---American Marketing Association

IFIP---International Federation for Information Processing

EAI---European Alliance for Innovation

DEXA---Database and Expert Systems Application