

National Chiao Tung University
Department of Transportation & Logistics Management
Academic Regulations for Master Program

Stipulated at the 8th Academic Affairs Meeting in Academic Year 2012 (10 April 2013)
Amended at the 9th Academic Affairs Meeting in Academic Year 2013 (16 April 2014)
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Amended at the 6th Academic Affairs Meeting in Academic Year 2018 (20 March 2019)
Amended at the 9th Academic Affairs Meeting in Academic Year 2018 (12 June 2019)

Article 1. These Regulations have been drawn up in accordance with "National Chiao Tung University (referred to as NCTU hereunder) Regulations for Master and Doctoral Degrees Conferment."

Article 2. The master's program of Department of Transportation & Logistics Management (referred to as TLM hereunder) of NCTU enrolls full-time and part-time students. They are admitted to TLM through the Recommendation-Selection Admission Program or through examination.

Article 3. Students having graduated from domestic public or private universities, colleges, or institutes registered in the Ministry of Education, or overseas universities, colleges, or institutes recognized by the Ministry of Education, and having acquired the Bachelor degree or the equivalent education level, can enter the master program of TLM through the Recommendation-Selection Admission Program or through admission examination of NCTU.

Article 4. Students who meet the requirement of the "MOE Regulations Regarding International Students Undertaking Studies in Taiwan" stipulated by the Ministry of Education and those who meet the requirement of the "National Chiao Tung University Regulations of International Students Undertaking Studies for Degree and Non-Degree Program" can enter the master's program of TLM.

Article 5. There are two master's programs offered by TLM for different research directions: "Graduate Program in Traffic and Transportation" and "Graduate Program in Logistics Management." When applying for admission, students should select one graduate program to be the major program according to their interests. For those who admitted to the group of "Transportation Planning and Policies Study" of "Graduate Program in Traffic and Transportation", they are not allowed to transfer their selected group of study. For those in "Transportation Operation and Technology Study" of the "Graduate Program in Traffic and Transportation" and in "Graduate Program in Logistics Management", they are allowed to transfer according to the following rules.

Rules for transferring: For the students who have been admitted for one semester, they have to finish at least 9 credits in graduate courses and have to achieve an average score of 86 or above. They should fill out the National Chiao Tung University Program Transfer Form and submit their application of transfer, which is to be reviewed in the department affairs meetings. Students can only apply for transfer once. The application is to be submitted by the end of the third semester at the latest.

Article 6. For the TLM master's program, the study period of full-time students is limited within one to four years, and that of part-time students is within one to five years (the study periods aforementioned exclude the suspension period). The suspension period of master students should be limited to two academic years accumulated in total. However, the suspension period can be exempted from the study period if a student suffers from serious illness and receives medical treatment, serves in the army, takes gestation and parturition, or nurtures children under 3 years old, but certificates or documentations should be submitted as a proof.

Article 7. TLM master's students may apply for graduation by fulfilling the following requirement within the study period:

1. Four semesters of seminar. Students who graduate early (i.e. study period less than two years) do not have to follow this regulation, but they should complete and pass the seminar for each semester during the master's program.
2. Thirty credits at least (excluding the credits of seminar and independent study)
3. A thesis and oral defense.

Article 8. TLM master's students should complete 21 credits of the courses offered by the graduate institute of TLM. Besides, they should also fulfill the following graduate requirements (including 9 credits of Core courses, 3 credits of Simulation and Statistical Analysis related courses, and 3 credits of Optimization related courses):

1. Core courses:

- (I) Graduate Program in Traffic and Transportation (in Transportation Planning and Policies Study)

Three of the following four professional courses should be selected:

- (1) Transportation Projects Evaluation
- (2) Transportation Economics and Policy
- (3) Sustainable Transportation Planning
- (4) Transportation Risk Management

- (II) Graduate Program in Traffic and Transportation (in Transportation Operation and Technology Study)

Three of the following four professional courses should be selected:

- (1) Transportation System Analysis
- (2) Travel Demand Analysis
- (3) Intelligent Transportation Systems
- (4) Transportation Safety

- (III) Graduate Program in Logistics Management

Three of the following four professional courses should be selected:

- (1) Transportation and Distribution Optimization
- (2) Maritime, Air and Intermodal Transportation Optimization
- (3) Global Supply Chain Management
- (4) Logistics Operation Planning Models

2. Statistical and Data Analysis related courses:

One of the following five professional courses should be selected:

- (1) Transportation Econometrics
- (2) Multivariate Analysis
- (3) System Simulation
- (4) Data Science Methods
- (5) Big Data Analytics

3. Optimization related courses:

One of the following three professional courses should be selected:

- (1) Network Modeling Analysis
- (2) Mathematical Programming
- (3) Heuristics

Article 9. A full-time graduate student must register for a minimum of 9 credits per semester of the 1st academic year, and a minimum of 3 credits per semester of the 2nd academic year. A part-time graduate student must register for a minimum of 3 credits and a maximum of 10 credits per semester.

Article 10. The TLM master students should apply for waiving credits within two weeks after the beginning of the 1st semester after registration. After the application is approved by the course instructors and the Director of the Department, and submitted to the school authority for examination, the student can waive or exempt the credits. The limitations of waiving credits or exemption are listed as follows:

1. If students intend to adopt credits offered by other departments of NCTU to waive credits, before taking courses, they should first acquire the approval of the instructor of the course, to have these credits counted as graduation credits.
2. If the students have completed some courses of the graduate program when studying as undergraduate students, and if these courses haven't been counted into graduation credits for the undergraduate degree, students can apply for waiving the courses, for 9 credits at most. Approved pre-master program students or students acquiring the approval of the Committee of Institute Affairs can waive 15 credits at most.
3. Part-time student without academic degree, Master non-degree students can waive at most 9 credits within five years since the credits were obtained.
4. Students who once took courses of the "Transportation & Logistics Management Master Program" within three years before admission, whose scores are above 80, and who can submit credit transcript certificate, can waive at most 9 credits.

Article 11. Before the registration (including the registration day) in the 2nd semester of the 1st academic year, master students should invite full-time assistant professors of TLM or above as their advisors. When advisors are selected, students should fill out the "Master Dissertation Advisor Agreement" and report it to the office of TLM. A semester after the advisor is selected, the thesis examination can be applied for. If necessary, the advisor should invite experts with outstanding academic achievement to be co-advisor, subject to approval of the Committee of Departmental Affairs. (The number of research students with co-advisor should not be more than half of the total number of research students that an advisor advised) The full-time teacher of TLM can instruct at most six

master students per year, subject to a limit of at most two students from a campus where the teacher did not offer any courses. If the full-time teacher has offered courses of at least 3 credit in both Hsinchu and Taipei campus over the last two years (excluding part-time master courses), he/she can instruct one more students over the limit, and the ratio of master students from the two campus does not apply. In any special case, a teacher can apply for a higher limit, subject to the approval of the Committee of Institute Affairs.

Article 12. Whether the student would like to terminate the thesis instruction relationship or exchange the thesis advisor, he/she should send an application to the department. The process will be effective after the advisor is notified and handing-over affairs are completed. The relationship termination does not require any approval from the thesis advisor. If both the advisor and the student cannot reach an agreement or there is any special case, the Committee of Departmental Affairs should hold a meeting to make the final decision.

Article 13. If the thesis advisor wishes to terminate the thesis instruction relationship with the student, a written application should be submitted to the department for approval, and the results will be notified to the student by the department. After the termination of the thesis instruction relationship, the department will assist the student to find a new thesis advisor. The research results related to the ideas or concepts of the original thesis advisor under the thesis instruction can only be used as part of the student's thesis with the agreement of the original thesis advisor.

Article 14. Thesis of master degree:

1. When it is expected to complete 15 credits offered by TLM (excluding seminar credits) by the end of a semester, the student can apply for and submit the thesis proposal.
2. The research study can be started after the title and content of the thesis are approved by the Thesis Review Committee of TLM. Oral defense may be applied for after the midterm report and final report examination are passed .
3. The thesis must be completed within the designated duration. Before the student can apply for the oral defense, the thesis should pass the "Turnitin" originality test for plagiarism prevention, with a similarity score of less than or equal to 20%. In the case that the similarity score is higher than 20%, the thesis needs to be examined and approved by the academic committee and signed by the thesis advisor.
4. For those who can complete the required courses and acquire the appointed credits for the master's program only by the end of the semester, if they propose the thesis, which is recommended by the advisor, they can apply for early degree examination. After they complete courses and acquire the appointed credits, NCTU will confer a master degree upon the students. If they CANNOT complete the required courses by the end of the semester, their score of degree examination will not be recognized.

Article 15. Master thesis review and oral defense:

1. The degree examination consists of oral defense and thesis review. The examination of master's degree is held orally. If it is necessary, written exams may be administered. The committee of the master's degree examination is

made up of three to five members. TLM will recommend scholars and experts inside or outside NCTU, with expertise in the domain of the research student, and with one of the following qualifications, to the Principal of NCTU, who selects the members to form the committee. A committee member must:

- (1) currently be (or have been) a full professor, associate professor, or assistant professor.
 - (2) be a research fellow, or currently be (or have been) a researcher, associate researcher, or assistant researcher at Academia Sinica.
 - (3) hold a doctoral degree and has outstanding academic achievement.
 - (4) have outstanding academic or professional achievement in certain rare or specific fields. Those qualified to be invited into the committee should, in terms of academic performance, publish two papers on journals of ISI, EI, or TSSCI within five years, or in terms of professional performance, serve in government organizations, nonprofit business, or one of the first 1,000 enterprises in Taiwan as senior managers with working experiences of at least 20 years. Scholars and experts aforementioned should not account for more than one-fourth of the committee members of the oral defense.
Master students' spouse, or blood and affinity relatives within the third degree should not serve as the member of degree examination.
2. All committee members of oral defense must attend the committee in person. Stand-ins are not permitted. An oral defense for the master degree should be attended by at least three committee members, and it should be conducted openly. The time and place of the oral defense and the title of the thesis must be announced in advance.
 3. The Principal of NCTU must appoint one member to be the chairperson from the degree examination committee. The adviser cannot serve as the chairperson.
 4. The passing grade and full marks of the oral defense are respectively 70 and 100. The evaluation is limited to be once, based on the average scores given by the present members. But if in the oral defense, half of the present members evaluate the performance to be failed, the result is "failed" without scores averaged. Students who fail to pass the oral defense may apply for retrial after six months. Retrial will be limited within once. Students who fail to pass the retrial are required to drop out of NCTU.
 5. A candidate is deemed failed when plagiarism or cheating is discovered in the thesis and confirmed by the oral defense committee.
 6. If students of the master's program cannot pass the oral defense or cannot complete all required courses within the study period, they are required to drop out of NCTU.
 7. Master theses (including abstracts) must be written primarily in Chinese and comply with the NCTU Format for Thesis/Dissertation. After passing the oral defense, students must submit five hardcopies of the thesis and upload an electronic version of the thesis abstract and the full content of the thesis on the website within one month (according to NCTU Library Abstract, Thesis and Dissertation Electronization Specification for details).

Article 16. For students who pass the oral defense, committee members should demonstrate the revise directions and key points explicitly for the students' reference to modify the thesis. After revising the thesis, the students should apply for thesis review. They will pass the thesis review if the advisor and all committee

members make approval. The thesis review does not account for any score. When students pass the thesis review, "The Authorization of Oral Members for Research Thesis/Dissertation" is signed by all committee members present at the oral defense. After the thesis is reviewed, the score of the thesis is the score of the oral defense.

Article 17. If the students pass the oral defense before January 1st or July 31st but cannot pass the thesis review and submit the "The Authorization of Oral Members for Research Thesis/Dissertation" within two weeks of the next semester, they should register in the next semester. If students cannot submit the authorization by the end of the study period, their oral defense will be counted as "failed," and they will be required to drop out of NCTU in accordance with regulations.

Article 18. For those who pass the oral defense and thesis review, each department (institute and program) should submit their score of the thesis and "The Authorization of Oral Members for Research Thesis/Dissertation" to the Registration Division of the Office of Academic Affairs for registration within one week, except for those who study in the Education Program in NCTU continuously with the proof by the Center of Teacher Education. The graduation semester is the one when the score of the thesis review and "The Authorization of Oral Members for Research Thesis/Dissertation" are submitted. If students' score of the thesis review and "The Authorization of Oral Members for Research Thesis/Dissertation" are already submitted, but do NOT perform the deregistration procedure in the next semester, their status should be treated as graduated.

Article 19. Regulations for early graduation:

1. Students should study in NCTU for at least one year, and they should fulfill the requirement of graduation course credits.
2. Students should take the seminar in each semester during the study period.
3. During the study period, students should publish one paper on one of the journals of SCI, SSCI, TSSCI, or EI, or other journals of the same level, with single student's name, excluding the name of the full-time professor of TLM, and the paper should be reviewed and approved by the Committee of Departmental Affairs. However, if they are approved students of pre-master's program or if they are approved by application, they can graduate early without this requirement.

Article 20. If fraud, alternation, plagiarism, writing by others, or cheating is found in his/her thesis after the Master's degree is awarded to a graduate, the awarded degree to the graduate will be canceled and the certificate of degree has to be paid back to the university.

Article 21. The same procedure will be applied if the Regulation is amended. When in dispute, the Regulation is superseded by the "National Chiao Tung University Regulations for Master and Doctoral Degrees Conferment."

Article 22. The regulations aforementioned should be published after being revised by the Committee of Departmental Affairs, and are applicable to students admitted in the next academic year.

