

**Department of Industrial Engineering and
Engineering Management (IEEM)**

National Tsing Hua University

**Handbook of Courses for
International Master Students
Fall, 2019**

Revised on 09/09/2019

The Course Requirements of IEEM International Master Students

Master Program of IEEM includes four major groups which are (A) Information and Operations Research, (B) Intelligent Manufacturing and Operations Management, (C) Ergonomics and Design, and (D) Engineering Management. Students have to meet department and university requirements of master program at most 4 years to acquire the master's degree. They must complete at least 26 course credits plus 4 credits for M.S. thesis and pass the thesis oral defense. For more detailed information on the course requirements of IEEM's M.S. program, please refer to the following instructions.

Course Credits Requirements

Students in the M.S. program are required to complete at least 30 credits including 4 credits for thesis (IEEM6000 Thesis), 2 credits for seminar (IEEM5000 Seminar), 12 credits for mandatory courses, and 12 credits for elective courses.

For the seminar requirements, because IEEM5000 Seminar is taught in Chinese, international students are approved to choose E5001 Seminar offered by College of Engineering which is taught in English.

For mandatory courses, students have to complete 4 courses from the following list:

course no.	course title	course no.	course title
IEEM5108	Linear Programming	IEEM5430	Total Quality Management
IEEM5105	Statistical Methods	IEEM5237	Human Information Processing
IEEM5103	Stochastic Processes	IEEM5239	Biomechanics
IEEM5311	System Simulation	IEEM5249	Safety and Health Management
IEEM5367	Intelligent Manufacturing and Automation	IEEM5401	Innovation and R&D Management
IEEM5353	Intelligent Integration of Enterprise	IEEM5523	Decision Analysis
IEEM5380	Production and Operations Management	IEEM5451	Project Management

* Mandatory courses are basically offered in English. While the instructor has the right to decide whether the course should be offered in English or not depending on the actual lecturing situation of the class.

For elective courses, students can choose courses which course numbers begin with 5 or above. And in order to meet credit requirements of elective courses, students must choose at least 4 courses.

Application of Credit Transfer (Course Waiving)

Students may apply for waiving course credits meeting the following requirements:

1. Courses which students apply for waiving must have a score of B (75/100) or above.

2. Whether the courses can be waived should be decided and approved by students' advisor and the chairman of IEEM.
3. Students can only apply for waiving elective credits.
4. The maximum students can apply for waiving is 6 credits.
5. Students who want to apply for waiving courses should download the application form from NTHU's Academic Information System. (<https://www.ccxp.nthu.edu.tw/ccxp/INQUIRE/>)

Academic Advisor

Students of M.S. program must find an academic advisor from the IEEM full-time faculty before the second semester of their registration and hand over Master Students Certificate of Advisor and Research form (<http://www.ie.nthu.edu.tw/ezfiles/267/1267/img/1118/118806901.pdf>) to the IEEM office. If students want to have their advisors from the IEEM part-time faculty or other departments, they have to submit application and obtain the approval of the IEEM Chairman.

Students may request a change of advisor. The process of changing advisor requires the approval of the original advisor, the new advisor, and the Chair of the IEEM department.

Academic Research Ethics Education Course

Students who are enrolled in the graduate or doctorate programs must complete *National Tsing Hua University Academic Research Ethics Education Course* before the end of the first year of his/her enrollment. This course is conducted through online teaching, and it is a 0 credit, mandatory course. Each student who has taken this course must obtain at least a passing grade for the course's test. The students who have not completed this course are not allowed to apply for their Oral Defense. Please refer to the website of Division of Registration for further information regarding the course (<http://registra.web.nthu.edu.tw/ezfiles/86/1086/img/75/165151191.pdf>).

Thesis Proposal

Students have to complete Thesis Proposal Inspection Form before the end of the semester prior to your graduating semester and submit the completed form to the IEEM office. And students could apply for final oral defense at least three months after the date of passing the proposal.

Thesis Final Oral Defense

Students who satisfy requirements of course credits and complete thesis proposal form should apply for thesis final oral defense through the NTHU's Academic Information System. After passing the final oral defense and complete the final version of thesis, students should prepare

for leaving the school and getting the diploma. Please contact the IEEM office to know the detailed process.

Course List of IEEM's Graduate Program

Group	Information and Operations Research		Intelligence Manufacturing and Operations Management		Ergonomics and Design		Engineering Management	
Course	Core Courses							
	IEEM5108	Linear Programming	IEEM5367	Intelligent Manufacturing and Automation	IEEM5237	Human Information Processing	IEEM5401	Innovation and R&D Management
	IEEM5105	Statistic Methods	IEEM5353	Intelligent Integration of Enterprise	IEEM5239	Biomechanics	IEEM5523	Decision Analysis*
	IEEM5103	Stochastic Processes	IEEM5380	Production and Operations Management	IEEM5249	Safety and Health Management	IEEM5451	Project Management
	IEEM5311	System Simulation	IEEM5430	Total Quality Management	IEEM5105	Statistic Methods	IEEM5430	Total Quality Management
	IEEM5000 Seminar							
	Elective Courses							
	(To see whether the course is offered in Chinese or English in specific semester, please inquire the curriculum system of NTHU)							
	IEEM5117	Multiobjective Optimization	IEEM5363	Supply Chain Management	IEEM5246	Human-Computer Interaction	IEEM5551	Theory and practice of Inventive Problem Solving
	IEEM5800	Green Product Life Cycle Assessment	IEEM5357	Computer Aided Design and Manufacturing	IEEM5246	Human Factors Testing and Evaluation	IEEM5452	Product and Technology Development Management
	IEEM5118	Fuzzy Set Theory & Applications	IEEM5381	Patent Analysis and Intellectual Property Management	IEEM5231	Man-Machine System Design	IEEM5600	Practice and Cases on Industrial Management
	IEEM5104	Stochastic Optimization	IEEM5361	Knowledge Engineering	IEEM5235	Work Physiology	IEEM5615	Business Excellence Management
	IEEM5109	Design and Analysis of Algorithms	IEEM5371	Collaborative Product Development	IEEM5243	Vision and Colors	IEEM5553	Patent Technical Analysis: Theory and Practices
	IEEM5132	Integer Programming and Network Analysis	IEEM5390	Design for X Perspectives	IEEM5390	Design for X Perspectives	IEEM6307	Data Analysis in Health Care
	IEEM5141	Simulation Analysis	IEEM5369	Quality Engineering	IEEM5371	Collaborative Product Development	IEEM5390	Design for X Perspectives
	IEEM5127	Reliability Engineering	IEEM6124	Data Mining			IEEM5606	Lean Management
	IEEM5190	Combinatorial Optimization	IEEM5606	Lean Management			IEEM6308	Innovation & Design of Service
	IEEM5126	Risk Analysis	IEEM5544	Smart Data Analytics				
	IEEM5142	Soft Computing	IEEM5374	Six Sigma				
	IEEM5191	Nonlinear Programming						
	IEEM5544	Smart Data Analytics						

Note1: Core courses are taught in English except for the courses which are marked with *.

Note2: This form has listed all the IEEM courses. Students should inquire the curriculum system of NTHU to see which courses are offered in specific semester.

Courses of IEEM's Master Program offered in Fall Semester of 2019

Students should inquire the curriculum system of NTHU to see which courses are offered in specific semester. The route is <https://www.ccxp.nthu.edu.tw/ccxp/INQUIRE/JH/6/6.2/6.2.9/JH629001.php>

Course No.	Course Title	Course Time
IEEM5000	Seminar (International Master students can choose E5001 Seminar offered by College of Engineering)	W6W7
IEEM5103	★ Stochastic Processes	F6F7F8
IEEM5105	★ Statistical Methods	W5F3F4
IEEM5127	★ Reliability Engineering	RaRbRc
IEEM5237	★ Human Information Processing	T7T8T9
IEEM5239	★ Biomechanics	T2T3T4
IEEM5250	★ Human-Computer Interaction	M2M3M4
IEEM5311	★ System Simulation	W2W3W4
IEEM5353	★ Intelligent Integration of Enterprise	R2R3R4
IEEM5369	Quality Engineering	M2M3M4
IEEM5430	Total Quality Management	T2T3T4
IEEM5451	★ Project Management	M6M7M8
IEEM5523	Decision Analysis	T6T7T8
IEEM5800	Green Product Life Cycle Assessment	MaMbMc
IEEM7101	★ Special Topics I	R5R6

★ offered in English mandatory courses

week	
M	Monday
T	Tuesday
W	Wednesday
R	Thursday
F	Friday
S	Saturday

Class Time	1	2	3	4	n	5	6	7	8	9	a	b	c
	8:00	9:00	10:10	11:10	12:10	13:20	14:20	15:30	16:30	17:30	18:30	19:30	20:30
	-	-	-	-	-	-	-	-	-	-	-	-	-
	8:50	9:50	11:00	12:00	13:00	14:10	15:10	16:20	17:20	18:20	19:20	20:20	21:30

碩士班研究生指導教授及學程認證單

Industrial Engineering and Engineering Management Department

Master Students Certificate of Advisor and Research

姓名 Name : 學號 Student ID :

聯絡電話 Phone :

指導教授 Advisor :

學程 Research :

☐ 工工組(資訊與作業研究學程)

Operation Research and Information Program

☐ 工工組(電子化與營運管理學程)

E-Business and Operations Management Program

☐ 工工組(人因工程與安全管理學程)

Ergonomics and Safety Management Program

☐ 工程管理組

Engineering Management Program

指導教授簽名 Advisor Signature :

日期 Date :

附註：

一、節錄本系碩士班修業要求第五項~第七項：

- 碩士班研究生(甄試)必須在第一學年上學期開學前，將選定之論文指導教授單送交系辦，確認導師導生名單。
- 碩士班研究生(招生)必須在第一學年下學期開學前，將選定之論文指導教授單送交系辦，確認導師導生名單。
- 欲申請外系或兼任教授為論文共同指導教授，必須由本系指導教授向系主任提出申請，通過後始能生效。
- 本系老師所能指導碩士班學生，本學年一般生上限為5人，在職生與在職專班學生合併計算，指導學生數上限6名。

二、本單填妥後，務請於規定時間內送至系辦登錄。