

# 電信工程研究所碩士班

110 學年度

最低修業年限	一至四年
應修學分數	24 學分(不含論文研討及學位論文研究)
應修(應選)課程及符合畢業資格之修課相關規定	<p>應修課程:</p> <p>一、共同必修:</p> <ol style="list-style-type: none"> <li>1. 論文研討: 須依組別必修該組論文研討兩學期。</li> <li>2. 學位論文研究: 必選修四學期。</li> </ol> <p>提前畢業者不在此限, 但其在學期間, 每學期必選修「學位論文研究」。</p> <ol style="list-style-type: none"> <li>3. 學術研究倫理教育課程採網路教學方式實施, 為必修教育課程。             <ol style="list-style-type: none"> <li>3.1 學生於入學第一學期結束前, 至「臺灣學術倫理教育資源中心」平台修習本課程, 並通過課程總測驗成績達及格標準。</li> <li>3.2 未通過總測驗之學生, 不得申請學位考試。</li> </ol> </li> </ol> <p>二、專業必修: 6 學分, 必須皆為本所開之課程。</p> <p>※甲組七選二: 數位通訊、隨機過程、排隊理論、計算機網路(一)、數位信號處理、演算法、檢測與估計。</p> <p>※乙組十一選二: 物理數學、高等電磁學、天線理論、電波傳播與散射、微波工程(一)、微波工程(二)、半導體記憶體、量子力學、半導體元件物理、電腦輔助電路設計與分析、數值半導體元件模式。</p> <p>三、專業選修: 18 學分</p> <p>獲得學位須通過之考核及規定</p> <ol style="list-style-type: none"> <li>1. 研究生完成碩士學位應修課程並修滿規定學分數。</li> <li>2. 提出畢業論文, 完成「論文原創性比對」, 供學位考試委員參考, 並通過學位考試委員會審查及口試。</li> <li>3. 學位考試委員之提聘資格認定, 由本所審核。</li> </ol>
	<ol style="list-style-type: none"> <li>1. 畢業前至少須修滿電機資訊相關課程 24 學分(不含論文研討)。</li> <li>2. 參加暑修或教育部核准之學分班, 選修與本所碩士班相關之課程, 本系原則上承認其學分, 但不計入畢業最低學分 24 學分內。</li> <li>3. 大學部學生在進入本所碩士班就讀後, 在大學時所修過之本所碩士班課程且成績及格者, 如未計入該生大學畢業學分時, 得提出申請抵免, 經本所審核同意後, 得承認其為碩士班成績及學分, 抵免之上限為十二學分。</li> <li>4. 校際選修課程僅限台大及清大非暑修課程。同時須經指導教授同意及所長審定後, 方可將該課程之學分計入畢業學分。</li> <li>5. 學分抵免: 三年內(含)曾修且成績達 B (百分制七十分)以上者, 需在入學之第一學期開學後一星期內提出申請抵免。可抵免學分數上限為 12 學分。(經由國立交通大學電信工程研究所一貫修讀學碩士學位施行辦法錄取之學生, 則不在此限) 抵免申請方式如下:             <ol style="list-style-type: none"> <li>(1) 修過本所開授之相關課程檢附該課程及格成績單, 直接向本所提出申請抵免。</li> <li>(2) 修過之課程如為外系所或外校所開, 需繳交原授課內容及擬抵免之本所課程內容, 並證明其相似度, 提出學分抵免相關申請書(外校外系學分抵免同意書(相關課程)附件八-1) 繳交至本所, 經本所相關授課老師同意後通過。</li> <li>(3) 修過之課程如為外系所或外校所開且本所無相關課程開授, 需繳交原授課內容, 提出學分抵免相關申請書(外校外系學分抵免同意書(無相關課程)附件八-2) 繳交至本所, 由課程與學生事務委員會審查後通過之。</li> </ol> </li> <li>6. 重考或重新申請入學, 依照法令規定先修讀學分後考取修讀學位之研究生, 得申請抵免, 抵免學分數不得超過應修畢業學分數之二分之一(含)。</li> <li>7. 研究生須依照電信所碩士班指導教授選定制度辦理, 參與並配合本所作業流程選</li> </ol>

定碩士論文指導教授，在第一學期註冊時完成指導教授協議書並交由本所統一保管。指導教授以本所專任教師為限，如須系外專業人士擔任共同指導教授，該人士須具現任之大學專任助理教授以上資格或為本所現任兼任教授、副教授、助理教授。如為其他專業人士，則原指導教授須提出申請由學術暨教師評審委員會審定之。在本所當年欲收學生之老師未收滿前，本所原則上不鼓勵跨所選共同指導教授。

8. 簽訂更換指導教授申請單之日期至口試日期計算須一年以上，若有未符合規定欲畢業者，須經由課程與學生事務委員會核可。

9. 其他相關規定請參照本所碩士班修業規定。

## Master's Degree of the Institute of Communications Engineering Academic Year 2021

Minimum Term of Study	one to four years
Minimum Credits	24 (not including Graduate Seminar and Academic Dissertation Research).
Curriculum and Regulations	<p>Required courses</p> <p>1. Common required course:</p> <p>(1) Graduate Seminar: to be taken subject to students' groups in two semesters.</p> <p>(2) Academic Dissertation Research: to be taken in four semesters.</p> <p>Students of advanced graduation shall not subject to the restrictions. However, they should take Academic Dissertation Research in all the semesters during the study period.</p> <p>(3) "Education on Academic and Research Ethics" is Required Course</p> <p>1.3.1 Students must register for the Course during their first semester of enrollment, and pass the exam on the e-Campus Cyber Learning Platform.</p> <p>1.3.2 Student without passing the exam can not apply degree examination.</p> <p>2. Major courses: 6 credits (see Appendix A: List of Major Courses), the courses must be offered by ICM.</p> <p>※Group A: A student may select any two of the following seven subjects:</p> <p>(1) Random Processes</p> <p>(2) Digital Communication</p> <p>(3) Queuing Theory</p> <p>(4) Computer Networks (I)</p> <p>(5) Digital Signal Processing</p> <p>(6) Algorithms</p> <p>(7) Detection and Estimation</p> <p>※Group B: A student may select any two of the following eleven subjects:</p> <p>(1) Physics Mathematics</p> <p>(2) Advanced Electromagnetics</p> <p>(3) Microwave Engineering (I)</p> <p>(4) Microwave Engineering (II)</p> <p>(5) Antenna Theory</p> <p>(6) Wave Propagation and Scattering</p> <p>(7) Semiconductor Memory</p> <p>(8) Quantum Mechanics</p> <p>(9) Semiconductor Device Physics</p> <p>(10) Numerical Semiconductor Device Modeling</p> <p>(11) Computer - Aided Circuit Design and Analysis</p> <p>3. Selective courses: 18 credits Conferment of degree</p> <p>Students must complete all required courses, obtain the required graduation credits, submit a thesis, complete the "thesis originality check" and submit the results to the thesis committee members before they can apply for an oral defense. NYCU shall confer the master's degree upon students who have successfully passed the oral defense (see</p>

	Appendix F for the qualification of members and organization of the oral defense committee). The qualification of oral defense committee members shall be determined by ICM.
Note	<p>1. Required credits for graduation: 24(not including Graduate Seminar and Academic Dissertation Research)</p> <p>2. No credit obtained from courses of other sources (e.g. summer/winter schools or MOE-approved credit programs) will be considered.</p> <p>3. Students may take courses from the National Taiwan University and National Tsing Hua University, except for summer/winter programs. Students must apply for permission from the advisor and the director of institute before doing so; otherwise, no credit obtained from such courses will be considered.</p> <p>4. (1) Students who have taken the ICM master's program within the past three years and with a score at B<sup>-</sup> (70) or higher marks may apply for credit exemption within one week from the beginning of every semester by submitting the list of courses and a transcript to ICM. The maximum credits of exemption should not exceed 12 credits. (Students included in the Five-Year Bachelor's/Master's Program by ICM, NYCU shall not subject to the restrictions.) Students must submit the contents and the name of courses both offered by other departments, institutes or schools and desired to be exempted in the ICM to prove the similarity in an application for credit exemption (see Appendix I-1, I-2 for details). The application will be accepted after the approval of the related course teachers. Application for credit exemption with courses not available from ICM will be accepted after the evaluation done by the Course and Student Affairs Committee.</p> <p>5. Students must select a thesis advisor in accordance with the rules and regulations as stated in Appendices D, D-1 and D-2 and submit the Agreement of the Thesis Advisor (Appendix E) to ICM after completing the registration of the first semester. A thesis advisor must be one of the ICM teachers. If a student desires to select a joint thesis advisor from other departments, such advisor must be an active full-time assistant professor or higher status of a college or university or an NYCU part-time professor, assistant professor or associate professor. If such advisor is a non-teacher expert, his/her qualification must be evaluated by the Academic and Teacher Evaluation Committee. ICM does not encourage students to select a joint advisor from other departments when teachers of ICM still have vacancies for students.</p> <p>6. Application date for replacing advisor to the date of the oral test need to be at least one year.</p>

## 電信工程研究所碩士班(輔所)

110 學年度

應修學分數	13 學分(含論文研討一學期)
應修(應選)課程	本所所開課程任選四門即可，惟該生在原所已修過之課程若與本所所開課程相同性質，不得再修而將其算為輔所之應修學分數內。

### Master's Degree of the Institute of Communications Engineering (Minor Program) Academic Year 2021

Minimum Credits	13 credits (including 1 credit from the course of master's degree thesis discussion)
Curriculum and Regulations	A student can choose any four courses from the set of 3-credit courses offered by the institute. However, for a course offered by the institute, if a student had taken a course that is of the same nature from other department/institute, the student cannot take the course offered by the institute again nor use the credits of the course offered by the institute to fulfill the course requirements.

# 電信工程研究所博士班

110 學年度

最低修業年限	二年
應修學分數(備註1)	18 學分(不含論文研討)
直升博士生應修學分數(備註1)	36 學分(不含論文研討)
應修(應選)課程及符合畢業資格之修課相關規定	<ol style="list-style-type: none"> <li>1. 共同必修：修畢所屬分組之「論文研討」課程兩學期。</li> <li>2. 主修課程：修畢所屬分組專業課程至少 3 門課，共 9 學分。</li> <li>3. 副修課程：修畢所屬分組以外課程 2 門課(6學分)，且滿足備註1之規定。副修課程之學域名稱或性質不得與主修課程相近。</li> <li>4. 非逕博博士生在碩士班已修畢之課程，經由指導教授同意，重複選修得計算在畢業學分內，填寫重複選修申請書(附件二)。 碩士班超修之學分抵免：五年內(含)曾修且成績達 B(百分制70分)以上之超修學分，需在入學之第一學期開學後一星期內提出申請抵免。可抵免學分數上限為 9 學分。抵免申請方式如下： (1) 修過之本所開授之相關課程檢附該課程及格成績單，直接向本所提出申請抵免(抵免學分申請表附件三)。 (2) 修過之課程如為外系所或外校所開，需繳交授課內容及原課本名稱並提出外校外系學分抵免申請書以及研究所科目學分證明(附件四—外校外系學分抵免同意書，附件五—研究所科目學分證明)，並繳交成績單，繳交至本所，經本所相關授課老師同意後通過。</li> <li>5. 學士逕博生在入學前超修之學分抵免：五年內(含)曾修且成績達 B(百分制70分)以上之超修學分，需在入學之第一學期開學後一星期內提出申請抵免。可抵免學分數上限為 18 學分。抵免申請方式如下： (1) 修過之本所開授之相關課程檢附該課程及格成績單，直接向本所提出申請抵免(抵免學分申請表附件三)。 (2) 修過之課程如為外系所或外校所開，需繳交授課內容及原課本名稱並提出外校外系學分抵免申請書以及研究所科目學分證明(附件四—外校外系學分抵免同意書，附件五—研究所科目學分證明)，並繳交成績單，繳交至本所，經本所相關授課老師同意後通過。</li> <li>6. 重考或重新申請入學，以及依照法令規定先修讀學分後考取修讀學位之博士生，得申請抵免學分，抵免學分數以應修畢業學分數二分之一為限(9 學分，論文研討不得抵免)。</li> <li>7. 學術研究倫理教育課程採網路教學方式實施，為必修教育課程。 (1) 學生於入學第一學期結束前，至「臺灣學術倫理教育資源中心」平台修習本課程，並通過課程總測驗成績達及格標準。 (2) 未通過總測驗之學生，不得申請學位考試。</li> <li>8. 舉行學位考試之學生應完成「論文原創性比對」，供學位考試委員參考。</li> </ol>
備註	<ol style="list-style-type: none"> <li>1. 以上規定之應修學分數以研修電機、資訊、物理及數學相關之研究所課程為限。</li> <li>2. 至他所選修本所已開課程之規定：因特殊原因(如衝堂)，應提出有必要至他所修課之證明，且須經本所開課老師及指導教授同意，方可將該課程計入畢業學分。</li> <li>3. 至他校選修課程之規定：校際選修課程僅限非暑修課程。並須經指導教授及所長同意(如為本所已開課程，另須開課老師同意)，方可將該課程計入畢業學分。</li> <li>4. 簽訂更換指導教授申請單之日期至口試日期計算須一年以上，若有未符合規定欲畢業者，須經由課程與學生事務委員會核可。</li> <li>5. 非上述規定之修課課程(如：暑修班或教育部核准之學分班等)，本所不計入畢業學分。</li> </ol>

# Doctoral Degree of the Institute of Communications Engineering

Academic Year 2021

Minimum Term of Study	Two years
Minimum Credits (備註1)	18 credits, including exemption of credits, not including thesis seminar.
Mini. Credits for Ph.D. degree directly (備註1)	36 credits, not including thesis seminar.
Curriculum and Regulations	<ol style="list-style-type: none"> <li>1. Common required courses: Thesis Seminar should be taken for two semesters for all groups, and upgrade students may cancel the credits with that obtained in the master's program.</li> <li>2. Courses for first major: no less than three professional courses (9 credits) for each group.</li> <li>3. Courses for second major: no less than two courses (6 credits) outside the group they select. The subject matter of courses of the first and second majors should not be similar to each other.</li> <li>4. Credits earned by upgrade students from courses completed in their master's program will be considered for credit towards their doctoral program requirements after their advisor's consent and completion of the <i>Application for Repeated Study</i> (see Appendix B). However, upgrade students may apply to the Course and Student Affairs Committee for credit exemption within one week from admission (see <i>Credit Exemption Application Form</i> in Appendix C). Students may apply for exemption of credits of courses with a score of B<sup>-</sup>(70) or higher taken within the past five years. Students must submit the <i>Permission for Credit Exemption of Courses Taken from Other Departments/Schools</i> form, the name and description of courses they have taken from other departments or schools, and a transcript (<i>Permission for Credit Exemption of Courses Taken from Other Department/Schools</i> in Appendix D, <i>Evidence for Course Credit</i> in Appendix E). The maximum number of credits to be exempted should not be more than 9 credits.</li> <li>5. Students who register for the doctoral program after a second examination or application, or who have taken courses before enrolling in the program, may apply for credit exemption. The number of credits to be exempted should not be more than half of the required credits for graduation (9 credits, not including thesis seminar).</li> <li>6. “Education on Academic and Research Ethics” is Required Course             <ol style="list-style-type: none"> <li>6.1 Students must register for the Course during their first semester of enrollment, and pass the exam on the e-Campus Cyber Learning Platform..</li> <li>6.2 Student without passing the exam can not apply degree examination.</li> </ol> </li> <li>7. Before conducting the oral thesis defense, a student has to complete the “thesis originality check” and submit the results to the thesis committee members.</li> </ol>
Note	<ol style="list-style-type: none"> <li>1. Students may take courses from other departments, but only courses of postgraduate programs offered by the departments of mechanical engineering, computer science, physics and mathematics will be considered.</li> <li>2. Taking courses offered by ICM from other departments: Students who take courses offered by ICM from other departments for special reasons (e.g. conflicts in schedule) must submit evidence demonstrating the need to do so and must apply for permission from the course instructor and their own advisor; otherwise, no credit obtained from such courses will be accepted (see application form in Appendix F).</li> <li>3. Taking courses offered by ICM from other schools: Students may take courses from other schools, except for summer/winter programs. Students must apply for permission from their advisor, from the course teachers for ICM courses, and from the director of institute before doing so; otherwise, no credit obtained from such courses will be accepted.</li> <li>4. Application date for replacing advisor to the date of the oral test need to be at least</li> </ol>

one year.

5. No credit obtained from other academic programs (e.g. summer/winter schools or Ministry of Education approved credit programs) will be accepted.

## 電信工程研究所博士班(輔所)

110 學年度

應修學分數	22 學分(含論文研討一學期)
應修(應選)課程	本所所開課程任選七門即可，惟該生在原所已修過之課程若與本所所開課程相同性質，不得再修而將其算為輔所之應修學分數內。

## Doctoral Degree of the Institute of Communications Engineering (Minor Program)

Academic Year 2021

Minimum Credits	22 credits (including 1 credit from the course of master's degree thesis discussion)
Curriculum and Regulations	A student can choose any seven courses from the set of 3-credit courses offered by the institute. However, for a course offered by the institute, if a student had taken a course that is of the same nature from other department/institute, the student cannot take the course offered by the institute again nor use the credits of the course offered by the institute to fulfill the course requirements.