

電子物理學系碩士班

115 學年度

最低修業年限	一年
應修學分數	24 學分(不含個別研討)
應修(應選)課程及符合畢業資格之修課相關規定	一、畢業學分：碩士班研究生畢業時至少應修滿 24 學分，其中包含本系所開設專業課程至少 14 學分，專題演講必需修滿 4 學分，以及教學實務課程至多 1 學分；提前畢業者，其專題演講學分數需與在學學期數相同。 二、本系碩士班分電子物理組、光電與奈米科學組、理論物理組、量子科技組(全英文學程)、<u>人工智慧與應用物理組(高雄校區)</u>，學生<u>依招生簡章規範之核心課程組別</u>自行選擇其中一組。 核心課程： (一)電子物理組：(1)量子力學(2)電動力學(3)高等固態物理(4)半導體物理與元件 (5)古典力學(6)統計力學。 (二)光電與奈米科學組：(1)量子力學(2)電動力學(3)高等固態物理(4)半導體物理與元件(5)光電子學(6)雷射導論(7)雷射物理。 (三)理論物理組：(1)量子力學 (2)電動力學(3)高等固態物理(4)古典力學(5)統計力學。 (四)量子科技組：(1)量子力學 (2)電動力學(3)高等固態物理(4)統計力學<u>(5)量子資訊簡介(6)量子計算與量子複雜度導論。</u> (五)<u>人工智慧與應用物理組：(1)人工智慧(2)量子力學(3)高等固態物理(4)半導體物理與元件(5)光電子學(6)雷射導論(7)雷射物理。</u> 上述課程若為二學期(含)以上之課程，皆列入核心課程。 三、應修學分： 1. 本系碩士班研究生至少須在本系修滿該組 3 門核心課程。 2. 所修外系所開與本系所開相同名稱之課程至多抵免 9 學分，本系所開之課程至多抵免 21 學分。辦理時，依本系抵免學分作業規定填具申請表，並經本系教學與輔導委員會審查同意。 3. 所修外系所開與本系所開相近內容之課程，其學科及學分得申請辦理抵免，但專題演講不得抵免。抵免課程不得包含原學位之應修最低畢業學分。 4. 修習碩士學位前 10 年內在本系所修之核心課程，且學分包含於原學位之應修最低畢業學分，若成績經本系審查通過，其學科可予免修，學分不得抵免。 5. 入學後，選修外系所學分至多採計 6 學分，教育學程之學分不予採計。 6. 碩士班前二年，每學期必須選修有學分數之專題演講。<u>人工智慧與應用物理組應於高雄校區選修至少 2 學分之專題演講。</u> 7. 抵免學分申請應於入學後，校方申請抵免學分截止前 2 週申請辦理。 8. 入學第一學期結束前完成學術研究倫理教育課程，未通過總測驗之學生，不得申請學位考試。

Electrophysics Department: Master Program

Academic Year 2026

Min. Required Years for Graduation	1 year
Required Credits for Graduation	24 Credits (Excludes individual seminars)
Required Courses and Graduation Criteria	I. Graduation Credits: Required at least 24 credits for MS students which includes 14 credits from professional courses, 4 credits from seminars of

Electrophysics Department, and at most 1 credits from the course of Teaching Technique Practice. The Number of required credits of seminars is as same as the number of registered semesters of MS students who are going to early graduate.

- II. The master's program within the Department offers four distinct tracks: Electrophysics, Optoelectronics and Nanoscience, Theoretical Physics, Quantum Science and Technology (conducted entirely in English), and Artificial Intelligence and Applied Physics. Students are required to select one of these tracks for their academic pursuits.

Core Curriculum:

A. Electrophysics Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Semiconductor Physics and Devices, (5) Classical Mechanics, (6) Statistical Mechanics.

B. Optoelectronics and Nanoscience Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Semiconductor Physics and Devices, (5) Optoelectronics, (6) Introduction to Lasers, (7) Laser Physics.

C. Theoretical Physics Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Classical Mechanics, (5) Statistical Mechanics.

D. Quantum Science and Technology Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Statistical Mechanics, (5) Introduction of Quantum information, (6) Introduction to Quantum Computation and Quantum Information.

E. Artificial Intelligence and Applied Physics (1) Artificial Intelligence, (2) Quantum Mechanics, (3) Advanced Solid-State Physics, (4) Semiconductor Physics and Devices, (5) Optoelectronics, (6) Laser Physics.

All courses mentioned above, spanning two or more semesters, shall count towards the core curriculum.

III. Required Credits:

(1) Minimum of two core courses with different titles are required for students in Theoretical Physics program, and credits from Quantum Mechanics (I) and (II) are mandatory. For students in Electrophysics program and Photonic and Nanometer Science program, minimum of three core courses are required.

(2) Courses of the same names finished before the enrollment can be waived by application except seminars. Note that finished courses within the previous minimum credit requirement cannot be waived.

(3) Finished courses held by Electrophysics Department with the same name can be waived up to 21 credits. Finished courses held by other departments with the same name can be waived up to 9 credits. Students

	have to finish the application for credits waiving according to regulations and admission from Teaching and Coaching Committee. (4) After enrollment, up to 6 credits for optional courses held by other departments can be counted for graduation credits. Education program credits are excluded however. (5) Students have to select at least one credited seminar every semester in the first two years of MS Program. (6) Course waiving have to be applied within two weeks before the due date of application after enrollment.
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電子物理學系博士班

115 學年度

最低修業年限	二年
應修學分數	18 學分(不含個別研討)
逕博應修學分數	30 學分(不含個別研討)
應修(應選)課程及符合畢業資格之修課相關規定	1. 本系博士班分電子物理組與量子科技組(全英文學程)，學生可自行選擇其中一組。 核心課程： 一、電子物理組：(1)量子力學(2)電動力學(3)統計力學(4)古典力學(5)高等固態物理(6)光電子學(7)半導體物理與元件(8)雷射導論(9)雷射物理。 二、量子科技組：(1)量子力學 (2)電動力學(3)高等固態物理(4)統計力學(5)量子物理與元件 上述課程若為二學期(含)以上之課程，皆列入核心課程。 2. 一般博士生至少需修滿 18 學分，其中應包含在本系所修之 4 門核心課程及 6 學分專題演講。博士生學分數不得抵免。惟博士生修習博士學位前 10 年內在本系所修之核心課程，若成績 經本系審查通過，其學科可予免修。 3. 碩士逕讀博士生至少需修滿 30 學分，其中應包含在本系所修之 4 門核心課程及 6 學分專題演講。在碩士班期間所修或已抵免本系之所有核心及非核心學科及學分，皆列為其博士班之修業學分。本條文適用於 103 學年度起畢業之同學。 4. 學士逕讀博士生至少需修滿 30 學分，其中應包含在本系所修之 4 門核心課程及 6 學分專題演講。在學士修業期間 所修本系之相同名稱研究所課程，其學科及學分得申請辦理抵免或免修博士學分，但專題演講及其他不同名稱之課程，不得抵免或免修。抵免課程不得包含原學位之應修最低畢業學分。 5. 博士生修業年限期滿者，重新考入本系所博士班，其在原博士修業期間內 所修學分經原指導老師同意皆可申請抵免，但入學滿二年（不得休學）即 須提出畢業申請，並只限此一次抵免。 6. 申請免修核心課程應於入學後第一學期開學後兩週內辦理。

Electrophysics Department: Doctoral Program

Academic Year 2026

Min. Required Years for Graduation	2 years
Required Credits for Graduation	18 credits (Excludes individual seminars)
Required Credits for Graduation for MS from The Same University	30 credits (Excludes individual seminars)

Required Courses and Graduation Criteria	1. The doctoral program within the Department offers two tracks: Electrophysics Track and Quantum Science and Technology Track (conducted entirely in English). Students are required to select one of these two tracks for their academic pursuits. Core Curriculum: A. Electrophysics Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Statistical Mechanics, (4) Classical Mechanics, (5) Advanced Solid-State Physics, (6) Optoelectronics, (7) Semiconductor Physics and Devices, (8) Laser Fundamentals, (9) Laser Physics. B. Quantum Science and Technology Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Statistical Mechanics, (5) Quantum Physics and Devices. All courses mentioned above, spanning two or more semesters, shall count towards the core curriculum. 2. PhD students require at least 18 credits including 4 from core courses, 6 from seminars of Electrophysics Department. Core courses finished within 10 years before the student's studying doctoral program can be waived if their scores are admitted by the Department Committee. 3. For Ph. D Students originally transferred from MS program, minimum of 30 credits are required in order to graduate. The credits must include those from 4 core courses, 6 credits from colloquium lectured in Electrophysics Department. Credits previously acquired from MS program can be acknowledged in the graduation credits. This regulation applies to students from school years of 2014 and thereafter. 4. Students study doctoral program from bachelor degree require 30 credits to graduate including 4 from core courses, 6 from seminars of Electrophysics Department. Finished courses cannot be waived except core courses with scores admitted by the Department Committee. 5. PhD students who's education expired and entered doctoral program of Electrophysics Department again, his/her obtained credits can be waived by the original advisor's admission. However, the student have to apply for graduation at the second year after enrollment (suspension is not allowed), and the waiving is offered only once. 6. Waived core courses have to be applied within two weeks after enrollment of 1st semester.
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