

應用化學系博士班

111 學年度

最低修業年限	三年
具碩士學位博士生應修學分數	18 學分
直升博士生應修學分數	32 學分
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"> 1. 必修書報討論 2 學分、專題演講 4 學分、論文研究 3 學分；超修上列課程不列入畢業學分。 2. 具碩士學位博士生另須選修本系碩士班或博士班課程至少 3 門共計 9 學分。 3. 直升博士生另須選修本系碩士班或博士班課程至少 6 門共計 18 學分。 4. 分析組：書報討論最多修 4 次；專題演講最多修 2 次，但上述課程均不列入必修學分規定中的 3 門課程。 5. 有機化學組：博士生需選修且通過高等有機化學(一)、高等有機化學(二)和至少兩門有機組核心選修課程[註一]。 有機組核心選修課程共八門，包括：(1)有機光譜特論、(2)藥物設計、(3)有機金屬於有機及高分子合成之應用、(4)醣化學及胜肽化學的有機合成、(5)有機化學特論(一)或(二)、(6)天然物合成化學、(7)材料化學特論、(8)有機反應機構。
備註	<p>[註一]具碩士學位之有機化學組博士生，僅需選修且通過一門有機化學核心選修課程以及高等有機化學(一)、高等有機化學(二)。</p> <p>[註二]博士生須於申請學位考試前完成線上「學術研究倫理教育」課程，課程總測驗成績達及格標準並提供證明文件，始得申請學位考試。</p>

Ph.D. Program, Department of Applied Chemistry

Academic Year 111

Minimum Term of Study	Three Years
Minimum Credits for Ph.D. Students Who Have Master's Degrees.	18 Credits
Minimum Credits for Ph.D. Students Who Advanced from Master's or Bachelor's Programs	32 Credits
Curriculum and Regulations	<ol style="list-style-type: none"> I. Mandatory: Seminar (2 credits), Colloquium (4 credits), Thesis Research (3 credits) ; if select those courses exceed the mandatory credits, will not include in the minimum credits. II. Those with Master Degrees must take at least 3 additional graduate level classes from our program (9 credits). III. Those who switched over from our Master Program must take at least 6 additional graduated level classes from our program (18 credits). IV. Analytic Chemistry Division: Seminar (up to 4 times), Department Colloquium (up to 2 times). These courses are not included in the required courses (the 3 or 6 courses) stated above. V. Organic Chemistry Division: Ph.D. graduate students must enroll and pass Advanced Organic Chemistry (I), Advanced Organic Chemistry (II) and at least two core elective courses [Note 1]; there are eight core elective courses including (1) Special Topics in Organic Spectroscopy, (2) Drug Design and Development, (3) Organometallic for Organic and Polymer Synthesis, (4) Organic Synthesis in Carbohydrate Chemistry and Peptide Chemistry, (5)

	Special Topics on Organic Chemistry (I) or (II), (6) Natural Product Synthesis, (7) Materials Chemistry Special Topics, and (8) Organic Reaction Mechanism .
Notes	<p>[Note 1] Ph.D. graduate students in Organic Chemistry program who hold M.Sc. degree only have to enroll and pass one core elective course in addition to Advanced Organic Chemistry (I) and Advanced Organic Chemistry (II).</p> <p>[Note 2] Students should pass the on-line course "Academic Research Ethics Education". The passing certificate for this course should be submitted to the Department office before applying for the degree exam.</p>

應用化學系分子科學博士班

111 學年度

最低修業年限	三年
具碩士學位博士生 應修學分數	18 學分
直升博士生 應修學分數	32 學分
應修(應選)課程及符合畢業資格之修課相關規定	1.必修書報討論 2 學分、專題演講 4 學分、論文研究 3 學分；超修上列課程不列入畢業學分。 2.具碩士學位博士生另須選修本系碩士班或博士班課程至少 3 門共計 9 學分。 3.直升博士生另須選修本系碩士班或博士班課程至少 6 門共計 18 學分。 4.分析組：書報討論最多修 4 次；專題演講最多修 2 次，但上述課程均不列入必選修學分規定中的 3 門課程。
備註	博士生須於申請學位考試前完成線上「學術研究倫理教育」課程，課程總測驗成績達及格標準並提供證明文件，始得申請學位考試。

Ph. D., Graduate Program of Molecular Science, Department of Applied Chemistry

Academic Year 111

Minimum Term of Study	Three Year
Minimum Credits for Ph.D. Students Who Have Master's Degrees.	18 Credits
Minimum Credits for Ph.D. Students Who Advanced from Master's or Bachelor's Programs	32 Credits
Curriculum and Regulations	I. Mandatory: Seminar (2 credits), Colloquium (4 credits), Thesis Research (3 credits) ; if select those courses exceed the mandatory credits, will not include in the minimum credits. II. Those with Master Degrees must take at least 3 additional graduate level classes from our program (9 credits). III. Those who switched over from our Master Program or Bachelor's must take at least 6 additional graduated level classes from our program (18 credits). IV. Analytic Chemistry Division: Seminar (up to 4 <u>times</u>), Department Colloquium (up to 2 <u>times</u>). These courses are not included in the required courses (the 3 or 6 courses) stated above.
Notes	Students should pass the on-line course "Academic Research Ethics Education". The passing certificate for this course should be submitted to the Department office before applying for the degree exam.