

MASTER OF SCIENCE IN CHEMISTRY

A minimum of 32 credit hours is required for the Master of Science (M.S.) in Chemistry degree. A minimum of 20 credit hours of 500-level coursework is required with 15 credit hours required from the chemistry disciplines. A maximum of 12 credit hours of 400-level coursework may be used to fulfill graduate study requirements.

The M.S. Chemistry program is tailored to fit the student's background and goals. Two options are available: a thesis option, and a non-thesis option.

Thesis Option

Students seeking the M.S. in Chemistry degree with the thesis option must also register for six to eight credit hours of research coursework numbered 591, write a thesis based on original research, and defend it before his or her M.S. thesis committee. The thesis and oral defense should be completed before the end of the third year of academic study. M.S. Chemistry students fulfill their comprehensive examination requirement with their thesis defense.

Non-Thesis Option

Students seeking the M.S. Chemistry non-thesis degree must pass an oral comprehensive examination by the end of the fourth semester in the program. The non-thesis program is intended for students to develop skills necessary in preparation for careers in the highly competitive chemical industry, education, and administration, among others. It is also tailored for students in the IIT-Paris double degree program. The IIT-Paris program can be completed in one calendar year by taking classes in the fall, spring, and summer semesters.

Curriculum

Master of Science in Chemistry (Coursework Only Option)

Code	Title	Credit Hours
Chemistry Core Courses		(21)
CHEM 584	Graduate Seminar in Chemistry	1
CHEM 585	Chemistry Colloquium	1
CHEM 585	Chemistry Colloquium	1
Select a minimum of six credit hours from the following: ¹		6
CHEM 461	Bioanalytical Chemistry Laboratory	3
CHEM 463	Analytical Method Development Laboratory	3
CHEM 472	Environmental Chemistry	3
CHEM 473	Environmental Analytical Chemistry	3
CHEM 476	Forensic Chemistry Laboratory	3
CHEM 475	Forensic Chemistry	3
CHEM 526	Graduate Chemistry Laboratory	3
CHEM 534	Advanced Spectroscopic Methods	4
CHEM 560	Advanced Chemistry Projects	1-4
CHEM 545	Sensor Science and Technology	3
CHEM 561	Laboratory Rotations	3
CHEM 597	Reading and Special Problems	1-6
Select a minimum of 12 credit hours from the following:		12
BIOL 504	Biochemistry	3
CHEM 455	Advanced Organic Chemistry	3
CHEM 503	Survey of Analytical Chemistry	3
CHEM 520	Advanced Inorganic Chemistry	3
CHEM 535	Polymer Synthesis	3
CHEM 550	Theoretical and Computational Quantum Chemistry	3
Professional Development Courses		(5-6)
Select a minimum of two courses from the following: ²		5-6
CHEM 513	Statistics for Analytical Chemists	3

CHEM 524	Synthesis and Intellectual Property Management	2
INTM 511	Industrial Leadership	3
SCI 511	Project Management	3
SCI 522	Public Engagement for Scientists	3

Elective Courses		(5-6)
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Select a minimum of five to six credit hours of 400-level and above CHEM courses in consultation with adviser³ 5-6

Minimum degree credits required: 32

¹ For students in the IIT-Paris partner program, a two-credit hour CHEM 560 must be taken in the summer.

² For students in the IIT-Paris partner program, two professional development courses can be substituted by 400- or 500-level chemistry electives.

³ For students in the IIT-Paris partner program, six credit hours of transferred engineering courses can be substituted for the elective courses.

Master of Science in Chemistry (Thesis Option)

Code	Title	Credit Hours
Required Courses		(15)
CHEM 584	Graduate Seminar in Chemistry	1
CHEM 585	Chemistry Colloquium	1
CHEM 585	Chemistry Colloquium	1
Select a minimum four core courses from the following:		12
BIOL 504	Biochemistry	3
CHEM 455	Advanced Organic Chemistry	3
CHEM 503	Survey of Analytical Chemistry	3
CHEM 520	Advanced Inorganic Chemistry	3
CHEM 535	Polymer Synthesis	3
CHEM 550	Theoretical and Computational Quantum Chemistry	3
Elective Courses		(9-11)
Select 9-11 credit hours of 400-level and above CHEM courses in consultation with adviser		9-11
Thesis Research		(6-8)
CHEM 591	Research and Thesis	6-8

Minimum degree credits required: 32