

**CHEMISTRY DEPARTMENT**  
**De La Salle University-Manila**

**Master in Chemistry (Non-Thesis)**

The Master of Science in Chemistry (Non Thesis) is a course specifically designed for the CHED Faculty Development Program. It aims to assist in upgrading the academic qualifications of secondary and tertiary level faculty in the country. Students are expected to pass 36 units of academic courses following rules and regulations of the DLSU graduate programs. While the program is a non-thesis program, the student must pass written comprehensive examinations in the fields of chemistry.

**Admissions**

Must have graduated with a baccalaureate degree in Chemistry or related field with a minimum of 25 units of Chemistry.

Must pass all admission requirements set by the university and the Chemistry Department.

**Program Requirements**

The students are expected to pass 36 units of academic courses following rules and regulations of the DLSU graduate programs. While the program is a non-thesis program, the student must pass written comprehensive examinations in the fields of chemistry. Procedures for comprehensive examinations are defined in the DLSU graduate catalogue.

**Course Tracking for MChemistry (Non Thesis)**

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
(ENG 501M, 3 units)  CHM590M Fundamentals of Research and Seminar (3 units)  CHM503M Inorganic Chemistry 1 (3 units)  CHM504M Inorganic Chemistry Laboratory (1 unit)	(ENG 502M, 3 units)  CHM543M Organic Chemistry (3 units)  CHM505M Inorganic Chemistry 2 (3 units)  CHM544M Organic Chemistry Laboratory (1 unit)  Elective (3 units)	CHM545M Organic Chemistry 2 (3 units)  CHM523M Analytical Chemistry 1 (3 units)  CHM524M Analytical Chemistry Laboratory (1 unit)  CHM563M Physical Chemistry (3 units)
<b>Summer</b>	<b>Term 4</b>	
CHM571M Biochemistry (3 units)  CHM525M Analytical Chemistry 2 ((3 units)  CHM591M Master's Project (3 units)	COMPREHENSIVE EXAM (5 areas)	

### **Comprehensive Examinations for MChem (NonThesis) Students**

A student is eligible to take the comprehensive examinations after he/she has enrolled and passed/completed all the courses.

The student should apply for the comprehensive examinations at the Registrars' Office which must certify the completion of academic requirements. A permit is secured by the student from the GS Director's Office for clearance purposes, after which he/she must enlist with the department secretary.

Written comprehensive examinations are given by the Chemistry Graduate Committee in each of the following areas:

Analytical Chemistry  
Biochemistry  
Inorganic Chemistry  
Organic Chemistry  
Physical Chemistry

The comprehensive examinations are scheduled once a term. The comprehensive examinations are scheduled on five successive Saturdays. Three hours are normally allotted per subject area.

The passing mark is 50%.

A student must take all defined subject area examinations in one testing period. Only in the area(s) where a student fails will he/she be made to take a re-test. Such a re-test must be scheduled in one testing period only; i.e., if two or more examinations need to be repeated, all must be taken during one testing period. If a student fails a second time, he must audit the courses he failed whereupon he can take another re-test in the specific area. If a student fails three times in any of the four subject areas he is automatically dropped from the program regardless of the subject areas he had previously passed. A student is officially informed of the comprehensive examination results about three weeks after the end of the testing period.

### **Master's Project (CHM591M)**

This is individual work wherein students apply his/her knowledge in solving a special problem. It need not be experimental although projects may include some laboratory experimentation, although the project may include some laboratory experimentation. It shall be carried out under the supervision of an adviser who shall be responsible for guiding the student.

### **Grades**

1. The minimum grade with credit is 2.0.
2. The College Graduate Council has agreed to implement the following grading schemes for non-regular subjects:

Subject	Purpose	Minimum Grade with Credit
Audit	Personal enrichment	AUDIT

	Requirement for retaking comprehensive exams	AUDIT
Enrichment/ Refresher	New admission	1.0 (M.S./Ph.D.)
	Re-admission	{ 2.0 (M.S.) 2.5 (Ph.D.)

- As per department policy, no Incomplete grade is given for graduate courses.
- The deadline for submission of GS grading sheets and course card distribution follows that of the undergraduates. Course cards may be distributed earlier but not later than the scheduled date. The COS-GSO will notify concerned faculty of his/her course card schedule.

### **Course Description**

#### **CHM503M Inorganic Chemistry 1 for M. Chem (Non-thesis)**

The first course in general and inorganic chemistry. It develops in the student basic concepts of matter and its classifications; mass relationships in chemical reactions; the properties of gases, liquids, and solids; some concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; chemical bonding; intramolecular forces; and solutions.

3 units

#### **CHM504M Inorganic Chemistry 1 Laboratory for M. Chem. (Non-thesis)**

A course developing basic laboratory skills. It includes experiments and exercises illustrating the concept covered in General Chemistry 1.

1 unit

#### **CHM505M Inorganic Chemistry II for M. Chem. (Non-thesis)**

This 3-unit course is a continuation of General Chemistry I. It provides the science major the foundation in chemical concepts and principles covering elementary chemical thermodynamics, chemical equilibrium, acid-base theories and applications, reduction-oxidation reactions, electrochemistry, and kinetics

3 units

#### **CHM523M Analytical Chemistry I for M. Chem. (Non-thesis)**

A course in chemical analysis covering chemical principles and applications of titrimetric analyses in acid-base, precipitation and complexation reactions.

3 units

#### **CHM524M Analytical Chemistry Laboratory for M. Chem (Non-thesis)**

A laboratory course developing basic experimental techniques and skills in quantitative analyses including optical methods.

1 unit

#### **CHM525M Analytical Chemistry II for M. Chem (Non-thesis)**

A course covering the principles, applications, techniques, scope, and limitations of spectroscopic methods (UV-vis, IR, Raman, AA, MS, NMR, and emission), and chromatographic methods (GC, HPLC).

3 units

**CHM543M Organic Chemistry I for M. Chem (Non-thesis)**

A 3-unit lecture course covering the basic concepts of organic chemistry, identifying functional groups, isomerism, naming of organic compounds, and physical and chemical properties of alkanes, alkyl halides, alcohols, ethers, thiols and sulfides

3 units

**CHM544M Organic Chemistry I Laboratory for M. Chem. (Non-thesis)**

Organic chemistry laboratory course covering the determination of physical properties of organic compounds; separation and purification of organic mixtures; and qualitative organic analysis.

1 unit

**CHM545M Organic Chemistry II for M. Chem. (Non-thesis)**

A 3-unit lecture course covering the structure, nomenclature, physical properties, preparation and chemical properties of alkenes, alkynes, aromatic compounds, aldehydes, ketones, carboxylic acids, carboxylic acid derivatives, and amines.

3 units

**CHM563M Physical Chemistry for M. Chem (Non-thesis)**

This three-unit course is devoted to a thorough study of the laws of thermodynamics and their applications to simple systems such as gases.

3 units

**CHM571M Biochemistry for M. Chem (Non-thesis)**

This 3-unit course covers the fundamental aspects of biochemistry and structure and dynamics of important cellular components. The properties of carbohydrates, lipids and membranes, proteins and enzymes and nucleic acids.

3 units

**CHM590M Research and Seminars for M. Chem (Non-thesis)**

It is devoted to the conceptualization, organization and planning of an original project in chemistry. It seeks to familiarize the student with the chemical literature as well as with legal and social issues confronting researches, ethics, and conduct of research, intellectual property rights, scientific writing. The course requirements include the submission of a research proposal. It is designed to help the student to develop an awareness of recent developments in the field by attending and actively participating in chemistry seminars. The course seeks to train the students to present result, conclusion and views in public.

3 units

**CHM591M Master's Project**

This is individual work wherein students apply his/her knowledge in solving a special problem. It need not be experimental although projects may include some laboratory experimentation, although the project may include some laboratory experimentation. It shall be carried out under the supervision of an adviser who shall be responsible for guiding the student.

3 units

**Elective Courses:** See List in MS Chemistry Program