



University of Colombo

Sri Lanka



Master of Science

in

Pharmaceutical Sciences

(SLQL 8, 9 & 10)

Department of Chemistry

2026

M.Sc. (Pharmaceutical Sciences)

1. INTRODUCTION

The vast field of pharmaceutical science ranges from drug design and development, pharmaceuticals, medicinal chemistry, pharmaceutical analysis, quality control, to advanced technologies such as nanotechnology and biotechnology. Currently, the field has undergone rapid expansion due to the exponential growth of the healthcare and pharmaceutical industries, intensifying market competition, and the development of innovative pharmaceutical processing technologies.

There is an urgent need for a master's degree programme in pharmaceutical sciences to cater to the rising demand for master's-level professionals in both global and local pharmaceutical sectors. The programme aims to enhance students' knowledge of pharmaceutical products and processes in response to industry needs, create awareness of key issues in pharmaceutical manufacturing in Sri Lanka, and prepare them for research careers in academia and industry-based pharmaceutical R&D. Moreover, the programme benefits the employment market by producing industry-ready graduates with practical and regulatory expertise, capable of contributing to research, innovation, product development, quality assurance, and entrepreneurship in the pharmaceutical field.

2. COURSE AIMS

- * To produce trained graduates equipped with highly marketable skills to meet the needs of academia and industry.
- * To enhance critical thinking and creativity in students and produce resourceful personnel equipped with innovative ideas and cognitive skills to succeed in pharmaceutical technology-related areas.
- * To increase awareness of modern pharmaceutical technological strategies required for the rapid growth of the pharmaceutical industry.
- * To create a multi-disciplinary workforce versed in basic research, product development, regulatory affairs, and commercialization.

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3. COURSE STRUCTURE

Course structure is designed according to the guidelines issued by the Quality Assurance and Accreditation Council of the UGC, SL to fulfil criteria of M.Sc. programs, SLQL 8, 9 & 10. M.Sc. in Pharmaceutical Sciences program offered by the Department of Chemistry, UOC consists of Part I, Part II & Part III. Part I, Part II & Part III correspond to the levels of Postgraduate Diploma (25 credits), M.Sc. with total of 30 credits & M.Sc. with 60 credits including one year research experience.

SLQL 8 level – Part I

SLQL 9 level – Part I & Part II

SLQL 10 level – Part I, Part II & Part III

4. COURSE CONTENTS

- **MPS 5001 – Chemistry for Pharmacy**
Carbonium ion rearrangements
Essential and Trace Elements
Photochemistry
- **MPS 5002 – Pharmaceutical Analysis and Quality Control**
Techniques of quantitative analysis
Essential Statistics for Pharmaceutical Analysis
Quality Control and Quality Assurance
- **MPS 5003 – Pharmaceutics I**
Scientific principles of dosage form design
Particle science and powder technology
Novel formulation strategies
- **MPS 5004 – Pharmaceutical Laboratory**
Instrument handling
Pharmaceutical microbiology
Material characterization

➤ **MPS 5005 – Pharmaceutics II**

Pharmaceutical solutions
Granulation Technology
Nanomaterials

➤ **MPS 5006 – Medicinal Chemistry**

Drug designing
Neurologic and psychiatric drugs
Anti-cancer agents

➤ **MPS 5007 – Natural medicines and cosmeceuticals**

Ethnopharmacology of herbal drugs
Evaluation of herbal drugs
Herbal cosmetic formulations

➤ **MPS 5008 – Pharmaceutical Biotechnology**

Industrial Biochemistry
Vaccines
Processing and control of Biopharmaceuticals

➤ **MPS 5009 – Pharmacy Law and Ethics**

Recognizing ethical dilemmas
NMRA Act, No. 5 of 2015
International Law

➤ **MPS 5010 – Pharmaceutical management and marketing**

Theoretical basis of management
Pharma Strategic Marketing
Global Regulatory Affairs

➤ **MPS 5011 – Pharmacoeconomics and Entrepreneurship**

Decision Modelling Techniques
Pharmacoeconomics in Disease Management
Introduction to entrepreneurship

➤ **MPS 5012 – Mini research project in Pharmaceutical Sciences**

➤ **MPS 5013 – Research project**

5. DURATION

The duration of Part I and Part II is between 18 and 24 months. Part III lasts one year for full-time students, while for part-time students, the duration may be longer depending on the amount of time they dedicate to their research.

6. COURSE EVALUATION

Part I

The theory module will be tested by a written examination at the end of each semester. Students will also be assessed both on a continuous basis and by periodical tests on the laboratory work carried out during the course. Candidates will be eligible to proceed to Part II when he/ she has obtained a minimum GPA of 3.00.

Part II

The report addressing a Pharmaceutical Sciences-related mini-project submitted by the candidate at the end of the study will be evaluated and an oral examination will be held. The candidate will be eligible to proceed to part III when she/he has obtained a minimum GPA of 3.00.

Part III

The research dissertation submitted by the candidate at the end of the research project will be evaluated. Presentation and oral examination will be held on the submitted dissertation. A minimum GPA of 3.00 is required for the award of M.Sc.

7. Eligibility and SELECTION

Application for admission to the course will be entertained from candidates who have,

- B.Sc. degree including 30 credits in subject areas of Pharmacy/Chemistry/Biology/Biochemistry/Biotechnology, or
- A qualification of SLQF level 6 or above in the areas of Pharmacy/Chemistry/Biology/Biochemistry/Biotechnology of study, or
- A professional qualification equivalent to SLQF level 6 or above, or
- Completion of NVQ level 7 with a minimum GPA of 3.0 on a scale of 0-4, as determined by the academic authority of HEI, may be considered for admission in that field of specialization.

The selection will be based on an interview, academic merits, personal statement, and references.

8. FEES

Registration fee	- Rs. 2500/=
Course fee	- Rs. 500,000/=

****** Please note that fees paid are not refundable and subject to revisions from time to time.**

For further information contact;

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