REGULATIONS FOR THE DEGREE OF MASTER OF ADVANCED PHARMACY (MAP)

These regulations apply to candidates admitted to the Master of Advanced Pharmacy in the academic year 2024-25 and thereafter.

(See also *General Regulations and Regulations for Taught Postgraduate Curricula*)

MAP.1 Definition

The degree of Master of Advanced Pharmacy (MAP) is a postgraduate degree awarded for the satisfactory completion of the curriculum of one academic year of full-time study or 2 academic years of part-time study, or equivalent in the Department of Pharmacology and Pharmacy, Li Ka Shing Faculty of Medicine.

MAP.2 Admission requirements

To be eligible for admission to the curriculum leading to the degree of Master of Advanced Pharmacy, candidates shall:

a) comply with the General Regulations;

b) comply with the Regulations for Taught Postgraduate Curricula;

c) hold a Bachelor's degree or above
   - in pharmacy (for Clinical Practice or Community Health streams)
   - in pharmacy, pharmaceutical science, pharmacology, physiology, physical science, biochemistry, biotechnology, chemistry, biomedical/biological sciences, genetics, medicine, nursing or other relevant discipline (for Pharmaceutical Medicine stream or Generalist)

   from this University, or from another university, or comparable institution accepted for this purpose; and

d) satisfy the examiners in a qualifying examination, if required.

MAP.3 Qualifying examination

a) A qualifying examination may be set to test candidates' formal academic ability or their ability to follow the courses of study prescribed. It shall consist of one or more written papers or their equivalent and may include a project report; and

b) Candidates who are required to satisfy the examiners in a qualifying examination shall not be permitted to register until they have satisfied the examiners in the examination.

MAP.4 Award of degree

a) To be eligible for the award of the degree of Master of Advanced Pharmacy, a candidate shall:

   i. comply with General Regulations; and
   ii. comply with the Regulations for Taught Postgraduate Curricula; and
   iii. complete the curriculum and satisfy the examiners in accordance with the regulations set out below.

b) Advanced standing may be granted to a candidate who has successfully completed equivalent courses within this University or at another comparable institution, subject to the following conditions:

   i. such course(s) should be completed no more than 5 years prior to the candidate's commencement of the Master of Advanced Pharmacy curriculum; and
   ii. such course(s) should be appropriate for the Master of Advanced Pharmacy stream that the candidate has applied for; and
   iii. advanced standing for up to 12 credits may be granted; and all applications are considered on a case-by-case basis by the Board of Studies and shall be approved by the Board of the Faculty.

Application for advanced standing shall normally be made prior to the candidate's admission to the curriculum. Academic transcript and relevant course syllabus should be submitted.

MAP.5 Period of Study

The curriculum shall normally extend over one academic year of full-time study, or two academic years of part-time study. Candidates shall not be permitted to extend their studies beyond the maximum period of registration of three years of full-time study, or four years of part-time study, unless otherwise permitted or required by the Board of the Faculty.

MAP.6 Completion of curriculum

To complete the curriculum, candidates shall:

a) satisfy the requirements prescribed in TPG 6 of the Regulations for Taught Postgraduate Curricula;
b) take not less than 69 credits in the manner specified in these regulations and the syllabuses, and follow the instructions in the syllabus prescribed for the courses and complete satisfactorily all required written, practical or clinical work;
c) satisfy the examiners in the courses by continuous assessments and/or written examinations and/or objective structured clinical pharmacy examination; and
d) complete and present a satisfactory research project on an approved topic, and/or an approved project as part of the practicum experience, and may be required to present for an oral examination.

Candidates who fail to fulfil the requirements within the prescribed maximum period of registration shall be recommended for discontinuation under the provision of General Regulation G12, except that candidates who are unable because of illness or circumstances beyond their control to complete the requirements within the prescribed maximum period of registration, may apply for permission to extend their period of studies.

Candidates who complete 69 credits according to Clinical Practice or Community Health streams but who are not registered pharmacists in Hong Kong at graduation shall be regarded as Generalists.

MAP.7 Course Selection

Selection of courses shall be made within the curriculum structure, in consultation with the Course Coordinator and subject to the approval of the Board of Studies for the Master of Advanced Pharmacy.

MAP.8 Assessments

a) Candidates who fail to satisfy the examiners in a course may be permitted:
   i) to attend a re-examination; or
   ii) to re-take the prescribed assessment(s) without having to repeat the course; or
   iii) to repeat the course and to re-take the prescribed assessment(s)/examination(s); or
   iv) for elective courses, to enroll in an alternative course in lieu and to take the prescribed assessment(s)/examination(s).

b) Candidates who fail to satisfy the examiners in the assessment of the research project or practicum project, but has satisfactorily completed the prescribed work, may be permitted to re-submit the research project or practicum project report within a specific period of time.

c) Candidates may be required to discontinue their studies if they:
   i) are not permitted to retake the prescribed assessment(s) or repeat a course which he/she has failed, or present himself/herself for re-examination(s), or re-submit a revised research project or practicum project report; or
   ii) fail to satisfy the examiners in the examinations at the third attempt; or
   iii) fail to pass 21 credits in an academic year, unless otherwise permitted by the Board of the Faculty; or
   iv) fail to achieve a cumulative grade point average[1] (CGPA) of 1.0 or higher for two consecutive semesters with course enrolment; or
   v) exceed the maximum period of registration.

d) Candidates shall not be permitted to repeat a course for which they have received a passing grade for the purpose of upgrading.

[1]At the end of each semester, a cumulative grade point average (CGPA) for all courses taken by a student (including failed courses), which are graded in the letter grading system, at the time of calculation.

MAP.9 Grading System

a) Individual courses (except the Capstone courses) shall be graded according to the following letter grading systems:

Grade	*Standard*	*Grade Point*
A+	Excellent	4.3
A		4.0
A-		3.7
B+	Good	3.3
B		3.0
B-		2.7
C+	Satisfactory	2.3
C		2.0
C-		1.7
D+	Pass	1.3
D		1.0
F	Fail	0

b) The Capstone courses shall be graded according to the 'Pass' or Fail' grading system.
c) On successful completion of the curriculum, a candidate who has shown exceptional merit may be awarded a distinction as determined by the Board of Examiners for the degree.

MAP.10 Publication based on work approved

Any publication based on work approved for a higher degree should contain a reference to the effect that the work was submitted to The University of Hong Kong for the award of the degree.

SYLLABUS FOR THE DEGREE OF
MASTER OF ADVANCED PHARMACY (MAP)

The Master of Advanced Pharmacy curriculum consists of courses in 5 areas and the Capstone experience which includes practicum and/or a research project.

The mode of assessment for non-Capstone courses comprises of continuous assessments (40%-100%), written examination (0%-60%) and/or objective structured clinical pharmacy examination (0%-40%). The mode of assessment for Capstone courses is continuous assessment (100%). Candidates are also required to submit a research project and/or practicum project report to the satisfaction of the examiner(s).

Overall Curriculum Structure
Candidates are required to complete a minimum of 69 credits and curriculum requirements for the Master of Advanced Pharmacy.

Candidates may select one of the three streams:

a) Clinical Practice
b) Community Health
c) Pharmaceutical Medicine

Not all streams may necessarily be offered every year.

Candidates who complete 69 credits but do not wish to specialize in or do not satisfy the requirements of any of the three streams outlined in this syllabus shall be regarded as Generalists.

Candidates who complete 69 credits according to Clinical Practice or Community Health streams but who are not registered pharmacists in Hong Kong at graduation shall be regarded as Generalists.

The requirements of the 3 streams are described in the following table.

<table>
<tr><th>Concentration
Courses</th><th>Clinical Practice</th><th>Community Health</th><th>Pharmaceutical Medicine</th></tr>
<tr><td>Clinical Research</td><td colspan="3">MAPH7000 Evidence-Based Practice</td></tr>
<tr><td>Clinical Practice</td><td colspan="2">MAPH7410 Integrated Pharmacy Practice I
MAPH7420 Integrated Pharmacy Practice II</td><td>None</td></tr>
<tr><td>Therapeutics</td><td>39 credits

Students may opt out a maximum of 12 credits to pursue electives in other areas.</td><td>MAPH7110 Geriatric & Ambulatory Care

Plus

30 credits of other Therapeutics courses

Students may opt out a maximum of 9 credits to pursue electives in other areas.</td><td>At least 12 credits</td></tr>
<tr><td>Health System and Management</td><td>Elective</td><td>MAPH7210 Primary Care and Public Health</td><td>MAPH7210 Primary Care and Public Health</td></tr>
<tr><td>Pharmaceutical Medicine</td><td>Elective</td><td>Elective</td><td>MAPH7320 Introduction to Pharmaceutical Industry

Plus

MAPH7380 Essential Skills in Management of Pharmaceutical Medicine

Plus
At least 18 credits of other Pharmaceutical Medicine courses</td></tr>
<tr><td rowspan="2">Capstone</td><td>MAPH7510 Clinical Practice Practicum
Or</td><td>MAPH7520 Community Health Practicum
Or</td><td>MAPH7530 Pharmaceutical Medicine Practicum
And / Or</td></tr>
<tr><td colspan="3">MAPH7540 Research Project</td></tr>
</table>

Generalists must complete the following for graduation:

- MAPH7000 Evidence-Based Practice
- At least 12 credits of Therapeutic courses
- At least one Capstone course, but no more than one practicum course

Course Code	Course Name	Credit
Clinical Research		
MAPH7000	Evidence-Based Practice	3
Therapeutics		
MAPH7110	Geriatric & Ambulatory Care	6
MAPH7120	Oncology	6
MAPH7130	Neurology, Psychiatry, Immunology & Rheumatology	6
MAPH7140	Gastroenterology, Hepatology & Infectious Diseases	6
MAPH7150	Nephrology, Fluids & Electrolytes, Paediatrics & Pregnancy	6
MAPH7160	Cardiometabolic Disease, Respiratory & Critical Care	9
Health System and Management		
MAPH7210	Primary Care and Public Health	3
MAPH7220	Health Informatics and Big Data	3
Pharmaceutical Medicine		
MAPH7310	Principles of Drug Actions	6
MAPH7320	Introduction to Pharmaceutical Industry	3
MAPH7330	Regulatory Affairs - Hong Kong & Beyond	6
MAPH7340	Therapeutic Antibodies	3
MAPH7350	Clinical Trials Management and Pharmacovigilance	6
MAPH7360	Advanced Therapy Products	3
MAPH7370	Advanced Drug Delivery and Drug Development	6
MAPH7380	Essential Skills in Management of Pharmaceutical Medicine	3
MAPH7390	Medical Affairs – Fundamentals and Practice	6
Clinical Practice		
MAPH7410	Integrated Pharmacy Practice I	6
MAPH7420	Integrated Pharmacy Practice II	6
Capstone		
MAPH7510	Clinical Practice Practicum	15
MAPH7520	Community Health Practicum	15
MAPH7530	Pharmaceutical Medicine Practicum	15
MAPH7540	Research Project	15

Course Description

The courses are offered subject to availability and minimum student number.

Clinical Research

MAPH7000 Evidence-Based Practice (3 credits)

This course will introduce the concepts of clinical epidemiology and biostatistics that are essential components of evidence-based practice. Various study designs and methodologies used to investigate associations between risk factors, interventions and disease outcomes will be covered. The course will also shed light on the steps of evidence-based practice with clinical cases, and the important concepts of critical appraisal of literature to guide clinical decision making. Students will gain practical guidance on navigating the research journey as new investigators. Topics include the development of research question, literature review, study design and methods, research ethics, preparation of research protocol, and manuscript preparation.

Therapeutics

MAPH7110 Geriatric & Ambulatory Care (6 credits)

This course provides a comprehensive overview of specific medical and pharmacological challenges in managing geriatric patients. Lectures will cover geriatric syndromes, patient assessment, palliative and end-of-life care, appropriate prescribing principles, deprescribing, and how socio-cultural factors interplay with health outcomes in the geriatric population.

Students will gain clinical knowledge in the management of minor ailments and ambulatory care for patients with chronic diseases. The in-depth coverage of select health conditions will emphasise the application of knowledge and judgement in differential diagnoses, pharmacological management and beyond in the primary care setting.

MAPH7120 Oncology (6 credits)

This course discusses the use of pharmacological agents in cancer treatment, including targeted therapy and immunotherapy. Basic concepts of supportive care in cancer patients will be covered. Pharmacological management of solid organ tumours and haematological disorders are covered. Local and overseas oncology pharmacy specialists will illustrate principles in cancer pharmacotherapy and pharmaceutical services with case sharing or discussion.

MAPH7130 Neurology, Psychiatry, Immunology & Rheumatology (6 credits)

Local and overseas practitioners will discuss common psychiatric and neurologic disorders with emphasis on pharmacotherapy and patient-centred pharmaceutical care. Topics include anxiety-depressive disorders, psychosis, substance misuse, Parkinson's disease, stroke, multiple sclerosis, seizure and epileptic disorders. Pharmacotherapeutic management of patients with rheumatological disorders and the use of immunomodulating agents in managing auto-immune conditions and organ transplantation will be discussed.

MAPH7140 Gastroenterology, Hepatology & Infectious Diseases (6 credits)

This course covers the latest discussions in the pharmacological management of selected conditions of the gastrointestinal tract and liver. Strategies of managing select infectious diseases and important issues such as multi-drug resistant organisms and proper use of antimicrobials will be covered. Students will refine their knowledge of antimicrobials and principles of use that are essential to clinical practice. Students will have case-sharing with specialised pharmacist(s) (local or overseas) in the management of patients with multiple co-morbidities.

MAPH7150 Nephrology, Fluids & Electrolytes, Paediatrics & Pregnancy (6 credits)

This course will cover the principles of management and medication use in disease conditions related to renal system, fluid and electrolytes homeostasis. Students will appreciate how the complex interplay of the cardiovascular, endocrine, renal, digestive and respiratory systems contributes to abnormalities in fluid and electrolyte homeostasis.

Students will learn principles of medication use in the paediatric population and pharmacological management of select paediatric conditions most relevant for Hong Kong practice. Drug use in pregnancy and breastfeeding will be covered.

MAPH7160 Cardiometabolic Diseases, Respiratory & Critical Care (9 credits)

This course combines cardiometabolic diseases, respiratory conditions and critical care, highlighting the individuality and causational relationships between physiological systems. Students will acquire advanced knowledge and skills for managing complex clinical cases in settings ranging from ambulatory setting to critical care.

Health System and Management

MAPH7210 Primary Care and Public Health (3 credits)

This course provides an overview of the pharmacy practice models in the primary healthcare setting and the role of pharmacist as a member of interprofessional team in promoting population health. Further to the discussion of the healthcare system and social determinants of health, the course will broaden the students' perspectives on the role of different health disciplines in primary healthcare setting, effective pharmacy practice interventions, and resources availability in the community. Both local and international models will be explored.

MAPH7220 Health Informatics and Big Data (3 credits)

The course introduces the use of health data in population health, research and practice. Students will learn about databases and data types in clinical informatics, and they will recognise the different sources of clinical and population level data, and how to formulate data questions. The course will cover basic concepts of the application of big data, machine learning and artificial intelligence in healthcare.

Pharmaceutical Medicine

MAPH7310 Principles of Drug Actions (6 credits)

This course provides general and broad knowledge about drug distribution and how drugs exert therapeutic effects in the human body. Students will learn basic concepts of pharmacokinetics, drug-receptor interactions and mechanisms of responses to drugs. This course will also discuss aspects of drug use that are relevant to clinical practice, such as drug hypersensitivity, adverse drug reactions and drug interactions.

MAPH7320 Introduction to Pharmaceutical Industry (3 credits)

This course provides an overview of key department functions in the pharmaceutical industry, including medical affairs, regulatory affairs, quality assurance/control, pharmacovigilance, production, and marketing and sales. Experts in the pharmaceutical industry will share their experiences in each of these topics. This course will cover both Western and Chinese medicines.

MAPH7330 Regulatory Affairs - Hong Kong & Beyond (6 credits)

This course provides an overview of the pharmaceutical regulatory frameworks in Hong Kong, Mainland China, Macao, Europe and the United States. Topics include drug development, pre- and post-marketing regulations, pharmacovigilance, quality assurance and pharmaceutical advertisements. The course is aimed to equip students with updated knowledge in the rapidly evolving field of regulatory affairs.

MAPH7340 Therapeutic Antibodies (3 credits)

Students will understand the principles of monoclonal antibody-based therapies, their pharmacokinetic and pharmacodynamic properties and their clinical uses. The course will also discuss the technologies in therapeutic antibody engineering and contemporary development of therapeutic antibodies in cardiovascular, metabolic and cancer diseases.

MAPH7350 Clinical Trials Management and Pharmacovigilance (6 credits)

This course covers a comprehensive range of topics related to clinical trials, including compliance, preparation and process. Lessons are delivered by study site management professionals with hands-on experience in clinical trials management and operations. Students will establish a strong foundation in drug safety and pharmacovigilance principles, which will prepare them for future work in different capacities such as regulatory affairs, quality assurance and medical affairs. Strategies to manage recalls will be discussed. Students will be equipped with up-to-date knowledge on drug safety to address stringent requirements and regulations in both local and international context.

MAPH7360 Advanced Therapy Products (3 credits)

This course introduces the fundamental scientific principles and potential clinical applications of advanced therapy products including somatic cell therapy product, tissue engineered product and gene therapy product, as well as the regulatory framework, good practice and relevant accreditations.

MAPH7370 Advanced Drug Delivery and Drug Development (6 credits)

This course aims to provide a broad overview of current trends of drug development. The advances in drug delivery, the application of analytical techniques in pharmaceutical analysis, and the trends in biopharmaceutical manufacture will be discussed.

MAPH7380 Essential Skills in Management of Pharmaceutical Medicine (3 credits)

Applying business mindsets and proper soft skills is vital to successful career development in the pharmaceutical industry. This course covers essential skills such as leadership, project management, communication and coaching skills. Students will acquire best practices for management in pharmaceutical medicine, ensuring they are well-equipped to tackle the complexities of this dynamic field. Students will also gain valuable insights from field leaders and case studies, allowing them to develop a deeper understanding of the various aspects of pharmaceutical management.

MAPH7390 Medical Affairs – Fundamentals and Practice (6 credits)

Medical affairs play a crucial role in the development and lifecycle management of medicines in pharmaceutical companies. The work of medical affairs can be divided into internal and external. Internal medical affairs duties include promotional material review, training for commercial colleagues, and development of standard operation procedures to facilitate operation needs. With the advancement of the field and increasing demands from the external environment, there are more external-focused roles, namely medical science liaison. This course provides comprehensive training and learning opportunities to equip students for internal and external medical affairs roles. Students will learn about the strategic roles of medical affairs, the commercialization of medicines, real-world evidence, patient engagement in the medicine lifecycle, management of relationships with external stakeholders, medical education, and more. In addition to lectures, there will be experience sharing from practicing experts in the field. After completing this course, students will be equipped to make critical decisions and execute strategic projects related to the development, commercialization, and management of the product lifecycle.

Clinical Practice

MAPH7410 Integrated Pharmacy Practice I (6 credits)

MAPH7420 Integrated Pharmacy Practice II (6 credits)

(These courses are intended for candidates holding a Bachelor's degree or above in pharmacy who are in Clinical Practice, Community Health or Generalist streams.)

These courses complement the clinical modules in the academic year and equip students with clinical skills and experience to provide and advance patient-centred pharmaceutical care in different healthcare settings. Through a combination of lectures, workshops and fieldtrips, students will learn transferable skills including: clinical assessment, communication skills, drug information, process of pharmaceutical

care, practice/service planning, advanced disease management in special patient populations, intersection of Chinese Medicine and Western medicine, medication safety, application of evidence to practice, practice management, healthcare leadership and legal and ethical issues relevant to pharmacy practice.

Capstone

MAPH7510 Clinical Practice Practicum (15 credits)

This practicum aims to allow students to gain exposure to the delivery of pharmaceutical care, to apply knowledge, and to demonstrate competencies in a clinical practice setting. The practicum is a supervised learning experience in which students will be evaluated for competencies as per learning outcomes. In addition, the student will complete a project report and presentation on an approved topic at the practice site.

MAPH7520 Community Health Practicum (15 credits)

This practicum allows students to gain exposure to the delivery of pharmaceutical care, to apply knowledge, and to demonstrate competencies in primary care pharmacy services of community service providers. The practicum is a supervised learning experience in which students will be evaluated for competencies as per learning outcomes. In addition, the student will submit a project report and presentation on an approved topic at the practice site.

MAPH7530 Pharmaceutical Medicine Practicum (15 credits)

This practicum aims to allow students to gain exposure to pharmaceutical medicine practice, and to apply knowledge in specialised areas such as regulatory affairs and clinical trial management. The practicum is a supervised learning experience in which students will be evaluated for competencies as per learning outcomes. In addition, the student will submit a project report and presentation on an approved topic at the practice site.

MAPH7540 Research Project (15 credits)

Students will complete a research project under the guidance of academic and site supervisors. Students will gain hands-on experience in formulating the research question, performing literature review, developing the study protocol, implementing the research project, composing a manuscript and disseminating the results of their project. Students will ensure that their study complies with principles of research integrity and ethics. Academic output includes the research project manuscript (at least 3,000 words, excluding references) and the research project poster (normally 400-600 words).