

**Curriculum for Master of Science in Pharmacy Management
Essential Courses**

No.	Course code	Course name	CSS
1	MF 601	Organizational Management	3
2	MF 602	Financial Management	3
3	MF 603	Organizational Behaviour	3
4	MF 604	Management Information System	2
5	MF 605	Strategic Management	3
6	MF 606	Management of Pharmaceuticals and Health Products Marketing	3
7	MF 607	Operational Management	3
8	MF 608	Microeconomics	2
9	MF 609	Research Methodology and Statistics	2
10	MF 616	Health Insurance	1

**Essential Courses for specialities
Specialty: Pharmacy Administration Management**

No.	Course code	Course name	CSS
1	MF 611	Drug Distribution Management	2
2	MF 612	Pharmacoepidemiology and Pharmacoeconomics	2
3	MF 613	Pharmaceutical Supplies Utilization Behaviour	2
4	MF 614	Health Care Ethics and Pharmaceutical Trading Laws	2
5	MF 615	National Drug Policy	2

Specialty: Industrial Pharmacy Management

No.	Course code	Course name	CSS
1	MF 615	National Drug Policy	2
2	MF 615	Management of Pharmaceuticals Registration	1
3	MF 622	Patent Management	2
4	MF 623	Management of Production and Quality Assurance	3
5	MF 624	Management of Pharmaceutical Industry Development	2

Specialty: Hospital Pharmacy Management

No.	Course code	Course name	CSS
1	MF 612	Pharmacoepidemiology and Pharmacoeconomics	2
2	MF 613	Pharmaceutical Supplies Utilization Behaviour	2
3	MF 614	Health Care Ethics and Pharmaceutical Trading Laws	2
4	MF 631	System of Pharmaceutical Care in Hospital	2
5	MF 632	Control Management and Hospital Pharmacy Development	2
6	MF 633	System Management of Hospital Drug Supply	2

Thesis

No.	Course code	Course name	CSS
1	MF 610	Thesis I and II	8

Elective courses can be chosen from essential/elective courses offered by other master programmes at UGM under the relevant terms.

Prerequisites and Enrolment

- ✓ Bachelor graduates from higher education institutions equivalent to colleges/universities with at least C accreditation
- ✓ For detail information, please visit <http://um.ugm.ac.id>
- ✓ Pass the administrative selection and the academic test

Facilities

- ✓ Library with complete collections
- ✓ Computer laboratory, internet access, and Wi-Fi
- ✓ Laboratories at Faculty of Pharmacy UGM
- ✓ Integrated Research and Test Laboratories UGM
- ✓ Extracurricular activity to develop soft skill, English competency, and scientific writing
- ✓ Scholarship for thesis completion in English (available for qualified candidates)



**MASTER PROGRAM
IN PHARMACEUTICAL SCIENCES**

**FACULTY OF PHARMACY
UNIVERSITAS GADJAH MADA**



THE SECRETARIAT

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Postgraduate Programme

Science-technology advancement and national establishment demand high qualified humans either in developing science or in applying their expertise. Through continuously improving human resource quality, various basic science-technology advancements are maintained and developed in connections with inter-disciplines which are getting complex and varying. The contribution of more professional expertise for establishment and capability to keep up with science-technology advancement are taken as an urgent need in each field of pharmacy.

Pharmaceutical service as a part of health services is an utterly important element in raising nation welfare. Education is one of the endeavours to support developing human resources in managing pharmaceutical service completeness in university, hospital, industry, pharmacy, and in other bureaucratic levels in provincial public health office, regional public health office, national agency of drug and food control, and community health centre.

Faculty of Pharmacy UGM as one of the educational institutions is highly committed to contributing to increasing competencies of the pharmacists who are expected to be able to manage change, make innovation, and possess competencies that correspond to science-technology advancement by attending postgraduate study at our Master of Science in Pharmaceutical Sciences (M.Sc.) programme.

Master of Pharmaceutical Science programme (accredited A according to a decree issued by National Accreditation Agency for Higher Education No. 789/SK/BAN-PT/Akred/M/VI/2015)

Master of Science in Pharmaceutical Sciences programme at Faculty of Pharmacy UGM offers two concentrations, which are:

1. Master programme in Pharmaceutical Science and technology with four subspecialties
 - a. Drug discovery
 - b. Drug formulation
 - c. Food and Drug quality control
 - d. Natural product medicine
2. Master programme in Pharmacy Management with three subspecialties
 - a. Pharmacy administration management
 - b. Industrial pharmacy management
 - c. Hospital pharmacy management

Objectives

- Master programme in Pharmaceutical Science and Technology aims to produce graduates who possess competencies in drug discovery and its benefits, either in natural drug or synthetic drug; competencies in dosage form method and quality analysis according to expected effect; and competencies in quality control development chemically, microbiologically, and biologically
- Master programme in Pharmacy Management aims to provide knowledge of pharmacy management which is ready to be developed with emphases on

- a. Managerial ability and skills in pharmacy field with other related sectors that are government, industry, and hospital
- b. Orientation toward progress and profit for institution development
- c. Broad knowledge in multi-disciplines
- d. Good communication skills
- e. Effective career networking
- f. The professional attitude in carrying out duties and responsibilities
- g. Entrepreneurship spirit development

Academic Activity

Semester	Activity	CSS*
I	Courses	16-17
II	Courses	16-20
III & IV	Thesis	8
CSS amount		40-45

*Credit Semester System

Curriculum

Curriculum for Master of Science in Pharmaceutical Science and Technology

Essential courses

No.	Course code	Course name	CSS
1	FAF 611	Philosophy of Science	1
2	FAF 612	Seminar	1
3	FAF 613	Research Methodology and Statistics	2
4	FAF 621	Molecular Biology	2
5	FAF 622	Molecular Pharmacology - Toxicology	2
6	FAF 623	Pharmaceutical analysis	2
7	FAF 624	Medicinal Chemistry	2

Essential courses for subspecialties Drug Discovery subspecialty

No.	Course code	Course name	CSS
1	FAF 631	Physical-Chemistry Organic	2
2	FAF 632	Structure Elucidation	2
3	FAF 633	Secondary Metabolites	2
4	FAF 634	Pharmaceutical Biotechnology	2
5	FAF 635	Drug Synthesis	2
6	FAF 636	Drug Design	2
7	FAF 637	Separation and Purification	2

Subspecialty: Drug Formulation

No.	Course code	Course name	CSS
1	FAF 641	Physical Pharmacy	2
2	FAF 642	Pharmacokinetics	2
3	FAF 643	Bio-pharmaceutics	2
4	FAF 644	Drug Delivery System	2
5	FAF 645	Pharmaceutical Technology	2
6	FAF 646	Food and Drug Quality Assurance	2
7	FAF 647	Product development	2

Subspecialty: Food and Drug Quality Control

No.	Course code	Course name	CSS
1	FAF 632	Structure Elucidation	2
2	FAF 653	Instrumental Analysis	2
3	FAF 646	Food and Drug Quality Assurance	2
4	FAF 651	Food and Drug Analysis	2
5	FAF 652	Biomedical Analysis	2
6	FAF 654	Advanced Food and Drug Stability	2
7	FAF 655	Quality and Safety Analyses of Biotechnology Product	2

Subspecialty: Natural Product Medicine

No.	Course code	Course name	CSS
1	FAF 632	Structure Elucidation	2
2	FAF 712	Capita-selecta of Metabolite and Natural Material Product	2
3	FAF 633	Secondary Metabolites	2
4	FAF 637	Separation and Purification	2
5	FAF 657	Experimental Pharmacology-Toxicology	2
6	FAF 669	Pharmaceutical Technology of Natural Product	2
7	FAF 661	Phytopharmaca	2

Thesis

No.	Course code	Course name	CSS
1	FAF 600	Thesis I and II	8

Elective Courses

No.	Course code	Course name	CSS
1	FAF 600	Biochemistry	2
2	FAF 600	Immunopharmacology	2
3	FAF 658	Fermentation Technology	2
4	FAF 659	Plant Tissue Culture Biotechnology	2
5	FAF 663	Immobile Enzymes	2
6	FAF 667	Drug interactions	2
7	FAF 670	Pharmaceutics Engineering	2
8	FAF 671	Carcinogens	2
9	FAF 713	Clinical Pharmacy	2
10	FAF 715	Drug Evaluation System	2
11	FAF 716	Pharmaceutical Microbiology	2
12	FAF 718	Cosmetology	2