

Graduate Programs Department of Pharmacognosy College of Pharmacy, King Saud University

The Department of Pharmacognosy offers a program for the Master Degree and another for the Doctor of Philosophy degree in Pharmacognosy. Each program comprises a number of advanced specialized courses, in addition to well developed research programs with the objective to train male and female researchers capable of applying the scientific approach to study and make use of the medicinal plants and natural products available in the Kingdom.

Pharmacognosy is one of the main disciplines of the pharmaceutical sciences. More than one half of the drugs used in modern medicine are of botanical or natural origin. However, only about 10% of the plants and only 1% of the marine organisms have been properly studied. Therefore, plants in general as well as marine organisms can enrich the drug therapy compendia with new safe and effective drugs.

Saudi Arabia is gifted by numerous endogenous plants and vast shores on the Red Sea and Arabian Gulf, all of which are rich sources of plants and marine organisms that need to be extensively studied to discover new effective drugs.

I. The Program for the Master Degree in Pharmacognosy:

A. Objectives:

1. To provide those who have a B.Sc. in pharmacy with the opportunity to continue their education to obtain an M.Sc. in pharmacognosy.

2. To provide trained specialists in pharmacognosy needed by various educational, research and laboratory enterprises in the Kingdom.
3. Activation of scientific research related to medicinal, aromatic and poisonous plants in the Kingdom.

B. Requirements for Admission:

In addition to the requirements of the article 13 of Graduate Studies Regulations in the Kingdom, the applicant should have:

1. A B.Sc. in Pharmacy, with a major in Pharmacognosy and Pharmaceutical Chemistry from King Saud University or an equivalent.
2. Applicants having a B.Sc. in pharmacy, majoring in other disciplines, may be accepted provided that they complete some of the courses of pharmacognosy major, as determined by the Department Council, before starting the M.Sc. program.
3. The applicant should pass the personal interview held by the Departmental Admission Committee.

C. Study System:

1. The program consists of studying a number of graduate courses in addition to the thesis, according to article 34 (item 2) of Graduate Studies Regulations in the Kingdom. The course work consists of 24 credit hours, 20 of them represent core courses for all students enrolled in the program, and 4 credit hours of specific courses dependent on one of three specialties chosen by the student, one of them represents co-operation with the Department of Pharmaceutical Chemistry.

2. The courses are offered over a period of 4 semesters.
3. The student should prepare and defend a thesis characterized by originality.

d. Specializations:

There are three specializations, each consists of two courses (4 credit hours in total). These specializations are termed A, B and C (see the detailed curriculum).

GRADUATE STUDIES AT THE DEPT. OF PHARMACOGNOSY

I- Schedule for the Master Degree in Pharmacognosy

First Semester:

PHG 511- Advanced Separation Techniques

3(3+0)

PHG 512- Research Methodologies

2(0+2)

PHG 531- Structure Elucidation of Natural Products-I

3(3+0)

PHG 590- Seminar

1(1+0)

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Second Semester:

PHG 521- Reagents in Natural Products Chemistry

3(3+0)

PHG 532- Structure Elucidation of Natural Products-II

3(3+0)

PHG 540- Biosynthesis of Medicinal Plants constituents

3(3+0)

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Third Semester:

PHG 513- Analytical Pharmacognosy

2(1+1)

Plus Two specialized (minor) courses from group A, B or C* 4

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Fourth Semester:

PHG 600- Dissertation

***Specialized (Minor) Courses:**

The student will have to study one of the following three groups of courses in the third (level) semester:

Group A

PHG 522- Fermentation Chemistry

2(2+0)

PHG 514- Laboratory Characterization of Medicinal Plants

Constituents 2(0+2)

Group B

PHG 523- Selected Topics in Natural Products Chemistry

2(2+0)

PHG 591- Computer Applications in the Study of Natural
Products

2(0+2)

Group C

PHC 538- Synthetic Approaches to Complex Bioactive
Compounds

3(3+0)

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PHG 592- Bibliographic Search in Natural Products
Chemistry

1(1+1)

II. The Doctor of Philosophy Degree in Pharmacognosy

A. Objectives

The Ph.D. program in Pharmacognosy aims at:

1. Providing those with an M.Sc. degree in Pharmacognosy to continue their studies towards the Ph.D. degree.
2. Training specialists in pharmacognosy for teaching at universities and specialized colleges.
3. Providing specialists and researchers needed by educational, research and laboratory enterprises within the Kingdom.
4. Activation of scientific research related to medicinal, aromatic and medicinal plants, which is considered a rich source for researchers.

B. Admission Requirements:

In addition to the requirements of the article 16 of Graduate Studies Regulations in the Kingdom, the applicant should have:

1. An M.Sc. in Pharmacognosy or other pharmaceutical sciences from King Saud University or an equivalent.
2. Applicants with an M.Sc. in other pharmaceutical sciences would be required to complete some of the courses of the M.Sc. program in pharmacognosy as determined by the Department Council.
3. The applicant should pass a personal interview held by the departmental admission committee.
4. The applicant should pass the English Examination as Foreign Language (TOEFL) with a grade not less than 450 or equivalent.

C. Study System and Degree Requirements:

1. The study system comprises the course work, followed by the General Examination and the thesis, according to the articles 34 (item 2) and 40 of Graduate Studies Regulations in the Kingdom. The course work consists of 19 credit hours, 12 of which are specialized advanced pharmacognosy courses and seminars and 7 credit hours represent co-operation with the Departments of Pharmaceutical Chemistry (4 credit hours) and Pharmacology (3 credit hours).
2. The courses are offered over a period of 4 semesters.
3. The student should pass a general examination in Pharmacognosy, according to article 40 of Graduate Studies Regulations in the Kingdom.
4. The student should prepare and defend a thesis characterized by originality and novelty.

II- Schedule for the Doctor of Philosophy Degree in Pharmacognosy

First Semester:

Special Problems in Pharmacognosy -PHG 610	2(0+2)
Pharmacognosy Seminar-PHG 611	1(1+0)
Marine Pharmacognosy-PHG 612	3(3+0)
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Second Semester:

1.Modern Synthetic Reactions-PHC 512	4(2+2)
2.Pharmacometrics -PHL 541	3(3+0)
3.Pharmacognosy Seminar -PHG 613	1(1+0)
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Third Semester:

1.Trends in Natural Products Drug Discovery- PHG 620	4(3+1)
2.Pharmacognosy Seminar -PHG 614	1(1+0)
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Subsequent Semesters:

Pharmacognosy 700 (Dissertation)	None
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Courses- Description: