

**Special Courses of Master Degree in Pharmaceutical
Sciences**
Pharmacognosy Department

1-General Courses :(0600700) (12 cr. h)

2- Specialized Courses: (12 cr. h)

First Semester (6 cr. h)

No.	Course code	Courses	Credit hours	
			L	P
1	0606701	Natural Products Chemistry: Nature, Isolation and Fractionation Techniques	3	--
2	0606702	Spectral Characterization of Natural Products	3	--
Total			6	

Second Semester (6 cr. h)

No.	Course code	Courses	Credit hours	
			L	P
3	0606703	Quality Control of Crude Drugs and Phytopharmaceuticals	3	--
4		Elective Course	3	
Total			6	

Elective Courses

No.	Course code	Courses	Credit hours	
			L	P
1	0606704	Plant Tissue Culture	3	--
2	0602703	Applied Experimental Pharmacology	2	1*

*1 credit hour practical is 2 hours session weekly

**Course Description of Master Degree in Pharmaceutical
Sciences
Pharmacognosy Department**

First Semester (6 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Natural Products Chemistry: Nature, Isolation and Fractionation Techniques	3	--	0606701
<p>Description: The objective of this course is to educate the graduate students with the essential knowledge on the nature of plant and animal metabolites. The isolation methodologies and fractionation techniques in the light of recent developments and advancements in these areas.</p> <p>http://readinglists.ucl.ac.uk/modules/phay0018.html PHAY0018: <i>Natural Product Discovery</i> University College of London (UCL)</p>			

Course Name	Credit hours		Code No.
	L	P	
Spectral Characterization of Natural Products	3	--	0606702
<p>Description: The course aims at introducing the different spectroscopic techniques to students, expose the student to theoretical backgrounds for each spectral technique, explaining how each technique can contribute to the process of structure elucidation. Also it explains how all these techniques can comprehensively be used to elucidate the structure of natural products and expose the student to real problems in structural elucidation.</p> <p>https://ascnet.osu.edu/storage/request_documents/2883/rev%20syllabus%20Chem%205450%202-13-13.pdf CHEM 5450 – Practical NMR Spectroscopy Division of Medicinal Chemistry and Pharmacognosy College of Pharmacy, Ohio State University.</p>			

Second Semester (6 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Quality Control of Crude Drugs and Phytopharmaceuticals	3	--	0606703
Description: This course is designed for graduate students in Pharmacognosy to enhance their capabilities and basic understanding of the principles and methodologies of the quality control of botanicals and herb-derived products. The course also aims at the development of student's learning and problem-solving skills insuring effectiveness and efficiency of drugs of natural origin. http://readinglists.ucl.ac.uk/modules/phay0014.html PHAY0014: Medicinal natural products University College of London (UCL)			

Elective Courses

Course Name	Credit hours		Code No.
	L	P	
Plant Tissue Culture	3	--	0606704
Description: The objective of the course is to provide graduate-level knowledge of and expertise in plant tissue culture theory and practice. This course has a vocational focus and introduces the student to the theory and practice of plant tissue culture and their role from modifying plants in plant biotechnology to the propagation of endangered plants and from modifying cell lines in biotechnology to the propagation of all lines for use in medical and pharmaceutical research. http://bmb.psu.edu/undergraduate/courses/course-archive/2016/spring-2016/biotechnology-biotc/biotc-459-spring-2016/copy_of_biotc-459 BIOTC 459: Plant Tissue Culture and Biotechnology The Pennsylvania State University			