Pharmacognosy Department

- **Vision**

To be a distinguished department in research and education of pharmacy for students in the field of Pharmacognosy locally and regionally

- **Mission**

To meet the needs of the faculty in providing high quality education, research and service opportunities in the discipline of Pharmacognosy.

- **The department teaches the following courses:**

Course Code	Course Name
PHG 101	Botany and Medicinal Plants
PHG 202	Pharmacognosy (1)
PHG 203	Pharmacognosy (2)
PHG 304	Phytochemistry (1)
PHG 305	Phytochemistry (2)
PHG 406	Chromatography and Separation Techniques
PHG 407	Biotechnology of Medicinal Plants
PHG 508	Processing of Medicinal Plants

- **The department Supervises teaching the following courses:**

Course Code	Course Name
HUM 100	Human rights

Laboratories of Pharmacognosy Department			
Laboratory	**Lab no.**	**Floor**	**Location**
Preparation Room	**2301**	**Third**	**Saad Zaghloul Building**
1	**2301 - A**		
2	**2301 - B**		
3	**2302**		
4	**2312**		
5	**2314**		

- **Course description:**

First Level
2- Second Semester

Code	PHG 101	Credit hours		
Title	**Botany and Medicinal Plants**	**L***	**P/T****	**Total**
Pre-requisite	None	2	1	3

Course content:
The course covers the morphology of different plant organs (roots, shoots, leaves, flowers, fruits and seeds), plant taxonomy, plant anatomy (plant cell, tissues, hairs, stomata and crystals). In addition to introduction to medicinal plants including factors affecting cultivation, collection, drying, storage, adulteration and also study of the secondary metabolites.

Code	HUM 100	Credit hours		
Title	**Human Rights (University requirement)**	**L***	**P/T****	**Total**
Pre-requisite	None	1	–	1

Course content:
معنى الكرامه والمساواة والحماية الدولية والمجتمع المدني - الحقوق الفردية والحقوق الجماعية - القيود المفروضه على حقوق الإنسان - حقوق المرأة والطفل وذوي الإحتياجات الخاصة - الحماية الجنائية لحقوق الإنسان والواجبات والمستويات الفئوية والمهنية في المجال الطبي.

Second Level
1- First Semester

Code	PHG 202	Credit hours		
Title	**Pharmacognosy (1)**	**L***	**P/T****	**Total**
Pre-requisite	Botany and Medicinal Plants	2	1	3

Course content:
This course provides study of medicinally active plants (leaves, flowers and seeds) in terms of origin, macro and micro-morphological characters and phytochemical constituents. In addition to medicinal uses of senna, digitalis, buchu, henna, boldo, jaborandi, tea, solanaceous leaves, pyrethrum, santonica, chamomile, arnica, clove, saffron, lavender, karkadeh and tilia flowers. And also study of the medicinal uses of cardamom, nutmeg, linseed, mustard, foengreek, strophanthus, nux vomica, colchicum and nigella seeds.

Second Level
2- Second semester

Code	PHG 203	Credit hours		
Title	**Pharmacognosy (2)**	**L***	**P/T****	**Total**
Pre-requisite	Pharmacognosy (1)	2	1	3
Course content: This course comprises study of medicinally active plants (fruits, herbs, barks, woods and subterranean drugs) in terms of origin, macro and micro-morphological characters, phytochemical constituents and medicinal uses. This includes umbellifereae family, colocynth, black pepper, wheat and senna fruits. Also includes herbs of hyoscyamus, mentha, lobelia, thyme, ephedra, cannabis, ergot and catharanthus. Barks like cinchona, cinnamon, cassia and others and galls are studied. Moreover quassia and other woods, rhubarb, ginger, liqorice and other also and rhizomes are included too.				

Third Level

1- First semester

Code	PHG 304	Credit hours		
Title	**Phytochemistry (1)**	**L***	**P/T****	**Total**
Pre-requisite	Pharmaceutical Organic Chemistry (2), Pharmacognosy (2)	2	1	3
Course content: This course includes an introduction to phytochemistry, with a study of volatile oils, carbohydrates, tannins and resins in respect to their definitions, method of preparation, distribution, chemical classes and characteristics, pharmacological actions and medicinal uses.				

Third Level

2- Second semester

Code	PHG 305	Credit hours		
Title	**Phytochemistry (2)**	**L***	**P/T****	**Total**
Pre-requisite	Phytochemistry (1)	2	1	3
Course content: This course comprises a study of alkaloids, glycosides and bitters in respect to their definitions, method of preparation, distribution, identification, separation, chemical classes, pharmacological activity and medicinal uses.				

Fourth Level

1- First semester

Code	PHG 406	Credit hours

Title	Chromatography and Separation Techniques	L*	P/T**	Total
Pre-requisite	Phytochemistry (2), Instrumental analysis	2	1	3

Course content:
Introduction to chromatography and separation techniques, which includes application of paper chromatography, thin layer chromatography and advanced chromatographic techniques including ion exchange, size exclusion, HPLC and GC in qualitative and quantitative analysis of phytopharmaceuticals.

Fourth Level
2- Second semester

Code	PHG 407	Credit hours		
Title	**Biotechnology of Medicinal Plants**	**L***	**P/T****	**Total**
Pre-requisite	Phytochemistry (2)	1	1	2

Course content:
This courses includes the following:

- Definition, history and laboratory facilities.
- Aseptic transfer.
- Nutritional requirements of plant cell cultures.
- Initiation and maintenance of callus and suspension cultures.
- Secondary metabolic products (phytopharmaceuticals) from plant cell cultures.
- Effects of cultural practices on production of secondary metabolites.
- Biogenesis of phytopharmaceuticals.
- Biotransformation using plant cell cultures.
- Elicitation.
- Organogenesis and regeneration in vitro.
- Micropropagation.

Fifth Level
2- Second semester

Code	PHG 508	Credit hours		
Title	**Processing of Medicinal Plants**	**L***	**P/T****	**Total**
Pre-requisite	Chromatography and Separation Techniques	2	1	3

Course content:
This course provides a study of different herbal dosage forms, including plant drying, comminution, extraction, purification, concentration, extracts drying, standardization and processing of the finished products.

- **Elective Courses**

Code	**PHG 600**	**Credit hours**		
Title	**Phytotherapy**	**L***	**P/T****	**Total**
Pre-requisite	Phytochemistry (2)	2	1	3

Course content:

This course includes the following: A comprehensive study of both traditional and scientifically based uses of herbal drugs in clinical treatment. The use is studied including clinical applications with a focus on tailored individual cases, effective doses, pharmacology, safety and interactions. New insights are involved for various modern spreading diseases including challenging conditions as asthma, auto-immune conditions, inflammatory conditions, etc., It is a systematic approach for herbal prescribing.

Code	**PHG 601**	**Credit hours**		
Title	**Marine Plants**	**L***	**P/T****	**Total**
Pre-requisite	Phytochemistry (2)	2	1	3

Course content:

This course covers a study of the bio-active secondary metabolites from marine plants that are involved in medicinal and pharmaceutical use with examples of some classes used in medicine (anti-diabetic, cytotoxic, immune-modulatory, anticancer, etc.,) and cosmetics.

Code	**PHG 602**	**Credit hours**		
Title	**Aromatherapy and Herbal Cosmetics**	**L***	**P/T****	**Total**
Pre-requisite	Phytochemistry (2)	2	1	3

Course content:

This course includes the following: Introduction including scientific bases and origins. Main schools of practice. Brief profiles for the most important oils and their uses in different diseases (respiratory, skin, chronic and acute pain etc…….). Adverse reactions and toxicity. Cosmetic preparations with essential oils and natural products.