## Course Detailed Description – Procedures of the Course Plan Committee /Faculty of Pharmacy  
**QF02/0408–1.0**

<table>
<thead>
<tr>
<th>Department</th>
<th>Pharmacy</th>
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<thead>
<tr>
<th><strong>Course Name</strong></th>
<th>Pharmacognosy</th>
<th><strong>Course No.</strong></th>
<th>0201215</th>
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<tbody>
<tr>
<td><strong>Prerequisite</strong></td>
<td>Biology &amp; Pharmaceutical Organic Chemistry-2-</td>
<td><strong>Credit Hours</strong></td>
<td>2</td>
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<tr>
<td><strong>Number &amp; date of course plan approval</strong></td>
<td>2013-2014</td>
<td><strong>Brief Description</strong></td>
<td>See form QF02/0409</td>
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### Intended Learning Outcomes

The students would acquire the following knowledge:-
1. Botanical nomenclature, general and Arabic names of most medicinal plants from which crude drugs are derived.
2. Methods of cultivation, collection and preparation of medicinal plants intended as a source for crude drugs; and factors affecting their production.
3. General macroscopical and microscopical characters of different plants.
4. The main active constituents and uses of the crude drugs.

### Course Topics

1. Preparation of crude drug from Plants
2. Special emphasis is made on study of crude drugs derived from medicinal plants, their morphological organs, origin, history, cultivation, collection, preparation, morphological and histological characters, constituents, adulterants, allied drugs and uses.

### Text Books


### References


### Grade Determination

<table>
<thead>
<tr>
<th>Grade Determination</th>
<th>1st Exam = 25%</th>
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<tr>
<td></td>
<td>2nd Exam = 25%</td>
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<td></td>
<td>Final Exam = 50%</td>
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### Practical Course Grade Determination

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<tbody>
<tr>
<td>Course Work = 50% (Reports, Term Papers, Quizes)</td>
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<td>Final Exam = 50%</td>
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# Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Hours</th>
<th>Subjects</th>
<th>Chapters in Textbook</th>
<th>Notes</th>
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</thead>
</table>
| 1    |       | **Introduction.**  
Definition of pharmacognosy.  
Scheme for pharmacognostic studies of natural drugs.  
Crude drugs, Herbalist, Medicinal and Aromatic plants. | Trease and Evans Chapter 1  
T. E. Wallis Chapter |       |
| 2    |       | **Ergastic cell contents.**  
Cellulose, Hemicellulose, Lignin, Cutin, Suberin,  
Mucilage, Starch, Protein, Calcium carbonate, Fixed oils & Fats, Volatile oils and Resins, Tannins, Alkaloids,  
Glycosides and Calcium oxalate crystals. | Trease and Evans Chapter 8 |       |
| 3    |       | **Cell Differentiation.**  
- Tissue and tissue systems.  
- Dermal tissue system  
( Epidermis, Stomata, Trichomes and Cork. )  
- Vascular tissue systems  
( Xylem and phloem [Vessels, Fibers, Tracheids, Sieve tube & companion cells and Secretary glands] )  
- Ground tissue system  
( Parenchyma, Collenchyma and Sclerenchyma. ) | Trease and Evans Chapter 8 |       |
| 4    |       | **Adulteration of crude drugs.**  
- Reasons behind adulteration of crude drugs  
1. Faulty of collection.  
2. Imperfect preparation.  
3. Incorrect storage.  
- Methods of adulteration of crude drugs  
(Sophistication, Substitution, Admixture, Deterioration, Inferiority and Addition of worthless heavy materials). | T. E. Wallis Chapter 19 |       |
| 5    |       | **Evaluation of drugs.**  
Quality control and standardization of natural products | Trease and Evans Chapter 3 |       |
| 6    |       | **The Leaves.**  
- The leaf.  
- Phyllotaxy and types of leaves.  
- Macroscopical characters of leaves.  
- Microscopical characters of leaves. | Trease and Evans Chapter 5  
T. E. Wallis Chapter 8 |       |
| 7    |       | Complete pharmacognostical studies  
(Origin, Family, Habitat, History, Cultivation, Collection, Processing for market, Morphological & Microscopical characters, Chemical constituents, Pharmacological action and Commercial varieties, Substitutes and Adulterants of some medicinal plants like: Senna, Digitalis, Buchu, Eucalyptus, Coca, Hamamelis, Tea, Mate, Sage, Melissa, Thymus, Peppermint, Belladona, Datura, Hyoscamus …..etc. | Trease and Evans Chapter 5  
T. E. Wallis Chapter 8 |       |
| 8    |       | **Flowers & Inflorescences.**  
- Flowers and Inflorescence.  
- Complete pharmacognostical studies of  
Clove flower bud, Chamomile, Santonica, Pyrethrum & Saffron …..etc. | Trease and Evans Chapter 5  
T. E. Wallis Chapter 9 |       |
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| 10   |       | **The Seeds.**  
- The seed.  
- Complete pharmacognostical studies of Nux-vomica,  
  Strophanthus, Linseed, Funegreek, Cocoa, Nutmeg, and  
  Colchicum …etc. | Trease and Evans  
Chapter 5 |       |
|      |       | **The fruits.**  
Complete pharmacognostical studies of Fennel, Anise,  
  Caraway, Coriander, Ammi visnaga, Ammi majus, Star  
  anise, Capsicum, Vanilla pod, Colcynth, Poppy capsule,  
  Tamurind, Blanitis and Nigela sativa……etc. | Trease and Evans  
Chapter 5 |       |
| 11   |       | **The Roots & Rhizomes (Subterranean organs).**  
- Subterranean organs.  
- Complete pharmacognostical studies of Liquorice,  
  Ginger, Rhubarb, Ippecacuanha, Aconite, Rowaffia,  
  Ginseng, Turmeric, Squill, Garlic and Onion…..etc. | Trease and Evans  
Chapter 5 |       |
| 12   |       | **The barks & woods.**  
- Complete pharmacognostical studies of  
  Cinchona, Cinnamon, Cascara, Frangula, Wild cherry,  
  Quillaiia, Cassia, Salix, Guaicum & Quassia …etc. | Trease and Evans  
Chapter 5 |       |
| 13   |       | **The Herbs.**  
- Herbs.  
- Complete pharmacognostical studies of  
  Ergot, Ephedra, and Indian Hemp …etc. | Trease and Evans  
Chapter 5 |       |
| 14   |       | **Unorganized drugs.**  
- Unorganized drugs.  
- Resins (Asafetida, Myrrh, Ammoniacum, Galbanum  
  - Balsams/ Benzoin, Sumatra benzoin, Storax, Balsam  
  tolu, Balsam peru ) | Trease and Evans  
Chapter 5 |       |
| 15   |       | - Gums.  
- Dried juice (Aloe ).  
- Dried extract( Agar- Agar, Gelatin ).  
- dried latex (Opium ). | Trease and Evans  
Chapter 5 |       |
| 16   | Final Exam. | Treatise and Evans | Extra Information: (Updated every semester and filled by course instructor) |

Approved by Dept. Chair

**Date of Approval**

| Extra Information: | (Updated every semester and filled by course instructor) |

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<thead>
<tr>
<th>Course Instructor</th>
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<tr>
<td>Office No.</td>
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<tr>
<td>Extension</td>
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<tr>
<td>Email</td>
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<tr>
<td>Office hours</td>
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