|  |  |
| --- | --- |
| **Course Title:** | **Pharmacognosy-I** |
| **Course Code:** | **PHGN 321** |
| **Program:** | **Pharmaceutical sciences** |
| **Department:** | **Pharmacognosy** |
| **College:** | **Pharmacy** |
| **Institution:** | **Najran University** |

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# A. Course Identification

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1. Credit hours:** | | | | **3 (2+1)** | | | | | | | | | | | | |
| **2. Course type** | | | | | | | | | | | | | | | | |
| **a.** | University | | **√** | | College | | | **√** | Department | | | | **√** | Others |  |  |
| **b.** | | Required | | | | **√** | Elective | | |  |  | | | | | |
| **3. Level/year at which this course is offered:** | | | | | | | | | | | | **Level 5** | | | | |
| **4. Pre-requisites for this course** (if any)**:**  ------------- | | | | | | | | | | | | | | | | |
| **5. Co-requisites for this course** (if any)**:** | | | | | | | | | | | | | | | | |
| ------------- | | | | | | | | | | | | | | | | |

## 6. Mode of Instruction (mark all that apply)

| **No** | **Mode of Instruction** | **Contact Hours** | **Percentage** |
| --- | --- | --- | --- |
| **1** | **Traditional classroom** | 60 | 100 % |
| **2** | **Blended** |  |  |
| **3** | **E-learning** |  |  |
| **4** | **Correspondence** |  |  |
| **5** | **Other** |  |  |

**7. Actual Learning Hours** (based on academic semester)

|  |  |  |
| --- | --- | --- |
| **No** | **Activity** | **Learning Hours** |
| **Contact Hours** | | |
| **1** | **Lecture** | 30 |
| **2** | **Laboratory/Studio** | 30 |
| **3** | **Tutorial** |  |
| **4** | **Others** (specify) |  |
|  | **Total** | 60 |
| **Other Learning Hours\*** | | |
| **1** | **Study** | 40 |
| **2** | **Assignments** | 10 |
| **3** | **Library** | 0 |
| **4** | **Projects/Research Essays/Theses** | 0 |
| **5** | **Others** (specify) | 0 |
|  | **Total** | 110 |

**\*** The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

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# B. Course Objectives and Learning Outcomes

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| --- |
| Course Description Pharmacognosy-1 (PHG 321) course provide the students a general Knowledge about plant nature, cultivation, drying, package, storage and adulteration of natural drugs, in addition, studying of macroscopical and microscopical characters of leaves, bark and flowers. Also, differentiation between the classes of 2ry metabolites and their evidence based medicinal uses and application**.** |
|  |
| Course Main Objectives  1. Acquire the knowledge about the Macroscopical and microscopical Characters of different plant organs. 2. Understand the different classes of plant constituents, their identification and uses. |
|  |

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## 3. Course Learning Outcomes

| **CLOs** | | **Aligned****PLOs** |
| --- | --- | --- |
| 1 | **Knowledge:** |  |
| 1.1 | - Describe macroscopical and microscopical characters of leaves, barks and flowers of the medicinal plants under study. | K2 |
| 1.2 | - Identify the classes of plant constituents and uses. | K2 |
| **2** | **Skills:** |  |
| 2.1 | - Differentiate between different plant organs and constituents. | S1 |
| 2.2 | - Determine the characteristic elements of different plant organs | S1 |
| **3** | **Competence:** |  |
| 3.1 | - Suggest the proper use of the different plant organs and constituents | C1 |

# 

# C. Course Content

|  |  |
| --- | --- |
| **List of Topic** | **Contact**  **Hours** |
| I- General introduction :   1. Origin of crude drug. 2. Reserved food material. 3. By-product. 4. Active constituents (V.O, alkaloids, phenolic glycosides, tannins, bitter principles, saponins,….etc.) | 8 |
| II- Preparation of crude drugs:   1. Cultivation of medicinal plants. 2. Collection of medicinal plants. 3. Drying of crude vegetable drugs. 4. Storage of crude drugs. | 2 |
| III-Leaves:   1. Introduction 2. Studying of macroscopical and microscopical characters, active constituents and uses of (Datura stramonium, Atropa belladonna, Hyoscyamus, Digitalis, Senna and Buchu). 3. Studying of macroscopical and microscopical characters, active constituents and uses of (Boldo, Squill, tea, Coca, Hamamelis, Jaborandi, and peppermint leaves). | 8 |
| IV- Flowers:   1. Introduction. 2. Studying of macroscopical and microscopical characters, active constituents and uses of ( pyretherum, Clove, German Chamomile, Roman Chamomile and Hibiscus. 3. Studying of macroscopical and microscopical characters, active constituents and uses of (Santonica, Saffron, Safflower, Calendula, Arnica and Lavander). | 6 |
| V- Bark:   1. Introduction. 2. Studying of macroscopical and microscopical characters, active constituents and uses of (Cascara, Cinnamon and Cinchona barks)   Studying of macroscopical and microscopical characters, active constituents and uses of (Frangula, Quillaia, Cascarilla and Pomegranata). | 6 |
| Total | 30 |

# D. Teaching and Assessment

## 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

| **Code** | **Course Learning Outcomes** | **Teaching Strategies** | **Assessment Methods** |
| --- | --- | --- | --- |
| **1.0** | **Knowledge** | | |
| 1.1 | - Describe macroscopical and microscopical characters of leaves, barks and flowers of the medicinal plants under study. | Lectures | Written Exams and assignments |
| 1.2 | - Identify the classes of plant constituents | Lectures | Written Exams and assignments |
| **2.0** | **Skills** | | |
| 2.1 | - Differentiate between different plant organs and constituents. | Lectures | Written Exams |
| 2.2 | - Determine the characteristic elements of different plant organs | Practical labs. | Practical exams |
| **3.0** | **Competence** | | |
| 3.1 | Suggest the proper use of the different plant organs and constituents | Lecture and practical Labs | Exams and assignments |

## 

## 2. Assessment Tasks for Students

| **#** | **Assessment task\*** | **Week Due** | **Percentage of Total Assessment Score** |
| --- | --- | --- | --- |
| **1** | 1st Mid-term exams | 6-7 | 15% |
| **3** | Assignment | 12 | 5% |
| **4** | Observation card | 132- | 5% |
| **6** | 2nd Mid-term exam | 10 | 15% |
| **7** | Practical quiz | 8 | 5% |
| **8** | Final practical exam | 15 | 15 |
| **9** | Final theoretical exam | 17 | 40% |
| **10** | Total |  | 100% |

**\*Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

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# E. Student Academic Counseling and Support

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| --- |
| **Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :**   * Office hours (**2** hours per week + appointments). * Office hours must be announced on the office door and blackboard * Student counselling: as required per week. |
|  |

# F. Learning Resources and Facilities

## 1.Learning Resources

|  |  |
| --- | --- |
| **Required Textbooks** | i- Trease and Evans, Pharmacognosy, T.E, Walis, Pharmacognosy  Ashtosh Kar, Pharmcognosy and Pharmacobiotechnology,  ii- The Hand Books of Natural Flavonoids; Harborne, J., B. and Baxter, John Wiley &Sons Ltd.(1999).  iii- Natural Products Isolation; Canell, R. J. P, Humana Press.  (1998). |
| **Essential References Materials** | 1-Trease and Evans, pharmacognosy, 15t" Ed., Saunders  Company, Nottingham,U.K., Willium Charles Evans.(2003).  2- Handout from power point presentation |
| **Electronic Materials** | [www.dlaf.nu.edu.sa](http://www.dlaf.nu.edu.sa) |
| **Other Learning Materials** | MS office Word and PowerPoint |

## 2. Facilities Required

| **Item** | **Resources** |
| --- | --- |
| **Accommodation**  (Classrooms, laboratories, demonstration rooms/labs, etc.) | * A Suitable lecture room equipped with data show and internet and 25 seats. * Suitable lab equipments with safety tools |
| **Technology Resources**  (AV, data show, Smart Board, software, etc.) | * Computer * Internet access * Effective e-learning system and virtual classes |
| **Other Resources**  (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | * Microscopes * Glassware’s * Slides and covers |

# G. Course Quality Evaluation

| **Evaluation**  **Areas/Issues** | **Evaluators** | **Evaluation Methods** |
| --- | --- | --- |
| * Effectiveness of teaching and assessment | * Head of dept. and students | Direct (Group discussions with the college teaching lecturers) |
| * Effectiveness of student assessment | * Faculty members and students | * Indirect (questionnaire) |
| * Extent of achievement of course learning outcomes | * Student * Peer review | * Direct * Indirect |
| * Quality of learning resources | * Students | * Indirect (questionnaire) |

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

**Assessment Methods** (Direct, Indirect)

# H. Specification Approval Data

|  |  |
| --- | --- |
| **Council / Committee** | Pharmacognosy dep. council |
| **Reference No.** | Council No. 1 |
| **Date** | **25/08/2019** |