# Course specification

**University/Academy:** Damanhour  
**Faculty/Institute:** Science  
**Department** Botany

| 1. course Data: | Course code: Bot101 | Course title: (Plant Physiology- Plant Anatomy- Plant Morphology) | Academic/year/level: 2007\2008  
1st year / 1st term |
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<tbody>
<tr>
<td>Specialization: Biology group</td>
<td>No. of instructional units: lecture 3hr/week tutorial - practical 4hr/week</td>
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## 2. course Aim

- Provide a broad-based integrated study of the biochemical processes occurred in plants.  
- Acquire a compilation work and embodies a fairly comprehensive treatment of the fundamental facts and aspects of plant anatomy.  
- Provide a background of facts terminology and internal structure of common plants around us.

## 3. Intended learning outcome

### a) Knowledge and understanding

A1: Mention the types and the main characters of solutions. List the properties of colloidal system. Define and give the slight differences between diffusion, osmosis, permeability and imbibition.  
A2: Summarize the major concepts concerned with absorption & transportation of water by plants  
A3: List the anatomical properties of roots, stems and leaves  
A4: Draw various plant tissues and organs.  
A5: Describe the different modifications in plant organs

### b) Intellectual skills

On completion of this course, students will able to:  
B1: Compare between true, colloidal and suspension and evaluate the role of colloidal in physiological processes.  
B2: Contrast between the histological differences of plant organs (microscopically).  
B3: interpret the changes in tissues structure and in plant organ morphology due to plant environment (soil, climate, …etc

### c) Professional skills

On completion of this course, students will able to:  
C1: Prepare different types of solutions.  
C2: Examine the adsorption properties of colloids.  
C3: Use the microscope to investigate different plant tissues.  
C4: Prepare several sections in plant specimen, examine under microscope, and draw sections in root, stem and leaf.
C5: Prepare plant sheets to dissect different leaves, stems and roots shapes.

d) General skills
On completion of this course, students will able to:
D1: Continuously update the course material by looking to recent research through internet.
D2: Work separately and/or in team-work to research and write scientific reports.
D3: Communicate effectively with their lecturer and colleagues

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<tr>
<th>4. course content</th>
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<tbody>
<tr>
<td>Introduction</td>
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<tr>
<td>Permeability and osmosis</td>
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<td>Imbibitions and water absorption</td>
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<tr>
<td>Water loss</td>
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<td>Mineral salt absorption</td>
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<td>Seed germination</td>
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<td>Root system</td>
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<td>Shoot system</td>
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<td>Plant modifications</td>
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<td>Structure of plant cell</td>
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<td>The primary permanent plant tissues</td>
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<tr>
<td>Root anatomy</td>
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<td>Stem anatomy</td>
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<td>Leaf anatomy</td>
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5. Teaching and learning methods
Lectures and seminars.
Lab work
Problems.
Short reports

6. teaching and learning methods for students with special needs
- Computer hall to be used in visual labs and simulation experiments.
- Data show, overhead projector

7. Student Assessment

a) Procedures used:
7.1. Final Written exam to assess knowledge, understanding and intellectual skills
7.2. Practical exam to assess practical skills
7.3. Midterm exam to assess understanding and intellectual skills.
Quizzes
### b) Schedule:
- Assessment 1: Quizzes  Week: 4-7
- Assessment 2: Mid term exam  Week: 8
- Assessment 3: Practical exam  Week: 15
- Assessment 4: Final written exam  Week: 16

### c) Weighing of Assessment:
- Weighing of Assessments
  - Mid-Term Examination: 10
  - Final-Term Examination: 150
  - Practical Examination: 30
  - Semester Work: 10
- Total: 200

### 8. List of Textbooks and References:

| a) Course Notes | ------- |
| b) Required Books (Textbooks) | General botany, Plant physiology (4th edition) |
| c) Recommended Books | - Plant physiology Frank B Salisbury, Plant anatomy, S Chand |
| d) Periodicals, web sites, etc | J. of Plant physiology  
J. of Plant Science |

Course Instructor: -------  
Head of Department: Dr.  
Date: 11/10/2009