Course specification

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

1. course Data:

<table>
<thead>
<tr>
<th>Course code: BOT (302)</th>
<th>Course title: Gymnospermae and their fossils</th>
<th>Academic year/level: 2009/2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3rd year students/ 2nd term</td>
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<tr>
<td>Specialization: Botany</td>
<td>No. of instructional units: lecture 1 practical 3</td>
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</tbody>
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2. course Aim

By the end of the course, students will be able to:
- Realize the principles of Gymnospermae.
- Understand the basic structure and development of Gymnospermae.
- Realize the structure of representative example.
- Understand the Reproduction of representative example.
- Recognize basic concepts of Gymnospermae.
- Provide general knowledge about Gymnospermae.

3. Intended learning outcome

a) Knowledge and understanding

By the end of the course, students will be able to:
A1: Give the significant differences between Gymnospermae.
A2: Describe the structure of Gymnospermae.
A3: List the basic concepts of Gymnospermae.
A4: Mention the significant differences between classes, orders and important families.

b) Intellectual skills

By the end of the course, the students are expected to develop higher order skills that are reflected in their ability to:
B1: Differentiate between Gymnospermae.
B2: Develop the structural and the functional specialization of Gymnospermae.
B3: Evaluate the internal structure of
### Gymnospermae.
B4: Formulate the basic knowledge of in handling and interpreting information.
B5: Differentiate between classes, orders and important families of Gymnospermae.
B6: Discover the structure of representative example of Gymnospermae.
B7: Comment the reproduction of representative example.
B8: Formulate the basic knowledge of geological history of Gymnospermae.
B9: Conclude the basic knowledge of evolution and affinities.

### c) Professional skills
By the end of the course, students will be able to:
C1: Demonstrate the main features of Gymnospermae.
C2: Use the simple microscope to identify different botanical samples.
C3: Practice the different internal structure of Gymnospermae.
C4: Dissect the main features of Gymnospermae structure.

### d) General skills
By the end of the course, students will be able to:
D1: Exchange ideas, principles and information by oral, written and visual means.
D2: Work effectively both in a team and independently.
D3: Using the information technology to gather information and right reports.

### 4. course content
- 1- Introduction about Gymnospermae
- 2- Fossils of Gymnospermae
- 3- Classification with respect to classes
- 4- Orders of Gymnospermae
- 5- Important families of Gymnospermae
- 6- Structure of representative example
- 7- Reproduction of representative example
- 8- Geological history
- 9- Evolution of Gymnospermae
- 10- Affinities of Gymnospermae

### 5. Teaching and learning methods
- Lectures and seminars.
- Lab work.
### Problems.

#### Short reports

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| teaching and learning methods for students with special needs | Quizzes.  
| | Mid term exam.  
| | Practical exam.  
| | Final term exam.  

| 6. Student Assessment |  
| | Assessment 1: Quizzes Week: 4-7  
| | Assessment 2: Mid term exam Week: 8  
| | Assessment 3: Practical exam Week: 15  
| | Assessment 4: Final term exam Week: 16  

| a) Procedures used: |  
| |  

| b) Schedule: |  
| | Mid-Term Examination: 5  
| | Final-Term Examination: 75  
| | Practical Examination: 15  
| | Semester Work: 5  
| | Total 100  

| c) Weighing of Assessment: |  
| |  

| 7. List of Textbooks and References: |  
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| a) Course Notes |  
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| b) Required Books (Textbooks) | Essential Books (Text Books)  

| c) Recommended Books | Course Notes  
| | Advanced Plant Anatomy  

| Periodicals, web sites,. . . etc | Periodicals, Web Sites,. . . etc  

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**Course Instructor:** ---  
**Date:** 11 / 10 / 2008  

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**Head of Department:** ---  
**Date:** 11 / 10 / 2008  

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