University: Benha **Faculty of Science**

Course specifications
Programme (s) on which the course is given: Biology
Major or minor element of programmes: Major
Department of offering the programme: Biology
Department offering the course: Botany
Academic year /Level: 2nd year/ 2nd term.
Date of specification approval: 2008

A – Basic information
Title: Plant Ecology, Taxonomy and Genetics. **Code:** 202 B
Credit Hours: **Lecture:** 3 hours / week
Tutorial: **Practical:** 4 hours / week **Total:** 7 hours /week

B – Professional Information
1. Overall aims of course: At the end of this course the student able to:
a- Know how plant adapts with environment
b- Study the biological characteristics of main groups of plant kingdom.
c- Study the minor characteristics of different families.
d- Study the genetic basis of heredity.
e- Study the molecular genetics.
2. Intended learning outcomes of course (ILOS):-
a- Knowledge and understanding:
Make student able to:
a1- Edeaphic factors
a2- Know Topographic & biotic factors
a3- Know monocious and diocious plants.
A4- Understand DNA concept.
A5- Understand DNA replication.
A6- Understand DNA transcription.

b- Intellectual skills:
Make student able to:
b1- Solve problem of plant ecology
b2- Purify the air
b3- Study cell division in plant cell.
b4- Study reproductive organs of plants.

c- Professional and practical skill:
Make student able to:
c1- Make Soil Analysis
c2- Make Water analysis
c3- Make DNA extraction.
c4- Make flower and fruit anatomy.

d- **General and transferable skills:**

Make student able to:

d1- Community linked thinking.

d2- Work in team.

d3- Write reports

3. Contents:

Topic	No. of hours	Lecture	practical
Edaphic	14	6	8
Climate	7	3	4
Topography	7	3	4
Biotic factor	7	3	4
DNA / RNA structure	7	3	4
DNA replication	7	3	4
DNA transcription	7	3	4
DNA translation	7	3	4
Recombinant DNA technology	7	3	4
Flower anatomy in different families	7	3	4
Fruit anatomy in different families	7	3	4
Total	84	36	48

4. Teaching and Learning methods

4.1- lectures

4.2- Practical work (Lab. and field)

4.3- CD, lecture notes and discussion forum

5. Student assessment methods

5.1 Discussions to assess applying and evaluating the information

5.2 Practical to assess the acquired profession skills

5..3 Mid term exam to assess understanding **intellectual** skills

5.4 End of term exam to assess knowledge with understanding

2-Assessment Schedule

Assessment 1: Discussions Week 1-12

Assessment 2: Essay Week 3

Assessment 3: Mid term Week 7

Assessment 4: Final exam Week 14

Weighting of assessments

Final term examination 60%

Oral examination 10%

Practical examination 20 %

Semester work 10 %

Total 100%

Any formative only assessments

6. List of references

6.1- **Course notes:** Texts and practical notebook

6.2-**Essential books (text books):**

- Plant ecology
- Quantitative ecology
- Text books in molecular biology.
- Text books of plant taxonomy
- principles genatics / genatics P.G. Rusel 1992

6.4-**Periodicals , web sites:** www.google.com

7. Facilities required for teaching and learning

- Equipment of soil analysis-Projectors, trips and Dissecting microscope
- PCR, horizontal and vertical electrophoretic units.
- Transiluminator, UVlabm, polaroid camera, hydrization oven, Microfunge 12.000 rpm, and deep freezers - 20°C.

Course coordinator:

Dr.\ Samir Hamdy

Dr.\ Mohamed A. El-Galaly

Dr. \ Mohammed Nour Shehata

Head of Department: Prof. Dr.\ M.A. Swelim

Date: / /