Course specification

University / Academy: Damanhour

Faculty / Institute: Science

Department: Botany

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course Data:		
Course code:mic 323)	Course title: Phycology and Physiology of Algae	Academic year/level: 2009\2010 3rd year students 1st term --
Specialization: Chemistry/ microbiology	No. of instructional units: lecture 2 practical 3	

course Aim	By the end of the course, students will be able to: • Realize the principles of phycology ,know of the role of algae in nature . • Understand photosystem 1 and photosystem 2 and recognize the effects of light and temperature in photosynthesis. • Understand the relation of the light reaction. • Provide some physiological aspects of algae • Illustrate the important role of algae in nature
1. **Intended learning outcome**	
a. **Knowledge and understanding**	By the end of the course, students will be able to:

	A1: List the divisions of algae. A2:Identify the importance of algae used as food A3: Describe the mechanism of photosynthesis and respiration. A4.Identify the photosynthetic pigments, accumulation and storage of photosynthetic products in algae. A5.Describe in algae the carbon and nitrogen metabolism , chemical structure and distribution of pheromones
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 green algae and red algae B2: Evaluate the principles of respiration. B4: Differentiate between orders of green algae. B5: Improve experiments for determination photosynthesis and respiration processes B6: Explain the algal growth phases in cultures of limited volume and the metabolic products in algae. B6- Evaluate the different types of assimilation of Carbon and Nitrogen by algae B7- Differentiate between different photosynthetic pigments of algae. B8- Compare once between the growth of

	algae in continuous and synchronous
Professional skills	C1: After practical investigation, draw the life cycle of some represented examples. By the end of the course, students will be able to: C2: Experimental demonstration for factor affecting algal activity C3 Practical proven of the equation for photosynthesis and describe the components C4: Demonstrate why algae need this light. C5:Record the growth rate of algae in different media, the chlorophylls, carotenoids and protein contents of algae and the ability of algae to produce antibiotics
General skills	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: Use the information technology to gather information and right reports. D4: Apply the basic knowledge of in handling and interpreting information

course content	• introduction in nature of algae • role of algae in nature and their economic uses • Systematic position of algae • Divisions ,classes, orders of algae • life cycle of some represented examples • evolution and affinities of different algal divisions • photosynthesis and respiration • Characteristics of algal growth in cultures of limited volume • Assimilation of carbon and nitrogen in algae • Nitrogen fixation in algae • Assimilation of inorganic nitrogen • Assimilation of organic nitrogen • Photosynthetic pigments in algae • The growth of algae in continuous and synchronous cultures • Accumulation and storage of photosynthetic products • Metabolic pattern and growth • The storage products in algae • Inorganic nutrients of algae • Inorganic nutrients • Distribution of pheromones in algae
1. Teaching and learning methods	• 4.1. Lectures and seminars. • 4.2. Lab work. • 4.3. Problems. • 4.4. Short reports.
teaching and learning methods for students with special needs	
Student Assessment	• 5.1. Quizzes. • 5.2. Mid term exam. • 5.3. Practical exam. • 5.4. Final term exam
Procedures used:	
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Schedule:	• 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
Weighing of Assessment:	• Mid-Term Examination: 10 • Final-Term Examination: 150 • Practical Examination: 30 • Semester Work: 10 • —————————————————— • Total 200
List of Textbooks and References:	
a. Course Notes	• - Course Note in phycology -
Required Books (Textbooks)	•
Recommended Books	----------
Periodicals, web sites,…,etc	----------

Course Instructor: --------
Head of Department: ----------

Date: 11 / 10 / 2008