جامعة / المنصورة
كـــلية / العلـــوم
قـــســـم:علم النبـــــات

توصيف مقرر دراسى

١- بيانات المقرر		
الرمز الكودى: Botany (2)	أسم المقرر: Algae, Seed Physiology and growth, Bacteria & Actinomycetes	المستوى : الثانى (بيولوجي)
التخصص: علوم البيئة	عدد الوحدات الدراسية: ٨ نظرى ٤ تمارين ٠ عملى ٤	

٢- هدف المقرر:	For students undertaking this course, the aims are to: 1. Develop set of skills that enable students to understand the biology of algae including nutrition, reproduction, different life cycles, ecology, taxonomy in addition to the economic and medicinal uses of algae. 2. Acquire student's knowledge and understanding of what are bacteria and actinomycetes? Their classification and its role in carbon and nitrogen cycles in nature. 3. Introduce an understanding of the basic principles of seed structure and its types. Physiological changes during germination and seed dormancy.
٣- المستهدف من التدريس المقرر:	
أ- المعلومات والمفاهيم:	a- Knowledge and Understanding : On completing this course, students will be able to: a1. Get in depth knowledge about algal morphology, cell ultra-structure, concepts of algal habitats and distribution in freshwater and marine ecosystems, taxonomic levels, and students will also be familiar with some economic uses of algae. a2. Recognize bacteria and actinomycetes and study examples of useful and harmful bacteria and explain the role of bacteria in global geobiochemical cycles including carbon and nitrogen cycles in nature. a3. Explain and differentiate between monocot and dicot seed germination, mechanism, and the different types of dormancy.
ب- المهارات الذهنية	b- Intellectual Skills: On completing this course, students will be able to: b1. Ascertain and deduce the necessity of biological criteria for algal classification, compare and contrast different approaches of algal taxonomy. b2. Interpret the role of bacteria and Actinomycetes in our life. b3. Critically assesses the physiological changes during germination and interprets the seed dormancy.
ج- المهارات المهنية الخاصة بالمقرر:	c-Professional and Practical Skills: On completing this course, students will be able to: c1. Apply different techniques of algal collection, examination, identification, taxonomy and identification. c2. Examine bacteria, its ability to grow and study the effects of

environmental conditions on growth.	
d-General and Transferable Skills: On completing this course, students will be able to: d1. Be self-dependent in developing thinking and actions and communicate effectively with others. d2. Apply knowledge and have skills of time management. d3. Work in team with awareness of ethical and moral codes d4. Solving the problem related to certain scientific issues.	د- المهارات العامة :
Algae : The same as normal students, only skeletal disabilities are allowed in the Faculty of Science. Ecology of algae: Algal habitats in freshwater and marine environments, phytoplankton, etc (distribution of algae) New methodology in classification of algae Applied phycology (economic importance) Blue – green algae, green, flagellates Brown and red algae Bacteria & Actinomyceres: History of bacteria and actinomycetes , methods of classification, morphology, anatomy, cultivation and factors affecting growth and reproduction Examples of useful bacteria and causing diseases and pollution bacteria control methods of harmful and pathogenic bacteria Role of bacteria in nitrogen and carbon, phosphorus, sulpher cycles in nature. Seed Physiology: Seed formation ,structure and types Germination of seeds Seed dormancy types, physiology and breakdown Physiological changes in seeds during germination (enzymes, respiration, hormones, nitrogenous compounds and carbohydrates)	٤- محتوى المقرر:
4 - Teaching and Learning Methods 4 -١. Lecture 4 hours/week. 4 -٢. Practical 4 hours/week.	٥- اساليب التعليم والتعلم:
The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.	أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة:
	تقويم الطلاب :
Student Assessment Methods Final exam — to assess — a1, a2,a3 & b1,b2,b3 Oral exam — to assess — a1,a 2, a3 & b1, b2, b3 Practical exam — to assess — c1, c2 &b2.b1	أ- الأساليب المستخدمة :

ب- التوقيت :	**Assessment Schedule** **Assessment 1** — **Week #** — **14** **Assessment 2** — **Week #** — **14** **Assessment 3** — **Week #** — **13**
ج- توزيع الدرجات :	*Weighting of Assessments* **Final-Term Examination** — **70** **Oral Examination** — **10** **Practical Examination** — **20** **Semester work** — **0** **Other types of assessment** — **0** **Total** — **100**
٨- قائمة الكتب الدراسية والمراجع :	
أ- مذكرات:	**Course notes issued and authorized by the department of botany**
ب- كتب ملزمة	
ج- كتب مقترحة :	• **Lee, Robert Edward, (2008): Phycology. Cambridge University Press, Cambridge, England.** • **Egli, Dennis B. (1998): Seed biology and the yield of grain crops. CAB International. Wallingford, Oxon.** • **Sinha, U (1983): An introduction to bacteria. Vikas Publishing House. New Delhi.**
د- دوريات علمية أو نشرات..	**different web sites of the botany science**

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
Algae					
Biology of algae: habit, cell structure, storage products, nutrition, reproduction, and life cycles.	**1,2**	**a1**	**b1**	**c1**	**d1**
Ecology of algae: Algal habitats in freshwater and marine environments, phytoplankton, etc (distribution of algae)	**3,4**	**a1**	**b1**	**c1**	**d1,d2**
New methodology in classification of algae	**5,6,7**	**a1**	**b1**	**c1**	**d1**

Applied phycology (economic importance):	**8,9,10**	**a1**	**b2**	**c2**	**d1,d3**
Blue – green algae, green, flagellates	**11,12**	**a1**	**b1**	**c1**	**d1,d2**
Brown and red algae	**13,14**	**a1**	**b2**	**c1**	**d1**
Bacteria & Actinomyceres					
History of bacteria and actinomycetes , methods of classification, morphology, anatomy, cultivation and factors affecting growth and reproduction	**1,2,3,4,5**	**a2**	**b2**	**c2**	**d1,d2**
Examples of useful bacteria and causing diseases and pollution bacteria control methods of harmful and pathogenic bacteria	**6,7,8,9,10**	**a1**	**b1**	**c3**	**d1,d3**
Role of bacteria in nitrogen and carbon, phosphorus, sulpher cycles in nature.	**11,12,13,14**	**a2**	**b2**	**c2**	**d1,d2**
Seed Physiology					
Seed formation ,structure and types	**1,2,3,4**	**a3**	**b3**	**-**	**d3**
Germination of seeds	**5,6,7,8**	**a2**	**B٢**	**-**	**d1,d2**
Seed dormancy types, physiology and breakdown	**9,10,11**	**a3**	**b3**	**-**	**d4**
Physiological changes in seeds during germination (enzymes, respiration, hormones, nitrogenous compounds and carbohydrates)	**12,13,14**	**a1,a3**	**b١**	**-**	**d1,d2**

أستاذ المادة: أ.د.محمد اسماعيل عبد الحميد **رئيس مجلس القسم العلمى: أ.د. محمد نجيب حسنين**