جامعة : المنصورة

كـــلية : العلوم

قسم / الجيولوجيا

توصيف مقرر دراسى

١-بيانات المقرر		
الرمز الكود : ج١٠٢	**أسم المقرر:** Crystallography & Mineralogy	**المستوى : الاول**
البرنامج : الكيمياء	**عدد الوحدات الدراسية: ٣ نظرى : ٢ تمارين: ٠ عملى:٢**	

٢- هدف المقرر:	**For students undertaking this course, the aims are to:** 1 - Know the different physical, crystalline and chemical properties of minerals and crystals. 2 - Study the data resulted from the different techniques and methods in identification and geological significance of the different minerals. 3 - Enable the students to select the suitable methods for each particular problem. 4 - Use some specific computer programs in analyzing various data resulted from the different techniques and methods. 5 - Outline the basic information of the origin and paragenesis of the different minerals and crystals. 6 - Identify the different types of crystal systems. 7 - Study the crystal symmetry, forms and habits of the different crystals.
٣- المستهدف من التدريس المقرر:	
أ-المعلومات والمفاهيم:	**a- Knowledge and Understanding :** **On completing this course, students will be able to:**

a1 - Recognize a comprehensive and advanced knowledge and understand of the theory, principles and techniques of the mineral analyses methods. a2 - Define the processing of physical and chemical data for solving of some geological and environmental problems. a3 - Understand the different techniques and methods used in identification of the different minerals that are of primary importance to geologists. a4 - Know the different principles for interpretation of processed mineral analyses data for the purposes of gaining an understanding of the physical and chemical factors and origin of the different minerals and rocks as well as their economic significance. a5 - Acquire an understanding of crystallographic axes and angles.	
b- Intellectual Skills: On completing this course, students will b1 - Analyze the physical and chemical characteristics of the different minerals. b2 - Apply the fundamental principles involving mineral analysis techniques and methods, and how to apply these principles in new and different situations. b3 - Distinguish the parameters of crystal faces and indices of crystal forms. b4 - Correlate between the different mineral groups and different crystal systems **be able to:**	**ب-المهارات الذهنية**
c-Professional and Practical Skills: On completing this course, students will be able to:	**ج- المهارات المهنية** **الخاصة بالمقرر:**

c1 - Design the professional reports that document the different techniques and methods used in data collection, processing and interpretation, and that explain the physical and chemical significance of information obtained through their measurements. c2 - Apply the problem-solving strategies. c3 - Reform planning the field survey, selecting the appropriate equipment for each particular problem, executing the required work and handling the field procedures. c4 - Choose the various techniques of mineral analyses data and give the appropriate geological interpretation.	
d-General and Transferable Skills: On completing this course, d1- Solve the problems concerning the utilization of the results of mineral analysis techniques to evaluate the mineral resources. d2 - Think critically about the mineral analysis methods to solve some geological and environmental problems. d3 - Work effectively to draw the different crystal forms of minerals. d4 - Collect mineral samples and recognize their economic values. **students will be able to:**	**د- المهارات العامة :**
1- Basic concepts and definitions. 2- Collection of samples from the field and their treatment in the Lab. 3- Physical and chemical properties of minerals and crystals. 4- Crystal chemistry of minerals. 5- Classification of minerals and crystals. 6- Field occurrence of minerals and crystals. 7- The factors affecting formation of minerals and crystals. 8- Description of common minerals and crystals. 9- Rock forming minerals and crystal systems and parameters.	**٤- محتوى المقرر:**
1 - Lectures using data show and board 2- Discussions and Class activity 3 - Lab work 4- Field training	**٥- اساليب التعليم والتعلم:**

The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.	**٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة:**
٧- تقويم الطلاب :	
7- Student Assessment Methods	**أ- الأساليب المستخدمة :**

Practical exam	**To assess**	c1-c4, d1-d4
Final exam	**to assess**	a1-a5, b1-b4, c1-c4
Oral exam	**to assess**	b1-b4
Quizzes	**To assess**	b1-b4

ب- التوقيت :

Assessment Schedule

Assessment 1	**Week # final exam**	**Week 14**
Assessment 2	**Week #oral exam**	**Week 14**
Assessment 3	**Week #practical exam**	**Week 13**
Assessment 4	**Week # Quizzes**	**Week 4,8**

ج- توزيع الدرجات :

Weighting of Assessments

Final-Term Examination	**60%**
Oral Examination	**10%**
Practical Examination	**20%**
Semester work	**0%**

Mid-term examination	**10%**		
Other types of assessment	**0%**		
Total	**100%**		

٨- قائمة الكتب الدراسية والمراجع :

أ- مذكرات:	1 - Lecture notes in crystallography and mineralogy
ب- كتب ملزمة	1 - Klein, C. and Hurlbut, C. 1999. Manual of Mineralogy. John Wiley and Sons
ج- كتب مقترحة :	1 - Crystallography, Z,Zaghloul, 1970 2 - Introduction of Crystallography and Mineralogy Nazmy Azr 1959
د- دوريات علمية أو نشرات..	1 - http://www.mineralatlas.com/

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
1- Basic concepts and definitions.	**1**	a1			
2- Collection of samples from the field and their treatment in the Lab.	**2-3**		b1	c3	
3- Physical and chemical properties of minerals and crystals.	**4**		b1	c1	
4- Crystal chemistry of minerals.	**5**	a3			d1
5- Classification of minerals and crystals.	**6-7**	a4			
6- Field occurrence of minerals and crystals.	**8**		b2		d2
7- The factors affecting formation of minerals and crystals.	**9**	a4	b3	c2	

8- Description of common minerals and crystals.	**10**	a5		c4	d3
9- Rock forming minerals and crystal systems and parameters.	**11-12**		b4	c4	d4

أستاذ المادة : ا.د/ محروس محمد ابراهيم أبو العنين

رئيس مجلس القسم العلمي : أ.د / صلاح يوسف البيلى