



محتويات مقررات برنامج

Courses' Content

ج: علوم المواد والنانو تكنولوجي



كلية العلوم

الدرجات						الساعات			١٥ م ج	لغة انجليزية (1)
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L			
10	10	30	0	50	2	-	2		English Language (1) UR015	

1- Listening & Speaking:

A- (Listening): This part of the course aims at training the students for listening and understanding audio-visual material

B- (Speaking): This part helps the students to speak simple and correct short sentences fluently.

2- Reading:

This part aims at training students for correct reading, building up vocabulary and promoting grammatical structures.

3- Writing:

This part helps the students to spell English words correctly and to use the punctuation marks.

4- Grammar:

This part aims at providing the students with knowledge of the grammar of the target language, and its basic structures.

5- Translation:

This part aims at developing the students' abilities in translating scientific texts both into and from English.

الدرجات						الساعات			٢٠ م ج	لغة انجليزية (2)
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L			
10	10	30	0	50	2	-	2		English Language (2) UR020	

II- English Language (2): 2 hours per week in the 2nd term

Terminology:

This course aims at introducing the students to the Morphology of the target language . The students study the structure of words. They start with understanding the meaning of a morpheme, then they learn the different types of morphemes, after that they intensively learn the use of affixes. Finally, they end with learning lists of scientific terms in the different fields of science with an increasing ability to guess the meaning of any new term, especially after studying prefixes & suffixes as mentioned above.

الدرجات						الساعات			٥٠ م ج	قضايا مجتمعية
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L			
10	10	30	0	50	0	-			Societal Issues UR050	

الدرجات						الساعات			١٢ م ج	تاريخ العلوم
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L			
10	10	30	0	50	2	-	2		History of Science UR012	

The importance of studying history of science

An overview on the science of ancient scientists

Presentation of the history of most prominent theories in mathematics and physics

Presentation of the history of the most important developments of biological sciences (embryogenesis, photosynthesis, genetic engineering, reproduction).

Philosophical reflections of modern biology.

Means of honoring scientists

الدرجات						الساعات			١٠٠ رك	الحاسب الالى
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L			
10	10	10	20	50	2	2/-	2		Computer Sciences MC100	



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كلية العلوم

Fundamentals of programming and computer languages - Algorithm and Flowcharts - Elements of Language under case - Basic Instructions in Language under case - Control Instructions - Arrays and dimension statement – Subprograms - Some applications.

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	30	0	50	3	-/2	2

ر ١٠٠ رياضيات عامة (1)

Mathematics (1) M100

Calculus: Functions of one variable - Limits and Continuity - Derivatives - Applications of Differentiation - Taylor and McLaurin series, Indefinite and definite integrals.

Algebra: Mathematical induction - series - Partial fractions - Matrices and systems of linear equations - Approximate solutions of non-linear equations.

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	30	0	50	3	-/2	2

ر ١٠٥ رياضيات عامة (2)

Mathematics (2) M105

Calculus: Techniques of integration - Definite integrals and their properties– improper integral – numerical integration - Applications of definite integrals.

Geometry: Coordinate systems in the plane - Straight lines and circles in general forms - Conic sections - Geometric transformations in the plane - Coordinate systems in the space - The plane and the straight lines in the space and surfaces of revolution of second order.

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	10	20	50	3	3/-	2

ف ١٠٠ فيزياء عامة (1)

Physics (1) P100

Physical quantities - Units and dimensional analysis - Vectors - The laws of motion in one- and two- dimensions and its applications - Newtown's second Law of motion and its applications. Work and energy - Heat and heat conduction - The kinetic theory of gases - Specific heat of gases - First law of thermodynamics. 12 Experiments related to the above topics.

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	10	20	50	3	3/-	2

ف ١٠٥ فيزياء عامة 2

Physics (2) P105

The nature and propagation of light - Reflection and refraction at plane surface - Lenses & Mirrors, Eye's structure and camera - Microscopes and Telescopes - Coulomb law and electrostatic fields - Electrostatic potential- Capacitance and dielectrics- Electric current, DC circuits and Krichhoff's Rules-Magnetic field and magnetic force - Electromagnetic induction.

12 Experiments related to the above topics.

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	10	20	50	3	3/-	2

ك ١٠٠ كيمياء عامة (1)

Chemistry (1) C100

(A):Atomic Spectra – Electron Orbital and Quantum Numbers – Quantum Energy Levels in Atoms – Basic Concepts of Bonding Electronegativities – Lewis Structure – The Octat Rule – Dipolemoment – Resonance Hybridization in Molecules – Geometrics of Molecules – Orbital Configuration for Diatomic Molecules.

(B):State of Matter – Introduction in Surface and Colloids Chemistry – Electrolytic Cell – Electrochemical Cells – Potential of Electrode (Selected practical experimentals)

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oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	10	20	50	3	3/-	2

ك ١٠٥ كيمياء عامة (2)

Chemistry (2) C105



محتويات مقررات برنامج

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كلية العلوم

(A): Chemical Equilibrium – Ionic Equilibrium – Basic of Qualitative Analysis – Solution Chemistry.
(B): Introduction on Organic Chemistry-Bonding in Organic compounds – Hybridization in Carbon Compounds – Physical Properties of Org. Compounds – Nomenclature, Synthesis and Chemical Reactions of alkanes, alkenes and alkynes
(Practical: Selected practical experiments)

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	10	20	50	3	3/-	2

حيوان عام	ح ١٠٠
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General Zoology	Z100
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Protoplasm - Organization and function of animal cell - Study of the animal tissues - Life functions - Introduction to early development of animals - Characters and classification of the major animal phyla

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	10	20	50	3	3/-	2

نبات عام	ان ١٠٠
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General Botany	B100
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Cell structure – plant tissues – Anatomy of primary plant organs – Classification of plant kingdom – General aspects of virus, bacteria, algae and fungi – Flower structure, inflorescences and fruits – Selected families of flowering plants

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	30	0	50	2		2

لغة انجليزية	UR٠١٥
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English language	UR015
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Characteristics of technical English language, revision of grammar, rules of style and features of the sentence, common mistakes in writing the technical English sentence, building-up paragraphs, kinds of paragraphs, explaining the main idea in a text, developing skills of communication through reading and analyzing extracts of technical writing in the various branches of chemistry and engineering.

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oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	30	0	50	2		2

Quality assurance	UR٠٢٠
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Quality assurance	UR020
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In this course, students examine the practice standards in relation to various fields pertaining to construction and environmental law, supervision and management, students learn to identify the requirements for various standards, relate how quality assurance practices are integral to codes and standards interpretation, understand international competition opportunities, and assess quality assurance requirements for implementation.

الدرجات					الساعات		
oral	ACT	Mid_T	Prac	Wr.	CH	P/T	L
10	10	30	0	50	2		2

Academic English for science students	UR٠٢٤
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Academic English for science students	UR024
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English language skills, science concepts and IT skills are integrated through a project-based approach. The aims are: to motivate students to use their English, to build confidence in using English in written and spoken forms, to highlight problem areas, to point to sources of information, to recommend improvement through the use of English language skills rather than mastery of a corpus of rules.