توصيف المقررات

العلوم الطبيعية

رقم المقرر	اسم المقرر	عدد الوحدات	عدد الساعات	التوصيف العلمي للمقرر (عربي)	التوصيف العلمي للمقرر (انجليزي)
المقررات التخصصية الاجبارية					
NSc127	Medical chemistry	3	4	المقرر يتعلق بالافرع المختلفة للكيمياء وعلاقتها بعلوم الحياة. هذا المقررينقسم الى فرعان الكيمياء العامة ومقدمة الكيمياء العضوية.	This course relates the different branches of chemistry with life science. Chemistry studied in this course is divided into general and introduction to organic chemistry
NSc177	Biochemistry	3	4	المقرر يعطي مقدمة للطالب الكيمياء الحيوية والتعرف على الجزيئات الحيوية مثل (الكربوهيدرات،الدهون،البروتينات وغيرها) كتركيب وتفاعلهم وعلاقتهم بعمليات الايض وكذلك استخدامهم في الجسم لانتاج الطاقة و المحافظة على الوظائف الحيوية للجسم	This course is designed to introduce the student to the chemical and molecular basis of life itself, i. e Biochemistry. The course deals with the chemistry of major biomolecules (e. g carbohydrates, lipids, protein, etc.), their structures, reactions, and metabolism in human body, as well as their utilization for energy production and maintenance of bodily functions
NSc131	Organic chemistry	3	4		This course is designed to introduce the student with the basic principles of organic chemistry. Some basic principles and techniques in organic chemistry: General classification of organic compounds, shapes or organic compounds- hypridization (sp, sp^2, sp^3), structural representationof organic molecules. Functional groups, homologous series, common or trivial names, nomenclature of aliphatic, aromatic andsubtituted aromatic compounds. Isomersim: structural and stereoisomerism. Fundamental concepts in reaction mechanisms: cleavage or covalent bond, types of attacking species, electron movement in organic reactions, electronic displacement in a covalent bond and types of organic reactions. Methods of purification of organic

compounds: perform the following laboratory techniques; crystallization, melting point determination, extraction, simple distillation, fractional distillation, boiling point determination and chromatographic separations.					
Analytical chemistry is the branch of chemistry dealing with measurements, both qualitative and quantitative. The goal of this course is for students to master applying concepts and solving problems in analytical chemistry, with an emphasis on solution equilibria and electrochemistry. This discipline is concerned with chemical composition of samples and encompasses many different spectrochemical techniques, All of which are used under various experimental conditions. Analytical chemistry concernes itself with the techniques and methods thatanswer questions "what?" and " How much" in the analysis of the chemical composition of matter. "What?" is the province of qualitative analysis, while "How much?" is the province of quantitative analysis. In this course, the focus will be on "How much?"- the problem associated with the quantification of the amount of species present in a given sample. This branch of chemistry teaches the general theories behind the use of each instrument as well as analysis of experimental data. Study will include an intensive laboratory experience which applies principles of gravimetric, colorimetric, chromatographic, and electroanalytical determinations. A thorough understanding of quantitative analysis is a vital necessity for virtually all physical and biological scientists who are obliged to collect analytical data and apply statistical treatments to the data.		4	3	Analytical Chemistry	**NSc246**
Fundamental principles and laws of general and organic chemistry: atomic and molecular structure, periodicity of elements, properties of compounds, chemical bonding of molecules, states of matter, solutions, stoichemisrty and chemical reactions, energy relationships and thermochemistry, gas laws, hydrocarbons, and classes of organic compounds.		4	3	General chemistry	**NSc116**

This course will build the foundation of algebraic and geometry concepts through the use of technology, manipulatives, problem solving, and cooperative learning. Students will learn to utilize the graphing calculator in a appropriate situations. Concepts include algebraic expressions, linear equations, polynomials, factoring, inequalities, geometry, statistics, and graphing. Students will learn problem solving, reasoning, and estimation. The competencies for this course combine the content strands; patterns/ algebraic thinking, data analysis/ prediction, measurement, geometric concepts, and number sense, and the process strands: problem solving/ reasoning, estimating, incorporating technology, communicating, and making connections/ applications. Competencies provide a general guideline of on-going instruction, not isolated units, activities, or skills.		4	3	Mathematics for health sciences	**NSc111**
Study of principles and applications of concepts in mechanics, energy and heat, wave motion, sound, light and waves, electricity and principles of nuclear physics, and dimensional analysis in problem solving. Students of physics gain a conceptual understanding of physical systems. Students use algebra, simple statistics, and trigonometry to understand forces. They engage in experimentation, scientific reasoning and logic, and data analysis and evaluation.		4	3	General Physics	**NSc113**
This course is designed to introduce the student to the chemical and molecular basis of life itself, i.e. Biochemistry. The course deals with the chemistry of major biomolecules (e.g., carbohydrates, lipids, proteins, etc.), their structures, reactions, and metabolism in the human body, as well as their utilization for energy production and maintenance of bodily functions. In addition, the course presents a brief discussion of transfer of the genetic information.		6	4	Biochemistry	**NSC 180**
This course is designed to provide the students with background in the basic principles of biology. It will acquaint students with the classification, structure, and function of living organisms. It will enable students to identify representative members of		4	3	General Biology	**NSc 150**

different taxonomic groups of living organisms, as well as the structural characteristic of these groups. Emphasis is made on ecology, population, cellular and organism biology, genetics, evolution, and the diversity of life, and how you relate to your environment.					
This course is designed to expose students to the general concepts of microbiology including the morphology, physiology, and genetics of microbes and the importance of microbial activities from medical, industrial and ecological stands points. Emphasis is on the interrelationships between the microbial world and human health, antibiotics and vaccines, industry, agriculture. Genetic engineering, food production and global nutrient cycles. Students will be challenged to critically assess relevant topics at the intersection microbiology and their daily lives Scientific theories including Cell theory, germ theory of infections Disease, and gene theory of inheritance are discussed. The laboratory experience includes general microbiology laboratory procedures including culturing identifying, analyzing, and researching microbes. The stands – on labs will be done in a virtual laboratory environment call learn smart labs which will give you close to real experience while focusing on the principles of appropriate laboratory behavior and techniques		4	3		**NSc 155**