د. مقررات البرنامج :
أ. المقررات الالزامية

الفصل الدراسى	الفرقة والمستوى	عدد الساعات الأسبوعية			عدد الوحدات	اسم المقرر	كود أو رقم المقرر
		عملى	تمرين	نظرى			
الفرقة الاولي							
الأول	الأولى	4	0	4	8	كيمياء عامة غير عضويه / كيمياء عامه	ك101
		4	1	4	9	ضوء- كهربية	ف101
		0	2	3	5	تفاضل وتكامل	ر101
		0	2	4	6	هندسة- استاتيكا	ر102
الثانى		4	0	2	6	كيمياء عامة	ك102
		0	0	2	2	كيمياء عضوية	ك103
		4	1	4	9	حرارة وخواص مادة - مغناطيسية	ف102
		0	3	4	7	تفاضل عالي - جبر	ر103
		0	2	3	5	ديناميكا	ر104
ممتد		0	1	2	3	لغة انجليزية	ل102
		16	**12**	**32**	**60**	**الاجمالي**	
الفرقة الثانية							
الأول	الثانيه	0	1	2	3	معادلات تفاضلية	ر201
		0	1	2	3	مقدمة في الاحصاء	ر202
		0	2	4	6	تحليل رياضى او حقيقى - استاتيكا	ر203
		2	1	2	5	ديناميكا حرارية	ف201
		4	1	4	9	دوائر كهربيه وكهرواستاتيكيه	ف202
		0	0	2	2	حقوق الانسان والمبادئ القانونيه العامه	بدون
الثانى		0	1	2	3	جبر خطي	ر204
		0	1	2	3	هندسة فراغية تحليلية	ر205
		0	2	4	6	ميكانيكا	ر206
		4	1	2	7	جوامد والكترونيات	ف203
		2	1	4	7	فيزياء ذريه - ضوء فيزيائى	ف204
		2	0	1	3	حاسب	بدون
ممتد		0	1	2	3	لغة انجليزية	ل202
		14	**13**	**33**	**60**	**الاجمالي**	
الفرقة الثالثة							
الأول	الثالثه	0	1	4	5	تحليل عددى - احتمالات واحصاء	ر315
		2	0	4	6	مبادئ علم الحاسب واللغات - برمجة	ر316
		0	1	2	3	تصميمات منطقيه	ر317
		0	1	2	3	النظرية الكهرومغناطيسية	ف313
		0	0	2	2	جوامد	ف314
		0	1	2	3	ميكانيكا الكم	ف315
		6	0	0	6	فيزياء تجريبية	ف324
الثانى		0	0	4	4	معادلات تفاضلية - دوال خاصة	ر318

		2	0	2	4	منطلق ونظرية الاعداد - حزم احصائية	ر319
		2	1	4	7	تركيب بيانات ـ حساب متغيرات	ر320
		0	1	2	3	ديناميكا حرارية واحصائية	ف304
		0	0	2	2	فيزياء ذرية	ف318
		0	0	2	2	فيزياء نووية	ف309
		6	0	0	6	فيزياء تجريبية	ف325
ممتد		0	1	2	3	لغة انجليزية	ل302
		18	**7**	**34**	**59**	الاجمالي	
الفرقة الرابعة							
الأول	الرابعه		0	2	2	تحليل مركب	ر415
		2	0	4	6	احتمالات واحصاء - برمجه	ر412
		2	0	2	4	تحليل نظم وقواعد البيانات	ر416
		0	1	2	3	ميكانيكا الكم	ف401
		0	1	2	3	برمجه وفيزياء حسابية	ف416
		0	0	2	2	الكترونات	ف417
		6	0	0	6	فيزياء تجريبية	ف421
الثانى		0	0	2	2	معادلات تفاضلية جزئية وتكاملية	ر417
		0	2	4	6	بحوث عمليات ـ قواعد البيانات	ر418
		2	0	2	4	نظرية الحاسبات	ر419
		0	1	2	3	الكتروديناميكا	ف413
		0	0	2	2	الكترونيات	ف418
		0	0	2	2	فيزياء نووية	ف415
		6	0	0	6	فيزياء تجريبية	ف422
ممتد		0	0	2	2	بحث او مقال	بدون
		0	1	2	3	لغة انجليزية	ل402
		18	**6**	**32**	**56**	الاجمالي	

Courses Contents:

كود أو رقم المقرر : 101 ك
اسم المقرر: كيمياء عامة
محتويات المقرر:

Phyiscal Chemistry: Gaseous state, Thermochemistry, Chemical equilibrium, Solutions, Problems in physical Chemistry.
Inorganic Chemistry: Chemical Calculations, Atomic spectra and Quantum numbers, Properties of of periodic table, Chemical bonding, Practical part.

كود أو رقم المقرر : 101 ف
اسم المقرر: ضوء-كهربية
محتويات المقرر:

- الضوء

Nature of light, Refraction through lenses, Optical instruments, Dispersion, Photometry

- الكهربيه

Charge and matter,Electric current, Electric field for a group of point, Electric field of continuous charges, Electric potential and applications, Condensers, Coulomb's law,Electric field, Electric dipole, Electric field flux and Gauss's law and its applications,capacitors, Introduction to electric current, DC circuits, DC circutes, DC network analysis, transient current.

كود أو رقم المقرر : 101 ر
اسم المقرر: تفاضل و تكامل
محتويات المقرر:

Limits and the continuity, Differential trigonometric functions, inverse trigonometric, Limited integration and unlimited, Logarithmic and exponential functions, Hyperbolic functions, Roll Theory and the average value and L'Hopital's rule, Applications Calculus maxima and minima and drawing the curves, Calculation of integration and its applications in the calculation of areas and volumes.

كود أو رقم المقرر : 102 ر
اسم المقرر:استاتيكا
محتويات المقرر:

Vectors, Two Dimensional Forces acting at a point, Moments and couple, The Plane Force acting on a Rigid Body, Fraction, Work and kinetic Energy, Potential Function.

كود أو رقم المقرر : 102 ر
اسم المقرر:هندسة
محتويات المقرر:

Polar and kartezip coordinates in the level systems, A straight line, Operations on the axes of coordinates, Pairs of lines , The circle, Cuttings cone: A – Parabola , The ellipse, Hyperbolic.

كود أو رقم المقرر : 102 ك
اسم المقرر:كيمياء عامة
محتويات المقرر:

Introduction of acidic radicals, Detection of dilute HCl group , Detection of H_2SO_4 group , Detection of miscellaneous groups , Scheme of general investigation of acidic radicals , Introduction of basic radicals , Detection of groups I, II-A, and II-B , Detection of groups III and IV, , Detection of groups V and VI , Scheme of general investigation of basic radicals , Detection of acidic and basic radicals of unknown salts, Analysis of cationic radicals in a mixture.

كود أو رقم المقرر : 103 ك
اسم المقرر:كيمياء عضوية
محتويات المقرر:

Introduction to organic chemistry, Nomenclature, preparation and reactions of alkanes , Nomenclature, preparation and reactions of alkenes , Nomenclature, preparation and reactions of alkynes, Nomenclature, preparation and reactions of alcohols, Nomenclature, preparation and reactions of aldehydes and ketones , Nomenclature, preparation and reactions of ethers, Nomenclature, preparation and reactions of carboxylic acids, Nomenclature, preparation and reactions of carboxylic acid derivatives, Nomenclature, preparation and reactions of amines.

كود أو رقم المقرر : 102 ف
اسم المقرر:حرارة و خواص مادة-مغناطيسيه
محتويات المقرر:
- **الحراره و خواص الماده**

Temperature and thermometers, Heat estimation, Thermal expansion, Change of phase, Heat transfer , Kinetic theory of gases, Units and dimensions Fundamental units - Derived units - Dimension theory andits applications Scaler and vectors -Linear motion - Planer motion - Newton`s second law, Simple harmonic motion -SimpMonent of inertia for some bodies-Simple pendulum - Some experiments, Hook`s law-Elasticity modulii-Relation between elasticity modulii-Stress-Straincurves-Some exp, Pressure-Pascal`s rule-Archimede`s rule-Bernoulli`s equation - Surfacetension- Some exp., Bernoulli`s equation - Viscosity Poiseuill`s formula- Stokes law-Someexperiments.

Magnetic elements,angle of dip, The Biot-Savart law, Ampere's law , Applications of magnetic field:i-magnetic field due to a current in a straight conductor , Magnetic field of circular conductor,iii- magnetic field of a solenoid, Magnetic field of a toriod. The force between two complete circuits, Magnetic dipole, Tangent and Helmoholtz galvanometers, Charged particles in magnetic fields, Orbits of charged particles in magnetic fields,applications on motion particles in magnetic fields, i-Cyclotron,ii-q/m of electrons,iii-Hall effect,iv-mass spectrograph, Motion of a conductor in a magnetic field,Faradaylaw,Selfiand mutual nductance, Inductors connection, Revision.

كود أو رقم المقرر : 103 ر
اسم المقرر: تفاضل عالي
محتويات المقرر:

Polar coordinates and its applications, The function of two variables, continuity, the derivation and applications, Study of duo integration in different coordinates , Ailing integration, Leibniz's, Taylor and Maclaurin theories.

كود أو رقم المقرر : 103 ر
اسم المقرر:جبر
محتويات المقرر:

Introduction to set theory, Relations and mappingfunctions, Introduction to mathematical logic, Mathematical induction, Partial fractions, Matrices and applications, Complex numbers.

كود أو رقم المقرر : 104 ر
اسم المقرر: ديناميكا
محتويات المقرر:

Kinematics of a Particle Rectilinear Motion, Simple Harmonic Motion, Motion of a Variable Mass Particle, Motion in a Resisting Medium, Projectiles Motion, Principle of Virtual Work and Equilibrium Stability.

كود أو رقم المقرر : 102 ل
اسم المقرر: لغة انجليزية
محتويات المقرر:

Part Two: Vocabulary Skills, Words in context, Roots , Words for size , Idioms, confusing Expressions and word pairs, Part Three:Writing Skills, Structure and cohesion , Description: Process and procedure , Definitions, Exemplification, Classification, Part One: Reading comprehension, Doing Science, Analogy and Memory, Energy.

كود أو رقم المقرر : 201 ر
اسم المقرر: معادلات تفاضلية
محتويات المقرر:

Introduction of differential equations :• The definition of differential equations ,• Classification of differential equations, • General solution of the differential equation, • The only solution to the differential equation, First order equations:• Equations removable,• Linear Equations, Bernoulli equations: •Complete equations, • Equations not Completely and converting it to Complete, Equations of the form y '= F y / x: • Equations of the first order and the higher orders, Second order equations: • Reduce the level, • Solutions of the basic equations of homogeneous, Homogeneous equations with constant coefficients: • Euler equation, Non-homogeneous equations of second order, How to change the parameter: • Moving D, Systems of differential equations, Laplace transformations, Use Laplace transforms to solve differential equations.

كود أو رقم المقرر : 202 ر
اسم المقرر: مقدمة في الإحصاء
محتويات المقرر:

Probability, the sample space and events, The definition of probability, harmonic analysis, Conditional probability and independence, law of total probability, The theory of Bayesian and its applications, Random variables discrete and continuous, Probability mass functions, probability density function, Distribution function and its properties and how derived from the probability distributions, and vice versa, Some probability distributions are important discrete and continuous such as the binomial distribution, Poisson distribution, geometric and hyper geometric and negative binomial, regular distribution, exponential distribution, The gamma distribution, beta distribution, normal distribution, Mathematical expectation for some distributions discrete and continuous, Moments generating function.

كود أو رقم المقرر : 203 ر
اسم المقرر: استاتيكا
محتويات المقرر:

Vector Analysis, Centroid, Moment and products of inertia ,Fluid Static, Attraction and potential, Flexible chains and strings.

كود أو رقم المقرر : 203 ر
اسم المقرر: تحليل رياضي أو حقيقي
محتويات المقرر:

Some properties of real function, Convergence and divergence of Sequence of real number, Convergence and divergence of series of real number, Convergence tests.

كود أو رقم المقرر : 201 ف
اسم المقرر: ديناميكا حرارية
محتويات المقرر:

Fundamental concepts of thermodynamics such as : thermodynamic systems , thermodynamic equilibrium , equation of state, internal energy, work, heat, heat capacity and heat enthalpy and ets., First law of thermodynamics, Second law of thermodynamics, Reversible and Kelvin temperature scale , Entropy, Combined first and second laws of thermodynamics , Engines and heat pumps, Third law of thermodynamics.

كود أو رقم المقرر : 202 ف
اسم المقرر: دوائر كهربية و كهرواستاتيكية
محتويات المقرر:
- **دوائر كهربيه**

Inductor-Capacitance-Series-parallel combination-Natural response of RL and RC circuits. Step response of RL and RC circuits-Natural and step response of parallel and series RLC circuits, Induced emf in a rotating coil, Phase and phase difference, Average value, root mean square value,Resistance-capacitance-inductance in AC circuit, Series connections: RC-RL-RLC square value, Resistance-capacitance-inductance in AC circuit, Series connections: RC-RL,-RLC series circuits, Parallel Ac Circuits, Types of filters: Low -pass and high -pass filters-Band-pass and band-stop filters, Power and corrections of power factor, R-L-C resonance in series circuits-quality factor, AC bridges: Wheatston-Owen-Maxwell-Robison-Mutual inductance bridge-Shering bridge, Mutual inductance bridge-She Circuits. Step response of RL and RC circuits-Natural and step. Response of parallel and series RLC circuits.ring bridge, Transient current in electric circuits, Complex impedance and solutions of AC circuits

- **كهرواستاتيكيه**

Vector algebra-Gradient-Vector differentiation and integration-Divergence,curl ,Coulomb's law, Electric field-Electrostatic potential,Gauss's law-Electricin dipole- Multipole expansion of electri, Poisson's and Laplaceqs. and their solutions,Zonal harmonics, Electrostatic images, Gauss's law in dielectric, Electric displace ment and susceptibility, Electrostatic energy.

كود أو رقم المقرر : قرار
اسم المقرر: حقوق الإنسان و المبادئ القانونية العامة
محتويات المقرر:

Identification of human rights and its international importance - Types of human rights - Human rights in Islam religion and comparative legislation - Mechanisms of human rights protection

كود أو رقم المقرر : 204 ر
اسم المقرر: جبر خطي
محتويات المقرر:

Introduction, Matrices, Vector Space, Linear Transformation , Inner Product, Eigen- values and Eigen vectors.

كود أو رقم المقرر : 205 ر
اسم المقرر: هندسة فراغية تحليلية
محتويات المقرر:

Cartesian and parametric equation of line in space, Cartesian and parametric equation of plane in space, Relation between line, planes and spheres in space, General theory of quadratic surface, Sphere, Ellipsoid , hyperboloid, parabolic, Cylindre, Tangent plane of surfaces in space, The general equation of 2_ed degree in 3 variable.

كود أو رقم المقرر : 206 ر
اسم المقرر: ديناميكا
محتويات المقرر:

The Small Oscillation, Central Orbits, Constrained Motion, Plane Motion of a Rigid Body, Plane Motion of a Rigid Body, Motion of a Particle in Three Dimension, The Small Oscillation.

كود أو رقم المقرر : قرار
اسم المقرر: مبادئ علم الحاسب
محتويات المقرر:

writing a program and Variables in an OOP , Flow Control and more variables , Functions and Debugging , Intro to OOP and Classes , Class members and More Classes , Events and Using Windows and Controls.

كود أو رقم المقرر : 203 ف
اسم المقرر: جوامد و الكترونيات
محتويات المقرر:

Introduction, The structure of Atom,Band Theory of Solids. Intrinsic Semiconductor, The Doping of Semiconductors, P- and N- Type Semiconductors .P-N Junction , Light emitting diodes, The Zener Effect, Some other diodes, Rectification Introduction and Half wave rectifier, Rectification Full wave rectifier, Filters Capacitor Filter, Transistors Construction and Operation, The Common-Emitter Circuit, The Common-Emitter Amplifier , The Common-Collector Amplifier, Transistor Bias.

كود أو رقم المقرر : 204 ف
اسم المقرر: فيزياء ذرية – ضوء فيزيائي
محتويات المقرر:
- **الفيزياء الذريه**

Cathode ray, Electromagnitic radiation, Atomic models, Atomic hydrogen spectra, Bohr theory&hydrogen atom, Summerfield theory, Fine Structure , Fine structure Spectra of hydrogen like ions, spectra of alkali atom, Schrodinger wave equation, Simple one-electron atom model, Photo elctric effect.

- **الضوء الفيزيائى**

Simple harmonic motion, Interference, Diffraction of light, Polarization of ligh.

كود أو رقم المقرر : 202 ل
اسم المقرر: لغة انجليزية

Acids. Reading, Matter and Volume. Reading , Force and Presure. Reading, Modals. Grammar, Pronoun Determiners.Grammar, Relative Clauses.Grammar, Adjectives and Adverbs. Grammar, Conjunctions and Prepositions Grammar, Writing Instructions. Writing, Describing. Writing, Listing Characteristics. Writing, Skimming. Reading, Scanning.Reading, Finding the Pattern of Organization.Reading , The Properities of Air. Reading.

الفرقة الثالثة : الفيزياء وعلوم الحاسب

اسم المقرر :تحليل عددي
كود أو رقم المقرر : 315ر
محتويات المقرر

Mathematical preliminaries and error analysis - solutions of equations in one variable-The bisection method, Fixed-point method-Newton's Method, Secant method- interpolation and polynomial approximation-Divided difference, Numerical differentiation and integration - Elements of numerical integration, Composite numerical integration.

كود أو رقم المقرر : 315ر
اسم المقرر :احتمالات واحصاء
محتويات المقرر

Joint probability density functions for discrete and continuous random variables-Marginal probability density functions for discrete and continuous random variables-Bivariate cumulative distribution functions-Marginal cumulative distribution functions-Conditional probability density functions for Bivariate discrete and continuous random variables-Conditional cumulative distribution functions-The mean and variance for sum-product-quotient random variables-The covariance and correlation coefficient for discrete and continuous random variables-Conditional expectation and conditional variance for Bivariate discrete and continuous random variables-Joint moments (raw- about the means) and joint moment generating functions-Application of Bivariate probability distribution functions as trinomial distribution and Bivariate normal distribution-Distribution of functions of random variables-Introduction to sampling theory
Introduction to statistical estimation

اسم المقرر : مبادئ علمالحاسبواللغات
كود أو رقم المقرر : 316 ر
محتويات المقرر

Introduction to computer evolution-Inter connection and Basics of PCI bus-Characteristics: Hierarchy and Cache memory-Principles, Cache design and Locality of reference-Static RAM and Dynamic RAM-Some Types of ROM, Magnetic disk-Basics of RAID-Optical memory and Magnetic tapes-INPUT & OUTPUT-InterruptDriven I\O and DMA I\O channels and processors and COMPUTER ARITHMETIC: Floating point representation and Arithmetic-INSTRUCTION SET-Organization of processors of registers-Instruction cycle-Instruction pipe lining and Pentium processor,Characteristic – Large register cycle and Register optimization and Architecture-RISE V\S CISE characteristic and pipe ling

كود أو رقم المقرر : 316 ر
اسم المقرر : برمجه
محتويات المقرر

Introduction to Linear programming problem (LPP)-Graphical method for solving LPP-Simplex method-Special cases of simplex method-Artificial variable technique-Duality in Linear programming-Integer programming problem -Parametric programming
Introduction by using Matlab-Graphical method-Simplex method-Compact method-Two phase method-Dual simplex method-Revised simplex method-Artificial variable technique-Duality in Linear programming-Integer programming problem-Parametric programming

كود أو رقم المقرر :317 ر
اسم المقرر :تصميمات منطقيه
محتويات المقرر

Number systems and codes- Logic Gates- Inverting Logic Gates- Reduction Logic Gates-Exclusive OR and exclusive NOR Gates- Arithmetic Circuits-Comparator- Decoding, Encoding- Flip – Flops.

كود أو رقم المقرر : 313 ف
اسم المقرر : النظريةالكهرومغناطيسية
محتويات المقرر

Review of Fundamentals of electrostatics-Laplace and Poisson equations and its solutions-Dielectric media-Boundry value problems in electrostatic-Continue on the microscopic theory of dielectrics-Electrostatic energy-Continue on Electrostatic energy

كود أو رقم المقرر :314 ف
اسم المقرر : جوامد
محتويات المقرر

Metallic crystals-Ceramic crystals-Structure of organic polymers-Crystalline and noncrystalline phases-Imperfections in solids: phonons-Imperfections in solids: Misplaced atoms-Diffusion, Solidification and grain size strengthening-Solidification and solid solution strengthening.

كود أو رقم المقرر : 315ف
اسم المقرر : ميكانيكا الكم
محتويات المقرر

Origin of Quantum Mechanics-Postulates of Quantum Mechanics-Schrodinger equation – Postulates-Solution of Schrodinger equation- Three-dimensional problems- Angular Momentum - Approximation Methods-revision

كود أو رقم المقرر : 324ف
اسم المقرر : فيزياء تجريبية
محتويات المقرر

Integration and differentiation circuits- wave shaping, clipping circuits, oscilloscope- common emitter characteristics, and amplifier- common base characteristics- common collector characteristics- FET characteristics- RLC Filter- Solar cells-Common collector amplifier, common base amplifier, Dc amplifier- Silicon controlled rectifier-unijunction transistor-Plamck's constant, other experiments in solid state physics-

كود أو رقم المقرر : 318 ر
اسم المقرر :معادلات تفاضليه
محتويات المقرر

Review of basic concepts of differential equations- First order difference equations-System of first order linear equations-Nonlinear differential equations and stability-The Lorenz equations

كود أو رقم المقرر : 318 ر
اسم المقرر :دوال خاصه
محتويات المقرر

Gamma and Beta functions-Legendre Polynomials-Bessel Function-Hermit Polynomials

كود أو رقم المقرر : 319 ر
اسم المقرر منطق ونظريه أعداد
محتويات المقرر

Fundamental theorems on divisibility-Theory of congruence-Introduction to Diophantine equations-Fermat's number and theorem-Rational and irrational numbers

كود أو رقم المقرر : 319 ر
اسم المقرر :حزم احصائيه
محتويات المقرر

Introduction about statistical package-Data handing-Dealing with New Variables-Compute the estimator Statistic value-Correlations analysis-Regression analysis-Multivariate Statistics(confidence intervals)-Multivariate Statistics(hypotheses)-Non-parametric Testing-Solve open problems.

كود أو رقم المقرر : 320 ر
اسم المقرر :تركيب بيانات
محتويات المقرر

Introduction to data structures-Abstraction and algorithms-Deal with string and text-Linear list and its operations-Linked lists-Stacks and its applications-Queues and its applications-Sorting Algorithms
Trees and Tree-Some basic of Graph and data structure and Hash Tables and Hash Functions

كود أو رقم المقرر : 320 ر

اسم المقرر :حساب متغيرات
محتويات المقرر

Absolute extremum-Conditional extremum-The variation of a functional and its properties-An elementary problem in the calculus of variations Euler's equation-Generalizations of the elementary problem of the calculus of variations-Invariance of Euler's equation-Field of extremals, Sufficient conditions for the extremum of a functional-Conditional extremum-Moving boundary problems
Discontinuous problems (one sided variations)-The Hamilton Jacobi theory (the variational principles of mechanics)-Euler's finite difference method-Ritz method-Kantorovich method and Variational methods for finding eigenvalues and eigenfunctions

كود أو رقم المقرر : 304ف
اسم المقرر : ديناميكا حرارية واحصائية
محتويات المقرر

Introduction to statistics-Boltzmann's statistics and its applications-The perfect classical gas-The perfect quantal gas-Fermi-Dirac statistics and its applications-Bose-Einstien statistics and its applications-Revision

كود أو رقم المقرر : 318 ف
اسم المقرر : فيزياء ذرية
محتويات المقرر

The vector atom model and quantum numbers associated with it-Magnetic moments due to orbital and spin motions-The Stern- Gerlashexperiment,Spin - orbit coupling and the total angular momentum-Fine structure of hydrogen spectrum-selection rules-Intensity rules-X-ray-Revision

كود أو رقم المقرر : 309ف
اسم المقرر : فيزياء نووية
محتويات المقرر

Nuclear masses and nuclear stability-Nuclear spin and moments-Nuclear Models-Radioactive decay
Interaction of radiations with matter-Counters part- Accelerators

كود أو رقم المقرر : 325ف
اسم المقرر : فيزياء تجريبية
محتويات المقرر

Digital circuits (AND,NAND, OR, NOR, Boolean Algebra) wave shaping, clipping circuits, oscilloscope-Operational amplifier, Inverting operational amplifier-non- Invertingoperational amplifier-Active filters-555 timer-Phototransistor, photodiode, varactor diode, Led،Free running

كود أو رقم المقرر : 302 ل
اسم المقرر: لغة انجليزية
محتويات المقرر:

The migration of birds (Reading)-Coral reefs (Reading)-Smuggling of Nuclear materials (Reading)
Chemical Reactions (Reading)-Enquiry (Reading)-Argument (Reading)-Roots (Vocabulary)-Prefixes (Vocabulary)-Suffix (Vocabulary))-Relative Clauses (Grammar)-Adjectives and Adverbs (Grammar)
Writing A summary (Writing)-Summarizing process (Writing)-The summary Report (Writing)
Cause and Effect Research Paper (Writing)

كود أو رقم المقرر :
اسم المقرر: التدريب الصيفي
محتويات المقرر:

An introduction to the theoretical background and techniques involved in the training project-Getting started with the techniques and equipments involved-Carrying out experiments and data analysis -Preparation of written report.

<u>الفرقة الرابعة : الفيزياء وعلوم الحاسب</u>

كود أو رقم المقرر : 415 ر
اسم المقرر :تحليل مركب
محتويات المقرر

Algebraic of complex numbers-Complex functions and some mappings- Limits, continuity-Derivative and analytic functions with applications-Elementary functions (exponential, logarithmic, complex exponents)-Complex integration-Cauchy integral theorems-Liouville's theorem and morris theorem
Power series-Taylor series and laurent series-Classification of singularities-Residue theorem with applications to evaluate real integrals -Some additional topics such as conformal mapping

اسم المقرر :احتمالات واحصاء
كود أو رقم المقرر : 412 ر
محتويات المقرر

Introduction in statistical inference-Sampling distribution for statistical population and means sample-Central limits theorem for sample proportion-Sampling distribution of two independent statistical populations-The difference between two means and difference between two proportions

Estimation statistical point estimation by the method of moments and maximum likelihood,confidence intervals for mean-Variance proportion, difference between meansDifference between proportion, ratios of two variances-Tests of statistical hypotheses-Test concerning mean

Difference between means-And standard mean population-Two standard mean population-Test concerning proportions, concerning variances and ratios two variances-Test x2 chi- square-Chi-square of fit test-Independent, homogeneous-Non-parametric test: sign test of one sample-Pair of sample - Sign ranks test - Rank sums test

Test of kruskal-Wallis and Analysis of variance: one and two vectors

كود أو رقم المقرر : 412 ر
اسم المقرر :برمجة
محتويات المقرر

Introduction to artificial intelligent agents al intelligence-Solving problems by searching-Introduction to statistical learning theory -Fuzzy logic

كود أو رقم المقرر : 416 ر
اسم المقرر :تحليل نظم وقواعد بيانات
محتويات المقرر

Overview of Database Management System-Entity and Relationship Model-Relational Model-The roles of Database Design-Introduction of system analysis-System characteristics and classifications

System Development Life Cycle-Project Planning and System Analysis Tools

كود أو رقم المقرر : 401ف
اسم المقرر : ميكانيكا الكم
محتويات المقرر

Linear vectors spaces and linear operators- Approximate method-Eigen values and eigen function-Motion of charged particles in centralforce-Matrix representation of quantum mechanics.
Review

كود أو رقم المقرر : 416 ف
اسم المقرر :برمجه وفيزياء حسابيه
محتويات المقرر

Introduction to Mathematica-Defining functions-Decision making using If and Which statements
Loops and repetitions-Linear algebra-Graphics in mathematica-Physical problems-Revision.

كود أو رقم المقرر : 417ف
اسم المقرر : الكترونات

Transistors bias-Transistors   load lines-Transistor Small- signals Amplifiers-Field Effect Transistors
Break down devices-Revision.

كود أو رقم المقرر : 421ف
اسم المقرر : فيزياء تجريبية
محتويات المقرر

Determination of e/m ratio by: i- Thompson's method,ii-Magnetron method-Determination of Planck's constant by 2-methods- Determination of Rydberg constant-Determination of energy gap of a semiconductor, Efficiency of an electric lamp-Neon glow lamp-G-M characteristics-Dead time-Attenuation of gamma rays by matter-Efficency of a detector
relative efficiency- Inverse square law

كود أو رقم المقرر : 417 ر

اسم المقرر :معادلات تفاضليه جزئيه وتكامليه
محتويات المقرر

Basic concepts of partial differential equations-Linear partial differential equations of first order-General solution and complete solution for linear partial differential equations of first order-Linear homogeneous first order partial differential equations with constant coefficients-Linear homogeneous second order partial differential equation with constant coefficients-Linear homogeneous second order partial differential equation with variable coefficients

كود أو رقم المقرر : 418 ر
اسم المقرر :بحوث عمليات
محتويات المقرر

Non-linear programming: Single variable Optimization-Non-linear programming: Multivariable Optimization without constrains (Local and global maxima, Gradient vector and Hessian matrix and The method of steepest ascent)-Non-linear programming: Multivariable Optimization with constrains: (Standard forms, Lagrange multipliers and Kuhn-Tucker conditions)-Network analysis(Networks, Shortest-route problems and Maximal-flow problems)-Quadratic programming, Geometric programming

كود أو رقم المقرر : 418 ر
اسم المقرر :قواعد بيانات
محتويات المقرر

Query optimizer-Security and recovery-Security and recovery-Physical database-OODBMS Distributed and parallel DBMS- Data Mining and DBMS-Recent challenges in DBMS.

كود أو رقم المقرر :419 ر
اسم المقرر :نظريه حاسبات
محتويات المقرر

Mathematical Preliminaries-Automata) DFAs and NFAs)-Regular Languages and Grammars-Properties of Regular Languages-Context-Free Languages-Simplification of Context-Free Grammars and Normal Forms-Properties of Context-Free Languages and Computability

كود أو رقم المقرر : 413 ف
اسم المقرر : إليكتروديناميكا
محتويات المقرر

Review of electrostatics and vector calculus-Maxwell equations in integral and differential forms
The solution of the wave equation in free space- The solution of the wave equation in dielectric media-Boundary value problems in dielectric media-Reflection and refraction of electromagnetic waves at the boundary between two different dielectric media-The solution of the wave equation in conducting media-Continue on the wave equation in conducting media-Applications of the electromagnetic theory-Introduction to radiating systems and simple examples -   Introduction to the special theory of relativity-Relativistic mass, energy and momentum-Review and Open Discussion

كود أو رقم المقرر : 418 ف

اسم المقرر : الكترونيات
محتويات المقرر

More about Small- signals Amplifiers(amplifier coupling-voltage gain in coupled stage.-FET amplifier. Negative feedback.)-Large- signals Amplifiers -amplifier class-Operational Amplifier.(the differential amplifier.- Differential amplifier analysis.-operational- Amplifier.-setting Op-Amp gain.-frequency effects in Op-Amp-Op-Am applications-Review

كود أو رقم المقرر : 415ف
اسم المقرر : فيزياء نووية
محتويات المقرر

Nuclear Force-Nuclear Interactions-Alpha decay- Beta decay- Gamma decay-Elementary Particles-Elementary Particles-Strong interactions-Weak interactions-Review.

كود أو رقم المقرر : 422 ف
اسم المقرر : فيزياء تجريبية
محتويات المقرر

Hydrogen atom, Bohr atomic model and Quantum tunneling- Photoelectric effect- Dispersion and Couchy's formula- Acoustic transducers and Active filters- Thermo-ionic emission, Richardson"s equation and Stefan's law-Relative permiability and Electromagnet
Selmiers dispersion relation,Oscillation energy, dispersion energy

كود أو رقم المقرر :
اسم المقرر : بحث او مقال
محتويات المقرر

Choosing the subject of the undergraduate thesis taking the interest andpotential of student under consideration- This choice requires a search andgeneral readings on the chosen subject to pick up a specific point for research-Getting started to get necessary theoretical and/or experimental appropriate for the project-Doing the calculations/the experiment and managing the results in tabulatedand/or graphical format-Analyzing and discussing the results-writing up the thesis in a formatcontaining abstract, introduction, theoretical background, results anddiscussion and finally conclusions. Up to date reverences must be included-Revision