

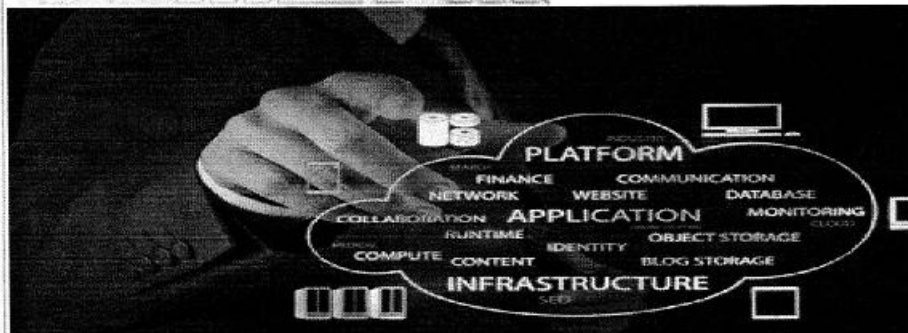


الجامعة السنية
كلية التكنولوجيا

FACULTY OF TECHNOLOGY Business Computer Department



Curriculum Bachelor of Business Computer



**Curriculum
Bachelor
Of
Business Computer**



Summary

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General presentation and Objectives.

A business computer major prepares students to apply computer sciences skills to business applications and provides a strong dual knowledge foundation in technical and problem-solving abilities. The courses are delivered in two languages, French and English, for Bachelor Degree.

After three years, the Bachelor's Degree allows the graduates to carry out technological and commercial tasks related to computer and management science knowledge. It prepares students for immediate employment through intensive use of computer information systems skills. It aims also to fulfill the requirements of the growing professional sectors and needing highly qualified graduates related to the fields of programming, databases, mobile applications, Web and Management and Finance sciences.

The courses are organized in lectures (CM), tutorials (TD), and practical work (TP), in varying proportions depending on the subject.

Graduates can continue their studies in Master especially in Master ISE (Information Systems Engineering) in the Faculty of Technology-Saida. They can also continue their studies in Engineering or Master in Lebanon or France.

**Head of Department
Business Computer**



Dr. Mazen EL-SAYED



Business Computer

Semester 2													
Code	Course	ECTS	CM	TD	TP	Total	Code	Course	ECTS	CM	TD	TP	Total
LS2ALGE	Algebra II (MIE, CCNE, CE-BC)	3	15	15		30	LS2ALGE	Algebra II (MIE, CCNE, CE-BC)	3	15	15		30
LS2DRHO	Human Rights (MIE, CCNE, CE-BC)	2	20			20	LS2DRHO	Human Rights (MIE, CCNE, CE-BC)	2	20			20
LS2GEOG	Organizational Management	4	24	21		45	LS2GEOG	Organizational Management	4	24	21		45
LS2MATH	Financial Mathematics	5	21	24		45	LS2MATH	Financial Mathematics	5	21	24		45
LS2PRAM	Practical Calculus	4	21	24		45	LS2PRAM	Practical Calculus	4	21	24		45
LS2PRST	Structured programming (CCNE, BC)	4	12	18	15	45	LS2PRST	Structured programming (CCNE, BC)	4	12	18	15	45
LS2PREN	Computer Networks I (CCNE, BC)	2	21	21	18	60	LS2PREN	Computer Networks I (CCNE, BC)	2	21	21	18	60
LS2STAG	Applied statistics for business	4	21	24		45	LS2STAG	Applied statistics for business	4	21	24		45
Total	8	31	165	147	48	360	Total	8	31	165	147	48	360

Semester 4													
Code	Course	ECTS	CM	TD	TP	Total	Code	Course	ECTS	CM	TD	TP	Total
LS4ANFI	Financial Analysis	4	15	15	15	45	LS4ANFI	Financial Analysis	4	15	15	15	45
LS4ANAF	Business English	3		45		45	LS4ANAF	Business English	3		45		45
LS4BDDR	Relational Database II	4	18	18	24	60	LS4BDDR	Relational Database II	4	18	18	24	60
LS4DWED	Web server development	2	18	21	21	60	LS4DWED	Web server development	2	18	21	21	60
LS4EXCO	Communication skills (MIE, CCNE, CE-BC)	2		15	15	30	LS4EXCO	Communication skills (MIE, CCNE, CE-BC)	2		15	15	30
LS4PREV	Event-based Programming	5	18	21	21	60	LS4PREV	Event-based Programming	5	18	21	21	60
LS4REOP	Operational Research (CE-BC)	5	18	21	21	60	LS4REOP	Operational Research (CE-BC)	5	18	21	21	60
Total	7	29	87	156	117	360	Total	7	29	87	156	117	360

Semester 6													
Code	Course	ECTS	CM	TD	TP	Total	Code	Course	ECTS	CM	TD	TP	Total
LS6STAG	Internship	6				60	LS6STAG	Internship	6				60
LS6PREP	Senior Project (e180) (student-project)	12				120	LS6PREP	Senior Project (e180) (student-project)	12				120
LS6ADSR	Network and system administration *	4	15	15	15	45	LS6ADSR	Network and system administration *	4	15	15	15	45
LS6COGO	Object Oriented Design	4	15	15	15	45	LS6COGO	Object Oriented Design	4	15	15	15	45
LS6DRAF	Business law	3	15	15		30	LS6DRAF	Business law	3	15	15		30
LS6DRGT	General and labor law (MIE, CCNE, CE-BC)	1	15			15	LS6DRGT	General and labor law (MIE, CCNE, CE-BC)	1	15			15
LS6ENTR	Entrepreneurship *	4	24	21		45	LS6ENTR	Entrepreneurship *	4	24	21		45
Total	7	30				315	Total	7	30				315

Total ECTS	190
Total Hours	2040

Semester 1													
Code	Course	ECTS	CM	TD	TP	Total	Code	Course	ECTS	CM	TD	TP	Total
LS1ALGE	Algebra I (MIE, CCNE, CE-BC)	3	15	15		30	LS1ALGE	Algebra I (MIE, CCNE, CE-BC)	3	15	15		30
LS1ANAL	Calculus I (MIE, CCNE, CE-BC)	4	18	27		45	LS1ANAL	Calculus I (MIE, CCNE, CE-BC)	4	18	27		45
LS1AROR	Computer Architecture (CCNE, BC)	3	18	12		30	LS1AROR	Computer Architecture (CCNE, BC)	3	18	12		30
LS1CMGE	General accounting	4	21	24		45	LS1CMGE	General accounting	4	21	24		45
LS1ECON	Economics	3	15	15		30	LS1ECON	Economics	3	15	15		30
LS1FRAN	English (MIE, CCNE, CE-BC)	2		30		30	LS1FRAN	English (MIE, CCNE, CE-BC)	2		30		30
LS1WEBB	Introduction to web Development	3	15		15	30	LS1WEBB	Introduction to web Development	3	15		15	30
LS1UNIN	Introduction to computer science (CCNE, BC)	4	15	18	12	45	LS1UNIN	Introduction to computer science (CCNE, BC)	4	15	18	12	45
LS1STAT	Statistics	4	21	24		45	LS1STAT	Statistics	4	21	24		45
Total	9	30	138	165	27	330	Total	9	30	138	165	27	330

Semester 3													
Code	Course	ECTS	CM	TD	TP	Total	Code	Course	ECTS	CM	TD	TP	Total
LS3BDDR	Relational Database I (CCNE, BC)	4	15	15	15	45	LS3BDDR	Relational Database I (CCNE, BC)	4	15	15	15	45
LS3COAN	Analytical accounting	4	15	15	15	45	LS3COAN	Analytical accounting	4	15	15	15	45
LS3DWEB	Web design (client side)	4	15	15	15	45	LS3DWEB	Web design (client side)	4	15	15	15	45
LS3LAET	Foreign language	2		30		30	LS3LAET	Foreign language	2		30		30
LS3MARK	Marketing (CE-BC)	3	18	12		30	LS3MARK	Marketing (CE-BC)	3	18	12		30
LS3PROO	Object Oriented Programming	2	18	21	21	60	LS3PROO	Object Oriented Programming	2	18	21	21	60
LS3PREN	Computer Networks II (CCNE, BC)	4	12	15	18	45	LS3PREN	Computer Networks II (CCNE, BC)	4	12	15	18	45
LS3STDO	Data structure (CCNE, BC)	4	12	18	15	45	LS3STDO	Data structure (CCNE, BC)	4	12	18	15	45
Total	8	30	105	141	99	345	Total	8	30	105	141	99	345

Semester 5													
Code	Course	ECTS	CM	TD	TP	Total	Code	Course	ECTS	CM	TD	TP	Total
LS5BAFI	Banking and Finance *	3	15	15		30	LS5BAFI	Banking and Finance *	3	15	15		30
LS5BDDO	Object Database	5	18	21	21	60	LS5BDDO	Object Database	5	18	21	21	60
LS5COOR	Organizational Behavior *	4	24	21		45	LS5COOR	Organizational Behavior *	4	24	21		45
LS5DEAM	Mobile-Application Development *	5	18	21	21	60	LS5DEAM	Mobile-Application Development *	5	18	21	21	60
LS5FENC	Taxation *	3	15	15		30	LS5FENC	Taxation *	3	15	15		30
LS5GELO	Software Engineering	3	15	15		30	LS5GELO	Software Engineering	3	15	15		30
LS5GFSI	Management Information Systems *	4	15	15	15	45	LS5GFSI	Management Information Systems *	4	15	15	15	45
LS5GFEI	Financial Management (CE, BC) *	5	18	21	21	60	LS5GFEI	Financial Management (CE, BC) *	5	18	21	21	60
LS5TWEB	Integration of web application	4	12	18	15	45	LS5TWEB	Integration of web application	4	12	18	15	45
LS5INIA	Introduction to Artificial Intelligence *	3	15	15		30	LS5INIA	Introduction to Artificial Intelligence *	3	15	15		30
LS5INSI	Introduction to computer security *	5	12	18	15	45	LS5INSI	Introduction to computer security *	5	12	18	15	45
LS5SVEO	Operating Systems *	3	12	18	15	45	LS5SVEO	Operating Systems *	3	12	18	15	45
Total	12	30				330	Total	12	30				330

* : elective courses - ECTS : European Credits Transfer Accumulation System - CM : Cours Magistral - TD : Travaux Dirigés - TP : Travaux Pratiques

Semester 1

Semester 1						
Code	Course	ECTS	CM	TD	TP	Total
LS1ALGE	Algebra 1 (ME- CCNE- CE-BC)	3	15	15		30
LS1ANAL	Calculus 1 (ME- CCNE- CE-BC)	4	18	27		45
LS1AROR	Computer Architecture (CCNE-BC)	3	18	12		30
LS1CMGE	General accounting	4	21	24		45
LS1ECON	Economics	3	15	15		30
LS1FRAN	English (ME- CCNE- CE-BC)	2		30		30
LS1IWEB	Introduction to web Development	3	15		15	30
LS1ININ	Introduction to computer science (CCNE-BC)	4	15	18	12	45
LS1STAT	Statistics	4	21	24		45
Total	9	30	138	165	27	330



Code	Title	Semester	Credits	Courses	Exercises	LAB
LSIALGE	Algebra I	1	3	15	15	

Department: MIE - CCNE - CE - BC

Objectives:

Give the students the necessary mathematical tools for the follow-up of the basic courses or the specialization courses, in the context of the formation such as: the complex numbers, calculations on the polynomials and rational fractions, use of linear algebra concepts-matrix calculation.

Content:

The complex numbers

Introduction
 Definition of complex numbers and laws of composition
 Algebraic form of a complex number
 Conjugate of a complex number and properties
 Trigonometric form of a complex number
 Exponential form of a complex number
 Fundamental theorem of algebra

Real polynomials and rational fractions

Definitions and notations
 Operations on polynomials
 The Euclidean division and the degree of multiplicity
 Factorization of a real polynomial
 Rational fractions
 Irreducible and proper rational fractions
 Decomposition of a rational fraction into partial fractions

Real vector space

Real vector space and examples
 Real subspace
 Linearly independent and generating families of vectors
 Bases and dimension of a finite real vector space

The matrices 1

Definitions and special matrices
 Square sub-matrices of a matrix

Code	Title	Semester	Credits	Courses	Exercises	LAB
LS1ANAL	Calculus I	1	4	18	27	0

Department: MIE - CCNE - CE - BC

Objectives :

Give students the basic mathematical tools such as the study of functions, Taylor series expansions and integration of functions.

Content :

Real Functions of Real Variable : Definitions, Operations on functions, Properties of functions, Limits of functions, Infinite branches – Asymptotes.

Continuity and Derivability of Real Functions : Continuity, Monotony, Differentiability, ROLLE's Theorem, Mean Value Theorem.

Usual Real Functions: Circular functions, Inverse circular functions, Logarithmic functions, Exponential functions, Power functions, Hyperbolic functions, Inverse hyperbolic functions.

Finite Expansions: Definitions, Finite expansion of usual functions, Properties of finite expansion, Applications of finite expansions.

Integrals: Primitive, Definite Integrals, Calculating integrals, Applications, Improper Integrals.



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS1AROR	Computer Architecture	1	3	18	12	

Departments: CCNE - BC

Objectives:

Know the architecture of the computer and the functions of its main components, such as logic circuits, microprocessors, memories, and interface circuits.

Content:

Computer History and Design:

- Introduction to computer architecture
- Different generations/machine levels
- Information and number coding

Digital systems

- Number systems (decimal, binary, octal, hexadecimal numbers), conversion among bases
- Fractions
- Complements
- Signed Binary Numbers
- Representing characters
- Image data
- Digital logic gates (NOT, AND, OR, NAND, NOR, XOR, XNOR)

Central processing unit

- Computer organization
- Computer system buses
- Computer performance measures (clock rate, CPI, MIPS, Speedup)
- Amdahl's law
- Micro-machine and micro-programming concepts
- Instruction Sets (Characteristics and Functions, Addressing Modes and Formats)

Memory Hierarchy and management

- Main Memory
- ROM (Read Only Memory)
- Cache Memory operation and performance (miss/hit)
- Cache memory - placement policy
 - Direct mapping
 - Example on direct mapping
 - Associative mapping
 - Example on associative mapping
 - Set associative mapping
 - Example on set associative mapping

Pipelining

Code	Title	Semester	Credits	Courses	Exercises	I
LS1CMGE	General Accounting	1	4	21	24	

Department: BC

Objectives:

To introduce the concept of chart of accounts and business transactions to students and to become familiar with the accounting transactions, adjusting the accounts and financial statements.

Content:

- Introduction to Principles of Accounting: What is accounting? Users of accounting? Stakeholders, Chart of accounts and accounts.
- Recording business transactions: The principle of the double-entry system, Application of the double-entry system, Journal, general ledger, trial balance, income statement and balance sheet.
- Purchases and other expenses: Operating expenses (purchases, trade discounts, financial discounts, purchase returns, discounts granted after billing, other operating expenses and incidental purchase expenses), Financial expenses, Non-operating expenses.
- Sales and other revenues: Operating revenues (sales, incidental expenses on sales and other operating revenues), financial revenues, Non-operating revenues.
- VAT
- Advance payments
- Purchases of stocks: Equity participation, other financial assets, investment securities
- Purchases of tangible and intangible fixed assets
- Packaging and bills of exchange (promissory notes)
- Depreciation
- Provisions



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS1ECON	Economics	1	3	15	15	

Department: BC

Objective:

This course is an introduction of economics. Based on the notion of scarcity and demand and supply that explain individual decision-making, the course will be based on an understanding of aggregate variables such as GDP and economic growth. We will also discuss unemployment and inflation and the tools available to the government in the form of monetary and fiscal policies.

Content:

- Economics : Foundation and Models
- Economics : Foundations and Models
- Compromise, comparative advantage, and the market system
- Hence prices come: The interaction of demand and supply
- Market efficiency and market failure
- Business, the Stock Market, and Corporate Governance
- Consumer choice and elasticity
- Companies in perfectly competitive markets
- Monopoly and antitrust policy
- Monopolistic competition and oligopoly
- GDP: total measure of output and income
- Unemployment and inflation



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS1ANGL	English	1	2	0	30	0

Department : MIE - CCNE - CE - BC

Objectives:

The course purpose is to allow the students to reach a level of 400-500 for Toffel Exam. The course is taught in a way to strengthen the listening & speaking skills to help the students communicate & express themselves easily. It also provides the students with the needed tools to improve their English skills in reading and writing.

The course allows the students to talk about himself in an interview, to give opinions & to discuss them with a counterparty, to negotiate using a good vocabulary & to improve his performance in any technical or informal discussion. It also allows the student to write essays by using formal language and adopting the right tone & to write email letters, reports and proposals.



Code	Title	Semester	Credits	Courses	Exercises
IIWEB	Introduction to Web Development	1	3	15	

Department: BC

Objectives:

Learn HTML to create Web pages using the standard tagging language for the World Wide Web. HTML is the core technology in which all Web pages are written.

Content:

- HTML Basic :Elements, Attributes, Headings, Rules, & Comments, Paragraphs, Text Formatting,
- Link
- Image
- Table
- List
- Form & Input, Colors, Styles.



ode	Title	Semester	Credits	Courses	Exercises
ININ	Introduction to computer science	1	4	15	18

Department: CCNE-BC

Objectives :

Introduce information Systems. Acquire the basic concepts of Algorithmic. Acquire the bases of the structured programming.

Content:

Introduction in the notion of application and II program. Notions of syntax, semantics (interpretation, compilation). Algorithmic Concepts of the structured programming:

The types, the variables, the operators, the expressions, the declaration statements, the basic elements, the instructions (reading - writing and assignment), the sequential structures, conditional structures and repetition structures.

General formalism and representation of an algorithm : Pseudo-Code and Flowchart. Test and validation of an algorithm (Trace-table or Execution-table).

The Algorithmic Concepts are applied using C language.

LAB Sessions:

Architecture and components of a computer, Installation and Management of the peripherals of a computer, Basic Functions of Hardware and Software, File management systems.

Application of the algorithmic concepts In C language: types, variables, operators, expressions, les declarations, , the expressions, the declarations statements, the basic elements, the instructions (reading - writing and assignment), the sequential, conditional and repetition Control structures.



Code	Title	Semester	Credits	Courses	Exercises	LAF
LS1STAT	Statistics	1	4	21	24	

Department: BC

Objectives:

Using descriptive statistics in order to extract relevant information from an available sample. The course handles also the rules of simple and conditional probabilities and the use of random variables and associated distributions.

Content:

Part 1: Descriptive Statistics:

- Definition of discrete and continuous variables.
- Numerical measures of central tendency and variability (Mean, Variance and standard deviation, mode, quantiles...).
- Graphical representation of a sample: Barplot, Histogram, CDF, Boxplot...
- Statistical series with two variables, linear regression and correlation.

Part 2: Probability theory:

- Combinatorial Analysis and Probability: Counts rules, probability in a finite sample space, conditional probabilities, BAYES formula, and independence in probability.
- Random Variables: discrete and continuous random variables. Probability laws and calculation of probabilities, expectation and variance.
- Major Distributions: Uniform-Discrete, Bernoulli, Binomial, Poisson, Geometric, Uniform-continuous, Normal (LAPLACE - GAUSS), Exponential.

Semester 2

Semester 2						
Code	Course	ECTS	CM	TD	TP	Total
LS2ALGE	Algebra II (MIE- CCNE- CE-BC)	3	15	15		30
LS2DRHO	Human rights (MIE- CCNE- CE-BC)	2	30			30
LS2GEOR	Organizational Management	4	24	21		45
LS2MAFI	Financial Mathematics	6	21	24	15	60
LS2PRAM	Practical Calculus	4	21	24		45
LS2PRST	Structured programming (CCNE-BC)	4	12	18	15	45
LS2REIN	Computer Networks I (CCNE-BC)	6	21	21	18	60
LS2STAG	Applied statistics for business	4	21	24		45
Total	8	31	165	147	48	360



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS2ALGE	Algebra II	2	3	15	15	0

Departments: MIE - CCNE - CE - BC

Objectives:

Give to the students the mathematical tools necessary for the follow up of basic courses or specializing courses, in the frame of formation such as: use of the concepts of linear algebra. -Matrices.

Content:

Matrices 2:

Addition of matrix and properties
 Scalar multiplication and properties
 Transpose of a matrix and properties
 Product of two matrices and properties
 Elementary row operations

Determinants:

Definition of the determinant and properties
 The inverse of a matrix and properties

Linear transformations and matrix:

Linear transformation
 Matrix representation of a linear transformation
 Kernel, image and rank of a linear transformation

Diagonal square matrix:

Characteristic polynomial of a square matrix or a linear transformation
 Eigenvalues, eigenvectors and eigenspaces
 Diagonalization

Solving a system of linear equations by the method of characteristic polynomials:

Rank of a matrix
 System of linear equations
 Solving a system of linear equations
 Solving a system of linear equations with parameters
 Equivalent consequences of an invertible matrix

Echelon matrices, reduced echelon matrices, and solving a system of linear equations by Gauss Jordan elimination method:

Echelon matrices
 Reduced echelon matrices
 The Gauss Jordan elimination method for solving a system of linear equations



Code	Title	Semester	Credits	Courses	Exercises	LA
LS2DRHO	Human rights حقوق الإنسان	2	2	30	0	0

Department: MIE - CCNE - CE - BC

Objectives:

Sensitization of human rights and strengthening the links between humans.

Content:

Part I: Concept and context of human rights

1. The concept of human rights
2. The intellectual context of human rights
3. Historical overview
4. Resources and references

Part two: The content of human rights

1. Personal rights
2. Legal rights
3. Political rights
4. Right to free thought (belief, expression, teaching, cultural participation ...)
5. Social and economic rights

القسم الأول: ماهية حقوق الإنسان

1. مفهوم حقوق الانسان (حصة واحدة) : تعريف حقوق الانسان، التمييز بين الحق والحرية، دولة القانون، الديمقراطية.
2. الإطار الفكري لحقوق الإنسان (3 حصص): مدرسة القانون الطبيعي، نظرية العقد الإجتماعي، المذهب الفردي، المذهب الإجتماعي.
3. لمحة تاريخية حول حقوق الإنسان (حصتان): الوثائق الانكليزية، الإعلانات الأمريكية، الإعلان الفرنسي، حقوق الإنسان عند العرب.
4. مصادر حقوق الإنسان (3 حصص): الوثائق العالمية، موثيق دولية خاصة، الوثائق الإقليمية، المصادر الداخلية.

القسم الثاني: مضمون حقوق الإنسان

1. الحقوق الشخصية (3 حصص): الحق في الحياة، الأمان من التعذيب، الحق في التنقل.
2. الحقوق القانونية والقضائية (حصتان): الحق في الشخصية القانونية، في حماية القانون، في اللجوء إلى المحاكم.
3. الحقوق السياسية (حصتان): حرية الإجتماع، المشاركة في ادارة الشؤون العامة، الإنتماء الى الدولة.
4. الحقوق الفكرية (حصتان): حرية الإعتقاد، التعبير، التعليم، المشاركة الثقافية.
5. الحقوق الإجتماعية والإقتصادية (حصتان): الحق في الزواج وتكوين الأسرة، الملكية الخاصة، مساواة المرأة مع الرجل، الضمان الإجتماعي، العمل، الأمومة، حقوق الطفل.

Code	Title	Semester	Credits	Courses	Exercises
LS2GEOR	Organizational Management	2	4	24	21

Department: BC

Objectives:

This course is an introduction to management. It provides students with the basic knowledge and skills needed to manage other people. This course begins with a discussion of topical management issues followed by traditional management function coverage: planning, organization, leadership and control. It helps students understand the needs of modern public and private organizations, including emerging national and international trends. At the end of the course, students should be able to identify the principles of formal organization management, recognize the various challenges faced by today's managers and provide examples of organizations functions of planning, organization, management and control.

Content:

- Management and Organizations
- History of management
- Understanding the Context of Management: Constraints and Challenges
- Managing in a global environment
- Diversity management
- Social responsibility and ethics management
- Managers as decision-makers
- Managing Change and Innovation
- Planning foundations
- Strategic management
- Planning tools and techniques
- Management controls
- Basic organizational structure
- Adaptive organizational structure
- Management of Teams
- Understanding individual behavior
- Managers



Code	Title	Semester	Credits	Courses	Exercises	LA
LS2MAFI	Financial Mathematics	2	5	21	24	1

Department: BC

Objectives:

This course aims at introducing students to the concepts of financial mathematics and applying them to practical cases.

The course will focus on short-term financial operations (simple interest, trade discount) and long-term financial operations (compound interest, loan amortization).

At the end of the course, the student will be able to:

- Perform all ratio calculations correctly.
- Calculate simple and compound interest, by using the concept of equivalent interest rates for different periods.
- Make simple calculations for investment and repayment of annuities and construct loan amortization schedules.

Content:

Short-term financial operations

1. Simple Interest
2. Financial Discounts using simple interest

Long-term financial operations

3. Compound Interest
4. Annuities
5. Loan amortization
6. Bond valuations
7. Introduction to the basics of capital budgeting technics

Lab sessions:

The students will use excel functions and other options to perform financial calculations

Lab 1: Simple Interest applications, calculations and charting basics.

Lab 2: Discounts of commercial papers based on simple interest rules (Calculation of bank commissions, discount slip, discount rate)

Lab 3: An introduction to financial functions in Excel (PV, FV, PMT, RATE, NPER etc.)

Lab 4: Compound Interest Exercises (Simulations and graphical representation of present and future value of a single cash flow)

Lab 5: Time Value of money (exercises using Present and future value on fixed and growing annuities. Simulations and graphical representation)

Lab 6 -7 : Using excel spreadsheets to create loan amortization schedules, bonds valuation table, and create input ranges that enable the students to simulate and change the variables. In addition, students should evaluate multiple financing scenarios based on these variables.

Lab 8 : Using excel spreadsheet to introduce the basics capital budgeting techniques such as Net present value and the internal rate of return (Excel simulation of different types of projects, calculation of net present value, internal rate of return, graphic presentation of the NPV profile.)

Code	Title	Semester	Credits	Courses	Exercises	LAI
LS2ANAL	Practical Calculus	2	4	21	24	

Department: BC

Objectives:

Give students the necessary mathematical tools such as: simple operational calculus, calculating multiple integrals, sequences and series.

Content:

Functions of several variables: definitions, two variables function, three variables function, limit and continuity, partial derivatives, total differential.

Operators for vector analysis: Review of analytical geometry, scalar field and vector field, Gradient, Laplacian, Divergence and curl.

Multiple integrals: definitions, double integrals, calculation of the double integral, Triple Integrals, calculation of the triple integral.

Sequence: Definitions, arithmetic sequences, geometric sequences, global behavior of a sequence, behavior of a sequence at infinity, adjacent sequences.

Series: definitions, convergence, divergence, and fundamental series: geometric series, Riemann series, Series with positive terms, comparison theorem: criterion of Alembert, Criterion of Cauchy, alternated series, Laurent series.



Code	Title	Semester	Credits	Courses	Exercises
LS2PRST	Structured Programming	2	4	12	18

Department: CCNE - BC

Objectives:

Study the concepts of structured and modular programming thoroughly. Introduce and manipulate the different data structures.

Content:


- Functions
- Arrays
- Strings
- Pointers
- Scope and memory allocation
- Structures
- Text and binary files processing

All concepts above should be applied in C language.

Lab sessions:

Lab sessions should cover the following:

Functions, arrays (one and multi-dimensional), strings, pointers, scope and visibility and memory allocation, structures, text and binary files.



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS2REIN	Computer Networks I	2	5	21	21	18

Department: CCNE - BC

Objectives:

Introducing computer networks. Acquisition of general knowledge and skills on the transmission media and digital encoding, modes and communication techniques, topologies and architecture of the networks, physical layer and data layer connections.

Content:

Overview (Introduction of the basics of networking terminology, bandwidth, throughput, Network types: LAN, MAN, WAN, SAN, network models: TCP / IP, Standards Organizations). Transmission media and digital encodings (Media types: coax, twisted pair, fiber optics, electromagnetic waves, analog modulations, Data encoding: RZ, NRZ, NRZI, Manchester, Differential Manchester, nB / mB, ...). The methods and techniques of communication (Communication modes: serial, parallel, synchronous, asynchronous, online and offline, Techniques: multiplexing, demultiplexing, error checking,), the network topologies (Topologies: bus, ring, star, mesh, The IEEE model, concept of access method). Architecture of computer networks: OSI Architecture and TCP / IP. OSI: presentation of seven layers of the OSI model, Encapsulation and decapsulation, the service primitives. TCP / IP architecture: Presentation layer, IP addressing, presentation of the main protocols such as HTTP, DNS, FTP, Telnet, TFTP, SMTP...

LAB Sessions:

Installing a local network adapter. Installing a local network. Preparation and use of twisted pair cables of different types. Configuring TCP / IP Settings for a Network. Splitting a network into a subnet. Use of "Ping and Tracert" and ARP commands. Installation of Ethereal and the "WinPcap Package". Establishing a console connection with a Router or Switch. Sharing network resources.



Code	Title	Semester	Credits	Courses	Exercises
2STAG	Applied Statistics for Business	2	4	21	24

Department: BC

Prerequisites: Statistics

Objectives:

The aim of this course is to provide students with inferential statistical techniques that are used to extract relevant information, and to make a decision from an available sample.

Contents:

- Notion of random sample. Central limit theorem.
- Point Estimation: Estimator notion, and estimator for usual parameters.
- Probability laws from the normal law: Chi-Square, Student and Fisher probability laws.
- Confidence intervals, on a mean, variance, and proportion.
- Hypothesis test: parametric tests, Chi-Square goodness of fit test, tests to compare two populations (Fisher and Student test, and proportion comparison).
- ANOVA test to compare several populations.
- Time series and forecast.

Head of Department
Business Computer



Dr. Mazen EL-SAYED

Semester 3

Semester 3						
Code	Course	ECTS	CM	TD	TP	Total
LS3BDDR	Relational Database I (CCNE-BC)	4	15	15	15	45
LS3COAN	Analytical accounting	4	15	15	15	45
LS3DWEB	Web design (client side)	4	15	15	15	45
LS3LAET	Foreign language	2		30		30
LS3MARK	Marketing (CE-BC)	3	18	12		30
LS3PROO	Object Oriented Programming	5	18	21	21	60
LS3REIN	Computer Networks II (CCNE-BC)	4	12	15	18	45
LS3STDO	Data structure (CCNE-BC)	4	12	18	15	45
						0
						0
Total	8	30	105	141	99	345

Code	Title	Semester	Credits	Courses	Exercises	LAB
LS3BDDR	Relational Database I	3	4	15	15	15

Department: CCNE – BC

Objectives:

In this course we are interested in the computerization methodology of companies starting from the requirements to lead to the data models. The goal is to be able to design, create, administer, manipulate and query a database. Thus in this course, we describe the concept of the database and the DBMS (Database Management System). We are mainly interested in databases and RDBMS of the "Relational" type. The focus is on designing a good schema of a relational database and using DBMS to implement and exploit it.

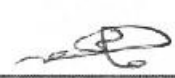
Content:

After a recall about the general architecture of an information system and the different types of organizations and file operations, we describe the advantages of using a database. According to the ANSI/SPARC architecture, we define the different levels of a database description (conceptual, logical and physical). Then we present the Entity-Relationship model (Merise model) which lead to establish a conceptual data model based on the needs expressed by the client: we insist on the design of an optimized database schema (functional dependencies, theory of normalization, ...). After that, we describe how to transform an Entity-Relationship model to a Relational model. Finally, we treat of the data manipulation in the Relational model by presenting relational algebra as well as the SQL language.

Lab sessions:

Environment. Design of a relational database: modeling and implementation of an entity-relationship model. Manipulating databases using SQL queries.

DBMS used: Microsoft Access, SQL server



Code	Title	Semester	Credits	Courses	Exercises	I
S3COAN	Analytical Accounting	3	4	15	15	

Department: BC

Prerequisites (registration and attendance): General Accounting

Objectives:

To analyze the information retained in the general accounting system in order to increase the efficiency of the company's management, to introduce the student to the techniques of analysis of the expenses and the products of the company, to know and to determine the costs of the various functions of the company, determine the basis for evaluating certain elements of the company's balance sheet, explain the results by calculating the costs of products (goods and services) to compare them with the corresponding selling prices.

Content:

- The general principles of analytical accounting: Transition from general accounting to analytical accounting, Definitions: cost, cost price, result and margin, classification of costs, different types of cost classification.
- Inventory valuation methods: stock depletion method (FIFO and LIFO), weighted average purchase cost, cumulative inventory, after each entry.
- The distribution of costs by activity center (Methods of homogeneous sections): Classification of sections, Distribution of loads by section, Distribution of auxiliary sections.
Cost Analysis: Variations of activity-based costing, Behavior of fixed and variable cost, Profitability threshold.
- Actual costs and cost price: Different costs, Cost price, Matching of the results of the General Accounting and the Analytical Accounting.
- Rational imputation of fixed costs: Principle and definition, Rational imputation in the case of uniform variation of activity, Rational imputation in case of different activity variation for each section.

Lab sessions:

- Some methods of stock evaluation: organize and evaluate stock (stock depletion method FIFO and LIFO, different methods of weighted average purchase cost...).
- Distribution of costs by activity center (Methods of homogeneous sections):
- Distribution of indirect costs on activity sections (Primary and secondary distribution).
- Cost analysis (programming): calculate the analytical result from variable and fixed costs, then calculation of the Profitability threshold.
- Actual costs and cost prices (programming): calculate the purchase cost, cost of production, cost price and the result of an industrial enterprise.
- Rational Imputation of Fixed costs (Programming): Apply the principle of Rational Imputation in the case of uniform variation in activity and Rational Imputation in case of different activity variation for each section.



Code	Title	Semester	Credits	Courses	Exercises	LA
LS3DWEB	Web Design (client side)	3	4	15	15	1.

Department: BC

Objectives:

Learn CSS and JavaScript.

CSS helps in creating faster and beautiful websites. With HTML styles, formatting and attributes can be added to HTML elements directly by using the style attribute, or indirectly in separate Cascading Style Sheets (CSS files).

JavaScript is the scripting language of the Web. JavaScript is used in Web pages to add functionality, validate forms, detect browsers, and much more. JavaScript works in all major browsers, such as Internet Explorer, Firefox, Chrome, Opera, and Safari.

Content:

- Common HTML Styles : Background Color ; Font Family, Color, and Size ; text alignment .
- External Style Sheet, Internal Style Sheet, Inline Styles, Style tags.
- JavaScript Statements, Variables, Operators, loops, Flow Control Statements, Functions, Object, Events, Validation.



Code	Title	Semester	Credits	Courses	Exercises	L
3LAET	Foreign language	3	2	0	30	

Department: BC

Objectives:

English is a course designed for students with basic and technical major. This course covers the skills of reading, writing and speaking as well as improving pronunciation and building vocabulary. Particular emphasis is placed on reading and comprehension. The primary goal of this course is to teach communicative competence, that is, the ability to communicate in french according to the situation, purpose and roles of the participants.

Content:

In this course, the first focused on: key vocabulary, reading, speaking and writing: Student Portrait, list all details of personal skills, present position, background and present responsibilities.

The second part focused on: technical words, discussion about technical topics, analysis of technical reports (projects, articles, papers,...) and communication activities.



Code	Title	Semester	Credits	Courses	Exercises	I
LS3MARK	Marketing	3	3	18	12	

Department: BC - CE

Objectives:

In this course, students will learn the most important problems in marketing, moreover the students must identify the modern concepts of marketing philosophies, strategic marketing and marketing planning, the marketing environment, Marketing Information systems, consumer behavior and organizational marketing and market segmentation, positioning, targeting. The course will focus on strategic products and services, prices, distribution, integrated marketing and communication strategies. In addition, students will learn online marketing, online marketing strategy, e-commerce and marketing using social media.

Content:

- Introduction to marketing
- Definition of basic marketing concepts and terminology
- Marketing strategic planning
- Marketing environment
- Marketing Research
- Consumers and Organizational markets
- Marketing Segmentation, Targeting and Positioning
- Products and Services Strategies
- Pricing strategy
- Supply chain management and marketing channels
- Integrated Communication marketing strategy
- Online Marketing



de	Title	Semester	Credits	Courses	Exercises
ROO	Object Oriented Programming	3	5	18	21

Department: BC

Objectives:

- To present the basic concepts of object oriented programming such as encapsulation, inheritance and polymorphism.
- To provide students the ability to develop programs with C# language while presenting the structure and the syntax of the language.

Content:

- Introduction to C# language
 - Variables and data types, Operators, type conversion and casting
 - Use of the Input/Output console
 - Conditional statements "if" and "if-else"
 - Conditional statement "switch-case"
 - Loops
- Arrays
- Classes and methods
 - Classes (instance variables, constructors, properties, etc.)
 - Indexors
 - Methods
 - Recursion
- Inheritance
- Abstract classes and interfaces
- Exception handling
- Collections

Lab sessions:

- Presenting of Visual Studio environment and C# configuration.
- Development of programs with control statements. Practics on One-dimensional and two-dimensional arrays.
- Creation of classes and implementation of constructors.
- Creation of classes with instance methods, static methods and recursion.
- Exception handling
- Creation of classes, interfaces, sub-classes and and management of ArrayList collection.



Code	Title	Semester	Credits	Courses	Exercises
3REIN	Computer Networks II	3	4	12	15

Department: CCNE - BC

Prerequisites (registration and attendance): Computer Networks I

Objectives:

Technologies, protocols and standards of LAN and TCP / IP architecture.

Content:

TCP / IP architecture: PPP and HDLC protocols, the network layer and IP addressing, structure of IPv4 addresses. VLSM and CIDR techniques, subnetting, private and public addressing. The evolution to IPV6 addressing, comparison between IPv4 and IPv6. Dynamic addresses management principle with RARP, BOOTP and DHCP, NAT and PAT. DNS, ARP, and ICMP protocols. IP routing: Static Routing, Dynamic Routing, distance-vector routing protocols, link-state routing protocols, Characteristics of IGRP, RIP, OSPF and EIGRP. The transport layer: functions of the layer, header formats of TCP and UDP segments. The TCP / IP application layer: functions and well known applications of TCP / IP model.

LANs. Ethernet, IEEE 802.3: Basics of Ethernet technology, access method and principle of CSMA / CD, frame formats, Errors and Ethernet collisions, Synchronization, the BEB algorithm, differences and similarities between the versions 10BASE5, 10BASE2, 10BASE-T and recent versions of Ethernet. The evolution of Ethernet switched Ethernet, Fast Ethernet and Gigabit Ethernet. Interconnection of local networks: interconnection equipment (repeaters, Hub, Switch, Bridge, Router), Functions of bridges, the protocol STP (Spanning Tree Protocol). The Virtual LAN, VLAN Benefits, the main types of VLAN, ISL and 802.1Q protocols, the VTP protocol. Introduction to wireless Networks, mainly the wi-fi IEEE 802.11 protocol.

Lab sessions:

IP addressing, DHCP, NAT, PAT, ARP. Configuring access lists. Static and dynamic routing. Data unit Analysis at MAC level, LLC, HDLC, IP and TCP / UDP levels. Local networks interconnection. Configuration of Switches, STP, VLAN. WLAN: Basic configuration of a wireless network.



Code	Title	Semester	Credits	Courses	Exercises	LA
LS3STDO	Data Structure	3	4	12	18	1:

Department: CCNE - BC

Objectives:

Performance Analysis and optimization of a C program. Modular Programming. Introduction of data abstract types.

Content:

- Complexity of a C program.
- Recursion.
- Modular programming.
- Sorting.
- Data abstract types: Linked list (simple, circular, and double), stack and queue.
- Tree (binary).

Lab sessions:

Lab sessions should cover the following:

Complexity, recursion, sorting, multi-files program, list, stack, queue and tree.



Semester 4

Semester 4						
Code	Course	ECTS	CM	TD	TP	Total
LS4ANFI	Financial Analysis	4	15	15	15	45
LS4ANAF	Business English	3		45		45
LS4BDDR	Relational Database II	5	18	18	24	60
LS4DWEB	Web server development	5	18	21	21	60
LS4EXCO	Communication skills (MI- CCNE- CE-BC)	2		15	15	30
LS4PREV	Event-based Programming	5	18	21	21	60
LS4REOP	Operational Research (CE-BC)	5	18	21	21	60
Total	7	29	87	156	117	360



Code	Title	Semester	Credits	Courses	Exercises	I
LS4ANFI	Financial Analysis	4	4	15	15	

Department : BC

Objectives:

The course aims at giving the students the ways to develop a scientific diagnosis of the financial performance of the company. The course will focus on functional analysis of the balance sheet (working capital, working capital requirements, and free cash flow), the analysis of the income statement (Interim Balances of the income statement and Cash Flow), and financial analysis using cash flows (using the Chart of Accounts) as well as by using financial ratios (operating ratios, financial structure ratios, liquidity ratios and profitability ratios).

Skills to be acquired

Reading and interpreting accounts.

Ability to conduct financial diagnosis: static and dynamic analysis, ability to assess and to suggest financial decisions (investment decisions, financing decisions. Generally, the ability to conduct a financial diagnosis and issue recommendations)

Content:

- Overview of the balance sheet and income statement
- Functional analysis of the balance sheet
- Income statement analysis
- Analysis using the cash-flow statement
- Financial ratios

Lab Sessions:

- Using excel spreadsheets to study the balance sheet and the income statement
- Financial structure analysis: Compute the working capital, working capital requirements, and the free cash flow.
- Equity financing decisions.
- Computing the interim balances of the income statement
- Computing the cash flow statement
- Computing Financial Ratios (using spreadsheets to calculate Structural Ratios, Financing Ratios, Treasury Ratios, Profitability Ratios and Management and turnover Ratios.



Code	Title	Semester	Credits	Courses	Exercises	LAI
LS4ANAF	Business English	4	3		45	

Department: BC

Objectives:

Introduction to a practical application of basic language usage skills with emphasis on fundamentals of business writing and oral communication in business context..

Content:

This course helps students develop the skills needed to communicate successfully on the job with emphasis on reading strategies, analytical thinking, discussion and oral presentation. Topics integrated throughout the course include global communications, business topics, and business related issues.

TEACHING METHODS AND STRATEGIES:

The instructor may use case studies, lectures and explanations, exercises from the handouts, recent changes in the communication process, current events, Power Point presentations, and experiences and discussion.



Code	Title	Semester	Credits	Courses	Exercises
S4BDDR	Relational Database II	4	5	18	18

Department: BC

Prerequisite (registration and attendance): Relational database I

Objectives:

Complete the relational database course till the SQL language and introduce the advanced techniques such as views, stored procedures and transactions. Introduce the security and the authorization concepts.

Content:

DDL (Data Definition Language)

1. DB management with different parameters; Tables management with different types of constraints; Constraints management: primary and foreign keys, default, data validity constraints (check) and the referential integrity constraints; Definition of rules, default, and new data types.

2. Use of stored procedures in order to rename databases and the objects in a database (tables, attributes, etc.) to apply rules, default and data types defined by the user. View management: Definition, view update and delete, query through views, update through views, concretes and decisional views.

Database programming: Stored procedures; user defined functions; Triggers; Cursors.

Transactions: Transaction concept: Atomicity, Coherency, Isolation and durability; Concurrency concept; pessimistic and optimistic concurrency control; Faults tolerance; Transactions validation; Recovery procedures.

Security management: authorization levels, ability of individuals, roles

Databases Administration: Administrator's role; Installation of a DBMS; Backup, restore; logging; disk space management; Replication; Event planning.

Requests optimization: Physical optimization (index and cluster); Logic optimization.

Lab sessions:

DDL: Creating tables with different constraint types; Use of stored procedures of DBMS; Creating user stored procedures; Creating and using Views; Creating and using triggers and cursors; Transaction; Creating and using role; Use of Log; Requests optimization.



de	Title	Semester	Credits	Courses	Exercises
WEB	Web Server Development	4	5	18	21

Department: BC

Prerequisite (registration and attendance) : Web Design (client side)

Objectives:

Introduce the programming of the server side of a Web application.

Content:

- Review of network architecture and HTML language: TCP / IP architecture; Operation in client / server mode; the server functions.
- PHP: Principle of operation and integration with a Web server; Syntax; the variables. ; the functions, and the passage of parameters; Tests and loops; The arrays. ; chains of characters (strings); Processing server-side forms.
- Main PHP libraries: String processing of strings, arrays, dates and files. HTML-PHP integration and data recovery.
- Access to DB: Client - Server WEB Architecture - DB Server; The different libraries of PHP; Detailed study of a library.
- PHP global variables/
- Management of sessions and cookies.
- Object programming in PHP.

Lab sessions:

HTML review; PHP language (constants, variables, arrays, loops, tests, etc..)

Using of libraries (arrays, dates, strings, files).

Access to DB : principle, view, update, reading of the data structure.

Using of sessions and cookies ; Using of objects.



Code	Title	Semester	Credits	Courses	Exercises
LS4EXCO	Communication Skills	4	2		15

Department: CE- CCNE- BC- MIE

Objectives:

Initiate students to different situations of communication which might be encountered in professional environments.

Use correctly and effectively written and oral expression

Using English as a necessary tool in expression and communication.

Content:

Generalities:

Definition of communication elements: transmitter- receptor-support.

The problems of expression and communication: situations and necessities.

Elements of communication: transmitter- receptor-support. Typology of people and its impact on communication: elements of psychology, adaptation of communication according to the conversational pattern. Organization and preparation to a situation of communication (written or oral): documentary research, choosing and preparing the support, spatiotemporal definition.

Written expression:

The scientific report: types: training report, degree project, and report.

Steps to write a scientific report (subject, bibliography, plan...)

Objectivity/subjectivity: objective elements and personnel point of view.

The form of the scientific training.

The CV: objectives of CV, its relation with the LM.

Form and content of CV; balance between formalism and personalization.

Different situations: a candidacy to training, to a job, to a university.

The motivation and cover letter:

The ML objectives and its link with the CV.

Form and content of the ML, balance between formalism and personalization.

Different situations: a candidacy to training, to a job, to a university.

Others: press release, advertisement.

Oral expressions:

The presentation: to present himself to the audience / to present himself to another person, talk about himself/ to explain a real subject. **Types:** presentation of work experience, presentation of degree project, presentation of a project, presentation of a report (activities report, balance sheet)

Problems: report to the public, used support, specific knowledge of the tool PowerPoint.

Discussion / debate: characteristics of debate: to outline ideas, answer questions, to argue.

Interview: characteristics of the interview: types of interview: hiring, training.

Negotiation: characteristics of negotiation.

Code	Title	Semester	Credits	Courses	Exercises	I
LS4PREV	Event-Based Programming	4	5	18	21	

Department: BC

Objectives:

The objective of this course is to present the basic concepts of C # event programming for the Microsoft .Net development platform. It also aims to familiarize students with the development of applications that provide graphical interfaces and manage different types of graphic objects such as windows, menus, buttons, and more. And finally, provide students the ability to manipulate databases.

Content:

Explain the Microsoft.NET Framework and understand its' major components: Common Language Runtime (CLR) and Base Class Library (BCL).

- Use the C# language to build Windows Form applications.
- Design Windows GUI applications with Forms and Dialogs.
- Use common Windows controls including DateTimePicker, MonthCalendar, DomainUpDown, NumericUpDown, TrackBar, ProgressBar, LinkLabel, Timer, and MaskedTextBox.
- Use advanced Windows controls including TreeView, ListView, ImageList, TabControl, MenuStrip and Error Provider.
- Work with the Input/Output (I/O) system and database

Lab sessions:

The lab sessions will focus on:

- Presentation of the .Net graphical development environment.
- Generation and formatting of a graphical interface. Management of events. Menus, toolbars, and dialog boxes.
- Creation of new graphical controls such as DateTimePicker, MonthCalendar, DomainUpDown, NumericUpDown, TrackBar, ProgressBar, LinkLabel, Timer, and MaskedTextBox, TreeView, ListView, ImageList, TabControl, MenuStrip and Error Provider.
- Inputs / Outputs management and Manipulation of databases .

Code	Title	Semester	Credits	Courses	Exercises	LAB
LS4REOP	Operational research	4	5	18	21	21

Department: BC - CE

Objectives:

The main objective of this course is to train the students to be able to make best decisions using some decision support tools/methods (like Linear programming and Graph theory).

Content:

- Linear Programming:
 - o Introduction to linear programming
 - o Some examples of real applications based on linear programming
 - o The different steps to follow in the optimization world (Comprehension of the problem, mathematical modeling, model solving, Interpretation of the results)
 - o Modeling of real linear problems (Decision variables, Constraints, Objective function)
 - o Solving a linear model using the graphical method. What are the conditions to use this method ?
 - o Simplex (step by step)
 - o Minimization Problem and artificial variables
 - o Duality and sensitivity analysis
 - o The economic interpretation of dual variables
- Graph theory :
 - o Introduction and some examples of applications (GPS, computer routing, robot motion, etc....)
 - o Vertex, edges and weights
 - o Directed and undirected graph
 - o Hamiltonien cycle : some applications (Transport Salesman problem)
 - o IT representation : Adjacency matrix, incidence matrix, adjacency List. The difference between them from a time complexity point of view.
 - o How to transform a real problem into a graph (Puzzles, games, Frequency assignment, etc.)
 - o How to find the shortest path in a graph using Dijkstra
 - o FLOW Problem (Called also Transportation problem)
 - o Scheduling (PERT or MPM method)

LAB sessions:

- How to model and solve Linear problems using mathematical solvers:
 - o Microsoft Solver Foundation en C#
 - o Excel Solver
- How to get the values of the dual variables. How do we interpret these values ?
- Mini Project : A mini project dealing with an optimization issue to be done by the students under the supervision of teachers.



Semester 5

Semester 5						
Code	Course	ECTS	CM	TD	TP	Total
LS5BAFI	Banking and Finance *	3	15	15		30
LS5BDDO	Object Database	5	18	21	21	60
LS5COOR	Organizational Behavior *	4	24	21		45
LS5DEAM	Mobile Applications Development *	5	18	21	21	60
LS5FISC	Taxation *	3	15	15		30
LS5GELO	Software Engineering	3	15	15		30
LS5GESI	Management Information Systems *	3	15	15		30
LS5GEFI	Financial Management (CE-BC)*	4	15	15	15	45
LS5IWEB	Integration of web Application	5	18	21	21	60
LS5INIA	Introduction to Artificial Intelligence *	4	12	18	15	45
LS5INSI	Introduction to computer security *	3	15	15		30
LS5SYEO	Operating Systems *	5	12	18	15	45
Total	12	30				330

Code	Title	Semester	Credits	Courses	Exercises	I
LS5BAFI	Banking and Finance	5	3	15	15	

Department: BC

Objectives:

This course provides an introduction to the principles of banking and finance. Mainly students will learn the structure and functioning of financial markets, the pricing of financial assets, the structure of the banking industry, and monetary policy.

Content:

- Why Study Money, Banking, and Financial Markets?
 - Why study financial markets?
 - Why study financial institutions and banking?
 - Why study money?
 - Why study international finance?
 - Defining aggregate output, income, the price level, and the inflation rate
 - Aggregate output and income
 - Real versus nominal magnitudes
 - Aggregate price level
 - Growth rate and the inflation rate
- An Overview of the Financial System
 - Function of financial markets
 - Structure of financial markets
 - Financial markets instruments
 - Functions of financial intermediaries
 - Types of financial intermediaries
- What Is Money?
 - Meaning of money
 - Functions of money
 - Evolution of the payment system
 - Measuring money
 - How reliable are money data?
- Understanding Interest Rates
 - Measuring interest rates
 - Present value
 - Yield to maturity
 - Credit market instruments
 - Simple loans
 - Fixed payment loans
 - Coupon bond

- Perpetuity
 - The distinction between interest rates and returns
 - The distinction between real and nominal interest rates
- The Stock Market, the Theory of Rational Expectations, and the Efficient Markets Hypothesis
 - Computing the price of common stock
 - The one-period valuation model
 - The generalized dividend valuation model
 - The Gordon growth model
 - How the market sets stock prices
 - The theory of rational expectations
 - The efficient market hypothesis
- Banking and the Management of Financial Institutions
 - The bank balance sheet
 - Basic banking
 - General principles of bank management
 - Liquidity management and the role of reserves
 - Asset management
 - Liability management
 - Capital adequacy management
 - Managing credit risk
 - Managing interest rate risk
 - Gap and duration analysis
 - Off balance sheet activities
- Financial Derivatives
 - Forwards
 - Futures
 - Options
 - Swaps



Code	Title	Semester	Credits	Courses	Exercises	L
LS5BDDO	Object Database	5	5	18	21	

Department: BC

Prerequisite (registration and attendance): Relational database I and II, Object Oriented Programming.

Objectives:

The objective of this course is to introduce the object concepts in the context of databases. This course presents object DBMS and object-relational DBMS: standards, State of the art, ...

Content:

- 1- **Object model.** Object-oriented model: modeling of objects, encapsulation, polymorphism, collections of objects, object database schema. The persistence of objects, identity of object and the reference.
- 2- **The standard of ODMG: ODL, OQL and OML.** The model of ODMG : General view and basic concepts, behavior and structure inheritance, objects, collections, ... ; the OQL language (overview, queries syntax, ...) ; the manipulation language OML. Translation of UML class diagram to ODL.
- 3- **The object-relational and SQL3.** Overview of SQL3; The object-relational model: essential additional concepts, the query language extensions; abstract types, the constructors of complex objects, tables, collections, inheritance, overloading...; The persistent object, the identity and the reference; the object views.
- 4- **The object-relational in a DBMS O-R such as (Oracle):** the system basics: control structures, cursers, functions, procedures, triggers and packaging. Presentation of object concepts shown in the previous chapter and present in this DBMS.

Lab sessions:

Object Modeling and impact on the data modeling

Implementation of an object model at Database level

Use of the terms described above using an object-relational DBMS such as (Oracle).



Code	Title	Semester	Credits	Courses	Exercises	LA
LS5COOR	Organizational Behavior	5	4	24	21	0

Department: BC

Objectives:

To obtain an overview of the human dimension of organizations and increase their ability to analyze and interact with individuals and groups. More specifically, this course allows students to understand the factors that affect organizational behavior, to reflect and deepen students' understanding of the factors that explain the behavior of individuals and groups within the organization and to Recognize, observe, describe and analyze human interactions. Finally, the course allows students to Identify the antecedents of the individual's behavior at work and to develop interpersonal strategies and teamwork skills.

Content:

Introduction. What is organizational behavior

Part 1. The Individual : Foundations of individual behavior

- The individual: Attitudes and Job satisfaction
- The individual: Perceptions and decision making
- The individual: Motivation: concepts and applications

Part 2. The group : Foundation of group behavior

- The group : Understanding Work teams
- The group : Communication
- The group : Leadership
- The group : Power and politics

Part 3. The Organization System: Foundations of Organizational Structure

- The organization System: Organizational Culture
- The organization System: Human resources policies and practices in the Arab world

Organizational Behavior in the Family Business



ode	Title	Semester	Credits	Courses	Exercises
DEAM	Mobile applications Development	5	5	18	21

Department: BC

Prerequisites (registration and attendance): Object Oriented Programming, Event-Based Programming.

Objectives:

The goal of this course is to introduce students to the development of mobile applications. It's about applications running on the Android platform using the SDK provided by Google.

Content:

- 1. Mobile Application Environment**
 - Problematic – Constraints
 - Presentation of the environment
 - Operating System
 - Development System
- 2. Application with single activity**
 - Activity concept and life cycle
 - Graphic activity
 - Basic classes
 - Layout
 - Events management
 - Dynamic presentation
- 3. Application with many activities**
 - Principle
 - Start and stop activity
 - Communication between activities
- 4. Use of local resources**
 - Web Browser
 - Camera / Microphone / sound
 - Files / databases
 - Geo-localization / internal sensors

Lab sessions:

Development of mobile applications written in Java and operating on Android platform.

Development tools: NetBeans or Eclipse with a SDK such as ADK or Android studio.



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS5FISC	Taxation	5	3	15	15	

Department : BC

Objectives:

This course is designed to teach students to recognize major tax issues according to the Lebanese Taxation System. The course focuses on learning how to calculate and perform taxes, filling in sample reports authorized and issued by the Ministry of Finance.

The course consists of three major topics: tax procedures, income tax law, and VAT law in Lebanon. On completion of this course, students should be able to explain the taxation system as it applies to individuals and businesses in Lebanon.

توصيف وأهداف المقرر الدراسي

تتضمن هذه المادة دراسة النظام الضريبي اللبناني ومعرفة كيفية احتساب وتأدية الضرائب وتعبئة نماذج التصاريح المعتمدة لدى وزارة المالية.

يتألف البرنامج من ثلاثة مواضيع أساسية هي: الإجراءات الضريبية، قانون ضريبة الدخل في لبنان وقانون الضريبة على القيمة المضافة في لبنان، وتؤدي الدراسة العملية لهذه الأمور الى معارف يحتاجها التجار والمؤسسات والشركات في احتساب الضرائب وتأديتها.

المحتوى	الأسبوع
<p>فصل تمهيدي : مقدمة عامة المبحث الأول : الجهاز الضريبي في لبنان. المبحث الثاني : النظرية العامة للضرائب. المبحث الثالث : الضريبة والرسم.</p>	1
<p>الفصل الأول : الضرائب المباشرة وغير المباشرة المبحث الأول : معايير التمييز بين الضرائب المباشرة وغير المباشرة. المبحث الثاني : إقليمية الضريبة. المبحث الثالث : سنوية الضريبة.</p>	2
<p>الفصل الثاني : المهن الصناعية والتجارية وغير التجارية (الباب الأول) المبحث الأول : الضريبة على أرباح المهن الصناعية والتجارية وغير التجارية. المبحث الثاني : التفريق بين المهن الصناعية والتجارية وغير التجارية.</p>	3
<p>الفصل الثالث : التكاليف على أساس الربح الحقيقي المبحث الأول : المكلفون على طريقة الربح الحقيقي. المبحث الثاني : الإعفاءات من الضريبة.</p>	4
<p>الفصل الرابع : النتيجة المحاسبية والنتيجة الضريبية المبحث الأول : قواعد تحديد الربح الحقيقي. المبحث الثاني : بيان الانتقال من النتيجة المحاسبية إلى النتيجة الضريبية. المبحث الثالث : أعمال تطبيقية.</p>	5



6	<p>الفصل الخامس : التكلفة على أساس الربح المقطوع المبحث الأول : الخاضعون لطريقة الربح المقطوع. المبحث الثاني : احتساب الربح المقطوع مع الضريبة. المبحث الثالث : أعمال تطبيقية.</p>
7	<p>الفصل السادس : التكلفة على أساس الربح المقدر المبحث الأول : الربح المقدر : تحديده، الخاضعون له، طريقة احتسابه. المبحث الثاني : أرباح التحسين. المبحث الثالث : أعمال تطبيقية.</p>
8	<p>الفصل السابع : شركات الهولدنغ وشركات الأوف شور المبحث الأول : تعريف الشركة القابضة. المبحث الثاني : تعريف الشركة المحصور نشاطها خارج لبنان. المبحث الثالث : النظام الضريبي لشركات الهولدنغ والأوف شور.</p>
9	<p>الفصل الثامن : الرواتب والأجور ومعاشات التقاعد (الباب الثاني) المبحث الأول : الضريبة على الرواتب والأجور ومعاشات التقاعد. المبحث الثاني : الواردات الخاضعة لضريبة الرواتب والأجور. المبحث الثالث : الإعفاءات، التنزيلات العائلية، الشطور الخاضعة للضريبة.</p>
10	<p>الفصل الثامن : الرواتب والأجور ومعاشات التقاعد (الباب الثاني)</p>
11	<p>الفصل التاسع : رؤوس الأموال المنقولة (الباب الثالث) المبحث الأول : الضريبة على دخل رؤوس الأموال المنقولة. المبحث الثاني : الإيرادات الخاضعة والإعفاءات.</p>
12	<p>الفصل العاشر : الضريبة على القيمة المضافة المبحث الأول : الضريبة على القيمة المضافة : تحديدها وخصائصها.</p>
13	<p>الفصل العاشر : الضريبة على القيمة المضافة المبحث الثاني : الملزمون بالضريبة وموجباتهم. المبحث الثالث : الإعفاءات من الضريبة.</p>
14	<p>الفصل العاشر : الضريبة على القيمة المضافة المبحث الرابع : أعمال تطبيقية.</p>



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS5GELO	Software Engineering	5	3	15	15	

Department: BC

Objectives:

This course aims to present the concepts, methods, techniques and tools that constitute the foundations of software engineering. In this context, students will be able to realize software according to quality criteria defined in advance allowing them a preventive treatment of the defects.

Content:

- Definitions and principles of software engineering. Software life cycle. Software quality factors.
- Activities and development models in software engineering. Activities: Requirements Analysis, Specification and Design, Coding, Integration, Validation and Verification. Models: Quick previews on Cascade, V, Prototype, and Incremental models.
- Tools and specification methods
- Testing strategies. Evaluation of costs



Code	Title	Semester	Credits	Courses	Exercises
5GSIN	Management of Information Systems	5	3	15	15

Department: BC

Objectives:

In this course, students will learn information systems to increase productivity, create customer value, and maintain a competitive advantage in a (non-technical) management perspective. They will be shown how the integration of technologies of the information and information systems in the Organization's work processes add value for the company and its customers. Emphasis will be placed on the following thematic areas: competitiveness, functional information systems, information systems and inter organizational (CRM, SCM, ERP, KM), electronic commerce, collaboration, informational systems, and social networks and user-generated content. Students must also recognize and express these issues in terms of market news and member cases.

Content:

- Introduction to MIS
- Business processes, information, and information systems
- Organizational strategy, structure of the industry, chain value, and competitive advantage
- Functional systems
- Cross-organizational and inter-organizational systems (CRM, SCM, ERP, KM)
- Electronic commerce to improve the market efficiency
- Collaborative systems and international commerce
- Business and Information Intelligent systems for decision making
- Social networks and content generated by user



Code	Title	Semester	Credits	Courses	Exercises
5GEFI	Financial Management	5	4	15	15

Department: BC - CE

Objectives:

This course aims to show how to use financial information in order to increase the effectiveness of organizations and management of firms.

Content:

Capital budgeting

- Definition and classifications of investment projects
- Calculation of initial outlay
- Net operating cash-flows
- Capital budgeting techniques: Payback period (PP), Profitability index (PI), Net present value (NPV), Internal rate of return (IRR), Crossover rate

Financing decisions

- Difference between internal and external financing
- Cost of equity
- Cost of debt
- Cost of preferred stocks
- Determining the cost of capital

Capital structure and value of a firm (Modigliani et Miller)

- Value of firm and cost of capital without taxes
- Value of firm and cost of capital with corporate taxes

Lab sessions:

The Lab focuses on using Microsoft Excel advanced spreadsheets to learn how to compose formulas and use the main functions in order to reinforce and extend students' understanding of topics covered in lectures. Above all, the Lab is intended to be practical, useful and interesting.



Code	Title	Semester	Credits	Courses	Exercises	L.
LS5IWEB	Integration of Web Application	5	5	18	21	2

Department: BC

Prerequisite (registration and attendance): Web Design (client side) and Web Server Development.

Objectives:

This course aims to make students develop a WEB site by reflecting on an application purpose using a market framework in the open-source world.

Content:

- Reminder of WEB Client and WEB server courses.
- Object programming in PHP
- Partial refresh of WEB page: AJAX technology
- Using plugin: jQuery, Google Earth, Social Networks, etc.
- Concept of Framework - Contributions and Utility
- State of the market
- Presentation of a CodeIgniter or LARAVEL framework
- Web application security
 - Typology of problems
 - cryptography
 - Implementation of HTTPS

Practical work:

1. Design of the pages: concept of responsive WEB
2. BDD access using PHP classes
3. Using Ajax for Updating Data / Refreshing Data on a Page
4. Using Google plugin: geolocation
5. Framework implementation - first application
6. Development of an e-commerce or CMS application: plan a work that takes place over several sessions to build the website
 - a. Application Architecture: Class Diagram and Use Cases
 - b. Choice of an application design - reflection on the user interface
 - c. Access level: administrator interface and user interface
 - d. Site Security: Typology of Risk - HTTPS Implementation



de	Title	Semester	Credits	Courses	Exercises
NIA	Introduction to Artificial Intelligence	5	4	12	18

Department: BC

Objectives:

The purpose of this course is to allow the student to learn the main concepts and tools of artificial intelligence (AI). The first part is devoted to formal and predicate logic and an overview on expert systems. The second part, relying on the previous introduces the logic programming and the PROLOG language. The third part presents the research methods and resolution using heuristics.

Content:

- Introduction to artificial intelligence (AI). What is AI? Why the AI? Application domains. Components of intelligent system.
- Knowledge representation. Propositional logic. First order logic.
- Expert systems architecture and applications
- Presentation of Prolog language. Language components. Reasoning method. Language syntax.

Lab sessions:

Lab sessions should cover the following:

- Presentation of the environment of Swi-Prolog language
- Declaration et queries
- Writing predicates
- Examples of translating statements into a prolog program
- Input/output on the console with Swi-Prolog
- Negation
- Recursion
- Lists



le	Title	Semester	Credits	Courses	Exercises
NSI	Introduction to Computer Security	5	3	15	15

Department: BC

Prerequisites (registration and attendance): Computer Networks II

Objectives:

This course provides students with an introduction to the field of computer security and cryptography.

Content:

Overview to computer security

Computer security terminology (threats, vulnerabilities, attacks, counter-measures ...). Security models and security services (confidentiality, availability, integrity, authentication, traceability, access control, non-repudiation). Security mechanisms (encryption, digital signatures, access control ...). Security policy.

Cryptography

Vocabulary for cryptography. A little history (Caesar Encryption affine Encryption, Vigenere Encryption, HILL Encryption, Vernam Encryption, ...). Symmetric and asymmetric encryption. The main cryptographic systems (AES, DES, RSA, El Gamal, ...). Security services and authentication. Hash functions, MAC, X509 certificates, digital signature, Radius, Kerberos.

Software and database security

Panorama of threats. Malicious software (computer virus, worm, logic bomb, Trojan, Spyware, Adware, ...). Databases and access control. Privileges and Roles. Encrypting databases.

Network and Internet security

Network attacks (ARP-Poisoning, IP spoofing, DoS, DDOS, ...), Honeypot, firewalls, IDS / IPS (Intrusion Detection & Prevention Systems), VPN (Virtual Private Network): IPsec and SSL / TLS, HTTPS, security of Web applications (SQL Injection, Cross-Site Scripting - XSS, identity spoofing via cookies)



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS5SYEO	Operating Systems	5	5	12	18	15

Department: BC

Objectives:

The aim of this course is to introduce the basic concepts of modern operating systems. This course is divided into three major parts: Part 1 presents a general introduction to operating systems; Part 2 deals with process management and Part 3 deals with memory management.

Content:

- Part 1: Introduction to operating systems
 - role of operating systems
 - main functions of operating systems
 - process management and interruptions
- Part 2: Process management
 - process control bloc and process states
 - processor and process scheduling
 - synchronization and process communications (mutual exclusion and semaphores)
 - deadlock
- part: Memory management
 - memory allocation
 - segmentation
 - paging
 - paging demand and virtual memory

Lab sessions:

- Familiarize yourself with Linux commands and scripts
- Implementation of process management using Linux system calls (fork, exec, getpid, etc) for different scheduling algorithms (FCFS, SJF, RR, etc.)
- Implementation of the Producer-Consumer Problem using Semaphores
- Implementation of memory management algorithms such as (first fit, best fit, worst fit)



Semester 6

Semester 6						
Code	Course	ECTS	CM	ID	IP	Total
LS6STAG	InternShip	6			180	180
LS6PRFE	Senior Projeet (=180 h /student-project)	12				
LS6ADSR	Network and system administration *	4	15	15	15	45
LS6COOO	Object Oriented Design	4	15	15	15	45
LS6DRAF	Business law	3	15	15		30
LS6DRGT	General and labor law (MIE- CCNE- CE-BC)	1	15			15
LS6ENIR	EnterpreneurShip *	4	24	21		45
Total	7	30				315



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS6STAG	Internship	6	6			180

Department: BC

Internship during semester 4:

Objective :

To allow a first contact with the professional world and a realization of the technical work under the supervision of a Specialist on the labor market.

Content:

Development of company knowledge and the field of Business Computer.
Implementat-ion of the knowledge acquired at the University and benefit from practical training.

A detailed report must be written and supported in front of a jury.

- Internship during semester 6:

Objectives:

To allow the student to deepen his knowledge in the field of Business Computer, to carry out studies in a professional environment.

Content:

Development of corporate and professional knowledge in the public or private sector.
Discover the trade by emphasizing the study component.
Implementation of the knowledge acquired at the University and benefit from practical training.

A detailed report must be written and supported in front of a jury.



Code	Title	Semester	Credits	Courses	Exercises
LS6PRFE	Senior Project	6	12		

Department: BC

Objectives:

Draw on the achievements of the various disciplines in the field of Business Computer, in a simple project of a professional nature.

Content:

Project subjects, characterized by their interdisciplinary dimension, are offered to students. A project is proposed by a small group of students led by teachers. Students will apply the acquired techniques and will do the necessary additional research. A report will be written.

A detailed brief must be written and argued before a jury.



Code	Title	Semester	Credits	Courses	Exercises	LAE
LS6ADSR	Network and System Administration	6	4	15	15	15

Department: BC

Prerequisites: Computer Networks I , Computer Networks II

Objectives :

The objective of network management is to allow students the task of ensuring the security administrator, to conduct a risk analysis, design safety regulations and install the appropriate safeguards

Content:

Unix Network Administration: The function of administration and administrator tasks, computer systems architecture (recall), features of the Unix system, the main services of the Internet, orders and administrative files, graphical administration tools, security in unix. SQUID server: cache concept, installation, and configuration files squid.conf. Firewall :: Introduction, concept of security, attack methods, filtering methods, kernel configuration using IP Firewall and use ipchains and iptables, Firewall original (2.0 kernel): Firewall configuration using ipfwadm (laws, arguments, categories , commands, parameters and types of ICMP Datagrams) of IP Firewall Chains (2.2 kernel): configuration of ipchains (orders, rules setting, scripts); Netfilter and IP Tables: comparison of ipfwadm, ipchains and iptables.

Network Administration in Windows: Concepts and infrastructure of Windows 2003 Advanced Server (Forest, Tree, Domain, and OR); Concepts Active Directory.

LAB Sessions:

Linux installation, configuration of network equipment. Serial link (SLIP and PPP). Installing and configuring a Web server. Installing and configuring an FTP server. Installing and configuring a mail server. Installing and configuring a DNS server. Squid. Firewall - Iptable.

Installing the Windows 2003 Advanced Server + Active directory. Creating user accounts and their properties (username, password, profile, root directory, search for users ...) and anagement groups. File system NTFS and EFS, managing access permissions to files and directories. Implementation of the GPO (Group Policy Object) in a field, use of templates. Managing Hard Drives. Data protection against failure of Hard Drives (Backup and Restoring Data). Installation and configuration services: DHCP, WINS, DNS, IIS, RAS. Installing and configuring a Web server and FTP. Network Security: IPSec and Public Key Infrastructure.



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS6C000	Object Oriented Design	6	4	15	15	15

Department: BC

Prerequisites (registration and attendance): Introduction to computer science, Structured Programming, Object-Oriented Programming

Objectives:

Understand the object-oriented approach in computer science. Control the object-oriented modeling of computer systems. Using UML diagrams for static and dynamic aspects modeling of systems. Learn OCL language.

Content:

Object approach and its difference from algorithmic approach. Reminder on the object-oriented concepts: object, class, instantiation, abstraction, inheritance, link, message ... Methodology of an information system development. Modeling (functional, static and dynamic) of an IS. UML (Unified Modeling Language): notions, structural and behavioral diagrams. Object Constraint Language (OCL): declarations, types, operators, access to attributes and operations, navigations, *Let* and *def* statements, test structure.

Practical works:

UML diagrams:

- Structural or static diagrams: class diagram and object diagram.
- Behavioral or dynamic diagrams: use case diagram, sequence diagram, collaboration diagram, state-transition diagrams, and activity diagram.
- The OCL language.

Code	Title	Semester	Credits	Courses	Exercises	LAB
LS6DRAF	Business law	6	3	15	15	

Department: BC

Objectives:

To introduce legal concepts related to business and management. This course, introduced after a course of general law, not only explains commercial law, but also deals with various questions concerning the general rules applied to companies and company's management.

Content:

Acts of commerce and traders, The register of commerce, Regulations, the goodwill.

General rules applied to all company types: company act, equity, profit and loss distribution, elements of intentional torts, Legal personality of organizations: establishment, consequences, and classification.

Partnerships, joint ventures, simple sponsorship companies: constitution, organization, functioning and liquidation.

Corporations: constitution, organization, functioning and liquidation.

Limited liability Companies (LLC): constitution, organization, functioning and liquidation.



Code	Title	Semester	Credits	Courses	Exercises	LAB
LS6DRGT	General and Labor Law	6	1	15		

Department: CE-MIE-CCNE-BC

An introduction to law and to labor code so that future graduate knows his rights and duties during the various stages of his employment.

Content:

Introduction to the study of law

The juridical rule: Definition – characteristics – sources- principles – classification.

The juridical process: courts – arbitration – action – proof modalities.

The contract and the responsibility: form and content of contract – criminal responsibility – civic responsibility- contractual responsibility – responsibility of building.

Labor code:

Content and form conditions of labor contracts - Labor contract modalities - Obligations of employer and employee – Warning – Vacations- Risk theory- Abusive termination-

The National Fund of Social Security (NFSS)

القسم الاول: مقدمة عن القانون

المبحث الاول: القاعدة القانونية - المبحث الثاني: العقد - المبحث الثالث: الدعوى - المبحث الرابع: التنظيم القضائي العام

القسم الثاني: قانون العمل

المبحث الاول: ماهية قانون العمل وتطوره - المطلب الاول: تعريف قانون العمل- المطلب الثاني: تطور قانون العمل.

المبحث الثاني: نطاق قانون العمل - المطلب الاول: الاشخاص الخاضعون لأحكام قانون العمل - المطلب الثاني: الفئات المستثناة من الخضوع لأحكام قانون العمل

المبحث الثالث: علاقات العمل الفردية - المطلب الاول: تعريف عقد العمل الفردي وبيان خصائصه وعناصره الاساسية - المطلب الثاني: إنعقاد عقد العمل الفردي - المطلب الثالث: الآثار المترتبة على عقد العمل الفردي -

المطلب الرابع: تعليق وإنهاء عقد العمل الفردي - المطلب الخامس: قضاء العمل الفردي المبحث الرابع: علاقات العمل الجماعية - المطلب الاول: التنظيم النقابي- المطلب الثاني: عقد العمل الجماعي

القسم الثالث: الضمان الاجتماعي

المبحث الاول: الصندوق الوطني للضمان الاجتماعي وأجهزته

المبحث الثاني: فرع ضمان المرض والامومة

المبحث الثالث: فرع ضمان طوارئ العمل والأمراض المهنية

المبحث الرابع: فرع التقديرات العائلية والتعليمية

المبحث الخامس: فرع تعويض نهاية الخدمة

Code	Title	Semester	Credits	Courses	Exercises	LAI
LS6ENTR	EntrepreneurShip	6	4	24	21	

Department: BC

Course description

This introductory entrepreneurship course aims to develop the student's sense of initiative and entrepreneurial spirit in order to make him discover and to exploit its full entrepreneurial potential. The knowledge passed on to the student concerns the entrepreneur and the creative process by which he carries out his project, whether it is a social, commercial, cooperative, artistic project. Concrete examples will be presented to illustrate the passion that drives entrepreneurs, their need to create and innovate, and their focus on action.

Specific objectives

At the end of the course, the student will be able to:

- To distinguish economic, social or mixed forms of entrepreneurship;
- To identify the social, psychological and economic foundations of entrepreneurship;
- Describe the processes and realities of entrepreneurial action, as well as the factors encouraging individuals to undertake and carry out their project;
- To determine the specificities of the entrepreneur and the SME;
- To identify the different phases of creation and development of a project;
- To become familiar with the constraints of moving from creativity to project, from action to success;
- To see the diversity of aids and supports offered to entrepreneurs;
- To evaluate the relevance of enrolling in the entrepreneurial profile.

General Content

- Introduction to the course
- The entrepreneur
- Creativity and innovation
- From idea to action
- Entrepreneurial process and entrepreneurial action
- The business plan
- Business project support

**Head of Department
Business Computer**



Dr. Mazen EL-SAYED