

الجامعة الإماراتية الدولية كلية الهندسة وتكنولوجيا المعلومات برنامج الأمن السيبراني

وصف المقررات الدراسية

Courses Description





لبرنامج الأمن السيبرانى

المستــــوى الاول

	المفصل الدراسي الأول					
C.H.	L.	T.	P.			
۲	۲			لغة عربية I (UNI 103) الغة عربية I		
ة والتحدث ايا النحوية النحوية	يهدف هذا المقرر إلى تزويد الطلبة بالمهارات اللغوية التي يحتاجونها في حياتهم العلمية والعملية، ويتناول مهارات الاستماع والقراءة والتحدث والكتابة، وأهم الأسس النحوية والإملائية. وتركز موضوعاته على الدور الوظيفي لهذه المهارات من دون الدخول في تفاصيل القضايا النحوية واللغوية، فاهتم بمرتكزات كل مهارة، وتدريب الطلاب على اكتسابها بما يمكنهم من استخدامها استخداما يخلو من الأخطاء اللغوية والنحوية والإملائية.					
C.H.	L.	T.	Р.	(UNI 105) I لغة انجليزية		
This cour writing. competer addition, commun order to s	This course is a skill-based course that focuses on elementary skills of listening, speaking, reading and writing. The course is a pre-requisite for the English 102. It develops students' language skills and competencies by exposing them to a variety of short general and academic contexts at the beginner level. In addition, the course builds the students' basic vocabulary and grammar structures that enable them to communicate orally and in writing in limited contexts. Interactive exercises and tasks will be encouraged in order to strengthen students' confidence in using English.					
C.H.	L.	T.	Р.	(TIBITIOT) J. N. M. JAISHI		
۲	۲			الثقافة الإسلامية (UNI101)		
C.H.	L.	T.	Р.	الصراع العربي الإسر الدلي (UNI107)		
۲	۲					
С.Н.	L.	T.	Р.	مقدمة في الحاسوب (UNI109)		
٣	۲		٢			
The aim computer Internet, computer	of this topic and ap rs and	s cou s wit oplyi how	rse is t th an e ng soft to use	o give student the fundamentals of computer. It focuses on introduction to mphasis on learning about computer, operating systems, application software, tware using MS Office. The course helps student to learn about the importance of computers.		
C.H.	L.	T.	Р.			
٣	۲	٢		(E11111) (ياصيات I (E11111)		



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This course aims to get students acquainted with basic concepts of differential calculus and its various applications in science and engineering. Course topics cover real numbers, inequalities, absolute value, exponential and logarithmic functions, limits and continuity, differentiation rules, derivatives of trigonometric functions and their inverses and the derivatives of exponential and logarithmic functions. The course focuses as well on the applications of differential calculus including: curve sketching, relative and absolute extrema, Rolle's theorem, mean-value theorem, related rates, applied maximum and minimum problems, applications in business and economics., applications of exponential and logarithmic functions.

С.Н.	L.	T.	Р.	الثقافة الوطنية (UNI102)
4	7			
				الفصل الدراسي الثاني
C.H.	L.	Т.	Р.	لغة عربية UNI 104) II (نعة عربية
2	۲			
يتناول هذا المقرر مهارات الكتابة الإبداعية والوظيفية بهدف تعميق قدرات الطلاب على الكتابة وطرائق استخدامها في حياتهم العلمية والعملية، من خلال التعليم والتدريب على تجاوز المشكلات الكتابية في بيئة تعمل على تنمية التفكير الناقد وأساليب الإبداع، وما ينبغي أن يتحقق من دقة التعبير الكتابي وأساليبه على المستويين الوظيفي والإبداعي، ويساعد على اكتساب المعرفة وبناء الوعي الثقافي بأهمية الكتابة الصحيحة وتنمية مهار اتها.				
C.H.	L.	T.	Р.	لغة انجليزية UNI 106) II (
This course experience addition, of vocabuthem to a learner-co	rse bu ces for the co ilary, varie entere	ilds or r stuc ourse gran ty of ed act	on what lents to builds matic short tivities	at students have learned in English 101. It provides more practice and learning o develop their elementary skills of listening, speaking, reading and writing. In s the students' ability in the language use through equipping them with a wide range al structures and expressions relevant to general and academic contexts by exposing general and academic texts and conversations at the elementary level. More s will be emphasized to enhance students' independent learning.
С.Н. ٣	L.	Т. ү	P.	ریاضیات EIT112) II ریاضیات
This course aims to get students acquainted with basic concepts of definite and indefinite integrals and to assist them in using various techniques to evaluate integrals, and realize integration applications in life. Course topics include: integration of elementary functions, definite integrals: sigma notation – fundamental theorem of calculus – properties of definite integrals – the mean value theorem for integrals, integration techniques: integration by parts – integration by partial fractions – trigonometric substitution – integrating power of trigonometric functions, numerical integration: trapezoidal rule and Simpson's rule. In addition, applications of integration in engineering and physics are introduced such as the calculation of: area, volume, arc length, centre of mass, moments, …etc.				
С.Н. ٣	۲.	Τ.	P. γ	مقدمة في الامن السيببراني (CYS120)



وصف المقررات الدراسية Courses Description

لبرنامج الأهن السيبراني

This course focuses on the fundamentals of information security that are used in protecting both the information present in computer storage as well as information traveling over computer networks. Interest in information security has been spurred by the pervasive use of computer-based applications such as information systems, databases, and the Internet. Information security has also emerged as a national goal in the United States and in other countries with national defense and homeland security implications. Information security is enabled through securing data, computers, and networks. In this course, we will look into such topics as fundamentals of information security, computer security technology and principles, access control mechanisms, cryptography algorithms, software security, physical security, and security insues and risk assessment. By the end of this course, you will be able to describe major information security issues and trends, and advise an individual seeking to protect his or her data

С.Н.	L.	Т.	Р.	(A1120) I (14) 42 44	
٣	۲		۲	برمب کسوب ((A1130) 1	
This is an computer	This is an introductory course on the fundamentals of computer programming. It focuses on introduction to computer programming languages topics with an emphasis to use it to solve mathematical and scientific				
problems	S. The	cour	se cov	ers the principles of procedural programming, data types, variables declarations,	

problems. The course covers the principles of procedural programming, data types, variables declarations, constants variables, memory locations, arithmetic operations, input and output operations, Sequences statements, Selection statements, Iteration statements and array. The course helps student to design, write, and implement computer programs.

C.H.	L.	T.	Р.	$(\mathbf{FIT}114)$, $\mathbf{\tilde{a}}$, $\mathbf{\tilde{b}}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $\mathbf{\tilde{c}}$, $\mathbf{\tilde{c}$, $$	
٣	۲		۲	(EITI14) - Line Curry	
This cou	This course aims to provide students with the necessary knowledge and principles of discrete mathematics. It				
covers co	covers concepts of real analysis, real topology analysis, prove of the proposition and set theory, induction,				
technique	es of c	ount	ing an	d Binomial theorem and group theory which student needs these skills in	
Informat	ion Te	chno	ology i	n transforming this mathematics theory into the engineering work. It focus on	
develop a	develop and extend students critical thinking skills by applying strategies which will help them interpret,				
analyze,	analyze, evaluate and understand the information given and to used it in the Information Technology and				
engineer	ing co	ntext			

С.н.	L.	1.	P.	(ETTO12) North Lan
2	۲			
Commur engineer	icatio	n ski d it s	lls are tudent	essential to a successful career in Engineering. This communication course for the s will enable them to develop the ability to communicate efficiently in English,
orally as	well a	s in	writter	h, within the field of engineering. Students will also train and develop interpersonal
skills suc	h as c	ontri	buting	to discussions, making presentations, reading and synthesizing information,

writing reports and working effectively with colleagues and other professionals in the engineering field.

المستــــوى الثاني الفصل الدراسي الأول رمجة حاسوب II (AI231) II برمجة حاسوب C.H. L. T. P.



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This course variety of de programmin include: mu and debugg	is th omai ng co ilti-di ing a	ie sec ins, a oncep imen imen und te	conc and ots, a nsion estir	d course of computer programming language. It considers problems drawn from a emphasizes both the broader applicability of the relevant data structures and as well as the implementation of those structures and concepts in software. Topics nal arrays, search, sort, characters and string; pointers, references, functions, files, ng.		
C.H. L	C.H. L. T. P. نظم قواعد البيانات (AI223) النظم قواعد البيانات (AI223)					
This course "DBMS" is aimed at equipping students with the knowledge of database design, as well as, the ability to use database management systems in an effective manner. The course will provide fundamental knowledge of, and practical experience with, database concepts. Includes fundamentals of database architecture, information concepts and the realization of those concepts using the relational data model. Practical experience gained designing and constructing data models.						
C.H. L	. T	. F	P.			
۳ ۲	٢	2	2	(A1230) تعنيه الويب (A123		
It will cover These techn frontend we language.	The aim of this course is to provides a fundamental introduction to the web design and development. It will cover the predominant techniques that are required for designing different modern web sites. These techniques include HTML 5, CSS3, JavaScript which are the main techniques for designing the frontend web site from the client perspective. Meanwhile, the backend will be developed using PHP language					
C.H. L	. T	. F	P.			
C.H. L ~ ~	. T	. F	P. 2	شبکات حاسوب (CYS251)		
C.H.LrrThis coursenetworkingperformanceintroductionreferencemdetectionarprotocols, Einvolveslection	prime prime technologies of the constant of th	The formation of a contract of	P.22y ain gies ne cl pute ntern tion, nd I b, a com	شبكات حاسوب (CYS251) شبكات حاسوب ms to acquit the student with basic knowledge about computer and communication . At the same time, the concepts of network performance are introduced and the assical networking architecture are analyzed. The main topics included that, rr Networks, the Internet, Protocols and Standards, network requirements, OSI net Model (TCP/IP protocols), Transmission media, Data encoding/framing, error , Flow control, Error control, Flow control and Error control algorithms, DLL FDDI, Local Area Networks and Network layer protocols (IPv4, IPv6). The course nd group-based project that enables student to use and apply the skills acquired in the nputer networks		
C.H.LrrThis coursenetworkingperformanceintroductionreferencemdetectionarprotocols, EinvolvesimplementaC.H.L	Image: prime technologies technol	F. F narily nolog som Som Comp & In orrect a of a c C	P. 2 y ain gies ne cl pute ntern tion, nd I b, a con P.	شبكات حاسوب (CYS251) شبكات حاسوب (CYS251) شبكات حاسوب (CYS251) شبكات حاسوب شبكات عامل المعادي		
C.H.L r r This course networking performance introduction reference m detection ar protocols, E involves lection $reference mdetectionreference mmreference mmref$	Image: non-state Image: non-state e prime e prime tech tech tech te	F. F narily nolog som Som Comp & In orrect a of a of C F C	P. 2 y ain giess ne cl pute ntern tion, nd I bb, a com P. 2	شبكات حاسوب (CYS251) شبكات حاسوب (CYS251) مشبكات حاسوب (CYS251) مع المعاوية المع المعالية ال		
C.H.L r r This course networking performance introduction reference m detection an protocols, E involves lec implementaC.H.L r r This course practices, an measures to cover varior	Image Image e prime teching teching teching teching <t< td=""><td>narily nolog som Comp & In orrect net an s, Lal of a o C F vides rateg tect o pics, n regu</td><td>P. 2 y ain gies ne cl pute ntern tion. nd I b, a com P. 2 an gies. present pute p</td><td>(CYS251) ثبيكات حاسوب (CYS251) بثبكات حاسوب شبكات حاسوب (CYS251) بثبكات حاسوب (CYS251) بثبكات عامل الله sasical network best of network performance are introduced and the assical networking architecture are analyzed. The main topics included that, r Networks, the Internet, Protocols and Standards, network requirements, OSI net Model (TCP/IP protocols), Transmission media, Data encoding/framing, error Flow control, Error control, Flow control and Error control algorithms, DLL FDDI, Local Area Networks and Network layer protocols (IPv4, IPv6). The course nd group-based project that enables student to use and apply the skills acquired in the nputer networks (CYS261) الدارة امن نظم المعلومات (CYS261) معلومات (CYS261) المعلومات (CYS261) المعلومات (CYS261) معلومات (CYS261) المعلومات (CYS261) معلولي المعلومات (CYS26) معلولي المعلومات (CYS261) معلولي المعلولي المعلومات (CYS261) معلولي المعلولي المعلولي</td></t<>	narily nolog som Comp & In orrect net an s, Lal of a o C F vides rateg tect o pics, n regu	P. 2 y ain gies ne cl pute ntern tion. nd I b, a com P. 2 an gies. present pute p	(CYS251) ثبيكات حاسوب (CYS251) بثبكات حاسوب شبكات حاسوب (CYS251) بثبكات حاسوب (CYS251) بثبكات عامل الله sasical network best of network performance are introduced and the assical networking architecture are analyzed. The main topics included that, r Networks, the Internet, Protocols and Standards, network requirements, OSI net Model (TCP/IP protocols), Transmission media, Data encoding/framing, error Flow control, Error control, Flow control and Error control algorithms, DLL FDDI, Local Area Networks and Network layer protocols (IPv4, IPv6). The course nd group-based project that enables student to use and apply the skills acquired in the nputer networks (CYS261) الدارة امن نظم المعلومات (CYS261) معلومات (CYS261) المعلومات (CYS261) المعلومات (CYS261) معلومات (CYS261) المعلومات (CYS261) معلولي المعلومات (CYS26) معلولي المعلومات (CYS261) معلولي المعلولي المعلومات (CYS261) معلولي المعلولي المعلولي		
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لبرنامج الأهن السيبراني

Introduction to computer organization and architecture. Extension of basic addressing concepts to more advanced addressability. Comparative computer architecture. Basics of virtual memory input-output, concept of micro programmable systems and low level language translation process associated with assemblers. System functions such as relocatable loading and memory management. Application of data structure and hashing techniques to the above.

C.H.	L.	T.	Р.	الانجليزي التقني (EIT211)
2	۲			

This is an English for Specific Purpose (ESP) course for engineering and IT students. The course aimed to give students the specialized technical language, information, and skills needed for their program of study. It presents them with the appropriate English from a variety of technological, engineering and industrial fields. This course also enables students to produce organized reports, formal letters/emails, CVs that conform to technical format/style, audience, vocabulary, grammar and the use of graphics where appropriate





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٢	۲		(E11210) = 200 - 20 - 20 - 20 - 20 - 20 - 20 - 2			
This course aims to provide students with the fundamental knowledge and understanding of the probability theory and statistical analysis. Course topics include types of data, graphs and representation, measures of central tendency and variation, correlation and regression, the principles of probability theory, some types of famous distributions such as Z- distribution, Student t distribution and Chi-Square distribution. In addition, the course focuses on conducting and interpreting statistical experiments using popular statistics packages such as Excel, SAS, SPS or MatLAB.						
L.	T.	Р.	(CVS260) (with water with			
۲		2				
ourse	provi	des kn	owledge about Internet and web security along with an in-depth study of various			
et and	netwo	ork att	acks techniques and methods to defend against them. A number of threats and			
vulnerabilities of the Internet will be covered, including various vulnerabilities of TCP/IP protocols, denial						
of service (DOS), attacks on routing, attacks on DNS servers, TCP session hijacking, and so on. This						
e will a	also co	over d	efending mechanisms, including intrusion detection, firewalls, tracing the source			
ake a			in the second seco			
	L. Y course bility to ures of types oution. ar stat: L. Y course let and rabilitivice (I e will a pale a oution a course	L.T. χ χ course aimsbility theorybility theoryures of centretypes of famoution. In adar statisticsL.T. χ course provident and networrabilities ofvice (DOS),e will also compare	L.T.P. χ χ χ χ course aims to probility theory and sares of central tendtypes of famous doution. In additionar statistics packagL.T. χ χ χ χ course provides known and network attrabilities of the Introvice (DOS), attacked will also cover d			

coverage of issues and techniques in developing secure web-based applications; related topics such as network security, web server security, application-level security and web database security will also be covered in the course.

Furthermore, this course will help students to test their knowledge to learn the attacks along with a number of security tools by performing them in a restricted or a simulated environments to understand how they work and what security guarantee they provide. In addition, student will practice fundamental techniques in developing secure web based applications, including vulnerability of web based applications and how to protect those applications from attacks.

C.H.	L.	T.	Р.	
٣	۲		2	(ببرمجیه (تموجهه تصاحات) (A1230)

The course aims to provide students with the principles, concepts, and techniques of object-oriented programming(OOP) to improve the student programming skills with object-oriented. Many subjects of OOP will be covered through this course like: classes/objects, polymorphism, inheritance, interfaces, operator overloading, dynamic/static methods, properties and exception handling, Files, and Streams. Through the course, students' acquire practical skills on object-oriented concepts by emphasizing them to develop programs using high level language in the lab sessions.

C.H.	L.	T.	Р.	
٣	۲		2	نظم التلغين (A1240)

The course will start with a brief historical perspective of the evolution of operating systems over the last fifty years, and then cover the major components and structure of most operating systems. This discussion will cover the tradeoffs that can be made between performance and functionality during the design and implementation of an operating system. Particular emphasis will be given to these major OS subsystems:



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لبرنامج الأهن السيبراني

process management, real and virtual memory management, file system and disk management, and I/O management. According to the course plan of the program, the prerequisite of this course is Computer Architecture and Organization. We recommend data structures as an additional prerequisite for this course.

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The aims of this course is to provide a students with advance knowledge about Internetwork design, modeling and measurement, Internet policy routing, switching and routing architectures, packet scheduling, fair queuing algorithm, as well as network algorithms and services, future Internet architectures, data center networking and traffic analysis.

Moreover, students will be able to explore the advance mechanics of routers, switches and their associated protocols and algorithms, LAN switching, WAN switching, IP routing technologies and routing protocols. Also, it covers advanced switching concepts regarding VLAN, VTP and Spanning tree protocols, port security, port mirroring, and layer three switch-based routing. Furthermore, this course will help students to test their knowledge on advance networking topics such as OSPF, BGP, EIGRP, integrated IS-IS, and Hot standby routing protocols and configure these protocols in various kinds of networks

C.H.	L.	Τ.	P.	(CVS262) (1) (1) (1) (1) (1)
3	۲		2	

The database administrator and security cares for security of data, backup and recovery, and space management. This course takes a user through the stages of setting up a database server environment, to design of a database, and finally tuning and setting the security aspects. Topics may include security architecture, access control policies, auditing and monitoring.

C.H.	L.	T.	Р.	
3	۲		2	

سياسات وأمن البيانات (CYS264)

التوجيه والتبديل (CYS250)

This course examines security issues related to the safeguarding of sensitive personal and corporate information against inadvertent disclosure; policy and societal questions concerning the value of security and privacy regulations, the real-world effects of data breaches on individuals and businesses, and the balancing of interests among individuals, government, and enterprises; current and proposed laws and regulations that govern data security and privacy; private-sector regulatory efforts and self-help measures; emerging technologies that may affect security and privacy concerns; and issues related to the development of enterprise data security programs, policies, and procedures that take into account the requirements of all relevant constituencies, e.g., technical, business, and legal. The course will include individual reading and writing assignments, class discussion, case studies, and a

group assignment. Students will have some latitude to tailor the assignments to their skills and interests



الفصل الدراسي الأول							
C.H. L. T. P.							
(E11310) (E11310) (شاسیات البخت العلمي (E11310)							



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The course aims to introduce students to the basic concepts and issues of quantitative and qualitative scientific research. Students will learn the nature and tools of research, the basic components of research process, formulating research questions, research design, elements of analysis research papers, data collection and analysis, conceptualization and measurement, building evidence, research evaluation, documentation and presentation. By the end of the course students submit and present a research course-project on a topic assigned by the course instructor.

С.Н.	L.	T.	Р.			
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The cour formattir Hash fun Minimur	The course introduces the simple data structures as well as complex data structures and how to apply them in formatting data and solving programming tasks. The main topics included that are abstract data types, trees, Hash function, Binary heaps, Applications of priority queues, Topological sort, Shortest-path algorithms, Minimum-span tree.					
C.H.	L.	T.	Р.	الد محة المتقدمة (CVS333)		
٣	٢		۲			
The aim the labor exception streams, multipro	The aim of this course is to improve students programming skills to prepare them to effectively compete in the labor market and learn students how to write clean code. This course covers some topics including exception handling, collections, comparisons, and conversions, generics, reflection, working with files, streams, and serialization, regular expressions, introduction to concurrency and parallelism, threading, multiprocessing, testing your program.					
C.H.	L.	T.	P.			
٣	۲		۲	التسفير (CYS361)		
The course introduces the fundamentals of modern cryptography and steganography as related to computer security. Topics covered in this course include including information security concepts, theory, history, challenges, techniques, tools, mechanisms and algorithms such as steganography, digital watermarking, digital signatures, and public key cryptography. The course focuses on both theory and practice of properly implementing crypto-protection in the field. Students will learn how to use software simulators or Java to write cryptographic applications						
C.H.	L.	T.	P.			

C.H.	L.	T.	P.	(CVS251) = 10 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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This course primarily aims to acquit the student with the knowledge and advanced skills for using wireless communication. It presents aspects of transmission fundamentals, antennas, propagation models, satellite communications, wireless LAN and cellular networks. The course is designed to cover the main concepts of wireless networks including architecture, applications, requirements, protocols and standards. It emphasizes on main characteristics and structure of wireless network techniques included MANET, VANET, WSN, and Mesh network and security. The course involves lectures, Lab, and group-based project that enables student to use and apply the skills acquired in the implementation of a wireless networks using the most common network simulators such as NS2 and OPNET.

حداثة وتمين

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أمن تطبيقات الموبايل (CYS335)



لبرنامج الأمن السيبرانى

Mobile Development Security course addresses the lack of pedagogical materials for mobile security which improves the ability of students to apply mobile security techniques to solve real-world problems. This course includes the following topics: threats attacks and defenses of mobile computing platforms spanning across secure coding, cryptography, physical security, secure communication, policy management, and mobile cloud where mobile devices outsource their computing tasks to the cloud. Mobile cloud can take advantage of the inherent benefits of cloud computing through its monitoring, security detection and malware prevention capabilities to protect its mobile customers





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الفصل الدراسي الثاني							
С.Н. ٣	L. ۲	Т. ү	Р.	إدارة مشاريع (EIT311)			
This course aims to provide students with basic knowledge for managing resources and scheduling, tracking and controlling and completing project within the specific constraints and deadlines. The course will focus on product life cycles, managing, planning, designing and controlling projects, human and logistics resources, systems' maintenance & reliability, industrial safety constraints, tools and techniques of quality cost. Students will develop skills in preparing feasibility studies and identifying elements for a success development of engineering projects.							
С.Н. ٣	L.	Τ.	Ρ. γ	تحليل وتصميم النظم (CYS340)			
Systems and spec system. develop systems	Systems Analysis and Design is the study and analysis of a business problems to recommend improvements and specify the business requirements for the solution through the analysis and Design of an information system. This course will coverage the concepts, skills, methodologies, technique, and tools necessary to develop a successful information system. Traditional and object oriented approach to develop information systems will be covered in this course						
С.Н. ٣	L. ۲	T.	Ρ. γ	تطوير البرمجيات الأمنة (CYS332)			
The aim impleme requirem SDL fran software	The aim of this course is introduce students with the essential concepts of security software testing and implementation. It covers some topics including secure development lifecycle, security assessment, software requirements, software architecture, design and development, ship, post-release support and applying the SDL framework to the real world. The focus of this course is teach students how to implement secure software and how to test the software security						
С.Н. ٣	L. ۲	T.	Ρ.	تحليل التهديدات و الثغرات (CYS363)			
The aim of this course is to introduce the principles of Vulnerability Analysis and Risk management. This course covers tools, techniques, and methodologies in performing computer system and network security vulnerability risk analyses. Security best practices and audit requirements for specific environments will be studied. Topics to be covered include Risk Analysis assets and Impacts, Natural Threats, Adversarial Risk. As well as Managing Risk with Controls including Policy, Control Design, Administrative Controls, Vulnerability Management, People Controls, Logical Access Control, Network Security, More Technical Controls, Physical Security Controls, and Response Controls.							
С.Н. ٣	L. ۲	Τ.	Ρ. γ	التحقيق الجنائي الرقمي (CYS362)			
In the rap profession concepts understan	pid gr nally to de nding	rowt v exe evelo g digi	h of cutir op the ital f	digital crimes, the ability of acquiring the digital evidences depends on ng digital forensics skills. This course aims at introducing students with the fundamental eir skills on digital forensics. The topics that will cover in this course including forensics, the investigator office and lab, data acquisition , processing crime and inciden			



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sense, working with windows, current tools, recovering graphics files, digital forensics analysis and validation, mobile devices forensics, cloud forensics, report writing for high-tech investigations, and ethics for the expert witness.

C.H.	L.	T.	Р.	(CVS261) 15.21 + (-1. a) + V1
2	۲			

This course aims to provide students with knowledge about Ethical and Professional Issues in the Computing era. The course will cover many issues like privacy, intellectual property, computer crime, technology and work freedom of speech, and ethical and professional responsibilities. Social, legal, and economical effects related to computing and technology will be discussed in this course with a focus on the impact of computing technology on us as individuals and on our society.





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المستحصيصي الرابع

الفصل الدراسي الاول								
C.H.	L.	T.	P.					
٣	۲		۲	الدكاع (2013 المصطاعي للأمل الشيبرالي (23401)				
The goal of Artificial Intelligence is to build software systems that behave "intelligently". By this, we mean that the computer systems "do the right thing" in complex environmentsthat they act optimally given the limited information and computational resources available. This course provides an introduction to artificial intelligence by covering the following topics: An overview of Artificial Intelligence (AI), Artificial intelligence as representation and search, Knowledge representation and reasoning, Machine learning techniques, Hybrid intelligent techniques and maintenance of intelligent systems.								
С.Н. ٣	L. ۲	T.	Ρ. γ	الهندسة العكسية وإدارة الأنظمة (CYS463)				
This course provides an in-depth understanding of reverse engineering techniques and their application in the field of cybersecurity. Students will learn how to analyze and understand the inner workings of software, firmware, and hardware systems. The course will cover various topics, including disassembly, decompilation, malware analysis, vulnerability discovery, and software protection mechanisms								
С.Н. ۲	L.	T.	Ρ.	الهاكر الأخلاقي وفحص الاختراق (CYS465)				
The course introduces the concepts and methodologies of Ethical Hacking and gives the students the opportunity to learn about different tools and techniques in Ethical hacking and penetration testing. Ethical hacking covers vulnerability and penetration testing, which are essential elements in modern cybersecurity. Ethical hacking consists of testing the security of IT systems by trying to find and exploit security vulnerabilities The course focuses on procedures followed in ethical hacking, a practical implementation of well-known Ethical Hacking tools, and cyber laws related to ethical hacking process.								
C.H.	L.	T.	P.					
٣	۲		۲	معرر إحدياري ((۲۵۹۶ ۲)				
C.H.	L.	T.	P.	$(-CVC4901)$ T = $\frac{1}{2}$ to $\frac{1}{2}$				
٣	۲			مسروع بحرج 1 (۲۵٬۹۵۷)				
This courresearch. students,	This course is the first of a two-course sequence in which the students will develop a complete system/ research. The second stage will be carried out in project (II). Students will work in groups of up to four students, each group will have a supervisor to guide them through the system development process using a							

specific methodology. In this first part, each group must identify a problem domain, define the problem, identify and specify the requirements, document the current system, analyze it, propose alternative systems, and design a solution. The design must include the definitions of all the required system models, such as the



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data model and the functional model. At the end of the course, each group must submit a formal report documenting the complete process.



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المفصل الدراسي الثاني					
C.H.	L.	T.	Р.	$(-CNZCIACO) = 1 + \frac{2}{2} + \frac{1}{2} + \frac{1}{2}$	
٣	۲		2	امن إنترنت الأسياع (CYS460)	
This course provides an in-depth understanding of the security challenges and considerations in the context of the Internet of Things (IoT). Students will learn about the unique characteristics of IoT systems, the vulnerabilities and threats associated with IoT deployments, and the best practices for securing IoT devices, networks, and data. The course will cover various topics, including IoT architecture, authentication and access control, secure communication, firmware security, and privacy considerations.					
C.H.	L.	T.	Р.		
٣	3			الحصوصية الشخصية والفندشة الإجتماعية (28402)	
and perse attackers topics su	to m ch as	infor anip priv T.	mati oulate vacy	on sharing. They will also explore various social engineering techniques employed by e individuals and gain unauthorized access to systems and data. The course will cover protection, threat modeling, social engineering tactics, and countermeasures.	
۲	۲		2	مقرر إحتياري (CYS492)	
C.H.	L.	T.	P.		
٣	1		4	مشروع تحرج II (CYS482)	
This cou system/r four stud a specific his skills and appl developr the end o project d	rse is esear lents, c met in co y the nent of the efens	the ch. T each thodo omm ory c activ course.	seco The s n gro plogy unic conce rities rse, e	nd of a two-course sequence in which the students will develop complete econd stage will be carried out in project (II). Students will work in groups of up to up will have a supervisor to guide them through the system development process using 7. In this phase (2nd Semester), student will be acquiring new skills and will develop ation, planning and management of project activities efficiently. Student will employ epts in the practical side, showing skills for potential employers, and will perform the that is required and similar to those that will use as part of his initial employment. At each group must submit a formal report documenting the complete process and sat for	

المستقدرات الاختياريسسة في البرنسسسامج

الفصل الدراسي الاول



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С.Н.	L.	T.	Р.	مواضيع مختارة في الامن السيبراني (CYS491)		
The course aims to develop a student's skills in reading, researching, communication, how to analyzing the data and extracting information. The course topics are advanced topics in cybersecurity and digital forensics, where a course topics can be include: advanced topics in cyber security and digital forensics not included in the regular courses offerings of the program, Artificial Intelligent in Cybersecurity, new trends in the Web technology, distributed and mobile computing, big data, etc. Students work an individual reading and researching on recent issues and emerging topics in cybersecurity and digital forensics.						
С.Н. ٣	L.	T.	Ρ.	تقنيات إخفاء المعلومات (CYS491)		
This cou using ste copyrigh steganog media, in techniqu steganog	This course aims is to students' gained the theoretical knowledge and practical skills of an information hiding using steganography and watermarking techniques to protecting data confidentiality and integrity, and copyrights in storing and transmission media. A course topic includes concepts of information hiding, steganography, watermarking, techniques types to hide copyright messages and serial numbers into digital media, its applications, different between watermarking and steganography, threats, vulnerabilities, attacks, techniques of information hiding, steganography and digital watermarking, and recent trends in steganography and steganography an					
C.H.	L.	T.	P.	إدارة وتحليل المخاطر (CYS491)		
۲	۲		۲			
The course aims to student's gained comprehensive knowledge in risk management and analysis that enable students to build security procedures, guidelines, manage a security threats and risks, and protection an organization's assets in cybersecurity practices. The course topics include introduction to information security management, security management and analysis framework, security procedures and standards, best practices, standards, and a plan of action, information risk assessment, risk of end user-developed applications (EUDAs), risk assessment for user authentication, supply chain management and cloud security, security monitoring and improvement						
organiza manager practices applicati security	tion's nent, s, star ons (moni	asse secu dard EUD torin	ets in rity ls, an (As), g and	cybersecurity practices. The course topics include introduction to information security management and analysis framework, security procedures and standards, best ad a plan of action, information risk assessment, risk of end user-developed risk assessment for user authentication, supply chain management and cloud security, d improvement		

This course provides an in-depth understanding of mobile forensics techniques and methodologies used in the investigation and analysis of mobile devices. Students will learn how to extract and analyze digital evidence from smartphones, tablets, and other mobile devices. The course will cover various topics, including mobile device architecture, data acquisition, data recovery, forensic analysis, and legal considerations.





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	الفصل الدراسي الثاني						
C.H.	L.	T.	P.	(CVE402) Itill unlie the second			
٣	٢		2				
The aims managen security security protocol This cou cryptogra	The aims of this course is to provide a student with knowledge about identifying security goals, risk management, risk analysis and treat modeling, defense in depth, integrating different technologies to achieve security goals. It also addresses a variety of analysis techniques to evaluate cryptographic protocols and other security mechanisms. A network protocol such as SSL (Secure Sockets Layer) may fail in three ways: the protocol design may be flawed, the cryptography may be inadequate, or the implementation may be buggy. This course is primarily concerned with techniques for identifying design flaws, but we will also talk about cryptography and secure implementation to the extent that they affect protocol design.						
C.H.	L.	T.	Р.	أمن البله كتشين (CVS492)			
٣	3						
Students threats sp applications smart con	rse ez will becifi ons. ' ntrac	gain c to The t sec	an in bloc cours urity	n-depth understanding of the fundamentals of blockchain, the vulnerabilities and kchain ecosystems, and the best practices for securing blockchain networks and se covers various topics, including blockchain architecture, consensus mechanisms, , privacy considerations, and incident response in blockchain environments			
C.H.	L.	T.	P.	(CVS402) สี เอเว ไป สี่สี่ปี เออไป			
۲	۲		2	(C13492) "			
vv2The aim of this course is to introduce the principles of biometric authentication. The course will study those biometric characteristics which have commercial implementations, as well as emerging techniques, discussing hopes and fears related to the presented modalities. Important part of this course will be devoted to the security of biometrics (in particular liveness detection) and secure biometric implementations. The course will show how to apply statistics for biometric reliability evaluation. Each lecture will refer to selected examples of real systems and applications. Moreover, this course will introduce students to the fundamentals of biometric system development and evaluation, with an emphasis on the three primary visual modalities: face, fingerprint, and iris. Building from the seminal recognition algorithms, the course will cover the specialized feature descriptors and classification methods most commonly found in biometric application development, as well as the state-of-the-art deep learning architectures that are changing the way we think about visual recognition. The final part of this course will describe the unique blend of cryptography and pattern recognition that is being developed to revoke and reissue protected biometric data like passwords or DNo							

