University of Basrah

جامعة البصرة

First Cycle – Bachelor's Degree (B.Sc.) – Computer Information Systems

بكالوريوس – نظم المعلومات الحاسوبية

Table of Contents

1. Overview

This catalogue is about the courses (modules) given by the program of Computer Information Systems to gain the Bachelor of Science degree. The program delivers (40) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظره عامه

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج أنظمة المعلومات الحاسوبية للحصول على درجة بكالوريوس العلوم. يقدم البرنامج (٤٠) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2023-2024

Module 1

Code	Course/Module Title	ECTS	Semester
CSITCIS101	Computer Programming I	7	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	1	77	98
Description			
This course builds the fundamentals of computer programming using a modern structured C programming language. Topics covered include computer systems overview, algorithms, overview of C language, expressions, variables, basic types, formatted input and output, selection statements, loops, and functions.			

Module 2

Code	Course/Module Title	ECTS	Semester
CSITCIS102	Computer Skills	7	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	113

Description
Introduction to Computer skills is designed to familiarize students with computers and their applications. It will also emphasize the use of computers and technology throughout their college and future careers. Students will learn fundamental concepts of computer hardware and software and become familiar with a variety of computer applications, including word processing, spreadsheets, databases, and multimedia presentations. Students will also investigate Internet-based applications, working with email and learning how to browse the web. Coursework also includes activities that explore social and ethical issues related to computers.

Module 3

Code	Course/Module Title	ECTS	Semester
CSITCIS103	Information Systems	6	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	118
Description			
This course is designed to introduce the basic concepts of modern Information Systems (IS) and the use of information system in global organizations. The key topics of this course will be the major components of the information systems, people, software, hardware, data, and communication technologies. The course will also provide students with the knowledge about the use and management of information system components to establish competitive advantage and quality improvement of local and global organizations. Moreover, the course also covers the concepts of information system development and acquisition, in addition to emerging types of software that are widely used in contemporary organizations and society. Students are given knowledge of how to secure information systems resources, focusing on information security principles and issues. Students are also acquainted with career opportunities and social and ethical responsibilities.			

Module 4

Code	Course/Module Title	ECTS	Semester
CSITCIS104	Mathematics	8	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
Calculus is a transition course to upper-division mathematics and computer science courses. In this course, Students will extend their experience with functions as they study the fundamental concepts of calculus: limits, continuity, the intermediate value theorem, differentiation, techniques of differentiation, applications of differentiation, the chain rule, the mean value theorem, L'hospital rule, indefinite integral, applications of integral, the fundamental theorem of calculus, sequences, convergence of series.			

Important objectives of the calculus sequence are to develop and strengthen the students' problem-solving skills and to teach them to read, write, speak, and think in the language of mathematics.

Module 5

Code	Course/Module Title	ECTS	Semester
CSITCIS105	English Language I	4	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	68
Description			
The featuring aspect of the academic year English language program is fittingly designed to answer the academic needs of students of the Science and Engineering Tracks. This course (General English) is an integrated English course intended to increase academic and general competence in listening, speaking, reading and writing. During the academic year students will have attained to a position where they can understandingly communicate with native speakers and express themselves without hesitation.			

Module 6

Code	Course/Module Title	ECTS	Semester
CSITCIS106	Computer Programming II	7	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	2	77	98
Description			
This is an entry level programming course designed to provide students an introduction to problem-solving and computer programming skills using C++ language. This course concentrates on: designing program logic, using pseudo-code, flowcharts, coding, testing, data organization and manipulation, data visual representation, logical reasoning and problem-solving strategies. Problem-Solving concepts can include simple application of: pattern recognition, working backwards, considering extreme cases, accounting for all possibilities, adopting a different point of view, intelligent guessing and testing. Topics covered include: introduction to problem-solving strategies, algorithm concept and building, pseudo-code writing, flowcharts, testing, variables, data types and data storage, operands and operators, operator precedence, built-in functions, equation and expression evaluation, errors types, input-processing-output (IPO) charts, introduction to programming structure, sequence structure, decision structure, repetition structure, and arrays.			

Module 7

Code	Course/Module Title	ECTS	Semester
CSITCIS107	Computer Applications in Business	7	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**

2	2	62	113
Description			
Give the student the most important skills to become an Excel power users have a broad understanding of Excel's functionality and they know which tool or function is best used in a given situation. Power users create complex workbooks for their use and are often called on to help develop workbooks for their colleagues, or to identify why their colleagues' workbooks don't work as intended.			

Module 8

Code	Course/Module Title	ECTS	Semester
CSITCIS108	Discrete Structures	6	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	118
Description			
This course introduces useful mathematical concepts in the realm of discrete mathematics, which are considered essential for numerous areas of computer science, including logic and proof techniques, analysis of algorithm, digital circuit, network, software engineering and artificial intelligence.			

Module 9

Code	Course/Module Title	ECTS	Semester
CSITCIS109	Computer Fundamentals	6	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	88
Description			
This section includes a description of the module, 100-150 words			

Module 10

Code	Course/Module Title	ECTS	Semester
CSITCIS110	English Language II	4	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	68
Description			
This section includes a description of the module, 100-150 words			

Module 11

Code	Course/Module Title	ECTS	Semester
CSITCIS201	Object Oriented Programming	7	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	113
Description			
The purpose of this course is to provide students with fundamental knowledge of object oriented programming (OOP). It emphasizes good software engineering principles and developing programming skills. Specific topics covered include: fundamental concepts of object oriented programming (classes, methods, instantiation, communication by message, encapsulation, inheritance, overriding, dynamic dispatch, polymorphism, etc.) and some interesting packages (I/O, strings, etc.). As an OOP programmer, a student will be able to translate solution problem into object-oriented form. He/she should acquire some understanding of object oriented concepts and tools such as the Unified Modeling Language (UML). This will give the student a firm foundation on which he/she can build high-quality software systems. In practice, the programming language used is JAVA, as an introduction to JAVA language. Students should acquire some understanding of abstraction mechanisms, enumeration, JAVA Virtual Machines (JVM) and the byte code notion.			

Module 12

Code	Course/Module Title	ECTS	Semester
CSITCIS202	Marketing	5	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	93
Description			
This course will expose learners to different business terminology, concepts, and contemporary issues, giving them a solid foundation across different functional areas. The global context of business will help in highlighting multicultural aspects of markets and business. The topics include principle of operation and production, goods and services operation, creating value through production, operation planning and scheduling, operation control, quality improvement, principles of marketing, target marketing and segmentation, consumer behavior, organization marketing, international marketing mix, developing new products and managing product life cycle, identifying products, pricing, distribution and promotion, , information system deployment and business performance, principle of accounting, tools of accounting trade, financial statements, financial issues, money and banking, international banking and finance, securities and investment, security markets, stocks and bonds, buying and selling security and risk management. The course will be supported by additional case studies.			

Module 13

Code	Course/Module Title	ECTS	Semester
CSITCIS203	Database	7	3

Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	62	113
Description			
This course introduces students to basic database concepts. The course teaches students relational database terminology, as well as data modeling concepts, building Entity Relationship Diagrams (ERDs), and mapping ERDs. It introduces relational languages, and The Structured Query Language (SQL) is used to interact with a relational database and manipulate date within the database. Relational database systems are the main focus, but other types, including object-oriented databases, are studied. Students will work on projects which will require them to design, implement, and demonstrate a database solution for a business organization using modern software tools.			

Module 14

Code	Course/Module Title	ECTS	Semester
CSITCIS204	Web Programming I	7	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	113
Description			
HTML and CSS go hand in hand for developing flexible, attractively and user friendly websites. HTML (Hyper Text Markup Language) is used to show content on the page whereas CSS is used for presenting the page. JavaScript is a scripting language that is commonly used to create and control dynamic Website content. jQuery provides web developers and easy way to create interactions with web pages. This course provides the fundamental knowledge necessary to design and develop dynamic Web pages using HTML, CSS, JavaScript and to be able to grasp JavaScript libraries and frameworks such as jQuery.			

Module 15

Code	Course/Module Title	ECTS	Semester
CSITCIS205	Information Retrieval	5	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	93
Description			
Databases are not the only means for the storage, and subsequent retrieval of information, in fact databases only hold the subset of information known as "structured data". Documents and hypermedia are also information repositories, often referred to as semi-structured data, and forming the backbone of Digital Libraries and the Web. Work has gone on for the last decades on how to manage and find electronic documents, how to structure and navigate hypertexts, and how to manage and catalogue libraries. The Web, as a global document repository and a distributed hypermedia, makes this area of information management more important than ever. This course provides a brief introduction related to information retrieval systems within the context of knowledge management. It focuses on the knowledge of IR processes and techniques and their application for a more relevant and efficient search.			

Module 16

Code	Course/Module Title	ECTS	Semester
CSITCIS206	Systems Analysis and Design	4	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	1	32	68
Description			
This course introduces the analysis and design of information systems within the context of an organization. The course approaches this by identifying the need for IT to enable organizational change and bring business value. Business process management and modeling techniques are used to analyze and model business requirements. This includes data, user and security requirements. The course lays down different approaches to systems analysis and design including SDLC, agile and UML. Finally, the course demonstrates the different options organizations have to develop information systems including: package systems, outsourced and in-house development. The lab component will exhibit these concepts using system analysis and design software tools. Students are expected to demonstrate their understanding of these concepts in a form of a project. Students learn how to write Systems Requirements Specifications to communicate systems requirements at different organizational levels in a business organization.			

Module 17

Code	Course/Module Title	ECTS	Semester
CSITCIS207	Business Statistics	6	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	88
Description			
This course examines the use of descriptive statistics, probability, confidence intervals, hypothesis testing, analysis of variance, regression and correlation analysis, t-tests, and applications of technology for statistical analysis, including the interpretation of the relevance of statistical findings for business problem solving and decision making.			

Module 18

Code	Course/Module Title	ECTS	Semester
CSITCIS208	Data Structures	7	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	113
Description			
The aim of this course is to provide the fundamentals of data structures, and algorithm design from an			

object-oriented perspective which allows one to store collections of data efficiently with fast updates and queries. The course is mainly focused on array and linked list data structures, and their implementation of fundamental abstract data types like stacks, queues, trees, and graphs. Recursion is introduced in order to cover basic operations on these abstract data types, including traversal, insertion, deletion, and searching. Weekly labs allow exercising in Java programming.

Module 19

Code	Course/Module Title	ECTS	Semester
CSITCIS209	Web Programming II	7	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	113
Description			
PHP is a is a widely used open-source general-purpose scripting language that is especially suited for back-end web development and can be embedded into HTML. Popular in the industry, it has been used to create many sites on the web, including Facebook, Wikipedia, Tumblr, Slack, Etsy and WordPress. This PHP web development course teaches the fundamentals of programming, which can be applied to any computing language. It then focuses on how these fundamentals can be applied to the PHP language to create server-side code and develop dynamic websites.			

Module 20

Code	Course/Module Title	ECTS	Semester
CSITCIS210	Decision Support Systems	5	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	93
Description			
The purpose of this course is to provide students with an understanding of the key technical and managerial issues in the effective development and use of decision support systems in organizations. The course focuses on integrating developments in the literature on decision processes, modeling technologies, and information technologies and discuss their application in the organizational context. The decision processes component will cover process models, bounded rationality and its replication for satisfying, optimizing behavior, and discuss heuristics commonly used by humans. The modeling technologies component will discuss decision analysis techniques such as multi- criteria decision making and predictive modeling techniques such as neural networks. The information technologies component will give students the opportunity to work with specialized desktop decision support tools such DPL and Expert Choice (an analytic hierarchy process-based DSS engine), Scikit-learn (an open source machine learning library), and OpenNN (an open source class library which implements neural networks).			

Module 21

Code	Course/Module Title	ECTS	Semester

CSITCIS301	E-Management	5	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	78
Description			
An introduction to business and technical issues related to the internet and other business technologies. Topics include internet technology, internet business models, intranets, extranets, web portals, internet opportunities for sales marketing and branding, e-business software, hardware, internet security, e-business planning, web services, hosting and basic website design.			

Module 22

Code	Course/Module Title	ECTS	Semester
CSITCIS302	Operating Systems	6	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	88
Description			
Processor management, memory management, file and disk management, resource management, concurrent processes, networks and distributed system.			

Module 23

Code	Course/Module Title	ECTS	Semester
CSITCIS303	Computer Networks I	6	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
This course provides an introduction to computer networks, with a special focus on the Internet architecture and protocols. Topics include layered network architectures, addressing, naming, forwarding, routing, communication reliability, the client-server model, web and email protocols. Besides the theoretical foundations, students acquire practical experience by programming reduced versions of real Internet protocols.			

Module 24

Code	Course/Module Title	ECTS	Semester
CSITCIS304	Software Engineering	6	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	1	47	103

Description
In this course, we will examine the stages of the software engineering process, including requirements gathering, specification, design, implementation, and testing. We will also cover the practicalities of software engineering, covering a number of the key tools and technologies leveraged in successful endeavours.

Module 25

Code	Course/Module Title	ECTS	Semester
CSITCIS305	Artificial Intelligence	7	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
4	0	62	113
Description			
This course about computer systems that exhibit intelligent behavior, design intelligent agents, identify AI problems and solve the problems design knowledge representation and expert systems, design neural networks for solving problems.			

Module 26

Code	Course/Module Title	ECTS	Semester
CSITCIS306	Business Intelligence	6	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
Business Intelligence (BI) refers to technologies, applications, and practices for the collection, integration, analysis, and presentation of business information. The purpose of business intelligence is to support better business decision-making. This course provides an overview of the technology of BI and the application of BI to an organization's strategies and goals.			

Module 27

Code	Course/Module Title	ECTS	Semester
CSITCIS307	Operations Research	6	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
This course cover INTRODUCTION TO OPERATIONS RESEARCH, LINEAR PROGRAMMING PROBLEMS, SIMPLEX METHOD AND DUALITY IN LINEAR PROGRAMMING, TRANSPORTATION PROBLEM,			

ASSIGNMENT PROBLEMS, QUEUEING THEORY.

Module 28

Code	Course/Module Title	ECTS	Semester
CSITCIS308	Project Management	5	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	78
Description			
This course (Introduction to Project Management for Business Management) students serves as an integrating course and provides the continuum on the project management process and tools that they have learned in (Management Science, Operations Management, and Business Math). It allows the students to better understand the overall view of managing a project from project planning and selection to project implementation through the use of technical/quantitative techniques in statistics, net present value analysis, cost optimization, and logistics management. The quantitative tools are blended with the managerial approach on team selection and, project communication, documentation and presentation, information systems. The use of cases, film showing and group work activities are the major teaching tools to be used in the course. At the end of the course, the students must be able to present a project proposal to an actual client.			

Module 29

Code	Course/Module Title	ECTS	Semester
CSITCIS309	Computer Networks II	7	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	113
Description			
This course provides an introduction to computer networks, with a special focus on the Internet architecture and protocols. Topics include layered network architectures, addressing, naming, forwarding, routing, communication reliability, the client-server model, web and email protocols. Besides the theoretical foundations, students acquire practical experience by programming reduced versions of real Internet protocols.			

Module 30

Code	Course/Module Title	ECTS	Semester
CSITCIS310	E-Commerce	6	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			

This course provides an introduction to information systems for business and management. It is designed to familiarize students with organizational and managerial foundations of systems, the technical foundation for understanding information systems.

Module 31

Code	Course/Module Title	ECTS	Semester
CSITCIS401	Mobile Applications	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
The course examines the principles of application design and development for handheld devices. The mobile platform constraints, insights and applicability of relevant programming languages are iscussed from platform perspectives. Students work in small collaborative design teams to propose, build, and document a semester-long project focused on mobile applications for cell phones. Students learn application development on smart devices, mainly Android platform. The course also explains methods for organizing projects using emerging technologies in such a way that they are highly scalable and maintainable. Throughout the semester, students develop simple applications from scratch to solidify knowledge of the materials and upon the nature of mini projects, relevant tools are identified. Students deploy and test their apps on both emulators and on real devices.			

Module 32

Code	Course/Module Title	ECTS	Semester
CSITCIS402	Data Science	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
0	1	16	74
Description			
The course affords valuable eye-opening information about data management within business environment. It provides the students with a comprehensive view on the challenges, complexities, and value of effective and ethical data management and governance. It also covers data quality standards, activities and lifecycle and the effect of low-quality data on organizational outcome. Also, the course highlights the importance of well-defined data architecture for organizations. In this context, students' ability of designing enterprise data model is supported by introducing Enhanced Entity Relationship diagrams (EER). The security aspect of data management is also covered by introducing students to its activities and the different tools and techniques that enhances security and privacy of organizational data assets. The second part of the course will introduce students to the data warehousing and business intelligence key concepts and tools and how they are changing the business arena. Students learn how meaningful information derived using data analytics and data science tools can assist in enhancing business decisions and add value. Finally, the course is supported by business case studies that show the importance of high maturity level of the different data management functions within organizations.			

Module 33

Code	Course/Module Title	ECTS	Semester
CSITCIS403	Data Mining	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
This course emphasizes on the principal concepts of Data Mining techniques. The course looks at Data Mining cycles, methodology, major issues in detail. It covers different data mining and predictive modeling techniques such as mining frequent patterns, associations, correlations, classifications (decision trees, neural networks, Bayes classification, rule-based classification) Also, post-analysis matter like data visualization, and measurement of the effectiveness of a data mining model are considered.			

Module 34

Code	Course/Module Title	ECTS	Semester
CSITCIS404	Information Security	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
Explore the role of information security within your organization. Learn to identify and mitigate threats to critical business processes and data. Develop a risk-based and prioritized approach for your business continuity and security plan, and learn about resources to support these efforts.			

Module 35

Code	Course/Module Title	ECTS	Semester
CSITCIS405	Graduation project	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
This semi-structured course is intended to guide students into the initiation, planning and designing of their graduation projects. In this context, they are expected to decompose a business related IS problem into manageable components. Problems can be identified through the evaluation of organizational processes and identifying possible areas of improvement where IS can bring value. Students are expected to apply the project life cycle in-line with the organization's strategic plans. While working in groups, students are supposed to design IT projects, data and information management solutions to provide competitive advantage and high quality user experience. Groups will be evaluated based on the submitted documentations that are reporting on their solution using appropriate standardized templates. Along with that, they will be delivering these solutions in an effective oral presentation.			

Module 36

Code	Course/Module Title	ECTS	Semester
CSITCIS406	Business Information Systems	6	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	88
Description			
This course is designed to introduce the basic concepts of modern Information Systems (IS) and the use of information system in global organizations. The key topics of this course will be the major components of the information systems, people, software, hardware, data, and communication technologies. The course will also provide students with the knowledge about the use and management of information system components to establish competitive advantage and quality improvement of local and global organizations. Moreover, the course also covers the concepts of information system development and acquisition, in addition to emerging types of software that are widely used in contemporary organizations and society. Students are given knowledge of how to secure information systems resources, focusing on information security principles and issues. Students are also acquainted with career opportunities and social and ethical responsibilities.			

Module 37

Code	Course/Module Title	ECTS	Semester
CSITCIS407	Multimedia	6	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
Students are introduced to computer-based multimedia theory, concepts and applications. The course demonstrates the importance of planning in a multimedia production environment and some of the tools and techniques used e.g. storyboarding and navigation charts; evaluate techniques used to capture, edit, store and present multimedia data, in particular images and movies. It also demonstrates competencies in the use of a widely used multimedia authoring tools.			

Module 38

Code	Course/Module Title	ECTS	Semester
CSITCIS408	Geographic Information Systems	6	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			

Geographic Information Systems (GIS) is a system of hardware, software, and procedures designed to support the capture, management, manipulation, analysis, modeling and display of spatially referenced data for solving complex planning and management problems. GIS applications use both spatial information (maps) and databases to perform analytical studies.

Module 39

Code	Course/Module Title	ECTS	Semester
CSITCIS409	Data Warehouse	6	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	88
Description			
In this course we go into data warehousing and analytical processing techniques including: data warehouse modeling (data cubes and OLAP), and cluster analysis methods (such as partitioning, hierarchical, density-based, and grid-based approaches). As part of this course, students will be applying the learned skills and concepts on the latest data mining software.			

Module 40

Code	Course/Module Title	ECTS	Semester
CSITCIS410	CyberScurity	6	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	103
Description			
This course introduces students to the field of cybersecurity. Students are introduced to various security topics, including Internet security, malware, vulnerability, cyber terrorism, cyber fraud, cyber detectives, firewalls, privacy, policies/procedures, mitigation strategies to potential cyber threats, and legal and regulatory aspects of cybersecurity. Lectures and projects promote understanding of cyber threats and security.			

Contact

Program Manager:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:

Program Coordinator:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:
