

The Information package is printed
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"Designing and Implementing of
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University, Faculty of Contemporary
Sciences and Technologies

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SOUTH EAST EUROPEAN UNIVERSITY

PROSPECTUS

for the first and second cycle study programmes
Business Informatics - Faculty of Contemporary
Sciences and Technologies
Tetovo, 2012



European Commission
TEMPUS



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BUSINESS INFORMATICS

The three-year curricula (Bachelor of Science) in Business Informatics merges the best from the business environment and technological perspectives that overall reflect the contemporary industry growth and at the same time prepares students for leadership positions in organizations throughout the world. The market for such skills already experiences rapid expansion in the same way the society and economy of this country are moving towards the European Union standards and globalization in general.

The structure of the three-year curriculum contains studies which are dynamic, integrative and interactive by nature. These studies are expected to generate highly professional results adjusted for the needs of the labour market, at the same time serving as a solid background for further studies at the post-graduate level.

The Business Informatics curriculum is designed to address the specific needs and market trends that meet the current and future need of the labour market for certain areas of corporate development in the field of information system management and control, as well as their development. The curriculum also involves the portal development, multimedia technologies and projects, IT applications for new businesses, data bases, string value network, e-commerce, interactive marketing, Customer Relations Management (CRM), business convergence and virtual business, corporative finances and accounting.

The undergraduate studies in Business Informatics provides students with a thorough understanding and knowledge from the field of Business and Computer Sciences, while directing them towards certain areas that will be further specialized in

the second study cycle. The three-year curriculum will provide students with opportunities for internship, which will equip them to apply the acquired knowledge and skills in the field of Business Informatics.

The University currently possesses a remarkable IT – infrastructure for the realization of the suggested *curriculum* in the field of Business Informatics, with computer laboratories, Internet connection and the option of Distance Learning, as well as a library with online resources available for searching.

The curriculum structure aims for a balanced combination of the basic knowledge and specific professional skills. The first year is important for students as it merges a whole range of interdisciplinary courses with practical implementation in the two fields, Business and Informatics. This will be of considerable benefit for their professional unity.

Programme Objectives

- To provide students with independent research, addressing the areas of Business Informatics that were not addressed within the curriculum;
- To develop skills for critical, analytical and functional approach, comparative skills for problem solving that may be applied in the fields of Business Informatics;
- To provide an opportunity for development of personal skills, communication, research and other important skills necessary for employment.
- To offer an opportunity for the introduction and acquisition of first working experiences in a real working environment from the field of studies through practical work and internship;

- To emphasize multilingual instruction and promote multiethnic and cross-cultural dialog;
- To acquire knowledge and skills from the basic disciplines of Business Informatics: Programming, Databases, Computer Networks, Advanced Web Technologies, Corporate Finances, Management, Marketing and their implementation in related fields.

Type of descriptor

Knowledge and Understanding

- Have demonstrated knowledge and understanding of business and informatics fields (economy, management, marketing, finances and, respectively, programming, databases, computer and information systems, networking and data engineering) extending the one typically associated with First cycle degree.
- Able to develop and apply original and creative ideas within the environment which requires knowledge in overlapping and cross-linked areas of business and informatics.
- Able to deploy interdisciplinary knowledge and demonstrate specialist competence in the field of business informatics.

Application of Knowledge and Understanding

- Able to critically, independently and creatively solve problems in new, unseen or unfamiliar environments within the multidisciplinary context of real business or organizational environment. To plan, perform and evaluate independent research in the domains of the

business implementing correspondent computing tools, environments and technologies.

- Creativity and originality in interpretation of knowledge of business processes and with appropriate usage of computing tools and environments based on well defined techniques of research and enquiry.

Ability for evaluation

- Ability to creatively integrate and synthesize knowledge across several areas related to business processes and using appropriate computing tools and techniques.
- Ability to deal with complex issues related to business processes, to address appropriate specialized instances both in business and informatics domains, make sound judgments in situations which lack complete information or data, and based on personal, social and ethical responsibilities linked to the application of their knowledge and understanding.

Communication Skills

- Able to clearly and unambiguously communicate conclusions, results, study outcomes and knowledge to both specialist audiences from the business and informatics fields along with the ability to appropriate the style and form of expression to non-specialist audience.
- Have competency for critically independent and creatively argued research, to evaluate methodologies and develop critiques and, where appropriate, to propose and defend new hypotheses.

- Demonstrate an ability to initiate, lead and take responsibility for the work of individuals and groups in cases where business and informatics competences are crucial.

Learning Skills

- Able to identify personal needs and directions for individual and autonomous study, and to perform it in self-directed and autonomous manner of common business and informatics areas.
- Able to take responsibility for continuous individual learning in specialized business and informatics fields within the networked economy.

CURRICULUM

Semester 1	ECTS		
Course Name	Core	Elective	Free Elective
Elective course in English Language 1		3	
Elective course in Albanian/ Macedonian language 1		3	
Free Elective 1 ¹			6
Calculus and Linear Algebra	6		
Computer Systems	6		
Introduction to Economics	6		
TOTAL	18	6	6
Semester 2	ECTS		
Course Name	Core	Elective	Free Elective
Elective course in English Language 2		3	
Elective course in Albanian/ Macedonian language 2		3	
Free Elective 2 ²			6

¹ The list of Free Elective Courses is offered on the University level

² The list of Free Elective Courses is offered on the University level

Discrete Structures	6		
Computer Programming 1	6		
Management Principles	6		
TOTAL	18	6	6

Semester 3	ECTS		
Course Name	Core	Elective	Free Elective
Elective course in English Language		6	
Free Elective 3 ³			6
Applied Probability and Statistics	6		
Computer Programming 2			
Financial Accounting			
TOTAL	18	6	6

Semester 4	ECTS		
Course Name	Core	Elective	Free Elective
Elective course in English Language		6	
Elective Course 4*		6	
Fundamentals of Information Systems			
Databases			
Marketing			
TOTAL	18	12	

REMARK: The Faculty reserves the right in a given semester to offer elective courses other than those on the list, depending on the dynamic of trends in technology and demands of industry

*Elective Courses 4:

E – Commerce

Information Systems Management

Introduction to Wireless Network

³ The list of Free Elective Courses is offered on the University level

Semester 5	ECTS		
Course Name	Core	Elective	Free Elective
Elective Course 5		6	
Elective Course 5		6	
Algorithms and Data Structures	6		
Web-programming	6		
Corporate Finance	6		
TOTAL	18	12	

REMARK: The Faculty reserves the right in a given semester to offer elective courses other than those on the list, depending on the dynamic of trends in technology and demands of industry.

* Elective Courses 5:
Data Mining
Web Technologies

Semester 6	ECTS		
Course Name	Core	Elective	Free Elective
Capstone Project / Elective Course 6		6	
Elective Course 6		6	
Data Engineering	6		
System and Software Engineering	6		
Business Information Systems	6		
TOTAL	18	12	

REMARK: The Faculty reserves the right in a given semester to offer elective courses other than those on the list,

depending on the dynamic of trends in technology and demands of industry.

* Elective Courses 6:
Risk Management
Managerial Accounting

** *Preparation of Capstone Project within one of the above courses*

Semester 1

Calculus and Linear Algebra

The main objective of the course is to provide students with practical knowledge about the basic concepts of Calculus. Students will learn and fully master the concepts of: Functions (as a special mapping), methods of creating a function, continuity of basic functions. To be able to find the limit of functions, derivatives, integrals, and solving problems related to finding maximal and minimal values of real functions. To get familiar with basic terms of algebraic structures, theory of matrices, solving systems of linear equations. To solve various assignments related to the above mentioned topics.

Computer Systems

The course objectives (competencies) are: Introduction to basic elements, structure, components, organization and operation of computer systems, covering a wide range of computer systems and peripheral units; basics of data presentation and manipulation, basics of computer networks and web-technologies.

Introduction to Economics

The course is designed to familiarize students with the external and internal environment of the enterprise. However, attention will be given to the financial, marketing function and organizational function of the enterprise. In addition, it recognizes the impact of enterprise on the community in which operates.

Semester 2

Discrete Structures

The objective of this module is to provide students with mathematical knowledge that have direct application in the Business Informatics field. Some of the concepts provided in this course are already familiar to the students, but the objective here is even greater, to formalize these concepts to an even higher level that will allow them to enrich their range of ideas and apply them while solving various practical problems.

Computer Programming 1

This subject presents the basic concepts of programming which further serve as an introduction to structured programming. The aim is to teach students in writing clear and efficient C++ programs by applying a wide range of programming techniques.

Prerequisites for subject enrolment	Introduction to Computer Sciences
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Financial Accounting

The course objective is to help students in understanding the essence of accounting, to learn the basics of financial accounting, and concepts and principles of accounting.

Semester 3

Applied Probability and Statistics

The course objective is to enable students to acquire the necessary knowledge in the Probability and Statistic subject that have direct application in the Computer Sciences field. The purpose is to learn how to do the processing of statistical data, their legitimacy, their presentation, the legality of making appropriate conclusions based on the processed data and more. It also aims to teach basic principles of probability and how these principles can be applied in different areas of everyday life, especially in the field of Computer Sciences.

Prerequisites for subject enrolment	Discrete Structure
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Computer Programming 2

This course is intended for students who have prior knowledge of structured programming and want to apply this knowledge in C++. The module is intended as a second subject in Programming at the Faculty of Contemporary Sciences and Technologies. The purpose of this course is to acquaint students with the knowledge and understanding in the field of object-oriented programming (abstract data types, classes, encapsulation, abstraction, inheritance, polymorphism, etc.), to teach students to write clear and efficient C++ program using the object-oriented programming principles to create effective applications, to have the ability to evaluate a particular object-oriented solution, and to be able to apply the concepts of abstract data types in problem solving based on the principles of object-oriented programming realized in C++.

Prerequisites for subject enrolment	Knowledge of basic principles and concepts of Structured Programming.
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Semester 4

Information Systems Fundamentals

Course Objectives (competences):

To learn the basic concepts and terminology of information systems:

- Hardware, Software, Networks
- E-World: e-business and e-commerce
- Development Processes
- To learn more about information systems and technologies that are improving business values and various business processes in organizations.
- To implement e-concepts with various managerial disciplines in the process of analysis, interpretation, evaluation, and decision making.
- To understand the process of organizations redesigning using information systems.
- To describe the role of information systems in decision making.
- To examine data security, as well as ethical and social issues.
- To get introduced with Internet, e-commerce and e-business.
- To enable students to work on projects, either individually or as part of a group, which can be: case studies, scientific research projects, development projects or practical work.

Databases

The course is an introduction to the concepts and systems of databases. A student, who successfully completes this subject, will be able to use models and concepts of designing databases. He/she will be able to use and design simple and specific databases, based in relational model of databases and use the MS SQL Server system for managing databases (DBMS), SQL language and implementation of queries.

Marketing

Through this course students will learn basic concepts that are embedded in the marketing functions of contemporary organizations. The focus is on concepts and questions related to products and consumer services marketing. This course also provides understanding of marketing environment by analyzing the market, and implement successful marketing strategies in that same environment. Students will also be able to apply scientific concepts while designing complete marketing plan for their product. This subject will enable students to get familiar with various marketing activities that contribute to the company's competitiveness and success in the market.

Elective courses – Semester 4

E-Commerce

Course objectives:

- Understanding and application of concepts of electronic commerce – electronic business. Identification of business needs for adaptation of constant and continuous changes in the field and the importance of incorporation of Information Technology in the most important business processes. Improvement of their current operational efficiency to transform into a competitive advantage. Developing strategic, administrative and operational planning for new businesses or improving current planning with their technology.
- To explain the growth of e-business to date, the term business consumer and the business-business model; using relevant business, managerial and social science theories.
- To examine the interaction between technological trends and social business-context of e-business, including the diffusion of Social Networks and the Web 2.0 developments.

Information Systems Management

This course gives comprehensive introduction to Information Systems from the organizational and social prism. The objective is students to gain appropriate balance of technical and organizational perspectives that will serve as a foundation for further studies in this field.

Introduction to Wireless Network

The course is an introduction to basic concepts and principles of Wireless Networks. It explains different components of the networks and how these components fit together. The course is intended to help students understand wireless PAN, LAN, MAN and VAN technology and prepare them for the CWNA (PW0-100) certification. CWNA is an intermediate level certification that prepares the candidate to implement and sustain small, medium and large Wireless Networks.

Semester 5

Algorithms and Data Structures

The course is obligatory for students in Computer Sciences and Business Informatics. It provides an introduction to fundamental concepts and principles in analyzing and designing algorithms and in using different data structures. It reviews different algorithms for solving the same problem. It reviews in details the temporal and spatial complexity of algorithms. Establish criteria for finding the best algorithm. It studies designing of different already-known data structures (linear and nonlinear) and considers the possibility of creating new data structures, as well as their concrete application. The final part of the course represents an introduction to graphs and reviewing of basic models for graph-algorithms. Students become familiar with different types of data and algorithms, which allows further direct involvement in analyzing, designing and application of specific software projects.

Web-programming

The course objective is to introduce students with problems of Web Development and provides understanding for the techniques and technologies of Web Object-Oriented Programming.

- To have understanding of a range of different programming languages and techniques that are available to organizations and companies, and also to have the opportunity to choose an appropriate architecture for web application.
- To be able to demonstrate an ability for design and implementation of web development.
- To be able to make informed and critical decisions regarding web development.
- To be able to design and implement reasonably sophisticated web applications using one or more relevant technologies.
- To possess knowledge to critically analyze and evaluate web applications.
- To possess critical and systematic understanding of web protocols.
- To get familiar with multiple technologies for web development, syntax of scripting languages, as well as programming languages; learn the fundamentals and concepts of programming; learn to pay attention to code clarity and documentation.
- To analyze the key OOP concepts: classes and objects, inheritance and event-driven computations.
- To acquire skills in designing software solutions to problems from various fields of application.

Corporate Finances

The course aims to provide students with necessary skills and knowledge in the field of Finance. This course covers fundamental skills that are applied in contemporary organizations: temporal value of money, investments valuation, securities valuation, and financial planning.

Elective Courses – Semester 5

Data Mining

- The objective is to familiarize students with the opportunities that data mining algorithms offer, and mathematical implementation of the same in order to find hidden but relevant and comprehensive knowledge.
- To learn algorithms by using probability in order to generate pseudo codes for data mining.
- To learn algorithms for classification and clustering, and their implementation.
- To learn the basic methods of visualization of results generated from data mining.
- To learn the future directions of development of algorithms for analysis, data mining and warehousing.
- To enable students to work on projects, either individually or as part of a group, which can be: case studies, scientific research projects, development projects or practical work.

Web Technologies

The course objective is for the student to acquire a comprehensive understanding of multiple tools and methodologies for solving problems regarding web technologies, and creating effective web pages.

Although there will be specific tools used such as HTML and VisualStudio (ASP.NET), our primary focus will be the techniques for problem solving and gathering information, that will outlive any particular programming language. Lectures will focus on general concepts and syntax, while exercise will focus on implementation and practice.

Data Engineering

The course is an introduction to the concepts and principles of data engineering. It reviews the methods of data warehousing and organization, as well as their processing in order to assist the decision making process in the business environments. Topics in Descriptive Statistics are in details treated, with the purpose of describing the data, their distribution, correlation, etc. Particular importance is given to practical implementation of data warehouses and methods of transforming data into useful information. Among used methods are: application of algorithms for classification, clustering, decision making, regression models and the like.

System and Software Engineering

The course objective is to provide students with in depth, critical and systematic understanding of principles and techniques for systematic and software specification, analysis and design, programming, testing and evaluation, maintenance and management with projecting effective

software applications. Course learning outcomes are student to capture clear understanding of tools and methodology for developing software solutions.

Upon completing this course, students will be able to:

1. Analyse the process of developing software solutions and to express the essence concisely and accurately;
2. Design structure of a module for problem solving, as well as to evaluate the alternatives;
3. Program and implement software module for efficient and correct performance;
4. Works in small teams, cooperate in various aspects of software development, and exchange ideas in software project management in a constructive and organized way;
5. Value developmental skills and methodological issues in software development, such as the importance of customer feedback, work with limited resources, sustainability, testing, and managing of the software development team.

Business Information Systems

- Students will gain knowledge in understanding the ERP (Enterprise Resource Planning) systems, the options of ERP software, as well as integration of processes and transactions in the ERP system.
- Enable students to understand the challenges associated with successful implementation of Supply Chain Management systems.
- Enable students to understand the challenges associated with successful implementation of Customer Relationship Management systems.

- Develop analytical and organizational skills of the students through the use of business case studies and team work.

Elective Courses – Semester 6

Risk Management

Course Objectives (competences):

Upon completing this course, students should be able to:

- Identify and categorize the various sources of risk.
- Design process for risk management.
- To understand the role of the Risk Manager.
- To understand the importance of Risk Management for shareholders and other stakeholders.
- Learn how to bring the business decisions to achieve the highest risk-returns level.
- Conduct measurement and assessment of risk by implementing appropriate techniques and (VaR, scenario-analysis, stress-test etc.)
- Apply Integrated Risk Management

Prerequisites for subject enrolment	Introduction to Economics
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Managerial Accounting

The course objective is to introduce students with concepts of accounting for managerial needs and the required tools for managerial decision making.

Business Informatics – Second cycle

PROGRAMME DESCRIPTION

Business Informatics (BI) is a widely known discipline in continental Europe. Although it is similar to Information Systems, it focuses more on the technical issues, including Information Systems and structural approaches for modeling and analyzing business processes and problems.

BI is particularly important in the field of economy and enterprise environment, which is characterized by strategic joining, outsourcing, physically distributed operating environments, and global business partnerships. New strategies, techniques, tools and technologies for the development of a field such as BI will be the main objective of the programme at the South East European University.

Understanding both business and informatics is of great importance to the work of all business professionals, including executive managers who determine the direction of strategic organization; information professionals who design and deliver new information services; accountancy and finance managers who use information systems for managing the finances and business reports; and marketing and sale managers who use information systems to follow customer purchase and promote new products.

Business Informatics is a study of Information Technology in a business context. Information has become the key business resource which leads to the creation of new careers for

individuals who understand how to operate with information. These “knowledgeable workers”- people who understand how to store, retrieve, analyze and inform information- currently have a promising and productive career which opens before them.

This balance also reflects the relation between the theoretical and practical subject content acquired through lectures, instructions, seminars, sessions in computer laboratories, and self- study. The course knowledge is acquired through different methods of approach including exam sessions, in-class tests, tutorials, individual tasks, group work and presentations. Students are expected to demonstrate inventiveness and originality.

The instruction objective is to provide students with quality study experiences which will provide them with the best possibilities to understand the course fields and to realize their maximum potential.

All the instructors at our Faculty are highly respected professionals who remain active in their fields, and maintain personal contacts in the region and beyond. A programme designed with quality is on offer, in which the instruction entails real world experiences, practical work and cooperation with successful companies from the business field which will lead to fast employment.

CAREER

With the Master of Science in Business Informatics at the South-East European University, graduates will find employment in the fields of system development, software project management, ultimate users of IT support, programming, and as business system analysts, and system analysts. For this reason, individuals who have not only the ability to design technical, computer-based solutions, but also have the ability to notice the possibilities of IT from a business perspective, will be sought for employment by every organization. Students will be equipped with the following skills:

- To manage information function in middle-size and big organizations.
- To analyze, plan and develop IT solutions which support market needs.
- To plan the required business analysis and business risk estimates.
- To develop skillfulness, and to contribute in the decision making, design and implementation of the changes in the business process.

Type of descriptor	Business Informatics (second cycle) – SEEU
Knowledge and understanding	<p>Demonstrate knowledge and understanding of the fundamental fields of study in both Business and Informatics. The knowledge corpus integrates specialized business, management and informatics courses and creates competent business information managers ready to apply technical solutions and develop information system architectures to solve business problems of organizations within the networked economy;</p> <p>Ability to use adequately appropriate methodologies and techniques for acquiring knowledge and understanding in the interdisciplinary field of Business and Informatics. This includes elements of collecting acquiring, analyzing, processing data with emphasis on economics and business – related data in the framework of adequate information systems and applications settings.</p> <p>Capability to list and discuss current research issues and new sources of knowledge in the field of business informatics, enabled by the set of skills (language, IT, research, and career) and practice in organizations.</p>
Applying knowledge and understanding	<p>Ability to apply, at a professional level, the interdisciplinary knowledge of Business and Informatics in real-world settings and with real world data. This is manifested mainly by ability of deploying informatics solutions in the business and organizational context;</p> <p>Ability to identify and analyze parameters and scenarios mainly in real world, business</p>

	<p>settings and to provide argument devising and supporting, and a solution in the main fields of business with computing support in terms of programming, databases, web programming, and networking. Express competence in applying technical computing tools for the managerial and business problems in general.</p>
<p>Making judgment</p>	<p>Ability to appropriately gather, analyze using common computing tools and environments, and evaluate and present information in appropriate manner using contemporary tools and computing environments for a given field of business and/or organizational setting. Usually from the perspective of management, marketing, accounting, finances or related field and using computing tools as spreadsheet manipulation software, databases or simple programs and web scripts;</p> <p>Ability to argument ideas, concepts and qualitative and quantitative data from the business and organizational environment with the assistance of, in terms of, and within common computing environment including corporate databases, information systems, data engineering and business decision support tools;</p> <p>Ability to exercise appropriate judgment for real world business situations and data taking into account personal, social, scientific, ethical aspects set up in appropriate computing setting.</p>

<p>Communications skills</p>	<p>Ability to show personal responsibility, initiative and decision making in communication and providing arguments for the ideas, problems and solutions in the main fields of business administration supported with computing facilities and tools and by appropriating the communication towards the audience.</p> <p>Balancing the business and technical arguments for the solutions with wider, personalized approach and exercising high standing for open and guided interaction with the audience;</p> <p>Ability to argument and organize a team work as a result of the experience in practical projects in a variety of business and computing fields and showing ability to support and argument on both business and informatics aspects of the outcomes.</p>
<p>Learning skills</p>	<p>Ability to detect learning component in organizations based on learned elements of the knowledge based society and corporate knowledge management issues;</p> <p>Ability to take initiative and responsibility to identify and address learning needs in the main business and technical (computing) areas with proposals for extensions in informatics fields and contemporary business components.</p>

CURRICULUM

Semester 1	ECTS		
Course Name	Core	Elective	Free Elective
Organization Information Systems	6		
1 * Foundations of Economic Systems 2 * Concepts of programming	6		
1 * Business Finance 2 * Computer Systems	6		
1 * E-accounting 2 * Database Concepts	6		
Free Elective *			6
TOTAL	24		6

1 * Students with previous education in computer science should follow these specific items.

2 * Students with previous education in Economics should follow these specific items.

Semester 2	ECTS		
Course Name	Core	Elective	Free Elective
Strategic Information Technology Management	6		
Database Management Systems	6		
E-commerce	6		
Business modeling and process innovation	6		
Free Elective *			6
TOTAL	24		6

* To choose from a list of free electives.

Semester 1 / Semester 2 Free electives
Rhetoric
Multilingualism and Multiculturalism
Selected advanced chapters of IT applications for development of a scientific paper
Selected chapters of advanced applications for statistical data processing
Professional communication

Semester 3	ECTS		
Course Name	Core	Elective	Free Elective
Analyzing business processes for Entrepreneurial Resource Planning	6		
Project management in information technology	6		
Analysis and design of systems	6		
Service-oriented architectures	6		
Elective		6	
TOTAL	24	6	

Semester 3 Electives
2 * Advanced software design
2 * Advanced algorithms
1 * Financial applications of information systems
1 * Managing Corporate Information Systems

Semester 4	E CTS		
Course Name	Core	Elective	Free Elective
<i>Master thesis (Elective)</i>		30	
Total		30	

Course description

Semester 1

Organization Information Systems

Introduction to the basic Information System (IS) concepts and principles in the context of business decision making. This course entails research in the field of Information Systems, as well as an explanation of their importance within contemporary organizations. The main course objective is to provide students with knowledge of how managers can develop and manage the potentials of the Information Technology in their personal professions, and the strategic benefits for their companies.

1 * Foundations of Economic Systems

In this advanced course the emphasis is on applications of various economic models for the analysis of issues and debates related to micro / macro-economic policy and strategy. In this context, various microeconomic models (such as patterns of demand and supply, models of minimizing costs, patterns of maximizing profits in conditions of perfect and imperfect competition, the optimal allocation of resources and more) will be analyzed. We will moreover assess international business, international business focused in the period of globalization, national differences in economic policy, foreign direct investment, regional economic integration and so on.

2 * Concepts of programming

Systems of programming with events and visual programming. Advanced programming techniques for organizing and operating with data. Applications: environment for working with object-oriented programming languages.

1 * Business Finance

Transfer the required amount of theoretical knowledge and skills towards students from the area of corporate finance. Equipping students with contemporary theoretical knowledge and experience of the analysis of the fundamental concepts of finance to corporations, financial and real investment projects and their evaluation through the time dimension of financial means (money). The focus of the course is on training students how to use adequate sources of financing, effectively managing capital, and the determination of proper structure, determining the appropriate policy-distribution of profits and dividend policy is finalized with financial planning and forecasting, etc. Achieving the set goals of the subject, the students create new opportunities for competitive access to the labor market or the efficient management of their real businesses.

2 * Computer Systems

Internet databases, teleconferencing, learning using the Internet, electronic business and commerce, teleport, robots. Java programming language, and java server pages, java

server faces, content providers, development and future communications with the Internet, new technologies.

1 * E-accounting

The course aims to analyze the prism of accounting of information systems. The course also analyzes accounting from a business perspective and system perspective. After completing this course, students will be able to understand the internal processes in accounting, as these processes are related, what effect each process has in other processes, accounts and annual reports. This knowledge students can use in their careers as business analysts.

2 * Database Concepts

Organization and manipulation of data organized into data warehouses. Advanced operations and algorithms for working with data warehouse. Modeling the data warehouse, organization and manipulation of data stored in the repository of data, preparation of reports from the repository data.

Semester 2

Strategic Information Technology Management

The course describes the general concepts of information management and supports the development of skills and knowledge required for information managers. The most important management and strategy concepts are integrated, and problems such as management function and concepts, strategy, organization and planning—as well as the examination of the method of using information systems as a strategic tool—are also covered. The course objectives are to introduce the key elements of strategic management, planning and organization, in order to further develop understanding of the basic concepts and frames of strategic management, through which the potentials of strategic information systems may be identified and evaluated.

E-commerce

Commercial transactions in an electronic era, understanding of technology, transactions, marketing and trade, business, management and technical implementations of E-commerce. Students will first acquire leadership, planning and team management skills included in the initiation and development of highly technological endeavors.

Database Management Systems

Thorough research of the Intelligent Management Systems with databases in support of business decision making.

Research on all the aspects of data modeling, database design and implementation of relational, object-oriented and semantic database. Relational database systems: architecture, theory and application. Relational data structures, integrated rules, mathematical description and data manipulation.

Business modeling and process innovation

The purpose of this course is to provide students with solid skills in computer modeling. These skills are expected in today's labor market, and will also be very useful for other courses within this program. In order to achieve the goal of acquiring these skills, the course focuses primarily on modeling to address specific issues in using Excel. Contemporary issues in information systems will also be covered within this course. Students will refresh their knowledge of mathematics and statistics.

Free electives

Rhetoric

During its long history of 2500 years, Rhetoric was used to indicate many different things; but Rhetoric nowadays is considered as the art of persuasion through language. Rhetoric marks the way that an individual is linked to a particular theme or idea in order to convince the other. Rhetoric is characterized by several distinguishing features.

Multilingualism and multiculturalism

The purpose of this subject will be multilingualism in multicultural societies as a social phenomenon. This phenomenon is massive in the world. During the lectures more precise terms will be considered such as: monoculturalism and multiculturalism. The term 'linguistic nationalism,' has at least two forms of this nationalism, which collide with each other: for the leaders of the most powerful countries nationalism means expansion, and for minorities it takes the form of defiance and struggle for the affirmation of identity, despite such pressure. The emphasis during the program will be multiculturalism in education. In the schools curricula consists of contents from different cultures.

Selected chapters of advanced applications for statistical data processing

The aim of this subject is:

- To display the technical elements in the field of statistics: organizing, processing, comparing through analysis and publication of data.
- To enable students to acquire advanced knowledge and skills from selected advanced chapters of the applications for statistical data processing.

Practical application of these objectives in statistical processing of data obtained from questionnaires, reports, scientific studies and other documents.

Professional communication

The course is focused on the development of those communication skills that are essential for effective functioning in the professional world. Students will study the process for analysis of different communication situations, and will accordingly comprehend them. Among the themes that will be covered are communication in organization, interpersonal and group communication, oral presentations, interviews for employment , professional business letters and interpersonal skills including group dynamics and team work.

Semester 3

Business Process Analysis for Entrepreneurial Resource Planning

The course provides students with an introduction to the basics of Entrepreneurial Resource Planning Systems, with a special emphasis on how integrated information systems enhance business operations. The course is a detailed description of examining the principles required for understanding the data integration through different departments in every organization.

Information Technology Project Management

This is an overview of the practice of Information Technology Project Management, software, context, and processes. The topics include project methodology implementation, resource selection, project risks and damage: technical personnel project management, project management tools, techniques and issues related to the external project origin.

System Analysis and Design

This promotes understanding of the tools for system analysis and design creators, analysis techniques and methods, and information system design and implementation. The use of theory and applied projects for building an efficient interpersonal and communication skill is vital for interaction with clients, users and other team members who are involved in the development, operation and maintenance of information systems. This provides approaches for system

development and other techniques, necessary for quality system creation.

Service-oriented architectures

Representation of XML documents. Describe the information in XML. Building blocks of Web services. Architecture of Web Services. Client server model. Web hosting services. Using Web services. SOAP Messaging. SOAP faults. Model for SOAP messaging. Data types. Transport of messages with SOAP. Defining data types and structures with XML schemas. Description of the interface of Web services. Samples of communication. UDDI registries. UDDI interface. Using UDDI to publish the service. Using UDDI to find services. Generating the UDDI WSDL. XML digital signatures and encryption. SOAP security updates. Security. NET 2.0 Web Services. Review na.NET. Classes for working with Web services.

Electives

2 * Advanced software design

Thorough review of software design. Continuing the study of patterns of design (design patterns), the framework for design and architecture. Review of current intermediary (middleware) architectures. Design of distributed systems using intermediaries. Component based design. Theory of measure and use metrics in the design. Characteristics of good design: performance, reliability, security, reusability, reliability, etc. Measuring internal qualities and complexity of the software. Evaluation and evolution of design. Basics of software evolution, reengineering and reverse engineering.

2 * Advanced algorithms

The program includes the following topics: analysis of recursive algorithms and random techniques, algorithms for sorting and according to complexity (counting, radix, heapsort, quicksort, linear sorting), methods of conception algorithms (divide and conquer, dynamic programming, greedy algorithms) , data structures (heap, sets and balanced trees), increasing the existing structures, methods and hash functions, graphs and algorithms for application in depth and width, heuristic search, algorithms for finding the shortest path optimization and linear programming, maximum flow network, etc.

1 * Financial applications of information systems

The focus is on the impact and use of information technology in the sector of financial services, including exposure to, and experience of, different types of software for financial services. Upon successful completion of this course, students will understand the impact of information technology in Banking and financial markets; and will know specific classes of financial information systems, such as electronic communication networks (ECNs) and multilateral systems, networks transfer of fund links etc.

1 * Managing Corporate Information Systems

This course provides fundamental knowledge and perspectives that apply to all organizations, regardless of which framework or method of corporate architecture is used in that organization. The first section examines the history of corporate architecture and incorporates IT strategy, planning, modeling information, and management. The second part examines the main frames and methods of corporate architecture with a focus on creating artifacts for

business managers, technology managers, and those who implement the technology. The third part focuses on the implementation of corporate architecture with a focus on standards, management and multiple-use of artifacts. This section also considers the integration of corporate architecture reengineering business processes, management needs, and the integration of systems and methods of developing systems.

