ROMANIAN - AMERICAN UNIVERSITY

School of Computer Science for Business Management

Master in Computer Science for Business

Domain: **Economic Informatics**

2 years, full time

Taught in ENGLISH

A Master course is an academically rigorous programme during which you explore your subject in depth, reaching a high level of specialized knowledge. You draw on knowledge and skills from your undergraduate study or your professional life to produce work of a high academic standard, informed by current thinking and debate.

A postgraduate qualification is a major achievement and greatly valued by employers. Recent surveys show that higher degree graduates are more likely to obtain jobs at professional or managerial level and less likely to be unemployed. For some jobs a postgraduate qualification may be essential, for others it offers a competitive edge. Our graduates go into a variety of jobs, where the key employability skills and knowledge they have gained through postgraduate study are put to good use.

The **MSc in Computer Science for Business** programme, offered by **School of Computer Science for Business Management**, is a two-year programme that enhance the students professional and complementary abilities into global IT field, covering a wide range of subjects: computer networks, decision support systems, object oriented software development, databases, enterprise resource planning, business intelligence, web design, mobile device programming, artificial intelligence and project planning.

The programme falls under the field: Cybernetics, Statistics and Economic Informatics, Major: Economic Informatics and is included in the list of majors that are exempt from income tax, according to OM 539/225/1479/2013.

The mission of this programme is to provide an educational process with a broad practical character, in line with the requirements of Romanian and international business environment in order to harness on a large extent the modern information and communication technologies, using highly qualified human resources both within the institution and through collaboration with specialists in ICT or business or from other educational institutions.

All educational activities are exclusively undertaken in English.

Embracing an interdisciplinary approach, this programme is designed for people willing to enhance their knowledge gained through bachelor studies. The competitive advantage of this master's program is that it addresses both bachelors of computer science who want to refine their practical knowledge and skills with the competences necessary for the administration or management of modern business and

those who know the mechanism of business operation and management, but are willing to be acquainted with and use the appropriate information tools for business development, to enhance/validate their information gained through practice. The business component can generate a different kind of candidate who has to acquire a number of skills specific to the entrepreneur of an IT&C business.

The MA comprises two development axes, which are complementary in our view, the former one is related to applied informatics (computer science) whereas the latter one is related to business development in the real or the online environment. These two axes provide a broader framework of development, as well as of selection of the target group, therefore the MA programme can generate a wide range of jobs/professions.

The overall objective is two-fold: to inform and train the master students in applied informatics, answering the need of a more specific, more updated and more applied information content as well as in the business environment in order to meet the need of improving entrepreneurial skills among a new generation of young people who oscillate between the employee position and the employer position.

For the evaluation of the students, the School of Computer Science for Business Management applies the methodology of the Romanian-American University, included in the regulations on the professional activity of students and it relies on two criteria: **attendance** and **performance**.

Each academic year is divided into 2 semesters. The curriculum provides minimum 60 transferable study credit points (ECTS), 30 ECTS per semester. There is a total of four semesters in two years. A semester typically has 14 weeks. The 4th semester has 11 weeks + 3 weeks allocated for internships and completion of the dissertation project. The curriculum includes compulsory subjects and elective subjects (starting with the first year of study, 2nd semester). Elective subjects are grouped together in tracks providing the students with additional training, according to the selection made in the first year.

The **Master in Computer Science for Business** includes the following **compulsory subjects**:

- Database Applications Development (ORACLE)
- Computer Networks Infrastructure and Technologies
- Object-Oriented Software Design
- ICT-Governance
- Project Management Software
- Software Engineering
- Artificial Intelligence
- Mobile Devices Programming
- Business in Virtual Environment
- Business Intelligence
- Decision Support Systems
- ERP & CRM Integrated Systems
- Software Quality Management
- Web Applications by Java Technologies
- Training - Specialized Scientific Research Internship
- Dissertation Paper Project

The **Master in Computer Science for Business** includes the following **elective subjects**:

- Cyber Security
- International Business Negotiation
- Web Design & Multimedia
- Global Strategic Management
- English For Writing Technical Documentation
- New Technologies In International Business

CURRICULUM

1st year, 1st semester

Compulsory subjects

DATABASE APPLICATIONS DEVELOPMENT (ORACLE)

6 credit points, 2 hours course, and 1 hour laboratory

- Designing and developing information systems with databases managed by Oracle DBMS,
- Working and developing mode for applications using Oracle 10g DBMS,
- Communication language between database and SQL*PLUS, SQL (Structured Query Language) application,
- PL / SQL overview.

COMPUTER NETWORKS INFRASTRUCTURE AND TECHNOLOGIES

6 credit points, 2 hours course, and 2 hours laboratory

- Proficiency of concepts and reference architectures computer networks,
- Acquiring knowledge about technology and computer networking standards,
- Acquiring knowledge about the design and implementation of computer networks.

OBJECT-ORIENTED SOFTWARE DESIGN

6 credit points, 2 hours course, and 1 hour laboratory

The course comprises topics related to the process of planning a system of interacting objects for the purpose of design, developing and maintenance software products. The students will learn: Object Oriented Design(OOD) – Basic Elements; OMT Methodology; Unified Modeling Language (UML); Instruments and Platform for software packages development; OOD Implementation Strategies and Testing Quality Assurance; System Security Assurance

ICT-GOVERNANCE

6 credit points, 2 hours course, and 1 hour laboratory

- Understanding the concept of ICT Governance,
- Understanding the ICT governance framework,
- Understanding the Key ICT Governance Decisions,
- Understanding who is responsible for IT Governance,
- Social Media used as a feedback between decision making process and citizens.

PROJECT MANAGEMENT SOFTWARE

6 credit points, 1 hour course, and 2 hours laboratory

- Acquiring for the students of the methodology regarding the management of ICT projects,
- Acquiring for the students the methodology regarding the developing of the project proposals for domestic/international calls,
- Acquiring for the students the PMBOK guide and PRINCE 2 methodology,

- Acquiring for the students the methodology to manage ICT projects (plann and monitor) by using Microsoft Project.

1st year, 2nd semester

Compulsory subjects

SOFTWARE ENGINEERING

6 credit points, 2 hours course, and 2 hours laboratory

The topic subject "Software Engineering" is oriented to embrace both the fundamental techniques of developing algorithms, techniques designed to provide optimal solutions for programming, as well as of the latest programming concepts in order to open new horizons graduate research students.

ARTIFICIAL INTELLIGENCE

6 credit points, 2 hours course, and 1 hour laboratory

- Acquiring for the students the neural network algorithms
- Acquiring for the students the topology of neural networks
- Acquiring for the students the methodological approach of the expert systems
- Designing the expert systems & acquisition of the knowledge
- The designing, implementing and developing the methodology of expert systems
- Expert systems based on uncertain and vague (fuzzy) knowledge

MOBILE DEVICES PROGRAMMING

7 credit points, 2 hours course, and 2 hours laboratory

The students will learn the basic concepts of mobile devices application development, using C# programming language on Windows Phone. The course will present the peculiarities of developing software for mobile devices and the best development practices.

BUSINESS IN VIRTUAL ENVIRONMENT

6 credit points, 2 hour course, and 1 hour laboratory

- Proficiency in the procedures and methods used in management and of domestic and international business management organized / conducted in the virtual environment,
- Acquiring knowledge on methods, technologies and current business practices, virtual environments, virtual enterprises, Internet, Intranet and modern communications networks,
- Acquiring knowledge of the business that can be carried by virtual enterprise.

Elective Subjects

CYBER SECURITY

5 credit points, 1 hour course, and 2 hours laboratory

- Presentation of computer vulnerabilities,
- Security measures for computer applications and electronic payment systems,
- Functioning of electronic signatures.

INTERNATIONAL BUSINESS NEGOTIATION

5 credit points, 1 hour course, and 2 hours seminar

The discipline aims to identify steps, formalities and techniques specific to initiation, preparation, organization and conduct of international trade negotiations. There is a strong focus on highlighting the importance of intercultural negotiation in international business.

During the course, specific situations, simulating real life interactions, are created, where students have the opportunity to put the preparation and planning of international business negotiations into practice (drafting of commercial letters, notions of etiquette and business protocol, drafting specific documents - negotiation mandate, contract draft, negotiation files, negotiation plan, agenda, and so on).

2nd year, 1st semester

Compulsory subjects

BUSINESS INTELLIGENCE

6 credit points, 2 hours course, and 1 hour laboratory

BI course ensures students acquiring a set of concepts, methods and sophisticated analytical techniques, complex and innovative, proactive, performance-oriented and extensible by exploring data warehouses that will reveal useful information relevant to strategic and business optimal decisions and maximum profitability. Students enhance their skills and knowledge to build business models to ensure effective management of business processes and business rules engine technologies, BI platforms and strategies to integrate them into the daily decisions of the firm.

DECISION SUPPORT SYSTEMS

6 credit points, 2 hours course, and 1 hour laboratory

The course objective is to develop the ability to design and produce master decision support systems by integrating existing resources, thus creating new applications that contribute to economic efficiency of specific management activities. Learning to master the concepts and methods used in management decision-making, design and implementation of decision support systems using the Visual Studio IDE. DSS exploitation facilities.

ERP & CRM INTEGRATED SYSTEMS

6 credit points, 2 hours course, and 2 hours laboratory

- Training and familiarize students with business software in the context of the modern enterprise of new information technologies and globalization.
- Defining and applying new concepts of modern systems: virtual enterprise, intelligent enterprise FGMS (Future Generation of Manufacturing Systems).
- Modeling company.
- Requirements and specifications of ERP, CRM, SCM, PDM, PLM, e-commerce and e-banking.
- Modeling the enterprise through events and processes. Case studies.

SOFTWARE QUALITY MANAGEMENT

6 credit points, 2 hours course, and 1 hour laboratory

- Define the types of information systems and technology design, development and implementation
- Estimate the complexity of information systems
- Methods and techniques for assessing information systems

Elective Subjects

WEB DESIGN & MULTIMEDIA

6 credit points, 1 hour course, and 2 hours laboratory

- Provide students with basic concepts related to creating and manipulating image documents and their publication on the web.

GLOBAL STRATEGIC MANAGEMENT

6 credit points, 1 hour course, and 2 hours seminar

The discipline emphasizes the fundamental core of knowledge that comprises the content of modern management. It aims to facilitate knowledge, understanding and contextual use of concepts, models and specific methods of strategic management in international contexts. The course will help students to develop a systemic thinking and will facilitate the creation of a modern managerial conception, useful in managing knowledge based organizations in a globalized economy. It also helps in forming and developing of rational, ethical and moral abilities, skills and managerial conducts.

2nd year, 2ndsemester

Compulsory subjects

WEB APPLICATIONS BY JAVA TECHNOLOGIES

5 credit points, 2 hours course, and 2 hours laboratory

Provides students the opportunity to develop applications based on different technologies JAVA WEB (applet, servlet, JSP, etc.).

TRAINING - SPECIALIZED SCIENTIFIC RESEARCH INTERNSHIP

10 credit points

- To introduce students to the concepts, methods and techniques used in scientific research
- Provide students with the skills Scientific research fundamental and applied
- Acquiring skills to achieve themes / research projects
- Development projects / research topics and scientific articles

DISSERTATION PAPER PROJECT

10 credit points

- Provide students with the skills Scientific fundamental and applied research
- Development projects / research topics and scientific articles
- Learning methodologies development and drafting of dissertation work
- Technical assistance in the completion of dissertation work

ENGLISH FOR WRITING TECHNICAL DOCUMENTATION

5 credit points, 1 hour course, and 2 hours laboratory

- Giving support on organizing, researching, writing, and revising complements, thorough treatment of grammar, usage, style, and punctuation to provide comprehensive help with writing skills.
- Including expanded advice for analyzing the context of different writing situations, using and integrating visuals, and dealing with ethical concerns in technical writing.
- Offering improved coverage of research by including guidelines for IEEE-style documentation as well as clearer explanations of copyright and plagiarism concerns.

NEW TECHNOLOGIES IN INTERNATIONAL BUSINESS

5 credit points, 1 hour course, and 2 hours laboratory

The discipline focuses on how to make use of the new technologies, especially new IT software programs that could facilitate the entrepreneurs work. Students will learn how to use the modern IT&C hardware and software in order to maximize economic gain. Provide the students the necessary knowledge required to efficiently understand and professionally use office-type application software. Provide the students with general knowledge of web publishing, with focus on the use of free available web publishing platforms – Wix /WordPress