Bachelor in
“Business Informatics”

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The bachelor’s program in Business Informatics offers an integrated academic education in computer science, business administration and economic sciences to equip students with the skills necessary to design, implement, and manage information systems that support modern business operations. This interdisciplinary program emphasizes both theoretical knowledge and practical application, particularly in areas such as software development, data management, enterprise systems, and digital transformation strategies.

Program objectives

The program aims to:

- To train highly qualified specialists in programming, technology, and information management by providing comprehensive knowledge in programming theory, economics and management, data processing and security, networks and information systems, as well as the development of computer programs and web applications tailored to businesses, organizations, and institutions.
- To create qualified specialists capable to develop, manage and maintain various systems and applications in accordance with the needs of businesses and other entities operating within the agribusiness sector.
- To cultivate in young specialists the skills and qualities necessary for decision-making and problem-solving in enterprises within the agribusiness sector, with a particular focus on their integration with information and communication technology (ICT).
- To provide students with tools and methods for analyzing and interpreting data in support of strategic planning and other managerial functions, particularly within the agribusiness system, but also in related public sector organizations and agencies.
- To prepare students to develop, implement, and manage information technologies tailored to the agribusiness system, which increasingly relies on digital solutions such as supply chain management systems, distribution logistics, precision agriculture, market product analysis, and development.
- Form practice-oriented specialists oriented toward applying knowledge in practice and enhancing the efficiency of resource use and overall economic activity.

Professional Competencies

- To be capable of designing and developing systems for collecting, managing, and analysing data related to the agribusiness system.
- To develop digital solutions for supply chain management, ensuring the efficient tracking of goods from farm to market, with a focus on fostering innovation in the agribusiness sector.
- To create platforms for the direct sale of products, using digital marketing tools to connect producers with broader consumer markets.
- To be capable of developing financial management systems, including tools for insurance and risk assessment, tailored to agribusiness operations.
- To build systems that ensure compliance of agribusiness activities with environmental, safety, and trade regulations.
- To protect sensitive data related to agribusiness operators and activities through cybersecurity measures, ensuring the integrity of operational and market information.
- To apply analytical tools and methodologies to support data-driven decision-making and strategic planning, with a particular focus on agribusiness and related sectors.
- To be capable of integrating advanced information technologies into business management processes, enabling effective decision-making, operational efficiency, and digital improvements in the economy and agribusiness.

Experts in information technology, information systems, and programming with skills in data analysis, software development, cloud computing, and the Internet of Things (IoT) are essential for driving innovation and addressing the specific challenges faced by industries within the agribusiness system, as well as by public organizations and related agencies.

Career Opportunities

The labour market is increasingly showing strong demand for professions related to technology and information, driven by the growing digitalization of businesses, agriculture, agro-industry, and other sectors of the economy. Graduates of the Business Informatics program possess a broad professional profile and are well-equipped to contribute across various sectors by integrating information technology with business management and development. Some of the main career opportunities for graduates of the Business Informatics program include:

- Design Innovative Systems - create, design, market, and sell innovative digital products and services, programmers and systems analysts.
- Database Administrator & Data Analyst – managing and securing organizational data assets for performance and reliability. Analysing business and operational data to support decision-making and strategy development.
- Manage Information and Cloud Systems - take on core responsibilities across national and international IT projects in different areas that include logistics and banking, systems or network administrators.

- IT Business Analyst and Consulting – bridging the gap between business needs and IT solutions through process modelling and system requirements. Optimize and support business processes by means of innovative IT solutions and actively drive digitalization at companies forward.
- Systems Developer / Software Engineer – designing and implementing business software applications and the enterprise systems of agribusiness and beyond.
- Business and Finance systems - effectively manage the use of IT within a company and generate key performance indicators relating to IT productivity and efficiency, ERP & CRM system administrator, implementation of financial software.
- E-Business or E-Government Specialist - developing and managing online platforms and digital services in both the private and public sectors. E-commerce specialist and web developer and analyst.
- IT & Programming sector - based on your own personal start-up idea, you can successfully create your own programming and digital solution company.

Program Structure

The Business Informatics program is structured over three academic years, with each year contributing progressively to the development of students' theoretical knowledge, analytical competencies, and practical skills.

- Year 1 – Fundamental Foundations

The first year includes fundamental subjects and competencies, including Mathematics and Applied Mathematics, Probability, and Economics (Microeconomics I and Macroeconomics I). Introduction to Informatics covers the basic concepts of computer science and programming principles. Algorithms and Data Structures focus on designing algorithms for organizing and processing data. Additionally, Foreign Language courses develop communication skills, modules from the life sciences provide knowledge of crop and livestock production, while Sociology examines social structures.

- Year 2 – Development and Deepening of Knowledge

The second year focuses on more advanced knowledge in the fields of business and programming. The modules include Statistics II—for in-depth data analysis, Finance—for financial decision-making, and Operating Systems—for understanding the functions of computer systems. Decision Support Systems teach tools for data-driven decision-making, while Database Management focuses on the design, implementation, and maintenance of databases. Programming continues with more advanced concepts in software development. Farm Management and Operations Management focus on agricultural and business operations. Other modules, such as Accounting, Business Information Systems, and Marketing, further deepen fundamental knowledge in both business and IT.

- Year 3 – Specialization and Practice

The third year includes the deepening of knowledge and the development of practical skills in the field of Business Informatics. The program includes Econometrics for the analysis of economic data, as well as Business Modeling for analyzing business processes. Software Applications and Web Programming aim to develop practical programming skills. Entrepreneurship and Small Business focus on business management, while ASP.NET, C#, and Python Programming cover the main programming languages. Career Management enhances and develops professional skills, and Information Literacy focuses on the effective management of information.

Interdisciplinary Approach

The Business Informatics curriculum is carefully structured with 67% of modules in Informatics, 28% of modules in economics and management and 5% of modules in agricultural. Practical examples and projects are focused on agribusiness and agro-industry, ensuring students gain specialized knowledge relevant to these sectors.
This program represents an example of how modern education can build bridges between technological innovation and traditional economic principles and business management. It represents a model for new professions with a dynamically growing demand from the labour market.

Why choosing this program?

In today's digital era, organizations increasingly seek professionals with comprehensive expertise in developing and deploying information and communication systems to drive digital transformation. This practice-oriented program enables students to not only master modern technologies, data management techniques, and software development, but also to apply them effectively in preparing businesses for a digital future.

The program emphasizes the planning, design, development, implementation, operation, optimization, and economic utilization of information and communication systems. By combining computer science with business administration, graduates are well-prepared to implement innovative IT solutions strategically, support decision-making and contribute meaningfully to business digitalization, with a strong relevance to sectors such as finance, services, agribusiness and agroindustry.

This study program and the diploma it offers reflect a new, dynamic, and modern reality in the development of professions, exclusively demanded by the labour market in the past two decades.

Study Curriculum

BACHELOR STUDIES PROGRAM "BUSINESS INFORMATICS"

Year I, Semester I (1)						
No.	**Modules**	**ECTS**	**Teaching hours**			**Category**
			Auditorium	**Individual Study**	**Total**	
1	Mathematics	6	60	90	150	A
2	General Agriculture	6	60	90	150	A
3	Microeconomics	6	60	90	150	A
4	Macroeconomics	6	60	90	150	A
5	Introduction of Informatics	6	60	90	150	B
	Total	**30**	**300**	**450**	**750**	

Year I, Semester II (2)						
No.	**Modules**	**ECTS**	**Teaching hours**			**Category**
			Auditorium	**Individual Study**	**Total**	
1	Applied mathematics	6	60	90	150	B
2	Foundamentals of Environmental Management	6	60	90	150	D
3	Probability Theory	6	60	90	150	A
4	**Algorithmic and Data Structure**	**6**				B
	Algorithms in Python	3	37	38	75	
	Data Structure	3	37	38	75	
Elective Module I						
5.1	**Business English and Sociology**	**6**				D
	Business English	4	45	55	100	
	Sociology	2	30	20	50	
5.2	**Business English and Digital Law**	**6**				D
	Business English	4	45	55	100	
	Introduction to Digital Law	2	30	20	50	
5.3	**Business English and Research Skills**	**6**				D
	Business English	4	45	55	100	
	Digital Research Skills	2	30	20	50	
	Total	**30**	**329**	**421**	**750**	

Year II, Semester I(3)						
No.	**Modules**	**ECTS**	**Teaching hours**			**Category**
			Auditorium	**Individual Study**	**Total**	
1	Statistics I	6	60	90	150	A
2	Accounting	6	60	90	150	C
3	**Computer Systems and Networks**	**6**				B
	Computer Architecture and Networks	3	30	45	75	
	Operating Systems	3	45	30	75	
4	Python Programming	6	60	90	150	B
5	Database and Management	6	60	90	150	B
	Total	**30**	**315**	**435**	**750**	

Year II, Semester II(4)						
No.	**Modules**	**ECTS**	**Teaching hours**			**Category**
			Auditorium	**Individual Study**	**Total**	
1	Business Statistics	6	60	90	150	B
2	Finance	6	60	90	150	C
3	Information and Decision Support Systems	6	60	90	150	B
4	**Smart Agriculture**	**6**				B
	Geoinformation System	3	37	38	75	
	Smart Farming Applications	3	37	38	75	
Elective Module II						
5.1	**Marketing and Agribusiness Management**	**6**				C
	Marketing	3	37	38	75	
	Agribusiness Management	3	37	38	75	
5.2	**Marketing and Operational Management**	**6**				C
	Marketing	3	37	38	75	
	Operational Management	3	37	38	75	
	Total	**30**	**328**	**422**	**750**	

Year III, Semester I(5)						
No.	**Modules**	**ECTS**	**Teaching hours**			**Category**
			Auditorium	**Individual Study**	**Total**	
1	Fundamentals of Econometrics	6	60	90	150	B
2	Business Modelling	6	60	90	150	B
3	Object Oriented Programming	6	60	90	150	B
4	Web Programming	6	60	90	150	B
Elective Module III						
5.1	**Public Management and e-Sercive Security**	***6***				B
	Management and e-Services	4	45	55	100	
	Fundamentals of Security	2	30	20	50	
5.2	**Public Management and Cloud Computing**	***6***				B
	Public Management and e-Services	4	45	55	100	
	Cloud Computing	2	30	20	50	
	Total	**30**	**315**	**435**	**750**	

Year III, Semester II (6)						
No.	**Modules**	**ECTS**	**Teaching hours**			**Category**
			Auditorium	**Individual Study/ Professional Practice**	**Total**	
1	NET Technologies	6	60	90	150	B
2	Introduction to AI	6	60	90	150	B
Elective Module IV						
3.1	**Entrepreneurship and Taxation**	***6***				C
	Entrepreneurship and Small Bussines	3	37	38	75	
	Taxation	3	37	38	75	
3.2	**Renewable Energy and Climate Adaptation**	**6**				C
	Climate Change and Adaptation of Ecosystems	3	37	38	75	
	Technologies of Renewable Energies	3	37	38	75	
5	Professional Internship	6		150	150	D
6	Bachelor's Thesis/ Final Exam	6	10	140	150	E
	Total	**30**	**204**	**546**	**750**	
	Total (1+2+3+4+5+6)	**180**	**1791**	**2709**	**4500**	