

# Business Modeling and Distributed Computing

Teaching language: English

## Objectives

This master program takes into account the multi-layered nature of the labor market and the different requirements raised by different types of companies working with Business Information Systems – from IT and BP outsourcing, consultancy, start-ups and product developers to private-public partnerships or research projects. Consequently, the master program develops three categories of competences: (a) business analysis and process improvement skills based on Business Process Modeling tools, Enterprise Architecture frameworks and Process Automation platforms; (b) implementations skills for distributed and smart information systems, leveraging Artificial Intelligence tools and Big Data analytics; (c) scientific research competences for those who want to occupy positions in research projects or to pursue a doctoral degree.

## Contents and structure

The curriculum consists of three topical tracks and one research-oriented meta-track. The Business Modeling Track includes topics regarding Business Process Improvement, Enterprise Architecture and Knowledge Management with the help of various modeling tools, languages and automation platforms. The Distributed Computing Track develops skills for working in Cloud, Internet of Things and High Performance Computing environments (students have access to the highest performance computing cluster in a Romanian University). The Artificial Intelligence Track investigates state-of-the-art methods for Machine learning, Big Data analytics, Web mining

and Social Networks analysis. The Research Meta-Track covers best practices for organizing and communicating research, towards writing a dissertation that provides publishable results.

## Career perspectives

The business analysis and process improvement skills will enable students to work for Business Process Outsourcing providers, in advisory departments for companies that provide consulting on enterprise architecture or business process improvement or in Model-driven Systems development. The implementation skills will enable students to take on positions that employ Artificial Intelligence tools or must manage distributed architectures (Cloud, Data Fabrics, Internet of Things etc.). The scientific research competences will empower students for the type of work that is expected in research projects or PhD programs.

## International perspectives

Each year, selected students have received support for participating in the NEMO (Next-generation Enterprise Modeling) Summer School in Vienna, as well as in relevant international conferences – PoEM, ENASE, ICEIS, CAISE, IE, GECON. Some students have published papers derived from their dissertation theses, showing that they are prepared to follow a PhD program in the field of Information Systems. Professors from international universities (University of Vienna, WU Vienna, Cardiff University, Heriot-Watt University Edinburgh) are occasionally invited to provide lectures in this master program, including curricular

contents and didactic tools to enrich our curricular offer. The Romanian professors also come with their own international experience in research projects and teaching at foreign universities (TU Eindhoven, University of Vienna, Cardiff University, Vrije University Amsterdam, Rotterdam School of Management, STFK UK, Coimbra University). Overall the students develop familiarity with state-of-the-art technologies and become used with English-language contents, presentation styles and research methods conforming international best practices, which supports them in further following studies abroad or in occupying positions where they have to interact with stakeholders in an outsourcing or research context.

## Contact

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“The Business Modeling and Distributed Computing master program is a great opportunity for students who want to expand their knowledge regarding state-of-the-art technologies and methodologies for Business Informatics. The master’s curriculum ranges from Parallel Programming, Artificial Intelligence to the latest concepts and practices in Enterprise Modeling.”

**DAN-CLAUDIU NEAGU**

# CURRICULUM

1 <sup>st</sup> Semester (30 credits)	2 <sup>nd</sup> Semester (30 credits)	3 <sup>rd</sup> Semester (30 credits)	4 <sup>th</sup> Semester (30 credits)
Distributed Systems	Methods in Data Science	Cloud and High Performance Computing	Advanced Research Project in Informatics
Business Process Modeling	Intelligent Agents and Algorithmic Game Theory	Internet of Things	Scientific Research for the Elaboration of Dissertation
Research Methodologies and Academic Writing	Big Data and Web Computing	<b>Elective Course 1</b>	The Preparation Stage of the Elaboration of Dissertation
Parallel Programming	Semantic Business Process Management	<ul style="list-style-type: none"> <li>• Design and Implementation of Enterprise Modeling Tools</li> <li>• Advanced Searching and Optimization Techniques</li> </ul>	Internship in Business Modeling
		<b>Elective Course 2</b>	
		<ul style="list-style-type: none"> <li>• Social Media Analysis</li> <li>• Advanced Parallel Algorithms</li> </ul>	