

Course Unit	Business Process Engineering		Field of study	Information Systems	
Master in	Informatics		School	School of Technology and Management	
Academic Year	2023/2024	Year of study	1	Level	2-1
Type	Semestral	Semester	2	ECTS credits	6.0
		Code		5060-710-1202-00-23	
Workload (hours)	162	Contact hours	T -	TP 60	PL -
		TC -		S -	E -
		OT -		O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) José Eduardo Moreira Fernandes, Gabriella Castro Barbosa Costa Dalpra

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Know and expose fundamental concepts of business processes.
2. Know and expose systems and information technologies that enhance business processes.
3. Know and use business process modeling languages.
4. Know and use business process design and automation tools.
5. Understand and expose the influence of business processes in the definition of information systems and the importance of software requirements engineering.

### Prerequisites

Before the course unit the learner is expected to be able to:

1. Read and to understand text written in English.
2. Install and explore applications in computers.
3. Explain the major concepts of programming and modeling of software systems.

### Course contents

Fundamentals of business processes. Business process systems and technologies. Business process modeling. Business process management systems. Impact of business processes on software development.

### Course contents (extended version)

1. Fundamentals of business processes
  - Concepts, types, and architecture of business processes
  - Workflow and business process management
  - Systems and technologies in business processes
2. Business process modeling
  - Fundamentals of process modeling
  - Business process modeling languages
  - Standards
3. Business process management systems
  - Impact of business processes on software development
  - Contemporary technological solutions
  - Design and execution of business processes

### Recommended reading

1. M. Dumas, M. La Rosa, J. Mendling, H. A. Reijers, "Fundamentals of Business Process Management", 2ed, Springer, 2018.
2. M. Weske, "Business Process Management: Concepts, Languages, Architectures", 3ed, Springer, 2019.
3. B. Silver, "BPMN Method and Style, with BPMN Implementer's Guide", 2ed, Cody-Cassidy Press, 2011.
4. P. Kourouthanassis, G. Giaglis, "Pervasive Information Systems", Routledge, 2016.
5. M. Laguna, J. Marklund, "Business Process Modeling, Simulation and Design", 3ed. CRC Press, 2018.

### Teaching and learning methods

The unit will be taught using lectures exposing theoretical concepts, practice classes for realization of work assignments, and teacher-oriented self-learning.

### Assessment methods

- Alternative 1 - (Regular, Student Worker) (Final, Supplementary, Special)
- Practical Work - 100%

### Language of instruction

English

### Electronic validation

José Eduardo Moreira Fernandes	Tiago Miguel Ferreira Guimaraes Pedrosa	José Carlos Rufino Amaro
06-03-2024	14-03-2024	16-03-2024