(versão em inglês)

Description of individual course units *(a preencher, no máximo uma página, por cada unidade curricular)*	
•**Course title:**	Semi Structured Databases and Networked Ontologies
•**Course code:**	
•**Type of course** *(e.g. major/minor, elective, vd projecto Tuning):*	Elective
•**Level of course:**	Advanced / PhD
•**Year of study:**	
•**Semester:**	
•**Number of credits allocated (workload based):**	6 ECTS
•**Name of lecturer:**	Carlos Pampulim Caldeira
•**Objective of the course (expected learning outcomes and competences to be acquired):**	On completion of the unit students will understand: • Semi structured data model (SSD models): OEM and XML Data Model. The Web and XML documents as an SSD source. SSD query languages: path expressions, XQuery, structural recursion. • Logics and type systems to describe the structure of semi structured and XML data: DTD, XML Schema, tree automata, static ambient logic. Storing semi structured data. Physical and logical algebras to access semi structured data. • Languages for SSD update. Knowledge discovery in information sources and the role of data mining. • Application scenarios: from data preparation to knowledge discovery and interpretation. The frontiers of research: an overview.
•**Prerequisites:**	
•**Course contents:**	1. Understanding of semi structured data 2. XML and semi structured information 3. Schemas: a. DTDs b. XML schema 4. Query languages:

	a. XPATH b. XQUERY c. XPATH (Containment) 5. XML databases 6. Semantic Web a. OWL language: Requirements and case studies b. Documentation engineering with support in semi structured databases 7. Ontology and Taxonomy issues: a. Ontology modeling b. Ontology and languages c. Rules and standards 8. Statistical and Scientific databases: data models, domains and ontologies
•**Recommended reading:**	•Manning C., Raghavan, P. & Schütze, H. 2008. An Introduction to Information Retrieval. Cambridge University Press.
•**Teaching methods:**	To accomplish the above objectives, the course utilizes a combination of teaching methods such as textbooks, lectures, class discussions, case studies, and team/individual projects.
•**Assessment methods:**	Assessment for the unit consists of practical and project assignments.
• **Language of instruction:**	Portuguese