Module title XML Processing				
Module code YXML	**Level** Bachelor (B.Sc.)	**Hours per week** 4	**ECTS credits** 5	**Duration** 1 semester

Module instructor	**Lecture type**	**Prerequisite(s)**	**Grading**
Prof. Dr. Scherzinger	Interactive seminar Lab sessions	Object-oriented programming (PG2), Algorithms and Datastructures, Databases	Final exam

Objectives

The students are able to create, parse, and query XML documents.
The students are able to discuss XML processing strategies: In-memory, streaming, and persisting in databases.
The students understand the importance of document order in XML processing.
The students are able to apply these techniques to other hierarchical data formats as well (e.g., JSON).

Content

- The XML data format (elements, attributes, recursion)
- XML parsing with SAX and DOM
- Grammar formalisms for XML (DTD, XML Schema) and the theory behind them
- XML query languages (XPath, XQuery)
- XML processing in databases
- In-memory and XML stream processing
- Outlook on the JSON format

Textbook/teaching material

- Ray, Eric T.: Learning XML, O'Reilly, 2003.
- Chamberlin, D.D. and Katz, Howard: XQuery from the Experts, Addison-Wesley, 2004.
- Scientific research papers (in English).

Note: this is not the official course descriptor according to the "Studien- und Prüfungsordnung" (SPO)