

Courses in English at the Department of Information Science

Winter Term – October till February

Start of lectures: ~ Oct 15th / End of lectures: ~ Feb 10th

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Please note: The credits are based on the German study regularities. Course credits and credit considerations for foreign Erasmus students depend on the agreements with the home university.

For Bachelor and Master Students:

Module Information Retrieval (I1)

Module Knowledge Representation/ Knowledge Organization (I2)

Course name	Information Indexing and Abstracting
Offered	winter term
Course form	self-study course (seminar)
Credits	
Prerequisites	basic studies in information science (e.g. lecture in I2)
Target year	1-3
Assessment	announced by lecturer in the 1 st meeting
Lecturer	Christine Meschede (christine.meschede@hhu.de)
Aim	<p>Students should learn</p> <ul style="list-style-type: none"> • to analyse and use concrete tools (e.g. IPC, RSWK,STW) • to understand advantages and peculiarities of the different methods • to index texts by themselves • to differentiate between different types of abstracts • to write proper abstracts
Contents	Indexing with concrete tools, Abstracting
Literature	given by lecturer in the 1 st meeting

Course name	Construction of Knowledge Organization Systems (KOS)
Offered	winter term
Course form	self-study course (seminar)
Credits	
Prerequisites	basic studies in information science (e.g. lecture in I2)
Target year	1-3
Assessment	construction of KOS, essay
Lecturer	Tamara Heck (tamara.heck@hhu.de)
Aim	Students should learn <ul style="list-style-type: none"> • to discuss KOS, their structure and specialties • to differentiate between diverse KOS • to plan to construct their own KOS • to critically evaluate KOS construction
Contents	Structure KOS (classification system, Thesaurus, Ontology), construction of own KOS, discussion on theories and practical usage of KOS
Literature	given by lecturer in the 1 st meeting

Course name	Programming Course: Knowledge Organization Systems (Practice)
Offered	winter term
Course form	programming course
Credits	
Prerequisites	basic studies in information science (e.g. lecture in I1) basic programming skills (preferably in Python, e.g. programming course in I1)
Target year	1-2 (programming beginners)
Assessment	announced by lecturer in the 1 st meeting
Lecturer	Tobias Siebenlist (tobias.siebenlist@uni-duesseldorf.de)
Aim	Students should learn <ul style="list-style-type: none"> • to use common data exchange formats (CSV, JSON, XML) with a programming language (Python) • to understand, use and create regular expressions for text processing (standalone as well as within a programming language) • application of natural language processing methods using the Natural Language Toolkit (NLTK) • the foundations of object-oriented programming • to develop programs with graphical user interfaces • to design, schedule and develop a software tool for KOS in a team
Contents	application of the content of construction of knowledge organization systems using a programming language (Python)
Literature	given by lecturer in the 1 st meeting

Module Informetrics (I3)

Course name	Informetrics
Offered	winter term
Course form	self-study course (seminar)
Credits	
Prerequisites	basic studies in informetrics (e.g. lecture in I3)
Target year	2-3
Assessment	written documentation + presentation of results with discussion as teamwork (up to 3 students per team) - without grading or as individual contribution - with grading
Lecturer	Sergej Sizov (sizov@hhu.de)
Aim	Students should learn <ul style="list-style-type: none">• To perform scientometric evaluation (e.g. impact measurements) in realistic scenarios;• To analyze complex problems (comparative studies for researchers, journals, conferences) along multiple aspects and with various data sources;• To apply skills of scientific work (structured problem analysis, documentation, presentation, discussions)
Contents	Multi-modal comparative evaluation of scientific performance for conferences, journals, or scientists in a certain domain. Use of state of the art scientometric metrics (citation indexes, altmetrics) together with complementary data sources. Lectures on technical basics of scientometric analysis and scientific communication. Regular individual consultations on project progress.
Literature	given by lecturer in the 1 st meeting

Module Applied Information Science (I4)

Course name	Participation on ReQuest Wettbewerb (Student challenge)
Offered	winter term
Course form	advanced course
Credits	
Prerequisites	information retrieval
Target year	--
Assessment	submission to ReQuest Wettbewerb (15 pages report) and oral presentation
Lecturer	Tamara Heck (tamara.heck@hhu.de)
Aim	Students become a research tasks, given by a company that sponsors ReQuest. The aim is to write a report concerning the research tasks and its questions and give possible recommendation to the company. The ReQuest Wettbewerb is organized by diverse university institutions in Germany for over 10 years. Students act as knowledge managers for a real company and get insights into the work of an information professional.
Contents	The topic of the research project depends on the company that will participate.
Literature	given by lecturer in the 1 st meeting

For Master Students:

Course name	Team project / Research project
Offered	winter term
Course form	advanced course Master
Credits	
Prerequisites	Bachelor in information science, LIS or similar
Target year	1-2
Assessment	scientific publication
Lecturer	alternating
Aim	<p>Students should learn</p> <ul style="list-style-type: none"> • to work on a scientific project within a small team of 2-5 people. • to formulate research questions and scientific aims. • to plan a scientific study. • to understand and apply scientific methods of the information science field.
Contents	The topic of the project depends on the participating team members. Lecturer and participants will arrange the topic together.
Literature	given by lecturer in the 1 st meeting

Course name	Participation on ReQuest Wettbewerb (Student challenge)
Offered	winter term
Course form	advanced course Master
Credits	
Prerequisites	information retrieval
Target year	--
Assessment	submission to ReQuest Wettbewerb (15 pages report) and oral presentation (Jan 2016) if team report is under top 3
Lecturer	Tamara Heck (tamara.heck@hhu.de)
Aim	Students become a research tasks, given by a company that sponsors ReQuest 2015. The aim is to write a report concerning the research tasks and its questions and give possible recommendation to the company. The ReQuest Wettbewerb is organized by diverse university institutions in Germany for over 10 years. Students act as knowledge managers for a real company and get insights into the work of an information professional.
Contents	The topic of the research project depends on the company that will participate in 2015.
Literature	given by lecturer in the 1 st meeting

Course name	Knowledge Representation & Management
Offered	winter term
Course form	self-study course (seminar)
Credits	(6)
Prerequisites	Knowledge Organization Systems, Knowledge Management, Semantic Web, or similar
Target year	--
Assessment	written documentation + presentation of results with discussion
Lecturer	Sergej Sizov (sizov@hhu.de)
Aim	Deeper understanding of state of the art models and methods in knowledge organization and knowledge management. Starting with recent publications in top-level journals and conferences of the field, course participants individually develop new research ideas, perform scientific investigations, and communicate their results in written form (report) and oral presentation. In parallel they improve skills in scientific communication (writing, reviewing) and scientific presentation (presenting, moderating, discussing).
Contents	Particular work themes are based on recent top-level research contributions (journal and conference papers) from the following scientific fields: knowledge models, information integration, meta knowledge, information extraction, rich data on the Web, semantics of social networks, semantic web technologies, multimedia semantics.
Literature	given by lecturer in the 1 st meeting