Title of course	**Semantic Technologies in Distributed Systems (Semantische Technologien in verteilten Systemen)**
Responsible instructor	*Prof. Dr. Michael Cebulla*
Learning objectives	*Students understand concepts and technologies from the area „intellegent middleware“ and are able to apply them. They are able to analyze and assess existing solutions on the basis of these concepts.*
Course contents	*Concepts and technologies for intelligent middleware:* *- Ontologies: concepts for semantic data management, ETL process, ontology description languages, knowledge bases and inference mechanisms* *- Middleware platforms and architectures: Enterprise service bus, service oriented architectures* *- Process Mining* *- Situation recognition: event-based architectures, event-based programming, complex event processing*
Teaching methods	*Lecture (2 SWS)*
Prerequisites	*Java Programming*
Suggested reading	*Franz Baader, Deborah L. McGuinness, Daniele Nardi, Peter F. Patel-Schneider, The Description Logic Handbook (2nd Edition), Cambridge University Press, 2010* *David Chappell, Enterprise Service Bus: Theory in Practice, O'Reilly 2004* *David Luckham, The Power of Events: An Introduction to Complex Event Processing in Distributed Systems, Addison-Wesley 2002* *Wil M. P. van der Aalst, Process Mining – Data Science in Action, Springer 2016*
Applicability	*Master of Applied Computer Science, Master Angewandte Medieninformatik*
Workload	*120 hrs, presence time 45 hours, self study 40 hrs, exam preparation 35 hrs*
ECTS credit points and weighting factor	*4 CP (Emphasis of the grade for the final grade 4/120)*
Basis of student evaluation	*Written exam*
Time	*1st or 3rd semester*
Frequency	*Every second year*
Duration	*one semester*

Course type	*Selection area*
Remarks	Teaching language is English.