

Die Modulbeschreibung sollte direkt über diesen [Link](#) in HISinOne eingepflegt werden.

Module code	Module title	Category
MAIE2010	Enterprise Systems Lifecycle	MA
	Degree program	MA Software Engineering
	Faculty	Building Services Engineering and Computer Science

Module coordinator	Prof. Dr. Volker Herwig
Module type	Mandatory module
Frequency	1x annually in WiSe
Recommended semester	1. semester
Credit (ECTS-Points)	5
Academic Assessment Method	Exam K = Written exam PL (N), K90
Teaching language	English
Admission requirements for this Module	none
Module duration	1 Semester
Required Registration	Students enrolled in the above-mentioned degree program/standard semester will be registered automatically upon re-enrollment; all other participants, please refer to the information below. none

	Course	Lecturer	Type	Group Size (max.)	Number of Groups	Contact hours per week (SWS)	Workload (in h)	
							Face-to-face	Self-study
1	Advanced Topics in Business System	Herwig	Seminar	30	1	4	60	65
2	Titel der Lehrveranstaltung.	Dozent*in	Wählen Sie ein Element aus.		Wählen Sie ein Element aus.			
3	Titel der Lehrveranstaltung.	Dozent*in	Wählen Sie ein Element aus.		Wählen Sie ein Element aus.			
4			Wählen Sie ein Element aus.					
5	Titel der Lehrveranstaltung.	Dozent*in	Wählen Sie ein		Wählen Sie ein			

			Ele- ment aus.		Element aus.			
						Sum	4,0	60
Total Workload for Module							125	

Learning Objectives / Learning outcomes	<p>Students are able to:</p> <ul style="list-style-type: none"> Assess the area of tension between business departments and the IT department Evaluate and further develop IT organizations Understand the structure of the IT organization and its impact on IT governance Actively shape the processes of IT product development in a corporate environment Evaluate IT operations (IT service management) from both the provider's and the customer's perspectives Assess traditional and agile project management approaches with regard to their applicability in a business context Explain how enterprise application systems support business processes and organizational value creation. Model business processes using BPMN and interpret swimlane/flowchart representations. Derive process-oriented requirements from business workflows and stakeholder needs. Apply a structured Requirements Engineering process (elicitation → verification) to a realistic case. Define system boundaries and identify stakeholders relevant to a requirements/problem space. Formulate measurable, testable goals and transform vague statements into verifiable requirements. Detect ambiguity/unspecific requirements and improve them using quality criteria and indicators. Use model-based RE documentation techniques to represent data, functions, and behavior appropriately. <small>[06]</small> Connect process models (BPMN) with requirements artefacts (acceptance criteria, traceability, release allocation). Describe ITSM goals and justify why standardized service practices improve operational reliability. Explain the ITIL lifecycle and map key processes to the phases (Strategy/Design/Transition/Operation/CSI). Apply ITIL concepts to operational scenarios (incident vs. problem vs. request fulfilment vs. change). Describe Service Level Management and relate SLAs/OLAs to measurable service quality objectives.
Contents	<ul style="list-style-type: none"> Enterprise application systems: scope, components (software, data, infrastructure, users) and their role in organizations. Business process orientation: how value is created via end-to-end processes and how IT enables these processes. Process modelling: flowcharts, swimlanes, and BPMN as a standardized process notation. From process definition to execution: concepts such as BPEL/process execution and "transition" from model to automation. Limits of BPMN and how to combine it with other modelling methods (e.g., process landscapes, rules, IT landscapes). Requirements Engineering overview: purpose, lifecycle activities, and collaborative stakeholder focus. Requirements Engineering process steps: elicit, consolidate, analyze, validate, allocate, and verify requirements. Stakeholder analysis and defining system boundaries as a prerequisite for structured requirements work. Quality in requirements: avoiding unspecific requirements and typical indicators of ambiguity/implicit assumptions. Agile development context: why agile approaches emerged and what they address in classic project assumptions. Agile delivery discipline: timeboxing, incremental delivery, and continuous integration practices. IT Service Management (ITSM): why standardized service methodologies matter and how ITSM supports reliable operations. ITIL lifecycle: Service Strategy, Design, Transition, Operation, Continual Service Improvement (CSI) and their core processes. Key ITIL processes and metrics focus: Incident/Problem/Change, SACM, Service Level Management (SLAs/OLAs), monitoring and CSI measurement.
Literature	<ul style="list-style-type: none"> Herwig, V.: Slides of lecture AXELOS (2019). ITIL Foundation: ITIL 4 Edition. The Stationery Office (TSO). Claire Agutter (2021). ITIL® 4 Create, Deliver and Support (CDS). IT Governance Publishing. Object Management Group (2014). Business Process Model and Notation (BPMN), Version 2.0.2. Object Management Group.

- Marlon Dumas, Marcello La Rosa, Jan Mending, Hajo A. Reijers (2018). Fundamentals of Business Process Management (2nd ed.). Springer.
- Karl E. Wiegers & Joy Beatty (2013). Software Requirements (3rd ed.). Microsoft Press. [\[OB\]](#)
- Klaus Pohl (2010). Requirements Engineering: Fundamentals, Principles, and Techniques. Springer. [\[OB\]](#)
- Suzanne Robertson & James Robertson (2012). Mastering the Requirements Process: Getting Requirements Right (3rd ed.). Addison-Wesley.
- AXELOS (2019). ITIL Foundation: ITIL 4 Edition .