

2019.HS

Module Name: Requirements Engineering	
Module Code	w.BA.XX.2REng.XX
Module Description	Students know and understand the process of requirements engineering or requirements consolidation and are able to plan, organize, lead, and carry out associated activities. In particular, students understand the different methods of requirements engineering, different forms of requirement description and documentation, and the different quality criteria and types of requirements evaluation. They are familiar with the methods and tools used in the collection, description, evaluation, and testing of requirements and can apply these in goal-oriented manner in the development of software and systems. This knowledge is relevant to the vocational fields business analysis, requirements engineering, and IT project management. The module covers some contents from the Certified Professional for Requirements Engineering (IREB Foundation Level).
Program and Specialization	Business Information Technology
Legal Framework	Academic Regulations BSc dated 29.01.2009, Appendix to the Academic Regulations for the degree programs in Business Administration, Business Information Technology, and Business Law, first adopted on 12.05.2009
Module Category	Module Type: Compulsory
	Program Phase: First-Year Studies
ECTS	6
Organizational Unit	W Institut für Wirtschaftsinformatik Ltg
Module Coordinator	Adrian Moser (mosa)
Deputy Module Coordinator	Alexandre de Spindler (desa)
Prerequisite Knowledge	-
Contribution to Program Learning Goals (Affected by Module)	<ul style="list-style-type: none"> § Professional Competence § Methodological Competence § Social Competence § Self-Competence
Contribution to Program Learning Objectives	<ul style="list-style-type: none"> Professional Competence <ul style="list-style-type: none"> § Knowing and Understanding Content of Theoretical and Practical Relevance § Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance § Evaluate Content of Theoretical and Practical Relevance Methodological Competence <ul style="list-style-type: none"> § Problem-Solving & Critical Thinking § Scientific Methodology § Work Methods, Techniques, and Procedures § Information Literacy Social Competence <ul style="list-style-type: none"> § Written Communication § Oral Communication § Teamwork & Conflict Management Self-Competence <ul style="list-style-type: none"> § Learning & Change
Module Learning Objectives	<p>Students...</p> <ul style="list-style-type: none"> § know the needs behind requirements engineering. § know the roles of the business analyst and requirements engineer. § know and understand the concept of the stakeholder (interest group). § know and understand the concepts of "system" and "protagonist". § know the sources of requirements. § know the methodologies of requirements engineering. § know the set-up and procedures of requirements workshops. § know the fundamentals of requirements workshop moderation. § know the rules for natural language-based requirement specifications. § know the structured forms of requirement specifications (scenario, user stories, UML use cases). § know various perspectives on requirements (protagonists, functional, behavior, and data). § know and understand the distinction between functional and non-functional requirements. § know and understand the concepts of "test case" and "acceptance criteria". § know various forms of requirements documentation (requirements- and solution specification).

	<ul style="list-style-type: none"> § know quality criteria for requirements and acceptance criteria (consistency, validity, completeness, feasibility). § know the norms related to requirements such as usability and accessibility. § know the tools needed for requirements elicitation, specification, and management. § know the concepts of “mock up”, “prototype,” and “test scenario” and understand how to make use of these for requirements elicitation and refinement. § identify, prioritize, and understand stakeholders as well as being able to communicate with them. § distinguish between systems and users and are able to identify and define system boundaries and protagonists. § describe requirements using natural language while applying rules for natural language-based requirements specifications. § describe requirements using structured specifications (scenario, user stories, use cases). § appreciate the different aspects of requirements (functional, behavior, data) while eliciting and specifying requirements. § formulate functional and non-functional requirements. § design and write requirements documentation (requirements and solution specification). § check requirements documentations based on quality criteria (consistency, validity, completeness, feasibility). § formulate test cases and acceptance criteria for requirements. § check systems and software for the compliance with requirements. § manage changes as well as configurations of requirements engineering results. § plan, execute, evaluate, and improve requirements engineering processes. 		
Module Content	<ul style="list-style-type: none"> § Fundamentals of requirements engineering and business analysis. Students: know the motivation of requirements engineering; know the structure and content of the BABOK Guide 2.0; know the different roles of business and requirements analysts; are able to identify, prioritize, and understand stakeholders and are able to communicate with them; and are able to distinguish between systems and protagonists. They are able to identify and specify system boundaries and protagonists. § Requirements engineering/techniques: Students: know different sources of requirements; know different methods of requirements elicitation such as questioning, workshops, and field observation. § Requirements specification: Students: are able to describe requirements using natural language: are able to produce structured descriptions of requirements (scenario, user stories, use cases); are able to capture requirements using different perspectives (protagonists, functional, behavior, data); are able to define test cases and acceptance criteria for requirements; and are able to design and write requirements documentations. § Requirements management: Students: know quality criteria for requirements and acceptance criteria; are able to check software and systems for the compliance to requirements, e.g., using review, prototypes, and test cases; are able to manage changes as well as configurations of requirements engineering results; are able to plan, conduct, evaluate, and improve requirements engineering processes; know tools supporting the elicitation, specification, and management of requirements and are able to apply them. § The module covers some contents from the Certified Professional for Requirements Engineering (IREB Foundation Level). 		
Links to other modules	<p>The content of this module is linked to the following modules:</p> <ul style="list-style-type: none"> w.BA.XX.2InfoM-WIN.XX w.BA.XX.2ITPM-WIN.XX w.BA.XX.2MEng.XX w.BA.XX.2SWEEng.XX w.BA.XX.2WEng-WIN.XX 		
Methods of Instruction	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> § Lecture § Case Studies § Exercises § Group project </td> <td style="vertical-align: top;"> <p>Social Settings Used:</p> <ul style="list-style-type: none"> § Individual Work § Group Work </td> </tr> </table>	<ul style="list-style-type: none"> § Lecture § Case Studies § Exercises § Group project 	<p>Social Settings Used:</p> <ul style="list-style-type: none"> § Individual Work § Group Work
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Digital Resources	<ul style="list-style-type: none"> § Teaching Materials § Practice and Application Exercises (with Key) § Case Studies (with Key) 		

Type of Instruction	Classroom Instruction	Guided Self-Study	Autonomous Self-Study	
Large Class	28 h	-		
Small Class	28 h	40 h		
Group Instruction	-	-		
Practical Work	-	-		
Seminar	-	-		
Total	56 h	40 h	84 h	
Performance Assessment				
End-of-module exam	Form	Length (min.)	Weighting	
Written exam	Specified documentation	90	100,00 %	
Permitted Resources	No calculator			
Others				
Others		Assessment	Length (min.)	Weighting
Exercises (all but two freely selectable exercises must be completed and submitted on time. Exercise 1 includes a presentation).		Pass/Fail	-	-
Classroom Attendance Requirement	-			
Language of Instruction/Examination	German			
Compulsory Reading	§ Lecture slides and literature given on semester program			
Recommended Reading	§ Rupp, C. & die SOPHISTen (2014). Requirements-Engineering und –Management - Aus der Praxis von klassisch bis agil. 6th edition. Carl Hanser Verlag GmbH & Co. KG. ISBN 978-3446438934. § Pohl, K. & Rupp, C. (2015). Requirements Engineering Fundamentals. 2nd edition. Rocky Nook. ISBN 978-1933952819. § Rupp, C., Queins, S. & die SOPHISTen (2012). UML 2 glasklar: Praxiswissen für die UML-Modellierung. 4th edition. Carl Hanser Verlag GmbH & Co. KG. ISBN 978-3446430570.			
Comments	<ul style="list-style-type: none"> • The lecture notes (skripts) are in German. Teaching materials are subject to change without notice. • The exact number of exercises will be communicated in the first week of the semester and on Moodle. 			