

<b>MODULE</b>		<b>DVP Development processes</b>										
<b>SEMESTER</b>	2	<b>CREDITS (ECTS)</b>	5	<b>VALID AS OF</b>	2018-01-30							
<b>LECTURES / WEEK</b>	2	<b>PRACTICAL HOURS / WEEK</b>	0	<b>TOTAL EFFORT</b>	140 hours							
<b>AUTHORS</b>	P. van den Hombergh, S. Sobek											
<b>CREDENTIALS</b>	G. Monsieur (BUMA), G. Schwake (BUMA), S. Sobek (BUMA/SEN1) P. van den Hombergh (SEN1)											
<b>INTRODUCTION AND MOTIVATION</b>												
<p>Software is developed in projects. In this course, students will learn about the importance of professional project management. Based on knowledge areas and process groups in project management, students will gain a thorough understanding of project related areas and how these are linked with project processes. Based on this they are able to follow a holistic approach and apply modern techniques.</p> <p>Software as a product and the development process should be able to meet certain standards. For modern development this implies automated testing at the least and test driven development (TDD) as best practice. The second major topic of this course is therefor: Test concepts, testing frameworks and tools.</p>												
<b>LEARNING GOALS: THE STUDENT IS ABLE TO ...</b>												
LG 1	Identify and describe agile development processes, their pros and cons as well as tools and techniques											
LG 2	List and summarize the key knowledge areas and core concepts and definitions and contrast the triple constraint (scope, time and cost) in project management											
LG 3	Derive test plan from class requirements											
LG 4	Design tests from test plan											
LG 5	Implement tests from design											
LG 6	Use a chain of development tools in a continuous integration fashion.											
<b>TOPICS</b>												
<ul style="list-style-type: none"> <li>- Project management in an information technology context</li> <li>- Project integration management</li> <li>- Triple constraint: scope, time, and cost management</li> <li>- Modern Software Development, Undoable without (Unit) testing</li> <li>- Writing Unit tests</li> <li>- Test automation</li> <li>- Setting up automated test environment: Continuous build and delivery.</li> <li>- Strategies to find the right test data</li> <li>- Running tests and interpreting the results</li> <li>- Code metrics: Complexity, coverage, code style, readability.</li> <li>- Testing and maintenance. Maintenance of the tests.</li> </ul>												
<b>CONTRIBUTION TO FINAL COMPETENCE PROFILE (SEE OER)</b>												
<b>Learning Goal</b>	<b>Architectural Layers</b> (enter "X", max 1 one per LG)					<b>Activities</b> (enter niveaus "1" .. "3", max 1 per LG)					<b>(enter "X")</b>	
	<b>User Interface</b>	<b>Business Processes</b>	<b>Infra-structure</b>	<b>Software</b>	<b>Hardware</b>	<b>Manage</b>	<b>Analyse</b>	<b>Advice</b>	<b>Design</b>	<b>Realise</b>	<b>Professional</b>	<b>Research Skills</b>
LG 1				X		1					X	
LG 2				X		1					X	
LG 3				X			1					
LG 4				X				1				
LG 5				X					1			
LG 6				X		1				1		

**MODULE ASSESSMENT**

Learning Goal	Type of Assessment (enter "X", at least one per LG)					Grade for (enter "X", one per LG)		total weights (21)
	Written Exam	Oral Exam	Performance Assessment	Presentation incl Defense	Report	Individual	Group	
LG 1	X					1		3
LG 2	X					1		2
LG 3	X			X		1		4
LG 4				X		1		4
LG 5				X		1		4
LG 6				X		1		2

**TEACHING MATERIAL TODO**

Managing Information Technology Projects. Revised 7th edition, international edition 2014. Kathy Schwalbe. ISBN 13: 978-1-133-62722-7.

website dvp and prc2 via sharepoint and linked documents on the web.

slides to course

Practical Unit Testing with Junit and Mockito, Tomek Kaczanowski, ISBN 978-83-934893-7-4

Slides and further material can be found on the module site on or via the portal.

**PRIOR KNOWLEDGE**

Practical experience gained in carrying out projects, e.g. project-oriented modules (PRJ1, PRJ2 resp.), is of benefit. PRC1, DBS1.

**ADDITIONAL INFORMATION (ON GRADING, ASSESSMENTS, RETAKES, PRACTICAL PARTS, ..)**

Learning goals 1-3 will be assessed using a written exam (2 hours) at the end of semester (1/3 of the credits). A retake is offered at the end of the semester. This will produce the grade DVP1T for 3 credits. Minimal grade to pass is 5.5.

Learning goals 3-6 are assessed during a performance assessment. For this there will also be a retake at the end of the semester. This will produce the grade DVP1P for 2 credits. Minimal grade to pass is 5.5.