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| Module Name | **Agile Software Development** |
| Module Responsibility | *Prof. Dr. Englmeier* |
| Qualification Targets | ***Knowing/Perceiving:*** *Students learn basic concepts and methods of agile software development. Based on their knowledge acquired in the Bachelor course project management they better understand how to adopt the concept of Agility in Project Management. The course addresses in*  *particular the SCRUM methodology.*  ***Applying****: The students also learn tools supporting agile project management.*  ***Analyzing/Evaluating:*** *The course applies and reflects traditional project management tools in the light of agility. This contrasts the two approaches and highlights the differences and the applicability of agility to different project settings.*  ***Synthesizing:*** *The course trains also the use of Agile Project Management tools. The students set up a project in teams and manage their fictive work. They are encouraged to link their project management with a project they complete in a different course during the same semester.* |
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| Module Contents | *1. Understanding Agile*   •*Values and Principles*   •*Agile Methodologies and Frameworks*   •*Agile Project Management Model*  *2. Adopting the Agile Approach*   • *Initiating an Agile Project*   •  *Creating Vision and Charting a Project*  • *Agile Contracts*   • *Agile Documentation*  *3. SCRUM*   •*Fundamental Concepts (User Stories, Iteration, Sprints, Backlogs,*  *…)*   •*Roles and team development*   •*Communication*  *4. Agile Lifecycle*   •*Phase models* |

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|  | •*Release planning*  *5. Performance measurement* |
| Teaching Methods | *Lectures (2 hours/week), Exercise (2 hours/week)* |
| Requirements for Participation | *Programming skills* |
| Literature / Multimedia-based Teaching Material | *Highsmith, J.: “Agile Project Management: Creating Innovative Products”, 2nd Edition, Pearson Education/Addison Wesley Professional.*  *Stenbeck, J.: PMI-ACP® and Certified Scrum Professional Exam Prep and Desk Reference.*  *Cohn, M.: “User Stories Applied”, Addison-Wesley, 2004.*  *Online Courses of ACM addressing User Stories und User-Centred Design* |
| Applicability | *Master Applied Computer Science* |
| Effort/  Total Workload | *Total 150 hours. Attendance: 60 hours; Self-study: 20 hours; Practical work: 70 hours* |
| ECTS/ Emphasis of the Grade for the final Grade | *5 CP (Emphasis of the Grade for the final Grade 5/120)* |
| Performance Record | *Project work* |
| Semester | *2nd semester* |
| Frequency of the course | *Once during the academic year (summer semester)* |
| Duration | *One semester* |
| Type of Course | *Obligatory course from the area software engineering* |
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