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| Module Name | | **Web Applications** | | | | | | |
| Module Responsibility | | *Prof. Dr. Erwin Neuhardt* | | | | | | |
| Qualifica | ation Targets | *The students get to know the structure and the functionality of a web application.*  *They will know two frameworks for building web applications based on the programming language Java. They get to know REST which is a standard for communicating between applications. The students know how to apply a framework for building web applications. They know the advantages and disadvantages of different frameworks.* | | | | | | |
|  | **Contents** | **Know** |  |  | **Analyse** | **Assess** | **Synthesize** |  |
|  | HTML, CSS, HTTP | x | x | x |  |  |  |  |
|  | Model-View-Controller | x | x | x | x | x |  |  |
|  | Spring MVC | x | x | x | x | x |  |  |
|  | Vaadin | x | x | x | x | x |  |  |
|  | REST | x | x | x | x | x |  |  |
|  |  |  |  |  |  |  |  |  |
| Module Contents | | *Elements of a web application: HTML. CSS, HTTP, Model-View-Controller Pattern, creating different parts of a web application with a framework, forms, validation, creating a response page, error handling, layout of web pages, reusable parts of web pages, principles of REST, elements of a REST interface, implementation of a REST interface* | | | | | | |
| Teaching Methods | | *Lecture and tutorial (3+1 hours per week)* | | | | | | |
| Requirements for Participation | | *Skills and knowledge in Java programming and software engineering (at least 10 ECTS)* | | | | | | |
| Literature / Multimedia-based Teaching Material | | *Johnson, Rod et al.: Spring Framework Reference Documentation, online at docs.spring.io*  *w/o author: Spring Guides, online at spring.io/guides*  *w/o author: Apache FreeMarker, online at freemarker.org*  *w/o author: Bootstrap, online at getbootstrap.com*  *w/o author: Vaadin Documentation, online at vaadin.com*  *Burke, B.: RESTful Java with JAX-RS 2.0, O'Reilly, 2014* | | | | | | |
| Applicability | | *Master of Applied Computer Science, Master Angewandte Medieninformatik* | | | | | | |
| Effort / Total Workload | | *Total 150 hours. Attendance: 60 hours, Self-Study: 60 hours, Exam Preparation 30 hours* | | | | | | |
| ECTS / Emphasis of the Grade for the final Grade | | *5 ECTS (Emphasis of the Grade for the final Grade 5/120)* | | | | | | |
| Performance Record | | *Written examination on PC (120 min)* | | | | | | |
| Semester | | *3 rd semester* | | | | | | |
| Frequency of Occurrence | | *Once during the academic year* | | | | | | |
| Duration | | *One semester* | | | | | | |
| Type of Course | | *Obligatory course* | | | | | | |