

Course Description: Effective Software Testing

Time: Mai 15 / June 30, 2016 (Summer term 2016)

Course type: Elective course (Wahlpflichtfach), Summer School

Instructor: Prof. Sascha Alda

This course will introduce students to State-Of-The-Art tools and methods for testing software. The focus is thereby set on modern automatic software tests that aim at reducing the effort for testing while at the same optimizing the quality of complex software.

Topics will be:

- Basics on software tests
- Recap and extended principles: module tests with JUNIT
- Basic Principles Regression testing
- Basic Principles of integration testing
- Automatic software testing (Selenium, Web-Driver)
- Automatic generation of test data
- Basic Principles of end-user testing

This course is supported by the company Accenture, one of the leading IT-consultancies in Germany and worldwide. Accenture will provide additional guest lectures as well as practical case studies from real IT-projects. In addition, an excursion to the main campus in Frankfurt is planned for carrying out a workshop.

Besides regular lectures and exercise courses, students are asked to implement a small project that is to be tested at various levels. Results should be presented to the auditorium of the course. There will be an individual oral exam at end that each student has to pass.

The course is mainly addressed to students having a solid background in software engineering and in programming languages (Java or C++). A minimal knowledge to Web-based architectures (HTML5) would be preferable, but are not strictly required. This course is mainly suitable for students enrolled in a Bachelor study program Computer Science (2nd or 3rd year). The language of instruction of the course will be English.

Recommended Literature:

Hambling, B. et al.: Software Testing, 3rd edition. Bcs Learning & Development Limited. 2015.