
Modulbezeichnung: Advanced Design and Programming (PSWT-ADAP) 5 ECTS

Modulverantwortliche/r: Dirk Riehle

Lehrende: Dirk Riehle

Startsemester: WS 2012/2013

Dauer: 1 Semester

Turnus: jährlich (WS)

Präsenzzeit: 60 Std.

Eigenstudium: 90 Std.

Sprache: Deutsch oder Englisch

Lehrveranstaltungen:

Advanced Design and Programming (WS 2012/2013, Vorlesung mit Übung, 4 SWS, Dirk Riehle)

Inhalt:
Modulbezeichnung

- PSWT-ADAP (Advanced Design and Programming)

Dozenten

- Prof. Dr. Dirk Riehle, M.B.A.

Inhalt

This course teaches students advanced concepts of object-oriented design and programming. The course helps you design and implement software better and faster. It is independent of any particular application domain, so it is not about efficient database performance or robust network protocols. The current planning covers the following topics:

- Objects and Values
- Classes and Interfaces
- Method Design Principles
- Modeling and Inheritance
- Implementing Inheritance
- Design by Contract
- Role Objects
- Collaboration-based Design
- Design Patterns
- Object Creation
- Singleton Objects
- Domain-Driven Design
- Framework Design
- Error and Exception Handling
- Meta-Object Protocols

For the syllabus see <http://goo.gl/M6Nqo>.

The 4 SWS will be spent as chunks of lecturing followed by exercises; you should be savvy with your IDE.

There should be a StudOn class section with additional materials; please make sure you sign-up. If the materials aren't there yet, they'll be coming soon.

For the schedule see <http://goo.gl/bePPn>

Voraussetzungen

- Algorithmen und Datenstrukturen
- Additional programming experience
- Laptop/notebook for classroom use

Lernziele und Kompetenzen

- Conceptually understand principles of advanced object-oriented design and programming
- Comprehensively apply these advanced principles in software design and programming

Studien- und Prüfungsleistungen

Students have to fulfill these duties

- class participation
- homework provision

Grades are based on linearly combining the individual grades as weighted by the amount of work (ECTS) needed for it.

For more information see <http://wp.me/pDU66-wz>

Unterrichtssprache

- English or German, decided during first session

Vorbereitende Literatur

- See <http://www.studon.uni-erlangen.de/crs479081.html>
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Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

Das Modul ist im Kontext der folgenden Studienfächer/Vertiefungsrichtungen verwendbar:

[1] Informatik (Bachelor of Science)

(Po-Vers. 2009s | Praktika und Wahlpflichtbereich (5. und 6. Semester) | Wahlpflichtmodule | Vertiefungsmodul Software Engineering)

[2] Informatik (Bachelor of Science)

(Po-Vers. 2009w | Praktika und Wahlpflichtbereich (5. und 6. Semester) | Wahlpflichtmodule | Vertiefungsmodul Software Engineering)

[3] Informatik (Master of Science)

(Po-Vers. 2010 | Wahlpflichtbereich | Säule der softwareorientierten Vertiefungsrichtungen | Vertiefungsmodul Software Engineering)

Studien-/Prüfungsleistungen:

Advanced Design and Programming_ (Prüfungsnummer: 509961)

Prüfungsleistung, mehrteilige Prüfung

Anteil an der Berechnung der Modulnote: 100%

weitere Erläuterungen:

Students have to fulfill these duties

- class participation
- homework provision

Grades are based on linearly combining the individual grades as weighted by the amount of work (ECTS) needed for it.

Erstablingung: WS 2012/2013, 1. Wdh.: keine Wdh.

1. Prüfer: Dirk Riehle
