

A Joint Course on Software Engineering: a Challenge for Cooperation, education and research

Klaus Bothe

1. Goals
2. Motivation
3. Basic course material
4. History and activities
5. Principles
6. Remarks
7. Perspectives

1. Goals

Elaboration of a complete course on Software Engineering

- including
 - ppt slides
 - instructions for the lecturer
 - exercises / assignments
 - case studies
 - recommendations for literature
 - recommendations for SE tools
 - examinations

- completely Web-based
(advantage: students do not need textbooks)

- discussion forum between the participating universities

2. Motivation: Why are we doing that?

a) Knowledge transfer:

reuse experience of one university

b) Transfer of expenses:

reuse of material (slides, exercises ...)

c) Discussion forum:

- development of material in a group is productive
- discussion about didactics, motivation, contents, literature ... is stimulating for all parties

d) Challenge for education and research:

multilingual

Web-based

distanced

→ CSEET: Conference on Software Engineering
Education and Training

3. Basic course material

State of SE educational course material at HU

- 1995 - 2001

 - continuing accumulation of material:

 - conventional slides, exercises ... -> see next slide

 - all material Web-based (except for the slides)

- 2002 (April - July)

 - 1st version of ppt-slides:

 - not ideal

 - but not bad: because of experience

"under development"

SE home page (English)

Summer semester 2001

Introduction to Software Engineering

lectures Mo 12 - 14, We 12 - 14, exercises Mo 14 - 16, We 14 - 16

I Overview

II Contents

III Exercises (*)

IV Guests

V Tools

VI Project

VII Literature / books SE

VIII Examinations (*)

since 2002: IV PPT slides in PDF:

1-, 2-, 6-sided

(remark: (*) only with pass word)

4. History and activities

DAAD project 2000 - 2003

Novi Sad workshop: idea 'Joint Course SE'

First steps:

1. Zoran Budimac, Febr. 2002, Berlin

- translation of first slides: topics 19, 21, in Novi Sad: Topic 22 (new)
- implementation of English SE Website
- discussion of special problems:
case studies, exercises ...

2. Katerina Zdravkova, Febr. 2002, Berlin

paper

"Multilingual Virtual Classroom Network
for Software Engineering Module"

3. Dragan Bojic + Asya Stoyanova-Doytcheva, May 2002, Berlin

- translation of slides for topics 11, 12, 23

4. Vangel Ajanovski, July 2002, Berlin

- translation of slides for topics 3, 20

5. Kay Schützler, Klaus Bothe

- translation of slides for topics 1, 4, 5, 6

→ ready: 1 3 4 5 6 11 12 19 20 21 22 23

→ missing: 2 7 8 9 10 13 14 15 16 17 18 24 25 26

- Novi Sad:** Case study 'seminar organization'
- requirements document in English
 - implementation in Java

5. Principles

PPT-slides:
for the lecturer

PDF-slides:
for the students

case study
throughout
the book

instructions
for the lecturer:
- about the content
- about methodology

systematical
structure of
course material:
- software phases
- basic concepts

6. Remarks

- The material is an offer to be used as a whole or in parts
- The material should grow during next years (discussed, improved ...)
- Take into account the burden each of us has in normal university environment:
Development of material will grow, but not in a high speed.
- Take the "joint course on SE' as a scientific experiment:
 - produce material
 - evaluate: process of production of material
 - evaluate: use in lectures
 - new challenges / research topics:
 - a) how to organize project Web sites
 - b) how to organize communication / discussion:
discussion forum
 - c) how to manage version of ppt-slides:
 - version management for ppt
 - information system about modification

6. Remarks (cont.)

- Try to start with English slides first year
(versions: D, E -> MK/SC/BG...)
- Case study: SemOrg as a prototype (prototype solution)
modular inclusion / exchange of other case studies
- On the role of XCTL: use parts (e. g. manual adjustment)
as a case study
- Several subjects of SE course: can emerge to separate courses:

OOA/AAD with UML

Testing

Metrics

Software Ergonomics

Project management

Petri nets

Data Base

Formal methods

or: a course with a double volume

7. Perspectives

Planning:

HU: 2002 (with ppt slides)

Novi Sad (Zoran Budimac): 2003

???

DAAD program "Stability Pact" 2000 - 2003

Joint course: our chance to get support after this time