



Applied
Systems
Engineering

Tim Heyer

Program

Programs
Organization
Objectives

Course

Organization
Objectives

Experiences

Students
Teachers

Integration of Business Administration, Computer Science, Interculture, and Statistics

A Course in Applied Systems Engineering

Tim Heyer

Karlstad University

November 23, 2005



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- Karlstad University has examination rights since 2001
- Master of Science in Chemical Engineering (2001)
- Master of Science in Information Technology (2002)
- Master of Science in Materials Engineering, Engineering Physics or Industrial Engineering and Management (2004)



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- Large courses that integrate several traditional courses
- Work in projects containing aspects of communication, economics et cetera
- Students should meet their professional role and applications early
- Teacher and student cooperation across subject and science borders
- ...



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- Laws and regulations: ...to develop products and processes considering the goals of the society regarding social conditions, resource management, environment and economics
- Local university goals: ...relevant knowledge in human science, social science, and gender science
- CDIO, Civilingenjörer – i går, i dag, imorgon
- Program goals: ...work in international and interdisciplinary environments
- ...



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- Business administration 6 ECTS, database techniques 6 ECTS, data communications 6 ECTS, interculture 1.5 ECTS, software engineering 4.5 ECTS, and statistics 6 ECTS
- Included project with 7.5 ECTS
- Course is given in the fourth semester (spring semester)
- 6 to 11 teachers
- 14 to 8 students
- Lectures refer to each other
- Strongest coupling through project (balanced score card system, XP support tool)



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Mostly application level (Bloom's taxonomy), except

- ... create software engineering processes based on eXtreme programming (XP)
- ... understands communication processes in international and interdisciplinary environments



Students

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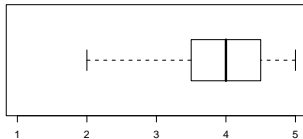
Objectives

Experiences

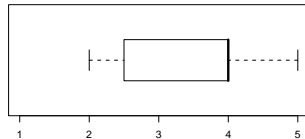
Students

Teachers

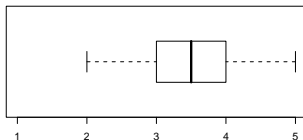
Integration 2004



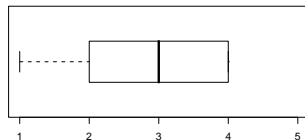
Team 2004



Integration 2005



Team 2005





Teachers

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- Carefull planning is required
- Good and regular communication between the teachers is required, e.g.
 - all teachers are contacted by students
 - regular teacher meetings
- Integrated home pages, documents and so on are required
- Commitment to the ideas behind integrated courses is required