

# Common Core of Working Study Program in Computer Science

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# Goal

- ◆ To transform the Working Study Program of the direction “Applied Mathematics and Computer Science” in the Petrozavodsk State University to allow students to obtain skills necessary to work in such important areas as “Distributed systems and data communication” and “Software Engineering” on a modern international level

# Premises I

- ◆ Regular preparation of students in the areas of “Networking” and “Software Engineering” is practically nonexistent in the Russian educational standards
- ◆ Graduates of the direction “Applied Mathematics and Computer Science” have high professional and intellectual capabilities and abilities to solve non-standard problems
- ◆ Bachelor Degree
  - University of Helsinki – 120 credits – Bachelor of Science
  - Petrozavodsk State University – 160 credits (roughly) – Bachelor of Applied Math. And Computer Science

# Premises II

- ◆ There is a considerable proportion of courses in the Russian educational standards which can be defined by faculty
- ◆ 5 – 8 courses is enough to form either a “Networking ” or “Software engineering” block
- ◆ Initial courses are rather similar at both Departments

# Instrument I

- ◆ Developing of a **Core Working Study Program (CCWSP)**, common for both Departments, which allows Petrozavodsk students of the 3rd / 4th year to take at the Department of Computer Science of the University of Helsinki some advanced courses
- ◆ The education can be based either on traditional classroom methods or on remote learning methods

# Instrument II

- ◆ CCSWSP must provide compatible basic courses, in order to
  - develop a necessary working knowledge of the “information technology English”, and
  - to use unified approaches and tools of Software Engineering Technology
- ◆ Further the CCWSP should support in a coordinated way courses which reflect the rapid changes in the IT area

# Working Plan

Developing of the CCWSP prototype	29 of January 2001
Refining of the CCWSP prototype	5 of February 2001
Presentation of the CCWSP in the PetrSU and its confirmation	5 of March 2001
Transferring of necessary teaching materials to the PetrSU	1 of June 2001
Putting CCWSP into operation	10 of September 2001

# The Main Courses of the CCWSP, I

Course	Term
Introduction to Programming (C, Pascal)	1,2
Introduction to System Programming (i8086 Assembly L.)	1,2
Basics of Applied Software	1
Introduction to DBMS	2
Introduction to OS	2

# The Main Courses of the CCWSP, II

Course	Term
Concurrent Systems	2
DBMS Systems and project	3
Operating Systems	3
Data Communication	3
Unix Programming	4
Software Engineering	5
Network programming	5
Distributed Systems	6

# The Main Courses of the CCWSP, III

Course	Term
Computer Architecture	6
Formal Languages and Compilation	6
Scientific Writing	7

# Results

- ◆ The Specialization Area “Distributed Systems and Data Communication” was created at the Dept. of CS of the PetrSU
- ◆ The CCWSP was accepted by the Council of the Mathematical Faculty of the PetrSU as an element of the Working Study Program for the area in May, 2001