Teaching Portfolio
Tatiana Kozlova Madsen

TEACHING EXPERIENCE AND COMPETENCE

Various **courses** on communication, networking and mathematical topics for engineers given at Institute of Electronic Systems, Aalborg University:

- Communication Systems (2 ECTS, 6th sem.), Spring 2009, Spring 2008, Spring 2007
- Wireless Communication Protocols and Technology (1 ECTS, 6th sem.), Spring
- 2005, Spring 2004, Spring 2003
- Radio Communication (1 ECTS, 8th sem.), Spring 2005, Spring 2004, Spring 2003
- Wireless Networks (1 ECTS, 9th sem.), Fall 2009, Fall 2008, Fall 2007, Fall 2006, Fall 2004, Fall 2003
- Wireless Data Communications (1 ECTS, 9th sem.), Fall 2002
- Linear Algebra (1 ECTS, 7th sem.), Fall 2006, Fall 2005, Fall 2004
- Probability Theory (1 ECTS, 6th sem.), Spring 2009, Spring 2008, Spring 2007
- Introduction to Stochastic Processes (1 ECTS, 7th sem.), Fall 2009
- Mathematics - Complex Functional Analysis (2 ECTS, 3rd and 4th sem.), 2008
- Computational methods for engineers (2 ECTS, 3rd and 4th sem.), 2009
- Efficient algorithms (1 ECTS, 7th semester), Spring 2008

Courses under Life-Long Learning program, Aalborg University:

- Internet of the Future: Network coding (2009)
- Wireless networking trends: performance optimization (2005)
- Wireless networking trends: ad hoc networks (2004)

Student supervision on various levels, including supervision of Master students, (PBL model) at the following specializations, Aalborg University:

- Communication Network line
- Mobile Communication specialization
- Real Time Distributed Systems specialization

In total supervised over 15 Master projects; over 20 under-graduate projects

PhD students supervision:

- Gian Paolo Periccu, "Energy Saving Strategies for Mobile devices", 2005-2008, co-supervision.
- Jimmy Nielsen, "Enabling and exploiting positioning-enrichment of wireless networks", 2008-2011, co-supervision.
- Kasper Revsbech, "Analysis of Traffic and Performance in Networks for Real-Time Applications", 2009-2012, main supervisor.

- Sergio Labeaga, "IP traffic analysis", 2009-2012, main supervisor.
- Ahmed Shawky, "Quality of Service in service Migration Scenarios", 2009-2012, co-supervision.

Teaching administration and coordination:

- Member of Teaching Committee of Institute of Electronic Systems, Aalborg University
- Coordinator of "Communication Systems" line, Aalborg University
- Member of committees for study programs revisions

Teaching forms and teaching material:

- Different teaching forms used depending on the content of the lectures and their applicability, including black-board lectures, slides and video-conferencing
- Teaching material is prepared based on course descriptions in the study regulations; choice of books and other supplementary teaching material
- Running evaluation and adjustment of courses content and form based on the feedback from the students via regular semester meetings

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FORMAL QUALIFICATIONS

- Course "Introduction to Problem Based Learning – the AAU way", August 2002
- Pedagogical course for assistant professors (Adjunktpædagogikum), Aalborg University, 2003-2005

REFLECTIONS ON TEAHCING

Teaching Philosophy

To build up philosophy of teaching is to focus on my role as a teacher and define what is important about it. I find that my role involves the following principles:

- to create a stimulating learning environment
- to continually develop my teaching skills and adjust them to meet the students learning styles and needs
- to develop/ improve my knowledge in the topics and also provide good course materials to the students while at the same time helping students to develop their communication and critical thinking skills

Before a course begins, I explicitly and as precisely as possible state the instructional objective and expectation of the course. One component of this is stating exactly what the student will be able to do at the completion of the course. This becomes somehow agreement between the student and myself. In this way, the students know what to expect and I know what material to include on each class and also what they should learn at the end of the class. The definite content of the whole course makes good

communication between students and myself so that throughout the classes they know where each class is headed, why we are covering each topic, and how it supports the course objectives.

Throughout the different courses I use a variety of teaching approaches to reach students with different learning styles. I understand that not all students learn most efficiently the same way I learn. Since there is a natural tendency to teach in the way you best learn the material yourself, I make some effort to vary my presentation and teaching techniques in order to meet as many different learning styles as possible.

Evaluating Teaching Effectiveness

I use different tools and self evaluations in my classes to evaluate my teaching effectiveness and provide ideas for improvement. This can be done by using quality feedback from the students. I would like to distinguish between two types of feedback. The first one is the course evaluation given by the students (alternatively, project supervision) after the course/ project is completed. This information can be obtained by e.g. asking students to fill out evaluation forms after the course. This data should be further analyzed and should be used to improve the course next time the course is conducted.

The second type is more immediate feedback that the teacher can use to adjust the content of the present lecture. This could also help to avoid having unanswered questions that can block the learning process. One of the ways to get this feedback is to ask students questions during the lecture and facilitate discussion in the class. Planned interaction between students and the teacher can bring light on where the students are in the process. My experience shows that the educational model based on the problem-based learning and the group-work used in Aalborg University can really be beneficially exploited by the teachers to obtain immediate feedback.

Self Evaluation

I always reflect on what I do and do not do in each class. I try to think back over the class immediately after the class has finished. I try to identify what worked and what did not work. I also try to think about the reasons the failure and success points of teaching and discussions. This process of self evaluation after each class allows me to improve the course.

I believe there is no such thing as right or ideal teaching methods. What will work for me and my students, will not necessarily work for somebody else and vice versa. I am trying to be flexible and open in my approach to teaching. Looking around and observing the teaching approaches of my colleagues, or reading about other teaching "tricks", I "try" them on me, - some of these methods can prove to be efficient for me too. By reflecting, I am trying to improve my teaching abilities.

Professional Development

Developing one's teaching skills is a continuous process that can be greatly helped by reflections. The following are my planned objectives for professional development over the next years:

- Improve my current teaching methods by using feedback from the students' evaluations to determine where to I need to improve. Then, I try to observe the results if changes, and move on the next improvement.
- Continue to review various journal articles, books and case studies to help bridge my research and teaching.
- Try to increase communication and feedback both to and from my students. I encourage the use of my office hours.
- Remain flexible and modify the teaching methods and course content to fit student in the class.