Curriculum Development
The Danish Experience

Prof. Stig Enemark
President
Aalborg University, Denmark

2003: Well functioning and flexible Curriculum for more than 10 years

- The adaptability of each term
- The adaptability of the curriculum
- The adaptability of the graduates

Evolution of the Professional Profile of the Danish Surveyor

New Curriculum – Why?

• A new law of university governance
  - A council with majority external members from the trade and industries
  - The council employs the rector
  - The rector employs the deans, who will employ the head of departments
  - Faculty and department boards will be replaced by academic councils
  - The study boards will still be responsible of the educational programmes

• A new structure for the University programmes
  - The Bologna-agreement 3+2+3 principle
  - 3-year Bachelor programme; 2-year Maters programme; 3-year Ph.D.
  - Master programmes are open for various bachelor programmes

• A new law for the university programmes
  - Only one law regulating all educational programmes
  - All programmes must be revised and adjusted to the new structure

Universities in transition

• Will bachelors possess the necessary competences?
  - A broad education within both technical and social science
  - Bachelor: three years of know-how studies, Masters: two years of know-why
  - Existing 2½ year technical college program in surveying and mapping
  - Is the labor market prepared for bachelors?

• Focus on the five-year masters programme
  - To obtain a license for cadastral surveying requires a five year programme
  - Without the demand for a full scale five year programme, it may easily be divided into a technical and a social science part

• The title of the graduates?
  - The title is supposed to follow the masters specialisation
  - However, the title Chartered surveyor should be exclusive for the graduates having followed the full five program in surveying.

A new 3+2 structure
Consequences for the surveying education

- Will bachelors possess the necessary competences?
  - A broad education within both technical and social science
  - Bachelor: three years of know-how studies, Masters: two years of know-why
  - Existing 2½ year technical college program in surveying and mapping
  - Is the labor market prepared for bachelors?

- Focus on the five-year masters programme
  - To obtain a license for cadastral surveying requires a five year programme plus three years of professional practice.
  - Without the demand for a full scale five year programme, it may easily be divided into a technical and a social science part

- The title of the graduates?
  - The title is supposed to follow the masters specialisation
  - However, the title Chartered surveyor should be exclusive for the graduates having followed the full five program in surveying.
International trends

Enhancing Professional Competence of Surveyors in Europe

The Educational Profile

MEASUREMENT SCIENCE
SPATIAL INFORMATION MANAGEMENT
LAND MANAGEMENT

Design and maintain the natural and built environment and connected spatial/legal rights

THE EDUCATIONAL PROFILE OF THE FUTURE

Competences of the graduates

A survey of the last ten years of graduates
Answers 75% ~ 300 graduates (1/3 female)

- Overall assessment of the programme
  83% good or very good
  2% bad

- Professional qualifications
  Fine match between the qualifications obtained, and the competences asked for in practice

- General qualifications
  Interdisciplinary skills, problem solving, communication, and management – also a fine match.

New Curriculum – this way:

Bachelor Degree

1st semester
2nd semester
3rd semester
4th semester
5th semester
6th semester
7th semester
8th semester
9th semester
10th semester

Master Degree

Basic Studies
Basic Studies
Basic Studies
Basic Studies
Measurement Science
Spatial Information Management
Land Management
Cadastral Management
Surveying and Mapping
Large Scale Mapping
Spatial Planning and Land-Use Management
Internship – International Exchange – Project work at AAU

Final Thesis

M.Sc. in Surveying, Planning and Land Management

... A new curriculum

- Adapted to the new 3+2 structure
- Adapted to the international trends
- Professional areas adapted based on the survey of competences of the graduates
- The programme is secured for a 10 ten year period ahead
- The "Aalborg model" is maintained including the problem-based project work
- Continuing development of implementing IT in the educational process and in the interaction between education, research and professional practice.
The competences of the future...

- The surveyors’ educational council
  - Representatives of the employers within the different professional areas, professors and students, in total 18 members
  - Discussion on the competences of the future in a visionary perspective

- The only surveying programme in DK
  - Special demands of development and innovation
    - On the forefront – and preferably a little ahead

- The new curriculum is another step forward
  - for building the competences of the future

Facing the challenges

- Lack of students
- Too big a gap between supply and demand
- Option for double degree and new specialisations in cooperation with Lund University, Sweden
- Option for offering a range of specialisations as master programmes under the Bologna agreement.

Rate of unemployment < 1%
Thanks for your attention