AARHUS SEMINAR

28-30. SEPTEMBER 2016

SESSION 1:
OUTCOME-BASED PROGRAMS - THE INTERPLAY BETWEEN NQF, PLO'S AND CLO'S

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ARTS

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A WRAP UP - THE 4 LEVELS IN DANISH NQF FOR HE

The four levels of higher education in Denmark (NQF 2008)

- Academy Profession Level
- Bachelors's Level
  - Professional Bachelor's Degree
  - Bachelor's Degree
- Masters' Level
- PhD Level

Universities

INCREASING COMPLEXITY IN NQF: AN EXAMPLE

Competences: BA	Competences: MA
✓ Must be able to handle complex and development-oriented situations in study or work contexts.	✓ Must be able to manage work situations and developments that are complex, unpredictable and require new solution models.
✓ Must be able to independently participate in discipline-specific and interdisciplinary collaboration with a professional approach.	✓ Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and assume professional responsibility.
✓ Must be able to identify their own learning needs and organise their own learning in different learning environments.	✓ Must be able to independently take responsibility for their own professional development and specialisation.

COMPETENCES ARE DESCRIBED AT TWO (THREE) LEVELS IN DANISH HE

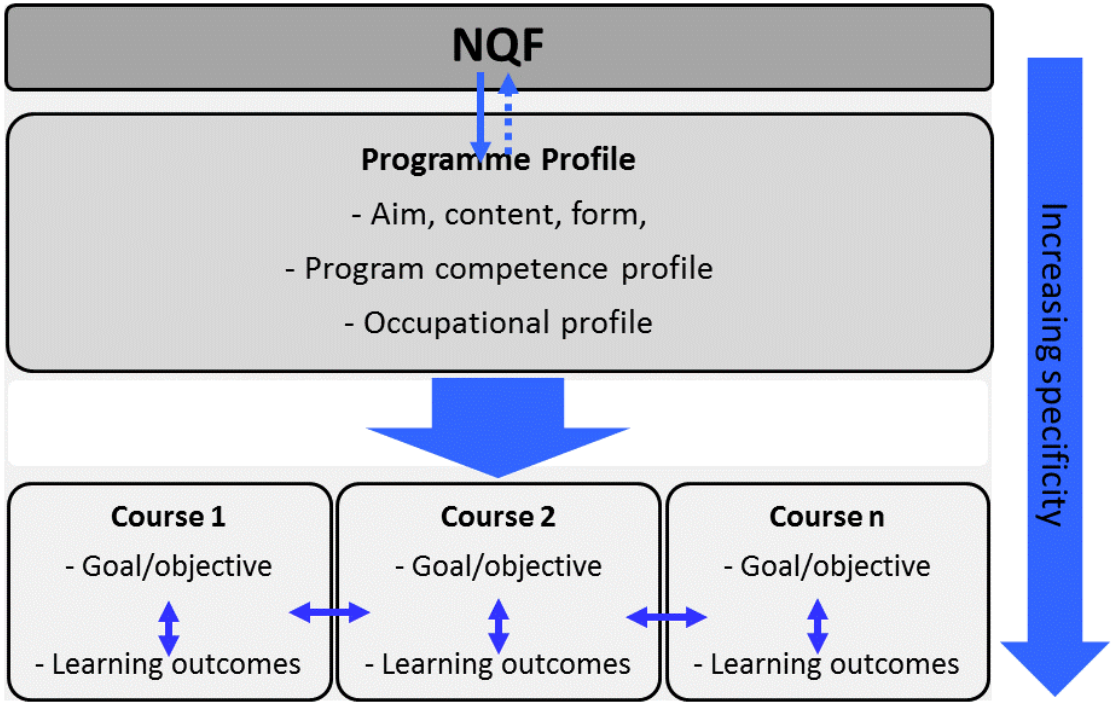
Political	• NFQ • Ministerial order

Programmatic
(Made by Board of Studies and local stakeholders. Approved by Dean)
	• Academic regulations (Academic Regulations AU)
	  • Competence profile for the entire program
	  • Course level
	  • Goal/Objective
	  • Learning outcomes

(Practical)*	• Lesson plan • Clarification and elaboration of academic regulation (course level)*

*optional, different practices across department

A MODEL – DEVELOPED FOR ARTS; AU



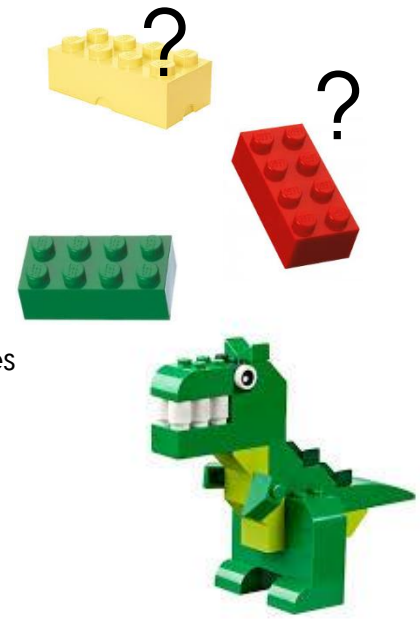
NOF ⇔ PROGRAMME PROFILE

NQF MA: competence	MA: ICT-based educational design (2012)	MA: Theology (2016)	MA: Information studies (2013)
Must be able to independently initiate and carry out discipline-specific and interdisciplinary collaboration and assume professional responsibility	Competences in independently initiating and carrying out both individual and collective ICT-based educational programmes in learning, development and teaching, while taking the complexity of a specific context into account	Independently handle theological, religious and ethical issues and advise therein with respect for the differences that characterizes the religious and moral sphere	Competences in participating in the development of new IT-based products and considering these in relation to specific user situations and organisations

Discussion: Do the programme competence profiles match the level of the NQF?

MODULIZATION

Flexibility and mobility



Programmes consist of a number of modules/courses.

Each module is

- A selfcontained learning unit
- A part of a whole

Mobility and international recognition demands that modules can be compared across programmes

- A module is described through
  - Aim and learning outcomes
  - Content
  - ECTS-credits:
  - Assessment

DEVELOPMENT IN MODULE STRUCTURE

If we compare programmes over the last 5 years, we see a trend towards larger modules

- Physics, BA 2015: Quarters (½ semester) and still many 5 ECTS modules
- ICT-based educational design 2012: 10 and 20 ECTS modules

- ARTS, AU: From 2016 modules at less than 10 ECTS require permission
- Arguments:
  - Economic: reduce the costs used on course administration and exams
  - Didactic: avoid fragmentation and enhance multidisciplinarity

COURSE LEARNING OUTCOMES

Very different practices for description of learning outcomes

- CLOs included in the academic regulations (e.g. ARTS)
- CLOs described only in the course catalogue (some parts of ST)
    - High flexibility, but what is the legal status of course catalogue?
- CLOs with very different degrees of specificity.

CALCULUS 1 (COURSE CATALOGUE)

At the end of the course the student should be able to:

(a) Apply basic techniques and results from calculus to solve prescribed exercises within differential- and integral functions in one and several variables and Linear Algebra.

(b) Use mathematical terminology and symbols

ASTROPHYSICS (COURSE CATALOGUE)

After the course is completed, students are expected to be able to:

1. Describe the physics behind and perform calculations of the mutual influence objects in the Solar System have on each other.
2. Describe and calculate physical properties of objects in the Solar System and compare with exoplanets.
3. Describe and calculate physical properties of stars and account for the physics behind the emission of radiation from stars.
4. Compare different types of stars and give explanations for differences.
5. Describe the physics behind the evolution of stars from gas cloud to compact object.
6. Describe the structure of galaxies and use equations to describe the dynamics of a spiral galaxy like the Milky Way.
7. Describe the large-scale structure of the universe and draw connections to the early Universe and the evolution of the Universe.
8. Describe the physics behind the evolution of the Universe from Big Bang to now.
9. Calculate properties of the Universe, e.g. its age or expansion rate, using equations and models of the Universe.
10. Formulate written answers to astrophysical problems.
11. Communicate an astrophysical topic within the subject areas of the course to a selected target audience with innovative (rethink – not reproduce) use of several modes of communication (text, images, sound, video, etc.).

All learning goals have equal weight.

NEW ARTS PRACTICE

- Course learning outcomes must be structured in three categories: Knowledge, skills and competences and described in academic regulations
- The single CLO does not have to address all three categories, but the total CLO's must meet all elements in the Programme profile

Knowledge:
•Knowledge of academic concepts for the description and analysis of ICT-based educational contexts and their learning potential
•Knowledge of the key positions within learning theory of particular relevance to the field of ICT-based education
•Knowledge of selected ICT-based educational technologies and their potential in relation to the support and promotion of learning in various contexts
Skills:
•The ability to analyse and consider selected technologies with special focus on learning, including the use of the technologies in both formal and non-formal contexts
Competences:
•The ability to participate in teaching and learning programmes in a constructive manner that is conducive to learning, as well as to reflect on their own and others' participation in these programmes

MAPPING:
PROGRAMME PROFILE ⇔ COURSE LEARNING OUTCOMES

The relation between Program Profile (PP) and CLOs must be mapped to demonstrate that the CLO's meet the dimensions and the level of the PP

Programme profile	Course 1: learning and context	Course 2: learning theory and technology
Knowledge 1: Knowledge of key theories, concepts and trends within the field of learning theory and ICT-based education, based on top international research		Knowledge of the key positions within learning theory of particular relevance to the field of ICT-based education
Knowledge 2: In-depth knowledge of selected key ICT-based educational technologies, as well as their potential in relation to educational, didactic and learning-related contexts	Knowledge of selected ICT-based educational technologies and their potential in relation to the support and promotion of learning in various contexts	

COURSE GOAL AND LEARNING OUTCOMES: AN EXAMPLE

Goal is a broad description of the aim and content of the course. Might include a broad description of the competences that the student will develop

This course is intended to survey the development of civilization from ancient times to 1000 AD. Cultures studied include Mesopotamia, Egypt, India, China, Greece, Rome, and ending with the fall of Rome and the rise of Christianity. During the course the student will develop a deep understanding of the global historical developments at the time of the transition from the Bronze Age to the Iron Age

Learning outcomes are indicators used to assess whether the student can be expected to meet the goal

After completing this course, students should be able to:

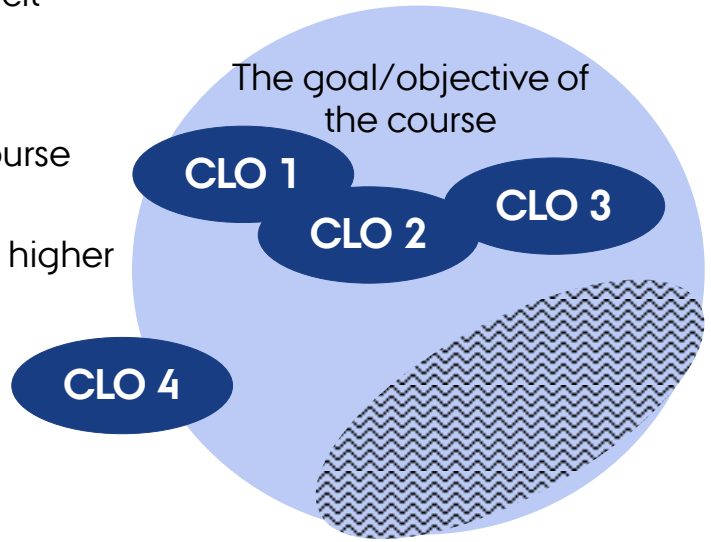
1. Describe and explain the major accomplishments of the early bronze age civilizations – such as their political structures; economic and commercial systems; social stratification; gender relations; religious and philosophical beliefs; scientific and technological innovations; military and diplomatic systems; plastic and literary artistic achievements
2. Identify and analyse the major causes leading to the decline or collapse of early bronze age civilizations
3. Compare the historical conditions and experiences of different human communities during the era of the Bronze Age.
4. Describe and explain the global historical developments at the time of the transition from the Bronze Age to the Iron Age.

COURSE GOAL AND LEARNING OUTCOMES #2

Pay attention to the relation between goal and outcomes

1. Are there goals which are important but invisible in the CLOs (tacit curriculum)

2. Are there CLO's of minor relevance which have sneaked into course because they are easy to formulate
   - Overweight of basic knowledge and skills on the expense of higher level knowledge, skills and competence?
   - Use taxonomies!
     - Bloom: cognitive, affective and psycomotoric domains
     - Biggs: SOLO
     - Marzano: New taxonomy



LOOKING BACK

The last 15 years:

- A transition from content-based course descriptions to outcome-based course descriptions
- A challenging process: from what we want to ‘give’ the students to what the students shall learn from the course
- A lot of trial and error

Recommendations based on my personal experiences

- Involve the academics – description of learning outcomes is not a bureaucratic exercise
- Prioritise staff development; stake holders and leadership: process and product

DISCUSSION 2

Groups 2-3 persons

- What do you notice from the lecture?

- What implications might it have for the future Armenian process?