

Towards a Danish “Qualifications Framework” for higher education

Final report

Approved by The Danish Bologna follow up group

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(Translation from the Danish version)

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1. **General aims for working with a “Qualifications Framework”**

1.1 *Clarity and transparency – nationally and internationally*

In recent years' European debate on education, a demand for clarity and transparency has been a common theme, both nationally and internationally.

Nationally, because both prospective higher education students and employers want greater insight into how the various education programmes can be used. Internationally, because transparency is a prerequisite for the cross-border mobility of both students and graduates.

The theme of clarity and transparency has also been a basic element of the Bologna Process since 1999.

The purpose of the Bologna Declaration is the creation of a European area for higher education before 2010 to enable students and graduates to move freely between the European education institutions and the national labour markets. This necessitates the recognition of education units and complete programmes within the entire area.

Therefore, one essential element in the process is to create an educational structure that is comparable, if not identical, from country to country. Although the various programmes have different structures, it should be possible to compare differences and similarities. But in order to do this, it is necessary to develop a system of concepts that focuses on competencies and which the different countries can understand.

Thus, the follow up group for the Danish Bologna Process decided to analyse the Danish degree structure for higher education programmes with the aim of composing a description of the academic degrees in use that is more explicit and systematic than can be found in the current education legislation.

The soul purpose of the preliminary work has been to develop a general description of the final competencies or learning outcomes inherent in the respective education programmes. Specific professional and academic competencies have not been incorporated into the process. A project with focus on programme specific competencies was carried out by European universities for selected education programmes within the EU project, “Tuning Educational Structures in Europe”. This project was financed by the Socrates Programme and concluded with a conference on 31 May 2002.

A Qualifications Framework (QF) is a systematic description of an education system's degrees that emphasises the description of final competencies.

The work presented here is the final report on two projects, one concerning university programmes the other concerning short and medium-cycle higher education programmes.

1.2 Accuracy of the qualifications requirements for the individual degrees

Denmark has a publicly regulated degree system in which the degrees are laid down in curricula, executive orders on education and to some extent legislation.

However, the regulated Danish system has always focused on describing programmes according to admittance requirements, study period and study content, but only to a negligible extent on the qualifications gained.

For the new adult education system in Denmark, general descriptions of the degrees are available, but this is not the case for the ordinary education system. The executive orders on education only describe study content for the individual programmes, which moreover vary in amount of detail, with the professional programmes described in most detail. For the university programmes in the humanities and natural sciences fields, the descriptions are almost entirely without study content descriptions.

Qualifications requirements are also formulated outside the rules for higher education, namely in the professional requirements set out by authorities responsible for the regulated area, including, for example, the requirements for upper-secondary school teachers in the executive order on the qualifications for upper-secondary schools.

The preliminary work on the QF has the further goal of qualifying curriculum planning so as to make it possible to compare Danish programmes with those of other countries, as well as to include new aspects in evaluations and for accreditation of programmes seeking recognition.

1.3 Perspectives for curriculum planning

The goal of the present process is to attempt to make the degree structure for higher education programmes more transparent. The desired outcome is a discussion of the descriptions framework defined here as final competencies and of how such a framework can steer curriculum planning.

As the legislation currently stands, the curriculum boards are responsible for stipulating study requirements and final competencies. Is it possible to do this in such a way as to better meet the need for transparency? How does one explain to others (nationally as well as internationally) the difference between a completed Candidatus degree and a Master degree?

Increased transparency would simplify credit transfer and thus improve mobility both nationally and internationally. Particularly on an international level, a general reference framework for academic degrees would substantially strengthen the Diploma Supplement.

A more systematically defined degree system, in which the number of levels of a foreign education programme could be more easily determined, would also make it easier to recognise foreign education programmes.

The evaluation of higher education programmes in Denmark has traditionally been based on the assumption that a programme should be evaluated according to its own goals. This assumption has come under pressure due to the growing internationalisation of higher education, which brings with it the need for transparency regarding evaluation criteria as well as methods. A Qualifications Framework would be able to function as a set of general precise evaluation criteria.

1.4 International models

Denmark is not the first country to initiate such a project. Great Britain has been a pioneer in the area, but Holland has also worked intensively with the issues.

In Britain, the problem was that the degree system had developed in an unforeseen and non-transparent direction, possibly as a result of the great university expansion there.

The two commissions for higher education in England and Scotland, respectively, recommended “a framework for qualifications, which provides for progression, is broad enough to cover the whole range of achievement, is consistent in terminology, will be well understood within higher education and outside it, and incorporates provision for credit accumulation and increasingly, scope for the transfer of credits earned in one institution to another” (The Dearing Report, 1997). The goal was to define a degree system by describing the qualifications systems’ various graduation levels rather than the length of study period (study years).

Based on that report, the British Government decided to hand the task over to the Quality Assurance Agency, which has worked on the project from 1998 to today. The British project resulted partly in general reports and partly in reports on the individual education areas where qualifications levels are described in relation to general and subject-specific terms.

2. The QF's importance for the different stakeholders in higher education

2.1 Universities

Since the general reform of the degree structure in 1993 and the adult education reform in 2000, programmes at Danish universities have had a uniform formal structure. Faculties and smaller schools are quite certain about which requirements are relevant for the individual educational levels.

However, these levels have never been clearly formulated in such a way as to make comparison possible. In the mean time, however, it has become unavoidable to make such comparisons due to student mobility, the establishment of cross-disciplinary programmes and a desire at some institutions for international accreditation.

For the universities, the formulation of a Qualifications Framework would first and foremost be an aid to simplifying the process of setting clear goals for curriculum planning by the curriculum boards. A description of which qualifications the student should generally gain from the individual programmes would provide a stable foundation for discussing the content, which disciplines and methods, that should make up the individual education programmes. With a general framework on the degree structure, which is possible to describe, the universities also have ensured in advance that their programmes are comparable both nationally and internationally.

2.2 Non-university programmes

Legislation on short and medium-cycle higher education programmes and further adult education programmes has provided programmes outside the universities with a common education structure. But there are still many programmes that do not fit into the system.

It can be difficult to compare such programmes with each other as well as with university programmes.

A description of the levels in a fully developed Qualifications Framework would strengthen the short and medium-cycle higher education programmes in comparisons with similar programmes in other countries. In addition, it would make cooperating with other countries easier and simplify the transfer of credits earned.

It would also simplify the discussions regarding access to further education within the university system, including, in particular, Master programmes.

Finally, a general description of the final competencies gained would lay the foundation for a discussion of the goals of curriculum planning.

These issues will be considered in more detail during the second phase of the project.

2.3 Students

Students can use a description of the competencies they are expected to gain from their education programmes in two ways. Firstly, this description would bring clarity and transparency to the study content of education programmes, making it easier, for example, for a student to follow part of his or her studies outside his or her own discipline. It would also function as a tool to make it easier to gain an overview of the competencies gained from a programme. And secondly, students who work actively with curriculum planning as members of curriculum boards or study boards would be interested in descriptions that can assist them in composing programmes.

At the present time, many programmes find it difficult to explain to prospective students what competencies they should gain during their studies. Today, students are generally told about what types of jobs the programmes in question are geared towards, and what courses/disciplines they have to take. A Qualifications Framework would improve the information available to prospective students in that they would be informed of what competencies they would actually gain/should aim towards in their studies. At the same time, those who are already students, would have a better overview of what competencies they would gain from similar Danish and foreign programmes. It would make it easier for students to decide whether to follow part of their studies outside their own disciplines, as it would simplify the subsequent transfer of credits earned. Likewise, students wanting to change disciplines would more easily be able to gain an overview of the competencies they have already acquired.

As participants in planning of programmes, students would also have access to a powerful tool that would hopefully contribute to clarifying which competencies the individual programme units would give them. In the past, some curriculum board members have tended to focus too much on what academic competencies students should have. With this Qualifications Framework, they too would be forced to think in broader terms during curriculum planning to make room for other competencies in their programmes. In this way, it would be expected that certain education elements would be given higher priority.

2.4 Evaluating education programmes

Evaluating higher education programmes is one of the Danish Evaluation Institute's (EVA) main tasks. The evaluations conducted by EVA have first and foremost had as their starting point the education programme goals as formulated by the individual institutions and the goals formulated in the specific executive orders.

The growing internationalisation of higher education, as well as the increase in quality assurance of the same, has led to the development of this model. The internationalisation of quality assurance requires transparency with regard to the evaluation methods used and the criteria, which form the basis of the evaluations. In relation to the latter, EVA sees an advantage in the establishment of a Danish Qualifications Framework. Moreover, a Qualifications Framework would remedy the situation in which not all programmes have had goals that were sufficiently operational so as to form a good foundation for evaluation.

EVA has recently performed several evaluations that utilise explicit criteria. These are currently established as part of the individual evaluation processes, which is a suitable approach during a pilot phase, but would hardly be appropriate in the long run. First, because it is time-consuming and second, because it does not ensure consistency between the foundations of the assessments in the different evaluations.

A Qualifications Framework would be a good starting point for setting forth criteria by virtue of the possibility of continued incorporation of the specific professional and academic goals of the individual education programmes.

A Danish Qualifications Framework would also strengthen work with quality in relation to higher education in other ways. It could, for example, be part of a reference framework in relation to institutions' work with quality assurance and quality development.

2.5 Recognition of foreign education programmes

The most important function of the Danish Centre for Assessment of Foreign Qualifications (CVUU) is to assess foreign education qualifications in relation to the levels of the Danish education structure and the specific Danish education programmes. That is, CVUU evaluates degrees in relation to each other at the education structure level as well as individual programmes in relation to each other at the education programme level.

The first type of evaluation – also called a “level assessment” – is mainly relevant in relation to finding jobs for holders of foreign qualifications, applying for admission to unemployment funds and establishing which

collective agreement a person should be included under, i.e. in relation to recognition on the Danish labour market (occupational recognition).

The latter type of evaluation – also called “equivalence evaluation” – is mainly relevant in cases where those who possess the qualifications in question wish to further educate themselves, i.e. in relation to recognition within the Danish education system (academic recognition).

With respect to the CVUU’s task of comparing Danish and foreign education qualifications, a more in-depth qualitative description of the levels in the Danish higher education structure, i.e. of the Danish higher education qualifications to which the foreign qualifications are compared, would be a useful contribution to the further development and qualification of CVUU’s assessments.

According to CVUU, their double goal – assessment and recognition with a view to integration on the Danish labour market and in the Danish education system – means that development of a Danish framework for level or qualifications descriptions, which, like the British Qualifications Framework, states both the professional and academic qualifications which graduates gain from the academic degrees/education structure levels, would be a good focus for a project in the area.

CVUU experiences on a daily basis how difficult it can be to make assessments that precisely and informatively provide a foundation for recognition of foreign education qualifications due to considerable differences in education structures from country to country and the lack of transparency with regard to which professional and academic qualifications a graduate gains from the different levels in a country’s education structure. In this regard, a Danish framework for level or qualifications descriptions would undoubtedly be useful in many cases.

2.6 Recruiters – Employers

For a recruiter, an academic degree is a trademark. It tells in which professional and academic field the person in question is qualified, how long he or she has studied, how tough the admission requirements were and, especially, what academic level the graduate has attained. Ideally, each degree should reflect a relatively consistent quality so that all programmes with the same degree name have a well-defined common core that separates them from other programmes, and so that different degree names clearly express differences in the level and content of education programmes.

Such a simple, straightforward and coherent system contributes to reducing the costs of recruiting employees.

From this point of view, the Danish system is still far from perfect. Recruiters are in many ways faced with a chaotic mix of different degrees.

First, programmes with the same academic degree name in Denmark are often very different.

Second, programmes with the same labour force and considerably similar content sometimes have different academic degree names in Denmark. And third, different *types* of academic degree names are used for programmes that are officially considered to be on the same level. An excellent example of this is the Master degree which in Denmark covers both Master degrees and so-called Candidatus degrees (Master of Art/Science).

This is why recruiters need an academic degree system that is simple, with as few levels as possible, and coherent, so similarities and differences clearly stand out.

A more precise description of the qualifications terms of degrees and education levels can contribute to this goal.

3. Description of a Danish QF

3.1 *The Bologna Declaration and the Danish degree structure*

In the Bologna Declaration a general bi-level academic structure for higher education programmes is used: “undergraduate,” also called “first-cycle”, and “graduate,” also called “second-cycle”. The Declaration also refers to two types of graduate degrees: “Doctor” and “Master”.

If the Danish higher education programmes are to be located within this terminology, it is necessary to not only sub-divide the graduate level, but also the undergraduate level, in order to be able to include Danish short-cycle higher education programmes within the structure. Danish short-cycle higher education programmes are typically first-cycle programmes, but they do not easily fit into the Bologna Declaration’s terms because short-cycle higher education programmes are not long enough to qualify for admittance to second-cycle programmes. Internationally, academic degrees with similar characteristics are found elsewhere, such as in the British Qualifications Framework, which refers to “sub-degrees” at “certificate-level” and “intermediate-level”.

In addition to short-cycle higher education programmes, the Danish first-cycle also includes degree-level programmes, i.e. programmes that lead to Bachelor, Professional Bachelor and Diploma degrees, which are all the equivalent of a Bachelor.

Second-cycle programmes at the Master level include the programmes that lead to Master and Candidatus degrees, both of which are the equivalent of a Master, while second-cycle programmes at the Doctoral level include programmes that lead to a PhD.

The following is an outline of the terms used Demark in relation to those used in the Bologna Declaration:

| Terms from the Bologna Declaration | | Danish degrees |
|------------------------------------|------------------|---|
| First-cycle | Sub-degree level | Business and technical education programmes Further adult education programmes |
| | Degree level | Bachelor Professional Bachelor Diploma* |
| Second-cycle | Master level | Master* Candidatus |
| | Doctoral level | PhD |

* It can be difficult to place the Danish Master and the so-called Diploma programmes in the diagram because for some graduates, it would be their first degree at a Degree or Master level, while for others it would be an extra degree at that level. However, this does not alter the fact that they should be understood as being on the Degree or Master level.

Note: In OECD terms, the four levels are the equivalent of 5 (short), 5 (medium), 5 (long) and 6.

The following is an attempt to describe the four levels, in part by using terminology from the Bologna Declaration and in part by giving a preliminary qualifications description. A formal description in continuation of the Bologna Declaration is given in italics for each level.

Description of the Sub-degree level:

Degrees at this level give admittance to programmes that end at the Degree level after one more year of study.

Whether there actually is access to programmes on the Degree level depends on whether programmes exist in the academic field in question.

Holders of degrees on the Sub-degree level will have practical competencies within a specific area of business as well as the competence to follow a relevant further education programme that opens for the possibility of completing a Degree-level programme after one more year of study.

Description of the Degree level:

Degrees at this level all entail at least three years of further education and they all give access to Master-level programmes.

Whether there actually is access to programmes on the Master level depends on whether programmes exist in the academic field in question.

Holders of Degree-level degrees will have basic competencies within an academic or professional field as well as the competence to be able to follow a Master-level programme.

Description of the Master level:

Degrees at this level cover programmes that build on a higher education programme of at least three year's duration.

Holders of Master-level degrees will either have specialist competencies in continuation of a Degree-level programme or have broad basic competencies within several academic and/or professional fields. Holders of a Master-level degree will have the prerequisites for basic competencies in research method.

Description of the Doctoral level:

Doctoral-level degrees (PhDs) presuppose a course of study that builds on a Master-level degree.

Holders of Doctoral-level degrees will be able to carry out and plan research projects independently as well as perform tasks that require expertise in knowledge development within an academic or professional field.

It should be noted that the Danish Doctoral degree is not included here, because this degree is not conferred on the basis of a specific education programme but is a separate degree than a PhD.

3.2 Components in the descriptions of the individual degrees

Locating the degrees in context of the terms used in the Bologna Declaration only provides limited additional value unless supplemented with a description of the individual degrees.

Describing the degrees in relation to the same general competency categories would give a clearer understanding of the competencies the holder of a degree is expected to possess. Using the same competency categories in this way would also make the differences between the degrees easier to identify.

There appears, then, to be a dilemma between, on the one hand, describing the degree structure so that it is easy to communicate to others and, on the other hand, describing it so that it makes sense in relation to the individual degrees. The following is an attempt to deal with this dilemma by formulating some general competency categories which make sense on an overall level and which can also be expected to be relevant for all types of degrees.

The working group has chosen a system comprising three elements:

1. First, a description of the entire *competency profile* for a particular degree. This competency profile is then used to give a general notion of the competencies a degree holder should possess.
2. Second, a set of *competency goals* in the form of tangible expectations specifications. These serve to specify what competencies a degree holder can be expected to possess in selected areas.
3. Third, a description of the *formal aspects* (i.e. admittance requirements, length of study and further education options). This category is included in the Qualifications Framework, in spite of the fact that it is not competency-oriented, because it contributes to positioning the degrees in both a national and an international context. The alternative is that this information be available elsewhere, but this would make it more difficult to communicate to those without knowledge of the Danish education system.

The combination of a general profile descriptions and tangible competency goals should, with regard to dissemination, make it possible to combine the

need for general knowledge that gives an overview with the need for specific knowledge on expected competencies in a specific area.

With regard to describing the different competency goals, the working group found it appropriate to use three recurring competency goals to ease understanding and comparability.

The three competency goals the working group has chosen to focus on are:

- *Intellectual competencies*, such as analytical and abstract thinking, a knowledge-seeking approach, communications skills and the ability to structure own learning. These are general competencies that are neither narrow nor directly related to a specific programme or discipline.
- *Professional and academic competencies*, such as specialist competencies within a specific discipline, insight into related disciplines, cross-disciplinary competencies. These competencies are specifically related to each individual programme or discipline.
- *Practical competencies*, such as practical skills, professional ethics and responsibility. These types of competencies are aimed specifically towards the fulfilment of job functions. For some education programmes these competencies would be trained specifically, while for others they would be an expected outcome upon completion of the programme.

It is the working group's understanding that intellectual, professional and academic competencies are used both in working life and the academic world, while practical competencies are typically oriented towards use on the labour market. Thus, the intention is not that the relevance of intellectual, professional and academic competencies be limited to an educational context nor that the relevance of practical competencies be limited to a working life context. On the contrary, intellectual, professional and academic competencies are understood to be an unavoidable basic aspect of being able to fulfil job functions based on a specific education programme.

The three competency goals referred to here are inspired by, among others, work conducted in Britain and the Netherlands on similar systematic descriptions of their degree structures. However this model should not be seen as a copy of some of the systems. In addition, the relevant categories are pinpointed by way of what type of information "users" of the degrees – i.e. primarily prospective students and recruiters – need.

The Danish education system aims to give its graduates "democratic competency". For example, this is stated in the Danish Act on Medium-cycle Education Programmes as follows: "Furthermore, education programmes should contribute to developing the student's interest in and ability to take

active part in a democratic society.” Because this is not a competency isolated to any single degree, it is not included as a separate item in the analysis form.

The working group is aware that the present model is one of many possibilities.

In summary, this model for establishing a Danish Qualifications Framework comprises five elements in all:

1. Competency profiles:
Indicate whether the knowledge base is primarily academic or practice-oriented. In addition, general descriptions may be provided similar to those found in the present degree descriptions.
2. Competency goals
 - 2.1 Intellectual competencies, such as analytical and abstract thinking, a knowledge-seeking approach, communications skills and the ability to structure own learning.
 - 2.2 Professional and academic competencies, such as specialist competencies within a specific discipline, insight into related disciplines, cross-disciplinary competencies.
 - 2.3 Practical competencies, such as practical skills, professional ethics and responsibility.
3. Formal aspects:
Admittance levels, length and formal further educational competencies.

4. Implementing a Danish QF

4.1 *What is meant by implementation?*

The general purpose of the whole “Qualifications Framework” project was to qualify education programme planning, recognition and evaluation/accreditation.

Plainly, these purposes cannot be realised solely by writing a report, which attempts to describe Denmark’s higher education programme degrees in more detail than in the meagre legislative texts.

This framework needs to be accepted by education institutions and authorities as a useful tool. It should be characterised as the active layer of these institutions and authorities, no matter whether they deal with curriculum planning, education evaluation or recognition. And finally, these users should feel obligated to use this tool.

Implementation is not complete until all three parts have been carried out.

4.2 *Implementation as a dialogue and learning process*

Acceptance of the general qualifications framework does not immediately guarantee adoption. On the contrary, the methods should be tested through dialogue with users at education institutions and authorities, and the framework will have to be adjusted according to experiences gained through practice.

In order to analyse whether the framework is a relevant tool, the working party held meetings with selected groups of individuals from universities and from non-university higher education. The comments and good advice are incorporated into the framework.

The working group proposes that pilot projects then be carried out in which interested programmes use the Qualifications Framework in connection with revision of curricula in order to test in practice whether the framework can change curricula planning from being discipline-oriented to being competency-oriented.

Experiences from these pilot projects should be incorporated in a revision of the proposal submitted by the working group.

4.3 *Incorporation into the set of rules*

This framework should be, to the extent that it standardises education programmes, evaluations and recognition, endorsed politically and made obligatory.

Such recognition can consist of an incorporation of the framework into the Danish education legislation which it has taken as its point of departure and which were found to be inadequate.

One way the Qualifications Framework can be incorporated into Danish education legislation is via an executive order along the same lines as the executive order on the structure of university education programmes.

Whether the framework is ultimately incorporated into the individual education descriptions or not, it would represent a standard for the formulation of curricula at education institutions, and the curricula should reflect how these qualifications goals can be achieved.

These goals would also form the foundation for evaluating individual programmes in that the evaluation should consider in part whether the programme is structured so that the goals can be achieved and in part whether they actually are achieved.

With the recognition of foreign study programmes, the general Qualifications Framework could also be used as a reference framework with regard to level of education, but, of course, not with regard to academic content.

Incorporation would therefore be an effective way of achieving the overall goals.

5 A Danish Qualifications Framework

In the following, the three elements presented in chapter 3.2 are used to describe the degrees of the Danish higher education programmes.

Vocational Academy Degree (AK)

1. Competency profile

An AK graduate will have competencies acquired through a course of study that has taken place in a development-based study environment with close contact to the labour market through the institution's knowledge centre and development functions and with a relevant course of study of businesses built into the programme.

An AK graduate should be able to perform practice-oriented tasks based on an analytical approach within specific professions. Furthermore, an AK graduate will have the necessary competencies to be able to complete a Diploma education programme.

2. Competency goals

2.1 Intellectual competencies:

An AK graduate should be able to:

- Describe, formulate and communicate practice-oriented issues and options for taking action.
- Conduct analyses of practice-oriented issues.

2.2 Professional and academic competencies:

An AK graduate should be able to:

- Apply relevant analysis methodology within his or her specific profession.
- Demonstrate insight into selected disciplines, theories and concepts relating to that profession.
- Understand the profession's placement in a broader societal context.

2.3 Practical competencies:

An AK graduate should be able to:

- Plan, organise and perform tasks within his or her specific profession.
- Contribute to development work.
- Work with others both in and outside his or her discipline.

3. Formal aspects

- Admittance requirements: Upper-secondary or vocational education.
- Length: 2 years (120 ECTS credits).

- Further education options: Diploma education programme.
- The degree is recognised by the proper ministry.
- Degree-conferring education programmes are provided by vocational schools or other institutions approved by the relevant ministry.

Further adult education programmes (VVU)

1. Competency profile

A VVU graduate will have competencies achieved through a course of study that has taken place in a development-based study environment with close contact to the labour market through the institution's knowledge centre and development functions and with a relevant course of study of businesses built into the programme. The aim of VVU programmes is to achieve close professional coherence between the student's occupation and vocational experience and the programme as a theoretical supplement.

A VVU graduate should be able to perform practical tasks based on an analytical approach within specific professions. Furthermore, a VVU graduate will have the necessary competencies to complete a diploma education programme.

2. Competency goals

2. 1 *Intellectual competencies:*

A VVU graduate should be able to:

- Describe, formulate and communicate vocation-related issues and options for taking action.
- Conduct analyses of vocation-oriented issues.

2. 2 *Professional and academic competencies:*

A VVU graduate should be able to:

- Apply relevant analysis methodologies within his or her specific profession.
- Demonstrate insight into selected disciplines, theories and concepts relating to that profession.
- Understand the profession's placement in a broader societal context.

2. 3 *Practical competencies:*

A VVU graduate should be able to:

- Plan, organise and carry out tasks within his or her specific profession.
- Contribute to development work.
- Work with others both in and outside his or her discipline.

3. Formal aspects

- Admittance requirements: Out of school education programme or basic education programme for adults and two year's relevant vocational experience.

- Length: Normally 1 year (60 ECTS credits).
- Further education options: Diploma education programme.
- The degree is recognised by the proper ministry.
- Degree-conferring education programmes are provided by vocational schools or other institutions approved by the relevant ministry.

Professional Bachelor degree

1. Competency profile

A Professional Bachelor will have competencies gained during a development-based study environment with research affiliation and with a relevant mandatory trainee programme in dialogue with the recruiters.

A Professional Bachelor should possess basic knowledge of and insight into the central disciplines and methodologies used in that profession. These attributes should qualify the Professional Bachelor to carry out vocational functions and act independently within the area targeted by the study programme and for further study in a relevant Master or Candidatus programme.

2. Competency goals

2.1 *Intellectual competencies:*

A Professional Bachelor should be able to:

- Describe, formulate and communicate profession-related issues and options for taking action.
- Analyse profession-oriented issues theoretically and consider them in practice.
- Structure own learning.

2.2 *Professional and academic competencies:*

A Professional Bachelor should be able to:

- Apply and evaluate different methodologies within his or her discipline.
- Demonstrate insight into central disciplines, theories, methodologies and concepts within his or her profession.
- Document, analyse and evaluate the discipline's various types of practice.
- Utilise research and development to develop own practice.

2.3 *Practical competencies:*

A Professional Bachelor should be able to:

- Master practical tool skills (be able to carry out a vocational duty immediately).
- Make and justify decisions based on his or her own areas of expertise.
- Show personal integrity and act within the framework of professional ethics.
- Work with others both in and outside his or her discipline.

- Participate in development work.

3. Formal aspects

- Admittance requirements: Upper-secondary or relevant vocational education (possibly with certain special admission requirements).
- Length: Between 3 and 4 years (180-240 ECTS credits). Usually the programmes equal 210 ECTS credits.
- Further education options: Master and Candidatus programmes.
- The degree is recognised by the proper ministry.
- Degree-conferring programmes are provided by Centres for Higher Education or other institutions approved by the relevant ministries (such as institutions included in the University Act).

Diploma Graduate degree

1. Competency profile

A Diploma graduate will have competencies acquired through a course of study that has taken place either in a study environment with research affiliation or in a research environment, and which builds on the integration of theory and practice.

A Diploma graduate should be able to carry out highly qualified tasks in companies and other organisations. Furthermore, a Diploma graduate will have the necessary competencies to complete a Master education programme.

2. Competency goals

2.1 *Intellectual competencies:*

In addition to the competencies described for the degrees which give access to a Diploma programme, a Diploma graduate should be able to:

- Describe, formulate and communicate profession-related issues and options for taking action.
- Analyse profession-oriented issues and consider them in practice.
- Structure own learning.

2.2 *Professional and academic competencies:*

In addition to the competencies described for the degrees that give access to a Diploma programme, a Diploma graduate should be able to:

- Apply various methodologies within his or her discipline.
- Document, analyse and evaluate the discipline's various types of practice.
- Utilise research and development to develop own practice.
- Demonstrate:
 - Either specialist understanding in extension of the preceding degree.

- Or an academic perspective for his or her discipline that is broader than that received from the preceding degree.
- Or new academic competencies in addition to those gained from his or her previous degree.

2.3 *Practical competencies:*

In addition to the competencies described for the degrees that give access to a Diploma programme, a Diploma graduate should be able to:

- Make and justify decisions based on his or her own areas of expertise.
- Work with others both in and outside his or her discipline.
- Participate in development work.

3. Formal aspects

- Admittance requirements: Vocational education programmes, further adult education programmes or special entry courses of study as well as two year's relevant vocational experience upon completion of one of these programmes.
- Length: Normally 1 year's full-time study (60 ECTS credits).
- Further education options: Master programme
- The degree is recognised by the proper ministry.
- Degree-conferring programmes are provided by Centres for Higher Education or other institutions approved by the relevant ministries (such as institutions included in the Law on Universities).

Bachelor

1. Competency profile:

A bachelor will have competencies that have been acquired via a course of study that has taken place in a research environment.

A Bachelor should have basic knowledge of and insight into his or her discipline's methods and scholarly foundation. These attributes should qualify a Bachelor for further education at a relevant graduate programme as well as for employment on the basis of his or her academic discipline.

2. Competency goals

Intellectual competencies

A Bachelor should be able to:

- Describe, formulate and communicate complex issues and results
- Conduct analyses using scientific methods
- Structure own learning

2.2 *Professional and academic competencies*

A Bachelor should be able to:

- Evaluate methods within his or her own academic discipline
- Demonstrate insight into central disciplines, theories and concepts

Practical competencies

A Bachelor should be able to:

- Analyse practical complex issues in a professional context
- Make and justify decisions on the basis of his or her academic discipline

3. Formal aspects:

- Admittance requirements: Upper-secondary education (possibly with certain specific admittance requirements)
- Length: Three years, full-time (180 ECTS credits)
- Further education options: Candidatus and Master programmes

Candidatus

1. Competency profile:

A Candidatus graduate will have competencies that have been acquired via a course of study that has taken place in a research environment.

A Candidatus graduate should be qualified for employment on the labour market on the basis of his or her academic discipline as well as for further research (PhD programmes). A Candidatus graduate should, compared to a Bachelor, have developed his or her academic knowledge and independence so as to be able to apply scientific theory and method on an independent basis within both an academic and professional context.

2. Competency goals

Intellectual competencies

In addition to the competencies described for the Bachelor level, a Candidatus graduate should be able to:

- Communicate complex professional and academic issues to both specialists and laymen
- Formulate and analyse complex scholarly issues independently, systematically and critically
- Continue own competency development and specialisation

2.2 Professional and academic competencies

In addition to the competencies described for the Bachelor level, a Candidatus graduate should be able to:

- Evaluate the appropriateness of various methods of analysis and complex academic issues on an independent basis
- Demonstrate:

- Either specialist understanding in extension of the Bachelor degree
- Or a broader academic perspective for his or her Bachelor degree
- Or new academic competencies in addition to his or her Bachelor degree
- Demonstrate understanding of research work and based on this be active in a research context
- Demonstrate insight into the implications of research (research ethics)

2.3 *Practical competencies*

In addition to the competencies described for the Bachelor level, a Candidatus graduate should be able to:

- Make and justify decisions on the basis of his or her academic discipline and if necessary carry out analyses that result in an adequate basis for decision-making
- Comprehend development work based on scholarly, theoretic and/or experimental methods

3. Formal aspects:

- Admittance requirements: Selected Bachelor degree programmes
- Length: Two years, full-time (120 ECTS credits)
- Further education options: PhD programmes

Master

1. Competency profile:

A Master will have competencies that have been acquired through a course of study based on an integration of research results and practical experience.

A Master should be able to fulfil highly qualified functions in businesses, institutions and the like, through scholarship-based personal and academic competencies.

2. Competency goals

2.1 *Intellectual competencies*

In addition to the competencies described for the degrees that give access to a Master programme, a Master should be able to:

- Communicate complex academic issues to both specialists and laymen
- Formulate and analyse complex practical issues independently, systematically and critically on a scholarly basis
- Continue own competency development and specialisation on an independent basis

2.2 *Professional and academic competencies*

In addition to the competencies described for the degrees that give access to a Master programme, a Master should be able to:

- Evaluate the appropriateness of various methods of analysis and complex academic issues on an independent basis
- Demonstrate:
Either specialist understanding in extension of the Bachelor degree
Or a broader academic perspective for his or her Bachelor degree
Or new academic competency in addition to the Bachelor degree

2.3 *Practical competencies*

In addition to the competencies described for the degrees that give access to a Master programme, a Master should be able to:

- Independently make and justify decisions on the basis of his or her academic discipline
- Put into perspective and develop practice based on scholarly, theoretical and/or experimental methods
- Comprehend and deal with complex issues in a commercial / professional context

3. Formal aspects:

- Admittance requirements: Bachelor, Professional Bachelor or Diploma degrees. Additionally at least two year's relevant professional experience
- Length: Normally one year, full-time (60 ECTS credits)
- There are no degree-conferring further education options

PhD

1. Competency profile:

A PhD will have competencies that have been acquired through a course of study based on research results and including research conducted on an independent basis.

On an international level and in an international context, a PhD should be able to conduct research, development and teaching tasks at universities, institutions, businesses and organisations as well as other public and private organisation where broad knowledge of research is required.

A PhD graduate has proven that he or she is able to complete scholarly projects by way of independent analysis based on the discipline's scientific method and thus yield a research effort that equals the international standard for PhDs in the discipline.

2. Competency goals

2.1 *Intellectual competencies*

In addition to the competencies described for the Bachelor and Candidatus levels, a PhD should be able to:

- Communicate large amounts of knowledge both orally and in writing
- Formulate and structure long-duration, continuous research projects on an independent basis

2.2 *Professional and academic competencies*

In addition to the competencies described for the Bachelor and Candidatus levels, a PhD should be able to:

- Conduct research on an international level and in an international context
- Evaluate the appropriateness of methods for research projects on an independent basis
- Demonstrate specialist understanding of cutting-edge scientific theories and methods in the international research world
- Display responsibility in relation to own research (research ethics)

2.3 *Practical competencies*

In addition to the competencies described for the Bachelor and Candidatus levels, a PhD should be able to:

- Plan and maintain academic and professional responsibility for complex tasks based on scientific theories and/or experimental methods
- Make decisions supported by complex documentation

3. Formal aspects:

- Admittance requirements: Relevant Candidatus degree
- Length: Three years, full-time (180 ECTS credits)
- There are no degree-conferring further education options

Annexes