



**MSC student Rasmus Kofoed Steen Nielsens unofficial exam in  
"Introduction to string theory", June 2020**

JULY 7 2020

Rasmus Kofoed Steen Nielsen participated on his own initiative in the oral exam of the course "Introduction to string theory" on June 16, 2020, on the same terms as his fellow students, even if he was not officially signed up for the exam. This document therefore expresses an unofficial evaluation of the exam of Rasmus by censor Prof. Niels Obers and me.

**TROELS HARMARK**

NIELS BOHR INSTITUTET  
BLEGDAMSVEJ 17  
2100 KØBENHAVN Ø

Together with censor Prof. Niels Obers, it is our evaluation that Rasmus deserved the top grade 12 for his exam.

TLF 23 29 89 04

With best regards,

Troels Harmark

harmark@nbi.ku.dk

Associate professor and head of section  
of theoretical particle physics and  
cosmology

Rasmus Steen Kofoed Nielsen  
 Wiemosen 40,1 tv  
 4000 Roskilde



It is hereby confirmed that Rasmus Steen Kofoed Nielsen, Civil Registration Number: 100696-1637, has been enrolled as a student at University of Copenhagen.

**Name of the education:** **Bachelor's programme**

The student graduated on 29.06.2018.  
 The student has passed the following subjects.  
 The credits are shown in ECTS

	Marks	ECTS Grade	Credits
Bachelor's programme, Physics	passed		180.0000
bachelor centrale fag 60 ECTS, Physics	passed		60.0000
Basic Study Programme	passed		60.0000
Compulsory Courses 1st Year	passed		60.0000
1st Year Exam	passed		60.0000
Introduction to Mathematics for Science	10	B	7.5000
Linear Algebra in Science	12	A	7.5000
Thermodynamics and Project	10	B	7.5000
Mathematics for Physicists	10	B	7.5000
Electromagnetism	12	A	7.5000
Mathematics F2	12	A	7.5000
Mechanics and Theory of Relativity/Introduction to Mechanics and Relativity Theory & Classical Mechanics	passed		15.0000
Introduction to Mechanics and Relativity Theory/Classical Mechanics	passed		15.0000
Introduction to Mechanics and Relativity Theory	10	B	7.5000
Classical Mechanics	10	B	7.5000
Bachelor, Minor/elective subjects 30 ECTS, Physics	passed		30.0000
Fysik-matematik 30 ECTS	passed		30.0000
Compulsory Courses	passed		30.0000
Electrodynamics and Waves	7	C	7.5000
Discrete Mathematics	10	B	7.5000
Quantum Mechanics 1	12	A	7.5000
Probability Theory and Statistics	12	A	7.5000
bachelor tilvalg 90 ECTS, Physics	passed		90.0000

Rasmus Steen Kofoed Nielsen, Civil Registration Number: 100696-1637

Specialisation	passed		90.0000
Compulsory Courses	passed		22.5000
Theory of Science and Ethics for Physics	4	D	7.5000
Quantum Mechanics 2	12	A	7.5000
Statistical Physics	7	C	7.5000
Restricted Elective Courses 7,5 ECTS	passed		7.5000
Fundamentals of the Didactics of Science and Mathematics	02	E	7.5000
Restricted Elective Courses 30 ECTS	passed		30.0000
Condensed Matter Physics 1	12	A	7.5000
Mathematical Physics	12	A	7.5000
Analytical Mechanics	12	A	7.5000
Mathematical Methods in Physics - Part 3	7	C	7.5000
Bachelor Project	passed		15.0000
Bachelor Project in Physics, Niels Bohr Institute	12	A	15.0000
Title: Analysis of the BTZ Black Hole			
Elective Courses 15 ECTS	passed		15.0000
BSc Courses	passed		15.0000
Mathematical Modelling	12	A	7.5000
Introduction to Numerical Analysis	Passed		7.5000

**Name of the education:**                      **Master's programme**

The student graduated on 28.10.2020.  
The student has passed the following subjects.  
The credits are shown in ECTS

	Marks	ECTS Grade	Credits
Master's programme, Physics	passed		120.0000
Master, Major subject 120 ECTS, Physics	passed		120.0000
Quantum Physics 120 ECTS	passed		120.0000
Compulsory Courses	passed		7.5000
Advanced Quantum Mechanics	12	A	7.5000
Restricted Elective Courses 37.5 ECTS	passed		37.5000
General Relativity and Cosmology	12	A	7.5000
Particle Physics and the Early Universe	10	B	7.5000
Elementary Particle Physics	12	A	7.5000
Quantum Field Theory 1	10	B	7.5000
Modern Methods for Particle Scattering	02	E	7.5000
Master's Thesis	passed		60.0000
Physics Thesis 60 ECTS, Niels Bohr Institute	12	A	60.0000
Title: Two-point functions in defect versions of N=4 super Yang Mills theory			
Elective Courses 15 ECTS	passed		15.0000
MSc Courses	passed		7.5000
Introduction to Gauge/Gravity Duality	12	A	7.5000
Project outside Course Scope 7,5 ECTS	passed		7.5000

Rasmus Steen Kofoed Nielsen, Civil Registration Number: 100696-1637

Project outside Course Scope	passed		7.5000
Project outside Course Scope	12	A	7.5000
Title: Quantum Geometry			



RASMUS STEEN KOFOED NIELSEN

cpr. 100696-1637

har den 28. oktober 2020 *has on 28 October 2020*  
opnået *been awarded the degree of*  
kandidatgraden i *Master of Science in*  
de fysiske fag *Physics*  
og titlen *and the title*

cand.scient.  
candidatus scientiarum

A blue ink signature of Katrine Krogh Andersen.

Katrine Krogh Andersen  
Dekan/Dean

A blue ink signature of Karen Rønnow.

Karen Rønnow  
Studiechef/Director of Studies

DET NATUR- OG BIOVIDENSKABELIGE FAKULTET  
FACULTY OF SCIENCE

Rasmus Steen Kofoed Nielsen

Cpr.: 100696-1637

har gennemført kandidatuddannelsen i  
de fysiske fag  
28. oktober 2020



## Oversigt over prøver og bedømmelser side 1 af 2

Følgende resultater er opnået	Resultat 7-trinsskala	Resultat ECTS-skala	ECTS point
<b>Speciale</b>			
Two-point Functions in Defect Versions of N=4 Super Yang Mills Theory ..... <i>Eksamenssprog engelsk</i>	12	A	60,0
<b>Specialisering i kvantefysik</b>			
Advanced Quantum Mechanics ..... <i>Eksamenssprog engelsk</i>	12	A	7,5
General Relativity and Cosmology ..... <i>Eksamenssprog engelsk</i>	12	A	7,5
Particle Physics and the Early Universe ..... <i>Eksamenssprog engelsk</i>	10	B	7,5
Elementary Particle Physics ..... <i>Eksamenssprog engelsk</i>	12	A	7,5
Quantum Field Theory 1 ..... <i>Eksamenssprog engelsk</i>	10	B	7,5
Modern Methods for Particle Scattering ..... <i>Eksamenssprog engelsk</i>	02	E	7,5
Introduction to Gauge/Gravity Duality ..... <i>Eksamenssprog engelsk</i>	12	A	7,5

10. december 2020

Betina Kongsbak  
SCIENCE Uddannelse

**Rasmus Steen Kofoed Nielsen**

**Cpr.: 100696-1637**

har gennemført kandidatuddannelsen i  
de fysiske fag  
28. oktober 2020

## Oversigt over prøver og bedømmelser side 2 af 2

<b>Følgende resultater er opnået</b>	<b>Resultat 7-trinsskala</b>	<b>Resultat ECTS-skala</b>	<b>ECTS point</b>
Projekt uden for kursusregi..... <i>Quantum Geometry</i> <i>Eksamenssprog engelsk</i>	12	A	7,5

### **Adgangsgrundlaget til kandidatuddannelsen**

Naturvidenskabelig bachelor, Københavns Universitet, Danmark

10. december 2020



Betina Kongsbak  
SCIENCE Uddannelse

Rasmus Steen Kofoed Nielsen

Cpr.: 100696-1637



har gennemført kandidatuddannelsen i  
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28. oktober 2020

## Kompetenceprofil for uddannelsen

Efter endt uddannelse har en kandidat i fysik med specialisering i kvantefysik tilegnet sig følgende:

Viden om:

- De grundlæggende fysiske love i alle klassiske fysikdiscipliner, dvs. klassisk mekanik, termodynamik, elektromagnetisme, kvantemekanik, og deres indbyrdes relationer
- Konstruktion af materialer på både makro- og mikroniveau og de grundlæggende principper for de forskellige kræfter, der virker på hver længdegradsskala
- Kvantificeringsmetode
- Et givet forskningsområde, opbygget gennem forskningsbaseret undervisning og udarbejdelse af speciale
- Matematiske metoder til løsning af en lang række problemer, både lineære og ikke-lineære
- Numeriske metoder til databehandling og løsning af matematiske modeller.
- Den historiske baggrund for fysik og naturvidenskab
- Centrale discipliner, metoder, teorier og begreber i kvantefysik, herunder fænomener inden for faststoffysik, atomfysik og subatomar fysik
- Sammenhængen mellem kvantefysik og andre videnskabelige discipliner
- Avancerede teknologiske metoder i kvantefysiske eksperimenter.

Færdigheder:

- Organisere målinger for studier af systemer, hvor fysiske enheder spiller en rolle, herunder elektriske, elektromagnetiske, optiske og termodynamiske enheder
- Indgå i konstruktive partnerskaber på grundlag af disses videnskabelige baggrund med henblik på at løse akademiske problemer
- Opstille og anvende relevante modeller for et fysisk system baseret på fysikkens love
- Løse komplekse matematiske problemer ved hjælp af både analytiske og numeriske metoder
- Anvende modelløsninger og -metoder til kvantificering inden for tilgrænsende områder, f.eks. biologiske, geologiske, kemiske og økonomiske systemer
- Redegøre for og formidle faglig viden og de generelle kontekster for fysik - både skriftligt og mundtligt
- Opsøge og sammenfatte den nyeste viden inden for et bestemt emneområde
- Diskutere anvendelsen af emneområdets resultater i en industriel og social kontekst
- Tage selvstændigt ansvar for egen akademisk udvikling, specialisering og kompetenceudvikling
- Anvende engelsk som arbejdssprog
- Anvende IT som et redskab til både informations- og databehandling, og i andre sammenhænge, hvor det er fagligt relevant, f.eks. i forbindelse med udvikling af numeriske modeller og eksperimenter
- Planlægge og gennemføre projekter inden for kvantefysiske emner på selvstændig vis
- Opstille relevante analytiske eller numeriske modeller til et kvantefysisk system og anvende eksperimentelle data til analyse og verifikation af modellerne
- Arbejde selvstændigt med kvantefysiske fag
- Redegøre for og formidle, både mundtligt og skriftligt, specialiseret viden på nanoskala samt i den atomare og subatomare verden.

10. december 2020

Betina Kongsbak  
SCIENCE Uddannelse



**Rasmus Steen Kofoed Nielsen**

**Cpr.: 100696-1637**

har gennemført kandidatuddannelsen i  
de fysiske fag  
28. oktober 2020

**Kompetencer:**

- Oprette og anvende modeller samt udvikle kvantificeringsmetoder til brug i fysiske systemer og tilgrænsende områder, f.eks. biologiske, geofysiske, kemiske eller økonomiske systemer
- Kandidaten har ligeledes kernekompetencer inden for et selvvalgt delområde inden for fysik og indsigt i de relevante metoder inden for dette delområde, dvs. analytiske, eksperimentelle og numeriske metoder. Dette kan dokumenteres ved at udfylde en af kompetenceprofilerne for fysik eller via valg af speciale og kursusportefølje
- Kandidaten er også uddannet til at samarbejde med andre, både ved at spille en aktiv rolle inden for forskerhold og ved at indgå i tætte samarbejdsrelationer med medstuderende. Gennem arbejdet med deres afhandling og ved at indgå i det daglige arbejde i et forskerhold får kandidaterne solid erfaring i de metoder og arbejdsformer, der anvendes i et forskningsmiljø
- En af de vigtigste kompetencer for fysikere er evnen til at formidle et emne på et letforståeligt sprog, både i almindelighed og i videnskabelige sammenhænge og såvel mundtligt som skriftligt. Kandidater med en af kvalifikationsprofilerne har særlig ekspertise inden for et af fysikkens hovedområder
- Kandidaten er i stand til at anvende videnskabelige arbejdsmetoder inden for en række videnskabelige områder
- En kandidatgrad i fysik giver en generel forståelse af videnskabelige metoder
- Opbygge et langt bedre billede af, hvad verden indeholder på nanoniveau samt på atomart og subatomart niveau, og hvordan den er opbygget
- Beherske elementer fra flere fagområder, og være velbevandret i matematisk-fysiske metoder
- Anvende videnskabelige teorier og metoder inden for rammerne af kvantefysik.

10. december 2020



Betina Kongsbak  
SCIENCE Uddannelse

Rasmus Steen Kofoed Nielsen

Cpr. : 100696-1637

has completed the Master's programme in  
Physics  
28 October 2020



## Summary of examinations and grades page 1 of 2

The following grades were awarded	Grade 7-point scale	Grade ECTS scale	ECTS credits
<b>Master's Thesis</b>			
Two-point Functions in Defect Versions of N=4 Super Yang Mills Theory ..... <i>Exam language English</i>	12	A	60,0
<b>Specialisation in Quantum Physics</b>			
Advanced Quantum Mechanics ..... <i>Exam language English</i>	12	A	7,5
General Relativity and Cosmology ..... <i>Exam language English</i>	12	A	7,5
Particle Physics and the Early Universe ..... <i>Exam language English</i>	10	B	7,5
Elementary Particle Physics ..... <i>Exam language English</i>	12	A	7,5
Quantum Field Theory 1 ..... <i>Exam language English</i>	10	B	7,5
Modern Methods for Particle Scattering ..... <i>Exam language English</i>	02	E	7,5
Introduction to Gauge/Gravity Duality ..... <i>Exam language English</i>	12	A	7,5

10 december 2020

A handwritten signature in blue ink, appearing to read 'Betina Kongsbak'.

Betina Kongsbak  
SCIENCE Study Administration

**Rasmus Steen Kofoed Nielsen**

**Cpr. : 100696-1637**

has completed the Master's programme in  
Physics  
28 October 2020

## Summary of examinations and grades page 2 of 2

### The following grades were awarded

	<b>Grade 7-point scale</b>	<b>Grade ECTS scale</b>	<b>ECTS credits</b>
Project outside Course Scope..... <i>Quantum Geometry</i> <i>Exam language English</i>	12	A	7,5

### Requirements for the graduate programme

Bachelor of Natural Sciences, University of Copenhagen, Denmark

10 december 2020



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has completed the Master's programme in  
Physics  
28 October 2020

## Skills profile for the programme

On completion of the programme, an MSc in Physics with a specialisation in Quantum Physics has acquired the following:

Knowledge about:

- The basic physical laws in all classical physics disciplines, i.e. classical mechanics, thermodynamics, electromagnetism, quantum mechanics, and their interrelationships
- The construction of materials at both macro- and micro level, and the fundamental principles for the various forces that operate on each scale of longitude
- Quantification methodology
- Up-to-date, specialist knowledge of a given field of research, built up through research based teaching and the thesis
- Mathematical methods for solving a wide range of problems, both linear and non-linear
- Numerical methods for data processing and solving mathematical models.
- The historical background to physics and science
- Key disciplines, methods, theories and concepts in quantum physics, including phenomena in solid state physics, atomic physics, and sub-atomic physics
- The links between quantum physics and other scientific disciplines
- Advanced technological methods in quantum physical experiments.

Skills in/to:

- Organising measurements for studies of systems in which physical entities play a role, including electrical, electromagnetic, optical, and thermodynamic entities
- Engaging in constructive partnerships on the basis of their scientific background in order to solve academic problems
- Setting up and applying relevant models for a physical system based on the laws of physics
- Solving complex mathematical problems using both analytical and numerical methods
- Applying model solutions and methods of quantification in adjacent areas, e.g. biological, geological, chemical and economic systems
- Explaining and communicating specialist knowledge and the general contexts of physics, both orally and in writing
- Seeking out and summarising the latest knowledge within a particular subject area
- Discussing the application of the subject's results in an industrial and social context
- Taking independent responsibility for their own academic development, specialisation and skills development
- Using English as a working language
- Making use of IT as a tool for both information- and data processing, and in other contexts where it is academically relevant, e.g. in developing numerical models and experiments
- Independently planning and running projects within quantum physical topics
- Setting up relevant analytical or numerical models for a quantum physical system, and using experimental data for analyses and for verification of the models
- Working independently on quantum physical subjects
- Explaining and communicating, both orally and in writing, specialized knowledge of the nano-scale, atomic, and sub-atomic world.

10 december 2020

Betina Kongsbak  
SCIENCE Study Administration

**Rasmus Steen Kofoed Nielsen**

**Cpr. : 100696-1637**

has completed the Master's programme in  
Physics  
28 October 2020

Competences in/to:

- A physicist is capable of setting up and applying models and developing quantification methods for use in physical systems and their adjacent areas, e.g. biological, geophysical, chemical or economic systems
- Graduates also possess core competences in a chosen sub-area of physics, and have insight into the relevant methods in this sub-area, i.e. analytical, experimental and numerical methodology. This can be documented by completing one of the physics qualification profiles, or via the choice of thesis topic and course portfolio
- Graduates are also trained to work with others, both by playing an active role within research teams and by working closely with fellow students. Working on the thesis and being involved in the day-to-day operations of a research team will provide graduates with solid experience of a research environment's different methods and forms of work
- One of the most important competences for physicists is the ability to communicate an issue in plain language, on both a general and a scientific level, both orally and in writing. Graduates with one of the qualification profiles have specific expertise in one of the main areas of physics
- Graduates are capable of applying the scientific methods of working to a range of scientific areas
- An MSc in Physics provides a general understanding of scientific methods
- Build up a far clearer picture of what the nano-scale, atomic, and sub-atomic world contains and how it is constructed
- Master elements of multiple disciplines and to be well versed in the methodology of mathematical physics
- Apply scientific theory and methodology in context of quantum physics.

10 december 2020



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## Diploma Supplement

This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

### 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

- 1.1. **Family name(s):** Nielsen
- 1.2. **Given name(s):** Rasmus Steen Kofoed
- 1.3. **Date of birth:** 10 June 1996
- 1.4. **Danish civil registration number:** 100696-1637

### 2. INFORMATION IDENTIFYING THE QUALIFICATION

- 2.1. **Name of qualification and title conferred** (*in Danish*): Cand.scient i fysik, candidatus scientiarum

**Name of qualification and title conferred** (*in English*): Master of Science (MSc) in Physics, candidatus scientiarum

- 2.2. **Main fields of study:** Physics
- 2.3. **Name and status of awarding institution:**  
Københavns Universitet, University of Copenhagen (officially abbreviated KU) is a state-financed higher education institution, regulated according to the Ministry of Higher Education and

Science University Act no. 960 of 14 August, 2014.

- 2.4. **Name and status of institution administering the studies** (See 2.3.): Same as above

- 2.5. **Language(s) of instruction/examination:** Primarily English and to some extent Danish

### 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

- 3.1. **Level of qualification:** Second Stage research-based tertiary education.
- 3.2. **Official length of programme:** 2 years = 120 ECTS credit points ECTS
- 3.3. **Access requirements:** Entrance to Master's degree programmes is subject to the regulations contained in order no. 154 of 6th March 2000 issued by Danish Ministry of Education

### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

- 4.1. **Mode of study:** Full time study
- 4.2. **Programme requirements:** Entrance to Master's degree programmes is subject to the regulations contained in order no. 154 of 6th March 2000 issued by Danish Ministry of Education
- 4.3. **Programme details and individual grades/marks/credits obtained:** Please refer to the enclosed grade transcript.
- 4.4. **Grading scheme and if applicable grade distribution information:** Please refer to the enclosed explanation of the Danish education system and the grading scale.
- 4.5. **Overall classification of the qualification:** Not applicable for Danish qualifications.

## 5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

- 5.1. Access to further study:** A Master's degree in a given subject area qualifies graduates to apply for entrance to the PhD research programme in the area concerned
- 5.2. Professional status:** The MSc Programme in Physics qualifies students for PhD programme and depending on the academic specialisation it may also be targeted at business functions and/or areas such as: PhD-student in different profession directions at science and medical science faculties or in industries, high school teacher, petro physicist in the oil industry, biophysicist in the pharmaceutical industry, hospital physicist, meteorologist, risk manager or analyst in the bank sector or insurance companies.

## 6. ADDITIONAL INFORMATION

- 6.1. Additional information:** Founded in 1479 by the Danish King Christian I, the University of Copenhagen is Denmark's oldest and largest institution of research and higher education. More than 37,000 students are enrolled in undergraduate and graduate programmes, plus an additional 2,500 PhD students. Staff members number 9,000. The University is divided into six faculties: Theology, Law, Social Sciences, Health and Medical Sciences, Humanities and Science; all situated in the capital of Denmark.

### 6.2. Further information:

Faculty of Science  
Bülowsvej 17  
DK - 1870 Frederiksberg C

Phone +4535332828  
E-mail: [science@science.ku.dk](mailto:science@science.ku.dk)

General information on higher education in Denmark can be obtained from the following two homepages: Ministry of Science, Technology and Innovation: [www.vtu.dk](http://www.vtu.dk), or Danish Rectors Conference: [www.rks.dk](http://www.rks.dk)

## 7. CERTIFICATION OF THE SUPPLEMENT

- 7.1. Date:** 10 december 2020



- 7.2.** Betina Kongsbak

- 7.3.** SCIENCE Study Administration



## 8. INFORMATION ON THE DANISH HIGHER EDUCATION SYSTEM

June 2016

Public higher education institutions in Denmark are regulated by national legislation concerning degree structures, teacher qualifications and examinations. Accreditation in higher education is undergoing transition from programme-based accreditation to institutional accreditation. Programmes and institutions are accredited by national, independent accreditation agencies and the Accreditation Council.

### Higher education institutions

Higher education is offered by five types of higher education institutions:

1. Business academies (Erhvervsakademi) offering professionally oriented short cycle and first cycle degree programmes.
2. University Colleges (Professionshøjskole) offering professionally oriented first cycle degree programmes.
3. Maritime Education and Training Institutions offering professionally oriented short cycle and first cycle degree programmes.
4. General and specialised research universities (Universitet) offering first, second and third cycle degree programmes in academic disciplines.
5. University level institutions offering first, second and third cycle degree programmes in subject fields such as architecture, design, music, and fine and performing arts.

Most higher education institutions are regulated by the Ministry of Higher Education and Science (type 1-5).

### Overview of degrees in the Danish Higher Education System

Danish higher education institutions use the European Credit Transfer System (ECTS) for measuring study activities. 60 ECTS correspond to one year of full-time study.

Danish qualifications levels	Ordinary higher education degrees	Adult/Continuing higher education degrees	Qualifications Framework for the European Higher Education Area – Bologna Framework	European/National Qualifications Framework for Lifelong Learning – EQF/NQF
<b>Academy Profession level</b>	Academy Profession degree (90-150 ECTS)	Academy Profession degree (60 ECTS)	Short cycle	Level 5
<b>Bachelor's level</b>	Professional Bachelor's degree (180-240 ECTS)*	Diploma degree (60 ECTS)	First cycle	Level 6
	Bachelor's degree (within fine arts) (180 ECTS)			
	Bachelor's degree (180 ECTS)			
<b>Master's level</b>	Master's degree (within fine arts) (120-180 ECTS)	Master degree (60-90 ECTS)	Second cycle	Level 7
	Master's degree (120 ECTS)**			
<b>PhD level</b>	PhD degree (180 ECTS)		Third cycle	Level 8

\* Can be obtained through a full regular bachelor's programme (180-240 ECTS) or a top up bachelor's programme (90 ECTS) following an Academy Profession degree. A few Professional Bachelor programmes are 270 ECTS.

\*\* A few Master's programmes are up to 180 ECTS.

The Ministry of Culture regulates a number of higher education institutions offering programmes within fine and performing arts (type 5).

### Qualification framework

The qualification levels form the basis for the Danish National Qualifications Framework for Higher Education, which is certified in accordance with the overarching Bologna Framework according to the principles adopted by the European Ministers of Higher Education. Danish higher education qualifications at levels 5-8 of the Danish Qualifications Framework for Lifelong Learning (NQF) correspond with levels 5-8 of the European Qualifications Framework (EQF).

### Admission and progression

General access to higher education in Denmark requires an Upper Secondary School Leaving Certificate or comparable qualifications. Admission to some particular programmes requires entrance examination or submission of a portfolio of artistic work. Holders of an Academy Profession degree can obtain a Professional Bachelor's degree within the same field of study through a top-up programme. Completion of a first cycle degree qualifies students for admission to the second cycle.

### Ordinary Higher Education degrees

*The Academy Profession degree* is awarded after 90-150 ECTS and includes a period of work placement of at least 15 ECTS. The programmes are development-based and combine theoretical studies with a practical approach. Programmes are, among others, offered within Marketing Management, Computer Science and Chemical and Biotechnical Science. The Danish title is field of study followed by the abbreviation AK and the English title is AP Graduate in [field of study].



**The Professional Bachelor's degree** is awarded after 180-270 ECTS and includes a period of work placement of at least 30 ECTS. The programmes are applied programmes. They are development-based and combine theoretical studies with a practical approach. Examples of professional bachelor's degree holders are nurses, primary and lower secondary school teachers and certain types of engineers. The Danish title is Professionsbachelor i [field of study] and the English title is Bachelor of [field of study].

**The Bachelor's degree** from a university is awarded after 180 ECTS. The programmes are research-based and are offered in all scientific fields. The Danish title is Bachelor (BA) i [field of study] or Bachelor (BSc) i [field of study] and the English title is Bachelor of Arts (BA) in [field of study] or Bachelor (BSc) of Science in [field of study].

**The Bachelor's degree (within fine arts)** is awarded after 180 ECTS. The programmes are based on research and artistic research. Programmes are offered within the fine arts. The Danish title is Bachelor (BA) i [field of study], Bachelor i musik (BMus) [field of study] or Bachelor i billedkunst (BFA) [field of study] and the English title is Bachelor of Arts (BA) in [field of study], Bachelor of Music (BMus) [field of study] or Bachelor of Fine Arts (BFA) in [field of study]. A higher education degree within theatre or filmmaking is awarded after 3-4 years of study (180-240 ECTS).

**The Master's degree** is awarded after 120 ECTS. The programmes are research-based and are offered in all scientific fields. The Danish title is abbreviated to Cand.[latin abbreviation of academic area] i [field of study]. The English title is Master of Arts (MA) in [field of study] or Master of Science (MSc) in [field of study].

**The Master's degree (within fine arts)** is awarded after 120-180 ECTS. The programmes are based on research and artistic research. The Danish title is abbreviated to

Cand.[latin abbreviation of academic area] [field of study]. The English title is Master of Arts (MA) in [field of study], Master of Music (MMus) [field of study] or Master of Fine Arts (MFA) in [field of study]. Music Academies offer a specialist degree of 2 to 4 years following the master's degree.

**The PhD degree** is awarded after 180 ECTS. PhD programmes are offered by the universities and some university level institutions offering degrees in the artistic and cultural field.

Detailed descriptions of degree levels can be found in the Danish Qualifications Framework at [www.nqf.dk](http://www.nqf.dk). Please consult the relevant Diploma Supplement for information about the learning outcome of any specific degree.

### Adult and continuing higher education

- The programmes normally consist of 2 years of part-time study, equivalent to 1 year of full-time study (60 ECTS credits). Certain master programmes require 1½ years of full-time study (90 ECTS credits). Admission requirements are a relevant educational qualification and at least 2 years of relevant work experience.
- Adult and continuing education is available at levels corresponding to qualifications of the ordinary higher education system.
- The Further Adult Education degree (videregående voksenuddannelse/akademiuddannelse) is awarded after studies at short cycle level and gives access to diploma programmes.
- The Diploma degree (diplomuddannelse) is awarded after studies at first cycle level and gives access to master programmes.
- The Master degree (masteruddannelse) is awarded after studies at second cycle level.

### The 7-point grading scale

The grading system used in all state-regulated education programmes as of September 2007 is the 7-point grading scale. Apart from the 7-point grading scale, pass/fail assessment may also be used. 02 is the minimum grade for passing an exam.

Description of grades: 12: For an excellent performance displaying a high level of command of all aspects of the relevant material, with no or only a few minor weaknesses; 10: For a very good performance displaying a high level of command of most aspects of the relevant material, with only minor weaknesses; 7: For a good performance displaying good command of the relevant material but also some weaknesses; 4: For a fair performance displaying some command of the relevant material but also some major weaknesses; 02 For a performance meeting only the minimum requirements for acceptance; 00: For a performance which does not meet the minimum requirements for acceptance; -3 For: a performance which is unacceptable in all respects.