ITÄ-SUOMEN YLIOPISTO
LUONNONTIETEIDEN JA METSÄTIETEIDEN TIEDEKUNTA

Juha-Matti Aleksanteri Huusko

(s. 20.04.1987)
on suorittanut valtioneuvoston asetuksen 794/2004 mukaisen
luonnontieteiden kandidaatin tutkinnon aineenopettajan koulutuksen mukaisesti.

	(Opintopisteet)	(Arvosana)
PÄÄAINE: MATEMATIIKKA		
Perus- ja aineopinnot	74,0	*Erinomainen*
Pääaineen opintoihin sisältyvä kandidaatin tutkielma (10 op) on arvosteltu arvosanalla *erinomainen.*		
SIVUAINEET		
Fysiikka, perusopinnot	25,0	*Erinomainen*
Aineenopettajan pedagogiset opinnot	25,0	*Hyvä*
KIELI- JA VIESTINTÄOPINNOT	8,0	
MUUT TUTKINTOON SIS. OPINNOT (sisältää 32 op matematiikan opintoja).	48,0	
TUTKINNON KOKONAISLAAJUUS	180,0	

Tutkinnon suorittanut on saanut suomenkielisen koulusivistyksen ja kirjoittanut tutkintoon sisältyvän kypsyysnäytteen suomen kielellä.

Tutkinnon suorittanut on osoittanut julkisyhteisöjen henkilöstöltä vaadittavasta kielitaidosta annetun lain (424/2003) 6 §:n 1 momentin mukaan kaksikielisessä viranomaisessa valtion henkilöstöltä vaadittavaa toisen kielen taitoa seuraavasti: ruotsin kielen *hyvä* suullinen taito ja *hyvä* kirjallinen taito.

Hän on lisäksi osoittanut yliopistojen tutkinnoista annetun asetuksen (794/2004) 6 §:n 2 momentin mukaisen vieraan kielen taidon englannin kielessä.

Joensuussa, helmikuun 15. päivänä 2013
Luonnontieteiden ja metsätieteiden
tiedekunnan puolesta

TIMO JÄÄSKELÄINEN, DEKAANI

KAISA LAITINEN, HALLINTOPÄÄLLIKKÖ

19.02.2013

Juha-Matti Aleksanteri Huusko
Ahovaarantie 372
88900 KUHMO

Syntymäaika	20.04.1987
Opiskelijanumero	175783
Kirjoilletulo	01.08.2007

OPINTO-OIKEUDET

Myöntäjä	Luonnontieteiden ja metsätieteiden tiedekunta
Organisaatio	Fysiikka ja matematiikka, Joensuu (J)
Voimassaolo	01.08.2007 - 15.02.2013
Opintojen aloitus	01.08.2007
Tutkintoasetus	Valtioneuvoston asetus yliopistojen tutkinnoista n:o 794/2004
Tavoitetutkinto	Luonnontieteiden kandidaatti
Pääaine	Matematiikka
Suuntautuminen	Aineenopettaja
Sivuaine	Fysiikka
	Opettajan pedagogiset opinnot
Tutkinnon suorituspäivä	15.02.2013

Suoritukset ajalta: 30.10.2007 - 15.02.2013

OPINNOT		OP	ARV	PVM	HYVÄKSYJÄ
345	Luonnontieteiden kandidaatti	180,00	HYV	15.02.2013	Luonnontieteiden ja metsätieteiden tiedekunta
2320530	AINEENOPETTAJAN PEDAGOGISET OPINNOT (25 op)	25,00 *	3/5	21.03.2012	Pertti Väisänen
2320101	Kasvatus ja sen tutkimus	5,00	3/5	21.03.2012	Pertti Väisänen
2320203	Pedagogisia näkökulmia tieto- ja viestintäteknologian opetuskäyttöön	3,00	HYV	05.01.2012	Jani Kontkanen
J312102	Opetuksen, oppimisen ja opettajuuden perusteet, yhteinen osa	2,00	5/5	18.10.2010	Lenni Haapasalo
J312103	Opetuksen, oppimisen ja opettajuuden perusteet, eriytyvä osa	3,00	HYV	19.10.2010	Lenni Haapasalo
J312225B	Orientoiva harjoittelu (peda hum,mat.luonn,teo)	3,00	HYV	30.09.2010	Seija Jeskanen
J313111A	Erilaisuuden kohtaaminen kasvatus- ja opetustyössä - yhteinen osa Luennot 2, kirja 2.	3,00	2/5	08.12.2010	Leena Holopainen
J313111B	Erilaisuuden kohtaaminen kasvatus- ja opetustyössä - eriytyvä osa	3,00	HYV	18.05.2010	Päivi-Katriina Juutilainen

19.02.2013

Juha-Matti Aleksanteri Huusko

Syntymäaika 20.04.1987
Opiskelijanumero 175783

OPINNOT		OP	ARV	PVM	HYVÄKSYJÄ
J312106A	Kasvatus ja kehitys elämänkulussa: luennot	2,00	4/5	11.05.2010	Marjatta Vanhalakka-Ruoho
J312106B	Kasvatus ja kehitys elämänkulussa: yksi teos	1,00	3/5	11.03.2011	Marjatta Vanhalakka-Ruoho
3010300	Kieli- ja viestintäopinnot	8,00 *	HYV	15.02.2013	Visa Latvala
J700235	Matematiikan viestintä	3,00	HYV	16.12.2009	Heli Silvennoinen
J701514a	Tieteellisen ruotsin kirjallinen taito matematiikan ja fysiikan opiskelijoille	2,00	4/5	12.03.2010	Elna Riikonen
J701514b	Tieteellisen ruotsin suullinen taito matematiikan ja fysiikan opiskelijoille	1,00	4/5	12.03.2010	Elna Riikonen
J701600	Johdatus akateemisiin opiskelutaitoihin (englanti)	1,00	HYV	23.02.2010	Meri Jäppinen
J701614	Akateemista englantia matematiikan ja fysiikan opiskelijoille	1,00	3/5	21.05.2010	Anna Krizsan
3010500	Muut tutkintoon sisältyvät opinnot sisältää 32 op Matematiikan opintoja.	48,00 *	HYV	08.03.2011	Visa Latvala
3311007	Fysiikan numeerisen laskennan alkeet	3,00	HYV	08.03.2011	Hannu Laamanen
3316321	Numeerinen analyysi	8,00	5/5	20.12.2010	Timo Erkama
J000012	Orientoituminen yliopisto-opiskeluun	2,00	HYV	30.10.2007	Visa Latvala
J180203a	Differntiaaliyhtälöt a	4,00	3/5	26.10.2009	Jukka Tuomela
J180203b	Differentiaaliyhtälöt b	4,00	4/5	10.12.2009	Jukka Tuomela
J180305	Johdatus topologiaan	4,00	5/5	11.03.2010	Jouni Rättyä
J180402	Sovellettu analyysi	8,00	5/5	28.04.2010	Timo Erkama
J180654	Dynaamiset systeemit	4,00	5/5	16.04.2010	Timo Erkama
J190107	Fysiikan matemaattiset menetelmät I	5,00	5/5	12.12.2007	Heikki Hyvärinen
J190121	Tähtitieteen perusteet	5,00	4/5	10.04.2008	Tommi Itkonen
J700165	Kandidaatin tutkinnon hops	1,00	HYV	07.04.2008	Visa Latvala
3314000	Fysiikan perusopinnot	25,00 *	5/5	11.05.2009	Pasi Vahimaa
J190101	Mekaniikka	7,00	5/5	07.12.2007	Arto Passoja
J190103	Fysiikan perustyöt	5,00	Hyv	11.05.2009	Arvo Vaittinen Hannu Laamanen
J190104	Elektroniikan perusteet	4,00	5/5	29.04.2008	Raimo Silvennoinen
J190106	Sähköopin perusteet	4,00	5/5	05.03.2008	Arto Passoja
J190204	Termofysiikka	5,00	4/5	25.11.2008	Pekka Hirvonen
3319130	Matematiikka (aineenopettaja, perus- ja aineopinnot)	74,00 *	5/5	21.11.2011	Risto Korhonen
3316492	Kandidaatintutkielma	10,00	5/5	21.11.2011	Jouni Rättyä
3316493	Kandidaatin tutkinnon kypsyysnäyte		HYV	17.11.2011	Jouni Rättyä

19.02.2013

Juha-Matti Aleksanteri Huusko

Syntymäaika 20.04.1987
Opiskelijanumero 175783

OPINNOT		OP	ARV	PVM	HYVÄKSYJÄ
J180111	Analyysi I	9,00	5/5	10.12.2007	Janne Heittokangas
J180112	Analyysi II	9,00	5/5	08.05.2008	Jaakko Hyvönen
J180113	Analyysi III	9,00	5/5	12.12.2008	Jaakko Hyvönen
J180202	Lineaarialgebra	9,00	5/5	11.05.2008	Martti Pesonen
J180205	Todennäköisyyslaskenta Ia	4,00	5/5	09.03.2009	Pekka Smolander
J180301	Algebra	8,00	5/5	08.12.2008	Heli Silvennoinen
J180404	Diskreetti matematiikka	8,00	5/5	19.12.2008	Martti Pesonen
J700431	Matematiikan johdantokurssi	8,00	5/5	14.12.2007	Martti Pesonen

Tutkintoon suoritetut opinnot 180,00

* Lasketaan yhteismäärään
** Hyväksiluettu

Allekirjoittaja

Anita Oinasmaa

Anita Oinasmaa
osastosihteeri

ITÄ-SUOMEN YLIOPISTO

Opintosuoritusten arvostelu

5/5 = erinomainen
4/5 = kiitettävä
3/5 = hyvä
2/5 = tyydyttävä
1/5 = välttävä
tai HYV = hyväksytty

Toisen kotimaisen kielen hyväksytty taito arvostellaan asteikolla tyydyttävä taito (T) tai hyvä taito (H). Toisen kotimaisen kielen numeerinen arvostelu sijoittuu asteikolla seuraavasti: 1-3 = tyydyttävä taito (T), 4-5 = hyvä taito (H).

Tutkielmien ja väitöskirjan arvostelu

L = laudatur
ECL = eximia cum laude approbatur
MCL = magna cum laude approbatur
CL = cum laude approbatur
NSA = non sine laude approbatur
LA = lubenter approbatur
A = approbatur
tai
khyv kiittäen hyväksytty
hyv hyväksytty
tai
K/E kiitettävä/erinomainen
H hyvä
T tyydyttävä
V välttävä

Opintojen mitoituksen peruste on opintopiste. Yhden lukuvuoden opintojen suorittamiseen keskimäärin vaadittava 1 600 tunnin työpanos vastaa 60 opintopistettä.

Perusopintojen laajuus on vähintään 25 opintopistettä. Aineopintojen laajuus on yhdessä perusopintojen kanssa vähintään 60 opintopistettä. Syventävien opintojen laajuus on vähintään 60 opintopistettä.

UNIVERSITY OF EASTERN FINLAND

TRANSCRIPT OF ACADEMIC RECORD

Completed Courses According to Target Degree

19.02.2013

Juha-Matti Aleksanteri Huusko
Ahovaarantie 372
88900 KUHMO

Date of birth	20.04.1987
Student number	175783
Registered	01.08.2007

STUDY RIGHTS

Admitted by	Faculty of Science and Forestry
Organisation	Physics and Mathematics, Joensuu (J)
Valid	01.08.2007 - 15.02.2013
Starting Date	01.08.2007
Decree	Government Decree on University Degrees 794/2004
Scope of Studies	Bachelor of Science
Major	Mathematics
Orientation	Subject Teacher
Minor	Physics
	Subject Teacher's Pedagogical Studies
Graduation Date	15.02.2013

Courses completed: 30.10.2007 - 15.02.2013

COURSES		CREDIT POINTS	GRADE	DATE	INSTRUCTOR
345	Bachelor of Science	180,00	Pass	15.02.2013	Faculty of Science and Forestry
2320530	TEACHER'S PEDAGOGIGAL STUDIES (25 op)	25,00 *	3/5	21.03.2012	Pertti Väisänen
2320101	Education and Educational Research	5,00	3/5	21.03.2012	Pertti Väisänen
2320203	Pedagogical Perspectives of Educational Use of ICTs	3,00	Pass	05.01.2012	Jani Kontkanen
J312102	Basic Skills in Teaching, Learning and Teacherhood	2,00	5/5	18.10.2010	Lenni Haapasalo
J312103	Basic Skills in Teaching, Learning and Teacherhood	3,00	Pass	19.10.2010	Lenni Haapasalo
J312225B	Orientation to Teaching Practice	3,00	Pass	30.09.2010	Seija Jeskanen
J313111A	Encountering Diversity of Students	3,00	2/5	08.12.2010	Leena Holopainen
J313111B	Encountering Diversity of Students	3,00	Pass	18.05.2010	Päivi-Katriina Juutilainen
J312106A	Education and Development During life Course	2,00	4/5	11.05.2010	Marjatta Vanhalakka-Ruoho
J312106B	Education and Development During life Course	1,00	3/5	11.03.2011	Marjatta Vanhalakka-Ruoho
3010300	Studies in language and communication	8,00 *	Pass	15.02.2013	Visa Latvala
J700235	Communications in Mathematics	3,00	Pass	16.12.2009	Heli Silvennoinen

Juha-Matti Aleksanteri Huusko

Date of birth 20.04.1987
Student number 175783

COURSES		CREDIT POINTS	GRADE	DATE	INSTRUCTOR
J701514a	Academic Written Skills in Swedish for Students of Mathematics and Physics	2,00	4/5	12.03.2010	Elna Riikonen
J701514b	Academic Oral Skills in Swedish for Students og Mathematics and Physics	1,00	4/5	12.03.2010	Elna Riikonen
J701600	Introduction to Academic Study Skills (English)	1,00	Pass	23.02.2010	Meri Jäppinen
J701614	Academic English for Students of Mathematics and Physics	1,00	3/5	21.05.2010	Anna Krizsan
3010500	Other studies included in degree includes 32 ECTS credits studies of Matematics.	48,00 *	Pass	08.03.2011	Visa Latvala
3311007	Basics of Numerical Analysis in Physics	3,00	Pass	08.03.2011	Hannu Laamanen
3316321	Numerical Analysis	8,00	5/5	20.12.2010	Timo Erkama
J000012	Orientation in Academic Studies	2,00	Pass	30.10.2007	Visa Latvala
J180203a	Differential Equations a	4,00	3/5	26.10.2009	Jukka Tuomela
J180203b	Differential Equations b	4,00	4/5	10.12.2009	Jukka Tuomela
J180305	Elementary Topology	4,00	5/5	11.03.2010	Jouni Rättyä
J180402	Applied Analysis	8,00	5/5	28.04.2010	Timo Erkama
J180654	Dynamical Systems	4,00	5/5	16.04.2010	Timo Erkama
J190107	Basic mathematical methods in physics	5,00	5/5	12.12.2007	Heikki Hyvärinen
J190121	Basic astoronomy	5,00	4/5	10.04.2008	Tommi Itkonen
J700165	Study Planning	1,00	Pass	07.04.2008	Visa Latvala
3314000	Basic studies in Physics	25,00 *	5/5	11.05.2009	Pasi Vahimaa
J190101	Basic Physics	7,00	5/5	07.12.2007	Arto Passoja
J190103	Basic Laboratory Practice	5,00	Pass	11.05.2009	Arvo Vaittinen Hannu Laamanen
J190104	Basic Electronics	4,00	5/5	29.04.2008	Raimo Silvennoinen
J190106	Basic electricity	4,00	5/5	05.03.2008	Arto Passoja
J190204	Thermodynamics	5,00	4/5	25.11.2008	Pekka Hirvonen
3319130	Mathematics (Subject Teacher, Basic and Intermediate Studies)	74,00 *	5/5	21.11.2011	Risto Korhonen
3316492	Bachelor's Thesis	10,00	5/5	21.11.2011	Jouni Rättyä
3316493	Bachelor's Maturity Test		Pass	17.11.2011	Jouni Rättyä
J180111	Analysis I	9,00	5/5	10.12.2007	Janne Heittokangas
J180112	Analysis II	9,00	5/5	08.05.2008	Jaakko Hyvönen
J180113	Analysis III	9,00	5/5	12.12.2008	Jaakko Hyvönen
J180202	Linear Algebra	9,00	5/5	11.05.2008	Martti Pesonen
J180205	Probability Theory Ia	4,00	5/5	09.03.2009	Pekka Smolander
J180301	Algebra	8,00	5/5	08.12.2008	Heli Silvennoinen
J180404	Discrete Mathematics	8,00	5/5	19.12.2008	Martti Pesonen
J700431	Introduction to Mathematics	8,00	5/5	14.12.2007	Martti Pesonen

Completed Courses According to Target Degree

19.02.2013

Juha-Matti Aleksanteri Huusko

Date of birth 20.04.1987
Student number 175783

COURSES	CREDIT POINTS	GRADE	DATE	INSTRUCTOR
Studies included in the degree	180,00			

* Counted in the studies included in the degree
** Completed at another institution

Signature of the Registrar

Anita Oinasmaa

Anita Oinasmaa
Administrative Officer

UNIVERSITY OF EASTERN FINLAND

Explanation of Transcript Grading Systems:

5/5 Excellent
4/5 Very good
3/5 Good
2/5 Satisfactory
1/5 Sufficient
Pass Course completed successfully

Approved courses in the Second Domestic Language (Swedish or Finnish) are graded with the scale satisfactory (T) - good (H). The numerical grading scale of the Second Domestic Language is the following: 1-3 = satisfactory (T), 4-5 = good (H).

Grading of thesis and dissertation:

L laudatur
ECL eximia cum laude approbatur
MCL magna cum laude approbatur
CL cum laude approbatur
NSA non sine laude approbatur
LA lubenter approbatur
A approbatur
or
AppD Approved with Distinction
App Approved
or
K/E Excellent
H Good
T Satisfactory
V Sufficient

The measure for the extent of studies shall be a credit point. The average input of 1600 working hours needed for studies of one academic year shall correspond to 60 credits.

The combined extent of basic and intermediate studies shall be a minimum of 60 credits.

UNIVERSITY OF
EASTERN FINLAND

DIPLOMA SUPPLEMENT

This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of this 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 of any value-judgements, equivalence statements or suggestions about recognition. Information should be provided in all eight sections. Where information is not provided, a reason should be given.

1 INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 Family name(s):	Huusko
1.2 Given name(s):	Juha-Matti Aleksanteri
1.3 Date of birth (day/month/year):	20.04.1987
1.4 Student identification number or code:	175783

2 INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Name of qualification and title conferred (in original language):	(Bachelor of Science)
2.2 Main field(s) of study for the qualification:	Mathematics
2.3 Name (in original language) and status of awarding institution:	Itä-Suomen yliopisto / Luonnontieteiden ja metsätieteiden tiedekunta (University of Eastern Finland / Faculty of Science and Forestry), state recognised university, Decree on Higher Education Degree Structure 464/1998. The quality assurance system of the university has passed the audit conducted by the Finnish Higher Education Evaluation Council. The auditing certificate is valid for six years (until 24.3.2017).
2.4 Name and status of institution (if different from 2.3) administering studies:	Not applicable
2.5 Language(s) of instruction/examination:	Finnish

3 INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Level of qualification:	First-cycle university degree. See 8.
3.2 Official length of programme:	The degree consists of at least 180 credits, 3 years of full-time study. Finnish credits are fully compatible with the ECTS.
3.3 Access requirement(s):	The Finnish Matriculation Examination gives general eligibility for higher education. General eligibility is also given by Finnish upper secondary vocational qualifications. These qualifications require at least 12 years of schooling. Equivalent foreign qualifications also give general eligibility for higher education. There is numerus clausus, i.e. restricted entry, to all fields of study. See 8.

DIPLOMA SUPPLEMENT

4 INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:

Full-time

4.2 Programme requirements:

The bachelor's degree consists of major studies or studies in corresponding multidisciplinary entities in basic and intermediade level, minor studies, language and communication studies as well as other academic studies. At the end of the studies the student composes a bachelor's thesis.

The aim of the degree is to provide a student with knowledge of the fundamentals of the major or the corresponding multidisciplinary entity and the major subject, knowledge and skills needed for scientific thinking and the use of scientific methods as well as adequate languge and communication skills.

Major studies or studies in corresponding multidisciplinary entity include foundations of theoretical and methodological studies in a major subject. Minor studies may be compulsory or may be chosen freely. With optional minor studies a student may steer the degree to his/her professional aims. Professionally oriented studies in languages and communication include courses in written and speech communication in Finnish and Swedish (the official languages in Finland) and at least one foreign language, usually English.

The studies towards the degree provide the student with facilities for administrative and planning posts.

Studies leading to a lower university degree shall provide the student with:

(1) knowledge of the fundamentals of the major and minor subjects or corresponding study entities or studies included in the degree programme and the prerequisites for following developments in the field;

(2) knowledge and skills needed for scientific thinking and the use of scientific methods or knowledge and skills needed for artistic work;

(3) knowledge and skills needed for studies leading to a higher university degree and for continuous learning;

(4) a capacity for applying the acquired knowledge and skills to work; and

(5) adequate language and communication skills.

The education shall be based on research or artistic activity and professional practices.

DIPLOMA SUPPLEMENT

4.3 Programme details:

See transcript of records.

4.4 Grading scheme and, if available, grade distribution guidance:

Explanation of Transcript Grading Systems:
5/5 Excellent
4/5 Very good
3/5 Good
2/5 Satisfactory
1/5 Sufficient
Pass Course completed successfully

Approved courses in the Second Domestic Language (Swedish or Finnish) are graded with the scale satisfactory (T) - good (H). The numerical grading scale of the Second Domestic Language is the following: 1-3 = satisfactory (T), 4-5 = good (H).

Grading of thesis and dissertation:
L laudatur
ECL eximia cum laude approbatur
MCL magna cum laude approbatur
CL cum laude approbatur
NSA non sine laude approbatur
LA lubenter approbatur
A approbatur
or
AppD Approved with Distinction
App Approved
or
K/E Excellent
H Good
T Satisfactory
V Sufficient

4.5 Overall classification of the qualification:

Not applicable

5 INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1 Access to further study:

Eligible for second cycle higher education studies. The admissions decisions are made in the receiving higher education institution.

DIPLOMA SUPPLEMENT

5.2 Professional status:

Under the Finnish legislation, a person who has taken the degree of Bachelor of Science is qualified for posts or positions in the public sector for which the qualification requirement is a first cycle higher education degree. In some cases, the qualification requirement also includes the completion of minor or major studies in certain specified fields of study. The degree falls under the Article 11 of the Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications, level d.

6 ADDITIONAL INFORMATION

6.1 Additional information:

Joensuun yliopisto (University of Joensuu) and Kuopion yliopisto (University of Kuopio) have merged into Itä-Suomen yliopisto (University of Eastern Finland), as of 1.1.2010. Both Joensuun yliopisto and Kuopion yliopisto were state recognised universitites.

6.2 Further information sources:

www.uef.fi (University of Eastern Finland)
www.minedu.fi (Ministry of Education and Culture)
www.oph.fi (Finnish National Board of Education)

7 CERTIFICATION OF THE SUPPLEMENT

7.1 Date:

15.02.2013

7.2 Signature:

Anita Oinasmaa

7.3 Capacity:

Anita Oinasmaa
Administrative Officer

7.4 Official stamp or seal:

UNIVERSITY OF EASTERN FINLAND

8 INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

See next page.

UNIVERSITY OF
EASTERN FINLAND

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

The Finnish education system consists of basic education, general and vocational upper secondary education, higher education and adult education. The basic education consists of a 9-year compulsory school for all children from 7 to 16 years of age.

Post-compulsory education is given by general upper secondary schools and vocational institutions. The general upper secondary school provides a 3-year general education curriculum, at the end of which the pupil takes the national Matriculation examination (ylioppilastutkinto / studentexamen). Vocational institutions provide 3-year programmes, which lead to upper secondary vocational qualifications (ammatillinen perustutkinto / yrkesinriktad grundexamen).

General eligibility for higher education is given by the Matriculation examination and the upper secondary vocational qualification. These qualifications require at least 12 years of schooling. Equivalent foreign qualifications also give general eligibility for higher education.

The Finnish higher education system comprises of universities (yliopisto / universitet) and polytechnics (ammattikorkeakoulu, AMK / yrkeshögskola, YH). All universities engage in both education and research and have the right to award doctorates. The polytechnics are multi-field institutions of professional higher education. Polytechnics engage in applied research and development. The polytechnics use the terms polytechnic or university of applied sciences when referring to themselves. This higher education system description uses the term polytechnic.

Higher education studies are measured in credits (opintopiste / studiepoäng). Study courses are quantified according to the work load required. One year of studies is equivalent to 1600 hours of student work on the average and is defined as 60 credits. The credit system complies with the European Credit Transfer and Accumulation System (ECTS).

8.1. University degrees

The Government Decree on University Degrees (794/2004) defines the objectives, extent and overall structure of degrees. The universities decide on the detailed contents and structure of the degrees they award. They also decide on their curricula and forms of instruction.

8.1.1. First-cycle university degree

The first-cycle university degree consists of at least 180 credits (3 years of full-time study). The degree is called kandidaatti / kandidat in all fields of study except Law (oikeusnotaari / rättsnotarie) and Pharmacy (farmaseutti / farmaceut). The determined English translation for all these degrees is Bachelor's degree, the most common degrees being the Bachelor of Arts or Bachelor of Science.

Studies leading to the degree provide the student with: (1) knowledge of the fundamentals of the major and minor subjects or corresponding study entities or studies included in the degree programme and the prerequisites for following developments in the field; (2) knowledge and skills needed for scientific thinking and the use of scientific methods or knowledge and skills needed for artistic work; (3) knowledge and skills needed for studies leading to a higher university degree and for continuous learning; (4) a capacity for applying the acquired knowledge and skills to work; and (5) adequate language and communication skills.

Studies leading to the degree may include: basic and intermediate studies; language and communication studies; interdisciplinary programmes; other studies and work practice for professional development. The degree includes a Bachelor's thesis (6 - 10 credits).

8.1.2. The second-cycle university degree

The second-cycle university degree consists of at least 120 credits (2 years of full-time study). The extent of studies required for a programme leading to the second cycle university degree which is geared towards foreign students is a minimum of 90 credits. The degree is usually called maisteri / magister. Other second-cycle degree titles are diplomi-insinööri / diplomingenjör (Technology), proviisori / provisor (Pharmacy) and arkkitehti / arkitekt (Architecture). The determined English translation for all these degrees is Master's degree, the most common degrees being the Master of Arts or Master of Science. The second-cycle university degree title in the fields of Medicine, Veterinary Medicine and Dentistry is lisensiaatti / licentiat, the English title being Licentiate. The admission requirement for the second-cycle university degree is a first-cycle degree.

In the fields of Medicine and Dentistry the university may arrange the education leading to the second-cycle university degree without including a first-cycle university degree in the education. In Medicine the degree consists of 360 credits (6 years of full-time study) and in Dentistry the degree consists of 300 credits (5 years of full-time study).

Studies leading to the second-cycle university degree provide the student with: (1) good overall knowledge of the major subject or a corresponding entity and conversance with the fundamentals of the minor subject or good knowledge of the advanced studies included in the degree programme; (2) knowledge and skills needed to apply scientific knowledge and scientific methods or knowledge and skills needed for independent and demanding artistic work; (3) knowledge and skills needed for independently operating as an expert and developer of the field; (4) knowledge and skills needed for scientific or artistic postgraduate education; and (5) good language and communication skills.

The studies leading to the second-cycle university degree may include: basic and intermediate studies and advanced studies; language and communication studies; interdisciplinary study programmes; other studies; and internship improving expertise. The degree includes a Master's thesis (20 - 40 credits).

8.2. Doctoral degrees

Students can apply for doctoral studies after the completion of a relevant second-cycle degree. The aim of doctoral studies is to provide student with an in-depth knowledge of their field of research and capabilities to produce novel scientific knowledge independently.

A pre-doctoral degree of lisensiaatti / licentiat (Licentiate) may be taken before the Doctor's degree and in general it takes 2 years of full-time study to complete.

The Doctor's degree takes approximately 4 years to complete after the second-cycle degree or 2 further years following the pre-doctoral degree. A student who has been admitted to complete the Doctor's degree must complete a given amount of studies, show independent and critical thinking in the field of research and write a Doctor's dissertation and defend it in public.

8.3. Polytechnic degrees

The government decree on polytechnics (352/2003 including amendments) defines the objectives, extent and overall structure of polytechnic degrees. The Ministry of Education and Culture confirms the degree programmes of polytechnics, and within the framework of these regulations, the polytechnics decide on the content and structure of their degrees in more detail. The polytechnics also decide on their annual curricula and forms of instruction.

8.3.1. First-cycle polytechnic degrees

The first-cycle polytechnic degree consists of 180, 210 or 240 credits (3 to 4 years of full-time study) depending on the study field. For specific reasons, the Ministry of Education and Culture may confirm the scope of the degree to exceed 240 credits. The first-cycle polytechnic degree is called ammattikorkeakoulututkinto / yrkeshögskoleexamen. The determined English translation for the degree is Bachelor's degree. The degree titles indicate the field of study, e.g. Bachelor of Engineering or Bachelor of Health Care.

Studies leading to the degree provide the student with (1) broad overall knowledge and skills with relevant theoretical background for working as expert of the field; (2) knowledge and skills needed for following and advancing developments in the field; (3) knowledge and skills needed for continuous learning; (4) adequate language and communication skills; and (5) knowledge and skills required in the field internationally.

The first-cycle polytechnic degree comprises basic and professional studies, elective studies, a practical training period and a Bachelor's thesis or a final project.

8.3.2. The second-cycle polytechnic degrees

The second-cycle polytechnic degree consists of 60 or 90 credits (1 or 1.5 years of full-time study). The degree is called ylempi ammattikorkeakoulututkinto / högre yrkeshögskoleexamen. The determined English translation for the second-cycle polytechnic degree is Master's degree. The degree titles indicate the field of study, e.g. Master of Culture and Art or Master of Business Administration. Eligibility for second-cycle polytechnic degrees is given by a relevant first-cycle degree with at least 3 years of relevant work or artistic experience.

Studies leading to the degree provide the student with (1) broad and advanced knowledge and skills for developing the professional field as well as the theoretical skills for working in demanding expert and leadership positions in the field; (2) profound understanding of the field, its relation to work life and society at large as well as the knowledge and skills needed for following and analysing both theoretical and professional developments in the field; (3) capacity for life-long learning and continuous development of one's own expertise (4) good language and communication skills required in work life; and (5) knowledge and skills needed to function and communicate in the field internationally.

The second-cycle polytechnic degree comprises advanced professional studies, elective studies and a final thesis or a final project.