NTNU

Diploma Supplement

Norwegian University of Science and Technology

This Diploma Supplement model was 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 qualification (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):	Arboleda Correa
1.2	Given name(s):	Yerson
1.3	Date of birth *(day/month/year)*:	24-08-1989
1.4	Student identification number or code:	473408

2 INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Name of qualification and (if applicable) title conferred (in original language):
Master of Science in Engineering
The title master is protected by law in Norway.

2.2 Main field(s) of study for the qualification:
Civil Engineering
Technological subjects

2.3 Name and status of awarding institution (in original language):
Norges teknisk-naturvitenskapelige universitet, a public university. The quality assurance system was evaluated and approved by the Norwegian Agency for Quality Assurance in Education in 2014.

2.4 Name and status of institution administering studies:
See section 2.3

2.5 Language(s) of instruction/examination:
English

3 INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Level of qualification:
Second Cycle/Level 7, Norwegian Qualifications Framework for Lifelong Learning

3.2 Official length of the programme:
2 years (120 ECTS credits) for a Master's with a Bachelor's degree.
Each year has 40 weeks of study including examinations.

3.3 Access requirements:
For the 2 year programmes the access requirement is a Bachelor's degree in Engineering with the requirements of the highest level in Mathematics and an average grade of C or better.

4 INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study:
Full-time

4.2 Programme requirements:
The two-year Master's programme comprises a minimum of 120 ECTS credits, at least 60 of which must have been taken at this institution.

The master's programme Project Management provides the candidate with a technological background and a comprehensive understanding of the economic, managerial and environmental challenges linked to managing technology-oriented projects, in order to make him or her capable of analyzing, improving and implementing changes in their own organizations.

Project Management has three main components
- compulsory and elective courses within the project management field. In addition to these, the student must select 15 credits relevant for their technological specialization.
- the interdisciplinary project Experts in Teamwork (7.5 credits)
- the master's thesis, which is a written report of a piece of independent scholarly work. This component provides a total of 60 credits. Thesis work takes place under the guidance of an academic supervisor.

The teaching methods and activities of the programme include lectures, seminars and written assignments.

The candidate's learning outcomes
A candidate who has completed his or her qualification should have the following learning outcomes defined in terms of knowledge, skills and general competence:

Knowledge
- have broad mathematical-scientific, technological and computer-technical basis knowledge, which serves as a foundation for the comprehension of method, application, academic innovation and readjustment
- have broad scientific and research-based knowledge relating to engineering within one's elected field of technology, along with in-depth knowledge regarding a delimited field connected to current ongoing research. This entails having sufficient academic insight allowing for the employment of new research findings

Skills
- be able to define, shape and analyze complex engineering problems, which includes electing relevant models and methods, and carrying out calculations and solutions in an independent and critical manner
- be able to develop overall solutions pertaining to engineering problems, which includes developing solutions in an interdisciplinary context, and carrying out an independent, delimited engineering research or development work under academic supervision
- have sufficiently broad expertise within both technology and economic-administrative subjects, in order to be a bridge builder between the two fields at his or her workplace
- be able to academically innovate and readjust, which includes developing his or her academic competence on one's own initiative

General competence
- be able to understand the role of engineering in a comprehensive societal perspective, have insight in ethical requirements and consideration of sustainable development, and be able to analyse ethical problems connected to engineering work, and contribute to innovation and entrepreneurship
- have the ability to disseminate, communicate and cooperate interdisciplinary on engineering problems and solutions, to both specialists and the general public
- be able to understand possibilities and limitations when using information and communication technology, including juridical and societal aspects
- have the ability to lead and motivate co-workers, which includes having an international perspective on his or her profession, and developing the skills for international orientation and collaboration

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4.3 Programme details:

Name: Yerson Arboleda Correa

Course		Semester	Credits	Grade	Grade distribution A B C D E
1 Year					
TBA4315	Economics of Transport Infrastructure	2016 autumn	7.5	B	
TBA5200	Project Planning and Analysis	2016 autumn	7.5	C	
TIØ5200	Project Organizations	2016 autumn	7.5	C	
PSY3809	Experts in Teamwork - Creative Means of Environmental Communication	2017 spring	7.5	E	
TIØ5210	Programme and Portfolio Management	2017 spring	7.5	C	
TIØ5215	Global Governance of Sustainable Supply Chains	2017 spring	7.5	C	
TBA4320	Traffic Safety and Risk Evaluation	2017 autumn	7.5	C	
TPK5100	Project Planning and Control	2017 autumn	7.5	C	
2 Year					
TBA4128	Project Management, Advanced Course	2017 autumn	7.5	B	
TBA4176	Real Estate and Property Management, Advanced Course	2017 autumn	7.5	C	
TBA4530	Project Management and Construction Engineering, Specialization Project	2017 autumn	15	C	
TBA4910	Project Management, Master's Thesis *A comparison of cost and time overrun causes in different road size projects*	2018 spring	30	B	

Total: 120.0

Credit system and grading

The academic year normally runs from mid-August to mid-June and lasts for 10 months. Courses are measured in "studiepoeng", considered equivalent to the European Credit Transfer System standard (ECTS credits). The full-time workload for one academic year is 1500 - 1800 hours of study / 60 "studiepoeng".

The Norwegian grading system consists of two grading scales: one scale with the grades pass or fail and one graded scale from A to E for pass and F for fail. The graded scale has the following qualitative descriptions:

A	Excellent	An excellent performance, clearly outstanding. The candidate demonstrates excellent judgement and a very high degree of independent thinking.
B	Very good	A very good performance. The candidate demonstrates sound judgement and a high degree of independent thinking.
C	Good	A good performance in most areas. The candidate demonstrates a reasonable degree of judgement and independent thinking in the most important areas.
D	Satisfactory	A satisfactory performance, but with significant shortcomings. The candidate demonstrates a limited degree of judgement and independent thinking.
E	Sufficient	A performance that meets the minimum criteria, but no more. The candidate demonstrates a very limited degree of judgement and independent thinking.
F	Fail	A performance that does not meet the minimum academic criteria. The candidate demonstrates an absence of both judgement and independent thinking.

The assessment is criterion referenced.

Grade distribution

The distribution of grades is shown by the percentage for courses using the graded scale A – F. Fail (F) is not included in the distribution. All results from the last five years are included in the calculation. The distribution is also shown for courses that have been active for less than five years. There has to be at least 10 approved results during the period.

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4.4 Grading scheme and, if available, grade distribution guidance:
See section 4.3
The Norwegian scale of grades is based on the European ECTS grading scale, with letters from A to F or Passed/Failed. There is only one grade for failed, F. This is different from the ECTS grading scale that has two grades for failed. Some assignments, field work or similar work may be graded Completed/Not completed. The percentages are only used for conversion to letter-based grades in single courses.

Norwegian grades - Equivalent percentages:
A: Excellent. An impressive and truly distinguished achivement - 89-100 %
B: Very good. An achievement definitely above average - 77-88 %
C: Good. An average achievement without essential discrepancies - 65-76 %
D: Satisfactory. An acceptable achievement but with some discrepancies - 53-64 %
E: Sufficient. A just acceptable achievement with major discrepancies - 41-52 %
F: Failed. A non-acceptable achievement - 0-40 %

In Norway, A should be the grade for an excellent performance, and C should be the average grade over any large population and a long period of time. There is no demand for a statistical distribution of grades in a specified population or class. All grades are to be used equally at all levels of the education, which means that C should be the average grade both at bachelor's and master's levels.
MSc theses handed in for evaluation no later than 31st of March 2014 have been and will still be evaluated according to a grading practice within which mainly the upper part of the grading scale is used. Theses handed in for evaluation after 31st of March 2014 will now be evaluated according to a new practice where the whole grading scale, A - F, is used.

4.5 Overall classification of the qualification (in original language):
Average Degree Grade: C

5 INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1 Access to further study:
Candidates who have completed the Master of Science degree are qualified to apply for PhD programmes, in accordance with admission regulations at the institution(s) being applied to. In order to qualify for admission to PhD programmes at NTNU, applicants must have an average grade of A or B from the final 120 ECTS credits in their Master of Science programme.

5.2 Professional status:
The Master of Science in Engineering degree is a final degree, and will in many countries entitle its holder to exercise professional work in his/her field of study.

6 ADDITIONAL INFORMATION

6.1 Additional information:
Not applicable.

6.2 Further information sources:
Norwegian University of Science and Technology: http://www.ntnu.edu/
NOKUT - Norwegian Agency for Quality Assurance in Education: http://www.nokut.no/en/

7 CERTIFICATION OF THE SUPPLEMENT

7.1 Date: 1 November 2018
Date of original qualification: 9 October 2018

7.2 Signature: H. S. Gjelsvik

Hege S. Gjelsvik

7.3 Capacity: Higher Executive officer

7.4 Official stamp

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NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY
Student and Academic Division

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

Higher education in Norway: Legislature

The Ministry of Education and Research has the overall responsibility for higher education in Norway. Higher education is offered by four types of higher education institutions: university *(universitet)*, specialized university institution *(vitenskapelig høyskole)*, accredited university college *(akkreditert høyskole)*, and university college with accredited study programmes *(høyskole med akkrediterte studier)*. The differences between the types of higher education institutions are related to their self-accrediting authority.

All public and private higher education in Norway is subject to the Act Relating to Universities and University Colleges (Lov 2005-04-01 nr 15). An institution's right to award specific degrees and the prescribed lengths of study are codified in Regulation concerning degrees and titles (FOR 2005-12-16 nr 1574). The awarding of master's degrees is regulated by the Regulations on requirements for awarding a master's degree (FOR 2005-12-01 nr 1392).

Since 2002 Norway has adhered to the objectives of the Bologna Process in the European Higher Education Area. Most of the elements have been implemented through the reform of the Norwegian higher education system carried out in 2003. Central to the reform has been a transition from the former degree system to the bachelor's, master's and doctoral degree structure, with a few exceptions.

Norwegian higher education qualifications make up the levels from 6 to 8 of the Norwegian Qualifications Framework for Lifelong Learning (NQF) from 2011, which is the national overarching qualifications framework[1]. It describes the levels of qualifications as defined by the total learning outcomes in terms of the knowledge, skills and general competence that graduates at various levels should have achieved[2].

NQF was referenced to the European Qualifications Framework (EQF) in 2014.

Quality assurance and accreditation of institutions and programmes

The Norwegian Agency for Quality Assurance in Education (NOKUT) is an autonomous governmental agency which provides external supervision and control of the quality of Norwegian higher education, as well as of all tertiary vocational education[3]. NOKUT accredits new study programmes, controls the existing ones, and provides a cyclic evaluation of the institutions' quality assurance systems for educational provision.

An accredited higher education institution is granted the right to offer educational provision, without having to apply to NOKUT for specific programme accreditation, in accordance with the authority that its institutional category implies:
a) Universities may without external accreditation establish study programmes at all levels.
b) Accredited university colleges have to apply for the accreditation of programmes at master and doctoral levels.
c) In those fields where specialized university institutions and accredited university colleges have the right to award doctorates or corresponding degrees, they may themselves decide which study programmes and disciplines the institution shall provide.

University colleges without institutional accreditation must apply to NOKUT for accreditation of study programmes at all levels.

Lists of all accredited institutions, as well as of all accredited study programmes at the university colleges without institutional accreditation are available on www.nokut.no

Admission requirements

The Higher Education Entrance Qualification is the successful completion of Norwegian upper secondary education with some specified courses. The Certificate of Upper Secondary Education and Training *(Vitnemål for videregående opplæring)* is based on 13 years of schooling.

Admission may also be gained by means of other qualifications recognized as being on a par with the Higher Education Entrance Qualification, such as recognition of prior learning and work experience.

Some fields of study have additional entrance requirements.

Academic credit system

All Norwegian higher education institutions use a system of credits *(studiepoeng)* for measuring study activities considered equivalent to the European Credit Transfer and Accumulation System (ECTS). 60 ECTS credits *(studiepoeng)* are allocated to the workload of a full year of academic study, equivalent to 1500-1800 hours of study. 30 ECTS credits are normally allocated to one semester's full-time study. The academic year normally lasts for 10 months and runs from August to June.

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[1] National generic learning outcomes descriptions' levels for the bachelor's, master's and doctoral degrees were defined by the Instructions on the Norwegian Qualifications Framework for Higher Education in 2009.

[2] Learning outcomes for a specific NQF level show the minimum of what each learner should know, understand and be able to do after completing a learning process.

[3] Tertiary vocational education (TVE), level 5 in the NQF (EQF), is provided by *fagskoler*, which are considered as tertiary vocational education institutions. TVE is based on upper secondary education and training or equivalent competence. Courses have duration of from six months to two years. All provisions must be accredited by NOKUT.

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Degrees and qualifications

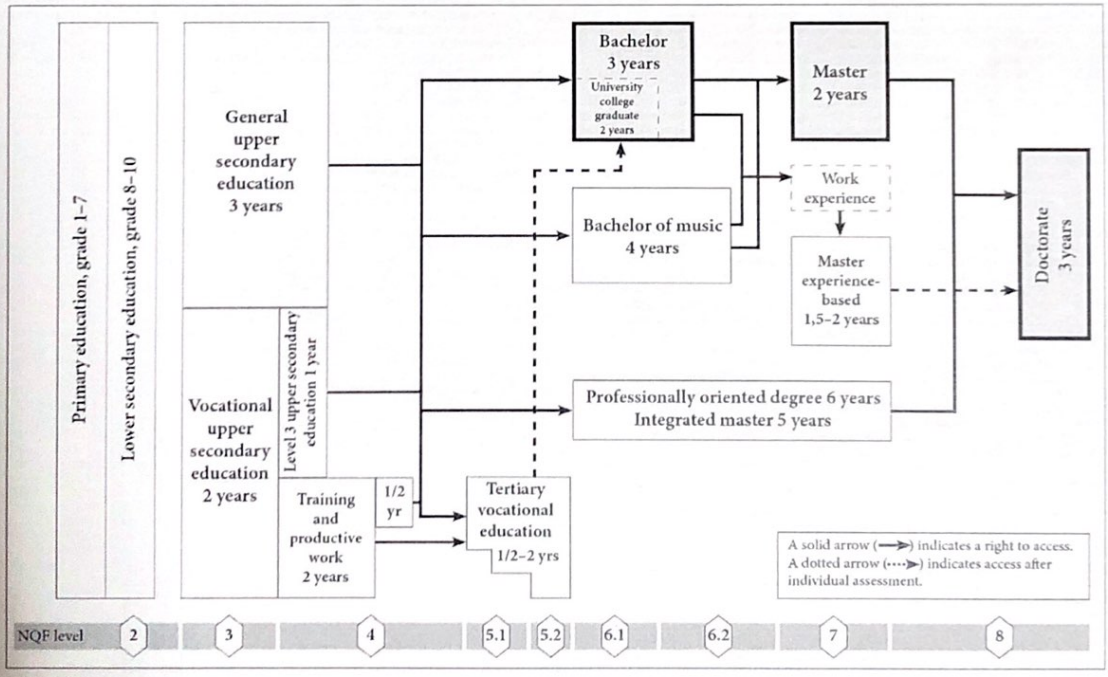
NQF (EQF) Level 6: Bachelor (1st cycle)
Bachelor's degree is awarded after three years of full-time study (180 ECTS). Some bachelor's degrees, in the field of music and performing arts, consist of four-year bachelor's programmes (240 ECTS).
Teacher education for primary and lower secondary school, years 1-7 and years 5-10 has been a four-year professional programme (240 ECTS) prior to its reform on 1 January 2017, when it became a five-year integrated master's degree.
University college graduate *(høyskolekandidat)* is a two-year degree (120 ECTS), a short cycle degree within the first cycle. Holders of this degree may in some cases continue their studies in a bachelor programme and thus obtain a bachelor's degree.

NQF (EQF) Level 7: Master (2nd cycle)
Master's degree is normally obtained after two years of study (120 ECTS), following the completion of a bachelor's degree. A master's degree programme includes independent work (normally a thesis) of between 30 and 60 ECTS.
Experience-based master's degree has a scope of 90 or 120 ECTS (including independent work of at least 20 ECTS).
Integrated master's degree is a five-year study programme (300 ECTS) which results in a master's degree, with no intermediate bachelor's degree. An exception is the Master of Architecture programme at the Oslo School of Architecture and Design, which has a scope of 330 ECTS.
In the fields of medicine, psychology and theology, ***professionally oriented degrees/qualifications*** of six years' duration (360 ECTS) are awarded; in the field of veterinary science - after 5 ½-6 years. They have retained the title/degree *candidata/candidatus* from the former degree system.

NQF (EQF) Level 8: Doctoral degree (3rd cycle)
Philosophiae doctor *(ph.d.)*, is awarded after three years of study, following the completion of a master's degree or a five to six-year professionally oriented degree/qualification.
Doctor philosophiae *(dr. philos.)* is conferred on graduates who have qualified for a doctoral degree on their own, without formal research training.
Diploma, artistic development programme *(kunstnerisk utviklingsprogram)* is a three-year programme in the field of creative and performing arts. Replaced on 1 February 2018 by the new doctoral degree *ph.d. i kunstnerisk utviklingsarbeid.*

Descriptions of the educational qualifications are given in the Norwegian Qualifications Framework for Lifelong Learning at www.nokut.no/nkr

The Norwegian Education System



NOKUT, April 2018