centria
ammattikorkeakoulu
University of Applied Sciences

CENTRIA UNIVERSITY OF APPLIED SCIENCES

DEGREE CERTIFICATE

no. 2106850

Wanjia Liang

080694-376C

has completed the Bachelor's Degree in accordance with the Universities of Applied Sciences Act (932/2014) and Government Decree on Polytechnics (1129/2014) and is awarded the degree of

Bachelor of Engineering

The degree has been completed in the degree programme in Bachelor of Engineering, Business Intelligence Technologies.

The degree consists of 240 credits,

The transcript of records including the completed studies and grades is enclosed.

Kokkola 31.12.2025

Tapio Huttula
president

ammattikorkeakoulu centria University of Applied Sciences

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University of Applied Sciences

CENTRIA-AMMATTIKORKEAKOULU

TUTKINTOTODISTUS

nro 2106850

Wanjia Liang

080694-376C

on suorittanut ammattikorkeakoululain (932/2014) ja ammattikorkeakouluasetuksen (1129/2014) mukaisen tekniikan ammattikorkeakoulututkinnon Bachelor of Engineering, Business Intelligence Technologies -koulutuksessa.

Tutkinnon laajuus on 240 opintopistettä,
ja tutkinnon suorittanut on oikeutettu käyttämään tutkintonimikettä

Insinööri (AMK)

Suoritetut opinnot arvosanoineen ilmenevät tämän todistuksen liitteestä.

Kokkola 31.12.2025

Tapio Huttula
rehtori

ammattikorkeakoulu centria University of Applied Sciences

Student	Wanjia Liang	01.08.2021–31.12.2025	
Personal identity code	080694-376C	Graduated	
Student number	2106850	Credits	**240 cr**
Programme	Bachelor of Engineering, Business Intelligence Technologies	Completed	**251 cr**

Studies	Credits	Assessment	Date
BASIC STUDIES	**78 cr**		
Orientation to studies	**6 cr**		
Conducting research and reporting	3 cr	3	22.05.2024
Orientation to Studies	3 cr	S	11.05.2022
Mathematics	**18 cr**		
Algebra	3 cr	5	12.11.2022
Geometry	3 cr	4	20.12.2022
Functions	3 cr	5	24.03.2022
Differential Calculus	3 cr	5	04.11.2022
Integral Calculus	3 cr	5	04.05.2022
Statistics	3 cr	5	13.12.2022
Sciences	**18 cr**		
Chemistry	3 cr	5	26.04.2022
Mechanics	4 cr	2	11.04.2023
Thermophysics	2 cr	4	09.06.2022
Electromagnetism	3 cr	4	05.02.2025
Laboratory Practices in Physics	3 cr	3	13.12.2022
Fundamentals of electronics	3 cr	5	28.12.2023
Language skills	**15 cr**		
Communication Skills (English Course)	3 cr	5	23.05.2022
English for Working Life	3 cr	4	09.12.2022
Professionally Speaking	3 cr	5	12.05.2022
International students	**6 cr**		
Basics of Finnish 1	3 cr	5	04.05.2022
Basics of Finnish 2	3 cr	4	14.11.2025
Other basic studies	**21 cr**		
Leadership and Organizational Development	4 cr	3	14.11.2022
ICT Entrepreneurship	3 cr	5	20.11.2025
Digital and Technological Skills	2 cr	*s1* S	16.02.2022
ICT project management	3 cr	2	09.05.2025
Programming	6 cr	5	16.05.2023
Information Systems	3 cr	4	24.06.2022
PROFESSIONAL STUDIES	**111 cr**		
Basic business studies	**26 cr**		
Management and Digital Marketing	3 cr	4	13.12.2025
Intercultural Competence	3 cr	4	15.05.2023
Global Business Competences	5 cr	*s1* 4	16.02.2022
Teams and Networks	3 cr	4	06.05.2022
Financial Accounting	4 cr	5	12.04.2022
Enterprise Resource Planning System and Leadership	5 cr	5	18.12.2025
Marketing, Sales and Customer Service	3 cr	3	05.12.2023
Basic information technology studies	**27 cr**		
Introduction to computer science	2 cr	5	17.12.2025

Student Wanjia Liang
Student number 2106850

Data Structures and Algorithms in Python	5 cr	*s2*	4	27.10.2023
Python programming	3 cr		5	18.05.2022
Relational databases & SQL	5 cr		5	11.02.2023
Data-driven programming	3 cr		3	12.05.2025
Data science	5 cr		4	28.11.2022
Introduction to DevOps	4 cr	*r1*	4	30.07.2024
Software engineering	**32 cr**			
Object-Orientated programming and modelling	5 cr		2	03.03.2025
C - Programming	3 cr	*s3*	S	27.03.2023
Modelling Techniques	3 cr		5	20.03.2023
Mobile software development	6 cr		2	12.05.2025
Scripting and functional programming	3 cr		3	15.03.2024
Software engineering	4 cr		1	23.12.2024
Software testing	3 cr		5	09.10.2024
Basics of web development	5 cr		3	14.12.2025
Business intelligence technologies	**26 cr**			
Advanced Business Intelligence - SAP Analytics Cloud	4 cr		3	17.01.2023
Customer Relationship Management (CRM)	5 cr		5	09.05.2023
Introduction to Artifical Intelligence and Big Data for Business	3 cr	*s4*	5	15.08.2023
Cloud foundations and operations	5 cr		1	16.12.2024
Web Accessibility	4 cr	*r2*	4	31.07.2025
Fundamentals of cloud services	5 cr		3	04.12.2023
OPTIONAL STUDIES	**17 cr**			
Legal Enviroment	3 cr	*s1*	3	16.02.2022
Study Essentials	3 cr	*s1*	S	16.02.2022
Erasmus+StartIT Berlin	3 cr		S	05.04.2023
Business Mathematics	3 cr	*s1*	4	16.02.2022
Work-life skills and personal career growth	5 cr		4	13.05.2022
WORK PLACEMENT	**30 cr**			
Practical Training	10 cr		S	24.05.2023
Practical Training	10 cr		S	04.05.2023
Practical Training	10 cr		S	20.02.2023
THESIS	**15 cr**			
Bachelor's Thesis, Planning	5 cr		3	29.08.2025
Bachelor's Thesis, Implementation	5 cr		3	06.10.2025
Bachelor's Thesis, Reporting and Finalizing	5 cr		3	16.12.2025

Thesis: CONCEPTUAL DESIGN AND PERCEIVED USABILITY EVALUATION OF QUICKORDER: A Multimodal B2B Food Ordering System for Small- and Medium-Sized Restaurants
Assessment: 3
Assessment date: 15.12.2025

Student	Wanjia Liang
Student number	2106850

Inclusions

s1 = 31.12.2021, HAMK University of Applied Sciences

s2 = 24.10.2023, VAMK University of Applied Sciences

s3 = 23.3.2023, Metropolia University of Applied Sciences

s4 = 21.7.2023, VAMK University of Applied Sciences

Cross-Institutional Studies

r1 = 30.7.2024, HAMK University of Applied Sciences

r2 = 31.7.2025, HAMK University of Applied Sciences

The student has completed the degree in English.

She received her previous education in a language other than Finnish or Swedish.

She has completed a maturity test in English as part of her final project.

The student has gained the necessary oral and written skills in English required for practising the profession and for further professional development (Decree 1129/2014, 7 §).

The education is guided by the Act on Universities of Applied Sciences 932/2014, the Government Decree on Universities of Applied Sciences 1129/2014 and the Act on the Knowledge of Languages Required of Personnel in Public Bodies 424/2003.

The studies are measured in credit units. The study periods are weighed in credit units according to the required amount of work. Approximately 1600 working hours are required in order to perform the studies of one academic year which corresponds to 60 credits.

The study attainments are assessed on a scale excellent 5, good 4, good 3, satisfactory 2, satisfactory 1, or marked with S indicating that the course is succesfully completed.

The learning outcomes of the second domestic language (Finnish or Swedish) defined by the Language Act is assessed on a scale of good (5, 4) or satisfactory (3, 2, 1).

Kokkola 31.12.2025

Tapio Huttula
president

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DIPLOMA SUPPLEMENT

The purpose of the Diploma Supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degree, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and succesfully completed by the individual named on the original qualification to which this supplement is appended. It is free from any value judgements, equivalence statements of suggestions about recognition. This Diploma Supplement model was developed by the European Comission, Council of Europe and UNESCO.

1 INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1	Family name(s)	*Liang*
1.2	Given name(s)	*Wanjia*
1.3	Date of birth (day.month.year)	*8.6.1994*
1.4	Student identification number or code (if available)	*2106850*

2 INFORMATION IDENTIFYING THE QUALIFICATION

2.1	Name of qualification and (if applicable) title conferred (in original language)	*Tekniikan ammattikorkeakoulututkinto* *Insinööri (AMK) / Bachelor of Engineering*
2.2	Main field(s) of study for the qualification	*Bachelor of Engineering, Business Intelligence Technologies*
2.3	Name and status of awarding institution (in original language)	*Centria-ammattikorkeakoulu* *(Centria University of Applied Sciences)* *State recognised university of applied sciences* *The quality assurance system of the university of applied sciences has passed the audit conducted by the Finnish Education Evaluation Centre. Further information: www.karvi.fi*
2.4	Name and status of institution (if different from 2.3) administering studies (in original language)	*Not applicable*
2.5	Language(s) of instruction/examination	*English*

3 INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1	Level of qualification	*First-cycle higher education degree (bachelor level). The degree is on level 6 in the National and the European Qualifications Framework.*
3.2	Official duration of programme in credits and/or years	*240 credits (4 years of full time study)* *Finnish credits are fully compatible with the ECTS.*
3.3	Access requirement(s)	*See 8. There is a numerus clausus, i.e. restricted entry, to all fields of study.*

DIPLOMA SUPPLEMENT

4 INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1	Mode of study	*Full-time*
4.2	Programme learning outcomes	*See 8 and Transcript of Records*
4.3	Programme details (e.g. modules or units studied), and the individual grades/marks/credits obtained	*See Transcript of Records*
4.4	Grading scheme and, if available, grade distribution guidance	*5 = Excellent* *4 = Good* *3 = Good* *2 = Satisfactory* *1 = Satisfactory* *0 = Failed* *S = Passed*
4.5	Overall classification of the qualification (in original language)	*Not applicable*

5 INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1	Access to further study	*Eligible for second-cycle higher education studies*
5.2	Professional status (if applicable)	*Under the Finnish legislation, a person who has taken Insinööri (AMK) 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 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	*Centria-ammattikorkeakoulu was formerly called Centria ammattikorkeakoulu - Centria yrkeshögskola (Centria University of Applied Sciences). The name was changed as of 1.1.2014. Centria ammmattikorkeakoulu - Centria yrkeshögskola was a state recognised university of applied sciences. Centria ammattikorkeakoulu - Centria yrkeshögskola was formerly called Keski-Pohjanmaan ammattikorkeakoulu - Mellersta Österbottens yrkeshögskola (Central Ostrobothnia University of Applied Sciences). The name was changed as of 1.8.2012. Keski-Pohjanmaan ammattikorkeakoulu - Mellersta Österbottens yrkeshögskola was a state recognised university of applied sciences.*

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6.2	Further information sources	*www.centria.fi, Centria University of Applied Sciences* *www.minedu.fi, Ministry of Education and Culture* *www.oph.fi/ recognition,* *www.oph.fi/ qualificationsframework* *The Finnish National Agency of Education, the ENIC: European Network of Information Centres in the European Region, and NARIC:National Academic Recognition Information Centres in the European Union, and the National Coordination Point for the European Qualifications Framework (EQF)* *www.karvi.fi, The Finnish Education Evaluation Centre*

7 CERTIFICATION OF THE SUPPLEMENT

7.1	Date	*Kokkola, 31.12.2025*
7.2	Signature	 *Tapio Huttula*
7.3	Capacity	*president*

DIPLOMA SUPPLEMENT

8 INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

The description of the higher education system has been prepared by the Finnish National Agency of Education and approved by the Ministry of Education and Culture.

The Finnish education system consists of pre-primary and basic education, general and vocational upper secondary education, higher education and adult education. The compulsory schooling consists of one-year pre-primary education for 6-year-olds and nine-year basic education for children aged 7-16.

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

General eligibility for higher education is given by the Matriculation examination, the upper secondary vocational qualification, the further vocational qualification and the specialist vocational qualification.

A foreign qualification that gives eligibility for higher education in the system the qualification belongs to gives general eligibility for higher education also in Finland.

The Finnish higher education system comprises universities (*yliopisto/ universitet*) and universities of applied sciences (*ammattikorkeakoulu, AMK/ yrkeshögskola, YH*). The universities engage both in education and research and have the right to award doctorates. The universities of applied sciences are multi-field institutions of professional higher education. Universities of applied sciences engage in applied research and development.

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

There are eight levels in the National Framework for Qualifications and Other Competence Modules (the Finnish National Qualifications Framework). Higher education qualifications in Finland are referenced at levels 6 – 8 both in the National Qualifications Framework as well as in the European Qualifications Framework.

8.1. University degrees

The Government Decree on University Degrees and Specialisation Studies (794/2004 including amendments) 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.

DIPLOMA SUPPLEMENT

8.1.1. First cycle university degree

The first cycle university degree consists of at least 180 credits (three years of full-time study). The degree is called *kandidaatti/ kandidat* in all fields of study except for Law (*oikeusnotaari/ rättsnotarie*) and Pharmacy (*farmaseutti/ farmaceut*). The determined English translation for all of these degrees is Bachelor's degree, the most common degree titles being Bachelor of Arts and 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 life-long learning, (4) a capacity for applying the acquired knowledge and skills to work and in international co-operation, and (5) adequate language and communication skills for working in one's own field and for international work and co-operation.

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

8.1.2. Second cycle university degree

The second cycle university degree consists of at least 120 credits (two years of full-time study). 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 degree titles being Master of Arts and 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 (six years of full-time study) and in Dentistry the degree consists of 330 credits (five and a half 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 and for international co-operation; (4) knowledge and skills needed for scientific or artistic postgraduate education and for life-long learning; and (5) good language and communication skills for working in one's own field and for international work and co-operation.

The studies leading to the second cycle university degree may include: basic and intermediate studies and advanced studies, language and communication studies; interdisciplinary studies, 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 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.

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

The Doctor's degree takes approximately four years to complete after a second cycle degree and two years when completed after a Licentiate's 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. University of applied sciences degrees

The Universities of Applied Sciences Act (932/2014 including amendments) defines the objectives, extent and overall structure of universities of applied sciences degrees. The universities of applied sciences decide on the detailed contents and structure of the degrees they award. They also decide on their curricula and forms of instruction.

8.3.1. First cycle university of applied sciences degrees

The first cycle university of applied sciences degree consists of 180, 210, 240 or 270 credits (three to four and a half years of full-time study) depending on the field of study. The first cycle university of applied sciences 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 and 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 professional development and life-long learning, and (4) adequate language and communication skills for working in one's own field and for international work and co-operation.

The first cycle university of applied sciences degree comprises basic and professional studies, elective studies, a practical training period, and a final project.

DIPLOMA SUPPLEMENT

8.3.2. The second cycle university of applied sciences degrees

The second cycle university of applied sciences degree consists of 60 or 90 credits (a year or a year and a half of full-time study). The degree is called *ylempi ammattikorkeakoulututkinto/ högre yrkeshögskoleexamen*. The determined English translation for the degree is Master's degree. The degree titles indicate the field of study, e.g. Master of Culture and Arts or Master of Business Administration. Eligibility for second cycle university of applied sciences degrees is given by a relevant first cycle degree together with at least three 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 working 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 , and (4) good language and communication skills for working in one's own field and for international work and co-operation.

The second cycle university of applied sciences degree comprises advanced professional studies, elective studies, and a final project.